

Biomimetic Architecture: The Bio Process to an Eco-Friendly Design

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Abstract : In the search for sustainability, over time, architectural approaches to design have moved from just nature inspired design to the study of nature's principles to produce effective designs that solve the issue of sustainability. Nature has established materials, shapes and processes that are effective right from a minor scale to an enormous scale. A branch of human knowledge that studies nature is called biology. Biology helps us to grasp and understand nature. Biomimicry is a new way of viewing and valuing nature, based not on what we can extract from the natural world but on what we can learn from it. Life has sustained on the earth for the last 3.85 billion years, and it is necessary for us to find out how life has been able to stay sustained for that long. The building must teach the society new ecological morals, thus, a better understanding of how nature works can usefully inspire architectural designs to resolve issues that have already been resolved by nature. This will not only help in creating a healthy environment but will also produce positive environmental impacts. Biomimetic Architecture connects and reproduces the ideologies found in nature in order to create built environment which benefit people and other living creatures as well as preserving it for the future. Understanding the bioprocess would lead to the establishment of ecological approaches that serve as a platform for creating a built environment that goes beyond sustaining current settings but also mimic nature's regenerative ecosystem. This paper aims to explain these design methods under the name of biomimicry and biomimetic architecture by reviewing literature and research works done by examining these approaches classified as forms, processes and ecosystems. It is expected that this research will provide information that would, therefore, lead to the creation of buildings that are eco-friendly and provide greater comfort to the populace.

Keywords : biomimetic architecture, biomimicry, ecological design, nature

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