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# Investigating the art of engineering of the natural creatures and using it in structural modeling in "Bionic architecture"

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## Abstract

Human being is always trying to understand nature more and more. There is no exclusive method for discovering nature, and diverse methods have been used by individuals to achieve a grasp of the nature. The alive nature of the creatures that are sensitive and complex cannot be understood only by observation. The complexity of nature makes it difficult to understand. Therefore, it seems that throughout history, nature is not as inspirational as it should be. However today there is a common stream of biological and technological progresses which can lead to tremendous solutions. Due to the complexity of nature, copying and imitation is wrong. In other words, natural forms are analyzed by the computational tools that are invented by humans. At this level, a steps are taken beyond the imitation, and the rules of the appearance of natural phenomena are taken up in architecture. In the later levels, tools used by human being, makes him more aware of nature. Engineering studies the form in relation to its shaping factors. In this category of modeling, various sciences such as mathematics, physics and mechanics come from the science of biology and how many biological mechanisms and processes work, in order to help achieve the optimal engineering response.

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