

## Nature as an inspiration in architecture and interior design

Assist. Lect. Marwa Wael Mohammed Al-Safty

Assistant Lecturer at the Higher Institute of Applied Arts - Fifth Settlement

[marwasafety1987@gmail.com](mailto:marwasafety1987@gmail.com)

### Abstract:

Throughout history, nature has always been a source of inspiration for man's beginning in various aspects of his life. Interior architecture as one of the great features of every society cannot be separated from nature. Nowadays, architects and interior designers build buildings without having a specific goal or goal that reduces the value of the buildings. Many designers use concepts inspired by nature but there are still some missing parts in their shape, function, or structure. Therefore, the best solution for architects and designers to further improve their design work is to look at nature in every deeper aspect and try to apply it in the conceptual design of their project which represents the heart of the design process while other architects have neglected the concepts of nature although the surrounding environment and nature always affect human perception.

The research deals with the importance of studying the environmental architecture, simulating nature and living organisms as one of the directions of the structural development of architecture, it assumes and sheds light on the importance of benefiting from the biological sciences in the field of modern architectural design and its money from the impact on human behavior and the general health of the user. The aim of this research is to understand the relationship between nature and human perception and the role nature plays in architecture and architectural designs to achieve buildings integrated with the surrounding environment. It also draws the attention of architects to nature and inspiration from nature in different perspectives. This paper presents projects that have different concepts in architectural and interior design to provide guidelines for designing buildings that are integrated with nature by analyzing examples. This paper concludes the importance of achieving a complete integration between the exterior and interior building and the surrounding nature, using a clear natural concept from the surrounding environment to solve design problems.

### Key words:

nature - inspiration - interior design - architecture.

### Introduction

Nature is an emotional component within the surrounding environment and is an important aspect of dealing with every day that affects everything around man. Man always communicates with nature; Since the construction and use of shelters began, nature has been used as an important and essential part of plans and designs. Man has observed the advantages of communicating with nature; Health, less stress and disease. Plants and greenery can help in perfection and safety in cities and improving social relationships and interaction in residential environments. (2--p. 507-517)

Most of the sciences begin to look at and be inspired by nature and many research and studies are conducted in this field, and the idea was started in 1998 by Janine Peneus. Nowadays many researchers are working on it because they feel nature is a great source of inspiration. Jirapong believes that nature has many great lessons for a person to study and learn from. The creative use of physical and resourceful structural systems works in response to a different type of climatic and environmental forces. "Complex design problems need a new solution to solve and most solutions have already been made in nature," says Thomass and Raval in their structural-inspired structural design. (15th)

Realizing the presence of individuals within closed structures for most of their lives has become increasingly important. Designers need to understand how spaces affect individuals in order to design spaces that are a counterbalance to the stresses of daily life and create environments of personal well-being, therefore, a theoretical and conceptual framework is needed in obtaining guidelines for the design of new natural buildings to be integrated with the surrounding environment. (12 - p. 35).

### **Research problem:**

Many designers use concepts inspired by nature but there are still some missing parts in their shape, function, or structure.

The research importance:

The importance of the research lies in showing the importance of the direction to the biological sciences such as morphology of living organisms and the simulation of nature in the design process in architectural design and interior design and trying to find solutions to design problems by studying and simulating nature not only in the apparent form but also the simulation of structural and functional form.

### **Research aims:**

1. Access to an innovative environmental design thought that accompanies the surrounding external environment in terms of its aesthetic, functional and constructive form.
2. The use of morphology and the transfer of properties of living things in the field of architecture and direction for simulation must be carried out according to deep and non-random studies.

### **Research Methodology:**

Use of the descriptive analytical method as it aims to study and analyze the elements of nature and how to benefit from these elements functionally and aesthetically in the field of architecture and interior design with a view to finding solutions to design problems through inspiration from nature and simulating the natural environment.

### **Research hypotheses:**

The researcher assumes that the science of natural simulation helps to develop and support concepts of the modern environment internally and externally.

## **1. What is simulating nature or drawing inspiration from nature?**

The science of nature simulation is a term derived from two words (bios), which means life in the Greek language and (mimesis). It means simulation. This science is old with its roots and modern in its applications. The simulation process is a process of implementing nature or trying to imitate the general characteristics or behavioral characteristic of a living organism or ecosystem. In nature, where areas and possibilities for their exploitation are determined in the form of design ideas inspired by the idea of the behavior or function of this organism and then an attempt to search for solutions to design problems by observing these living organisms and environmental systems with the use of previous scientific and biological research available to reach the best environmentally friendly design solutions and results. Natural simulation is defined as the science that studies the structures and verbs in ecosystems for the design and engineering of materials.

Simulation is not just an imitation; it is a conscious imitation of the genius of life. It is not enough to design a product that resembles a natural matter without referring to nature. Likewise, simulation does not mean reinventing the object we are studying, but rather is imitating the principles of its design and the lessons of its life. Knowing how this object secures its needs and at the same time improving its outer habitat and its surroundings. Not only knowing how to weave its strings and set these standards within our calculations, there is not enough records, or calculations of the sizes and shapes of the elements of nature, but also the permanent contemplation of the full march of its life and how it is compatible and influencing its home. (14- pp. 655--656).

## **2. Design principles from nature:**

1. Interacting with nature: By participating with nature, in a positive and active way, the project can be more effectively designed by simulating the shape or pattern.
2. Use and evaluation of renewable resources.
3. Design from models to details.
4. Take nature as a source of design flexibility. (1- p. 73)

## **3. Inspiration:**

It depends on understanding the formal, chromatic and structural properties of the ecosystems and organisms and trying to shape the design thought of production based on the simulation of these different systems. (4- p. 68)

## **4. Levels of Inspiration from Nature:**

1. The visible shape or structure.
2. The level of ruling laws or deep structures.
3. The content of symbolic meanings.

## **5. Theories inspired by nature;**

- 1 Visual inspiration from nature.
2. Analytical inspiration from nature.

## 6. Sources of inspiration from nature:

First: Machines (Mechanics)

Second: systems

Third: construction

### Results:

- The necessity of paying attention to the vital studies of the science of inspiration from nature and the integration and cooperation of several scientific bodies to raise the capacity of the designer and find successful design solutions and open a distinct intellectual field achieving the purpose of the design.
- The natural environment is a permanent fertile source for inspiration, as it is the first inspiration for the designer. Therefore, it is necessary to achieve the maximum possible benefit from the environmental architectural design and create a distinctive environmental architecture.
- The inspiration from nature from its systems, structures and configurations is the best and most successful way compared to the formal inspiration only from them.

Theories of inspiration are divided from nature into theoretical and analytical inspiration.

There are three sources of inspiration from nature: the machines, systems, and constructions that exist in nature.

### References:

#### Foreign references:

1. Macnab ,Maggie , ' Design by Nature',usa, 2012.
2. Panahi, Qasem Mirzaei, MoSiamak Mohammad hammadikia "Comparative Analysis of Natural Elements in the Architecture of Tabriz and Kashan Houses," Middle east journal of scientific research, Vol. 13, (2013) .

#### Arabic references:

3. Ibrahim, Umaima Muhammad Qasim, "Membership and Use in Interior Design and Furniture for Services Area for Swimming Pools in Sports Clubs", Master Thesis, College of Applied Arts, 1999.
4. Ibrahim, Iman Badr, "The philosophy of interior design in contemporary architecture between simulation and creativity", PhD thesis, College of Applied Arts, 2007 AD.
5. Ibrahim Abdel Sattar, "Creativity, its Issues and Applications", The Arab House for Publishing and Distribution, Cairo, 1999.
6. Salama, Mohamed "Fine Art and Abstract", Mansoura University, 2016.
7. Suef. Mustafa, "The psychological foundations of artistic creativity", Dar Al-Maaref, Cairo, edition 3, 1969.
8. Saliba, Jamil, "Philosophical Lexicography" Part 1, The Lebanese Book, Beirut-1983.
9. Ezzat, Mohamed Saad, "Philosophy of product design with an engineering nature", 1991.
10. Ezzat, Mohamed Saada, "Thoughts in Art on Verses of the Holy Qur'an", Syndicate of Applied Arts, Cairo, 2002.

11. Izzat Muhammad Saad, "Useful in the sources of design in the light of the Holy Qur'an", 1996
12. Attia Duaa, "Positive Energy in Interior Design and Furniture," International Design Magazine, Volume 4. (2012).
13. Nubi, Nafi. Muhammad Hassan, "Inspiration in Architecture, A Vision for Simplification and Understanding", Scientific Journal of King Saud University, Department of Architecture and Planning, Volume 19, No. 1, 2009
14. Hammam, Heba Ali Sharif, teacher at the Decoration Department - Faculty of Applied Arts - Damietta University, morphology and natural simulation as a basis in environmental architecture, Al Amaro and Islamic Arts Journal, No. 16, 2019.

**Internet:**

15. [www.sciencedirect.com](http://www.sciencedirect.com)
16. <http://ishkbaghdad.com/>