IMITATION OF NATURE IN HER MANNER OF OPERATION: 
AN EXAMINATION OF THE PRINCIPLE IN 
MODERN ARCHITECTURE

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ABSTRACT

We are the first generation in the world to know the approximate age of the universe, its likely origin, the main lines of its history and its fundamental principle of emergence by the modern sciences appeared. We are the first to unravel the major laws of its development and the creativity, beauty and hardship they must being. We are the first to understand our significant place in a single, unfolding process that has lasted some fifteen billion years, and we are the first to be amazed by, celebrate, and question these discoveries.

We now know, however, the counter-lesson of the butterfly: mechanistic behavior is only one mode; the most simple, reduced and least characteristic one. As the new sciences of complexity are, revealing, most of the universe is self-organizing, unpredictable, creative, and self-transforming like a butterfly.

Can a machine repair itself? Every living thing has the property of self-repair, a small version of its great power of self-organization, but no machine does. The butterfly is an example for self-transformation. It jumps from stage to stage in growth, changing identity from a vertically articulated egg to a horizontally segmented caterpillar. Then it miraculously metamorphoses into a slug-like chrysalis. It emerges finally from its heavy, blob-like form to become a lightweight flying instrument, something surprisingly unexpected and as beautifully different from the egg.

Its unexpected transformations are a perfect symbol of thought jumping from idea to idea, and the universe as it leaps from stage to stage towards higher organization. Hence, can believe that the universe is much more like a butterfly than a Newtonian machine.

This hypothesis, amounting to a new paradigm or world view, has only recently been formulated. It is no doubt that it will within a few years, because it is becoming standard science and is being incorporated into competing ideologies. As building reveal a way of life, this new world view will be most visibly expressed in architecture. Our world view and way of life are represented in architecture, and today both are becoming more attuned to what contemporary science is revealing about nature.
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OBSERVATION

Architecture as another nature.....
There are three aspects to such modernism. First modernism believes in new structures. By the help of new technology that organize to use resources more efficiently to create the maximum amount of surplus, whether of space or of value.

Second the modernist believes in new ways of seeing. But the world is not already new. Now human beings see only what they have been trained to perceive. If it is new our eyes, ears minds could be capture fresh things. But now realities are move far beyond.

The third, modernists wishes represent the reality of modernity. Here it is connecting first two aspects, creator transforms our new perceptions into representations for the forms already created. Such shapes are the prototypes. Those can be re-arranged and dissolved into the point and represent new things in new ways.

REPERCUSSION

The history of humankind is one of continual development and domestication of the earth and destruction of nature. Nature in the wild is not a comfortable place for human life. Human beings have created comfortable environments by adapting or transforming nature. It is a mass of artifice but root born with undamaged nature. Ultimately the spaces created by human beings existing and represent an environment, a new and different. The character of that environment closely tied with society and sciences have developed from the past. But today the speed of technologies changes cause to distract the earth and change lives.

As in Eastern way of thinking and the religious background, society cannot simply accept and depend on the modern western mode of thought. It is a social issue to somehow change the life through material objects. Human being become materially richer, but the roots were damaged with nature.

Many people are now concerned with the environment and their concern extends from their immediate surroundings to the globe as a whole. Aim of the architecture must be adapt to the climate and the land and permitted human existence with nature, and see human beings and architecture as part of the earth’s ecosystem. This includes a challenge to propose new design connected with new science and nature.
CAUSATIVE FACTORS

In specially the western world architecture has been "analyzed" to the extent, where in the process of architecture, pauses have been introduced. And the unity is being effected. the unity of architectural conceptions scattered in the thirteenth century and afterwards where the ritual in architecture disappeared. This fact has caused the emergence of "isms" in architecture, for example classicism, modernism etc., etc.

But a completely different approach to the question of architectural meaning has been developing, in parallel, within that most empirical of sciences, environmental psychology. The subject cannot be thrown sufficient light alone. But two together offer some of the most exciting developments in the whole of architectural research. (for a new paradigm)

Hence it is to be understood that the work of architecture is the sum total of all factors that effect. Therefore it can only be achieved in a contemplative way. A composition influenced by mental imagery rather than mere analysis.

As Coomaraswamy says ' Natural things depend on the divine intellect, as do things made by art upon a human intellect, further "art imitates nature in her manner of operation".'

REMEDIES

In certain periods architectural concepts got changed and damaged. But the work of architecture and its moment was existed. In the act of creation composition of mental imagery is more valuable. It is the sum total of all factors that affect. It must be rich with other aesthetic stimulative factors.

Nature is the energy of all arts. Study on nature and her manner of operation, a search for new paradigm, provides valuable ingredients rich in developing images.

Contemporary thought of architecture is now passing a period which modern sciences are influenced in every field. This has affected contemporary attitudes of creation as a stimulative factor. Because the parallelism between nature and built environment is been more valuable to balance human life and the eco-system. So the attribution of modern concept in architecture, as another nature, with science based thoughts and related remedies must be nourished.
METHOD OF WORK AND LIMITATIONS

The broader goal of this study to nourish the architecture, as another nature. Therefore study on nature in the sense of operation is a primary need. It will reduce the unnecessary gap between man-made and god created world. So the study will based on art and modern sciences which analyze natural operations more deeply. That is the ultimate way to capture the invisible operations taken place all over, which cannot be transformed to simple formulas.

Every art is reflection of nature. The philosophy of every art consists of nature and living beings. But the operations of nature is to be understood by modern sciences. It specially affects the process of creations and experiencing as well as the creative impulse of imagination. The consistence of art and science will transform architecture to another nature.

Art and science are direct opposites. Therefore distinction between art and science to be made, is necessary. But it is art that leads to reality in a very complex mind in a very complex method than science, which is the basic method of seeking truth. Science explains the truth with equations and formulations which were derived from studying the nature, in both the creation and existence.

Therefore the first chapter will deal with aesthetics and science. Aesthetic will explain art with its definitions and philosophy, which is the basic method of seeking truth. Science will explain the truth by physics and biology which are dealing with creations and existence of nature with its measurable facts and basic components.

The second chapter, which will be nourish the argument, by analyzing above said in a more expanded way. They have the scope only to touch the visualization of aesthetic and scientific role in creative pregnancy in imagination.

The third chapter will analyze some examples existing in modern architectural creations which appeared as a result of imitating natural operations.

This study is rather a indirect way travel to ‘architecture as another nature’ by the vehicle of art and science, from architecture. It seems useful that a discussion on architecture should try to integrate, reveal and clarify what this trend has in common. Further, this study is a collection of observations, research, experience and ordered thoughts which seek to be of use to the architects’ and theorists’ reason critics of their own work and of the projects and designs of others.