

The Studies of the Impact of Biomimicry and Sustainability on Urban Design

Authors : Nourhane Mohamed El Haridi, Mostafa El Arabi, Zeyad El Sayad

Abstract : Biomimicry is defined, by Benyus the natural sciences writer, as imitating or taking inspiration from nature's forms and processes to solve human problems. Biomimicry is the conscious emulation of life's genius. As the design community realizes the tremendous impact human constructions have on the world, environmental designers look to new approaches like biomimicry to advance sustainable design. Building leading the declaration made by biomimicry scientists that a full imitation of nature engages form, ecosystem, and process; this paper uses a logic approach to interpret human and environmental wholeness. Designers would benefit from both integrating social theory with environmental thinking and from combining their substantive skills with techniques for getting sustainable biomimic urban design. Integrating biomimicry's "Life's Principles" into a built environment process model will make biomimicry more accessible and thus more widely accepted throughout the industry, and the sustainability of all species will benefit. The Biomimicry Guild hypothesizes the incorporation of these principles, called Life's Principles, increase the likelihood of sustainability for a respective design, and make it more likely that the design will have a greater impact on sustainability for future generations of all species as mentioned by Benyus in her book. This thesis utilizes Life's Principles as a foundation for a design process model intended for application on built environment projects at various scales. This paper takes a look at the importance of the integration of biomimicry in urban design to get more sustainable cities and better life, by analyzing the principles of both sustainability and biomimicry, and applying these ideas on futuristic or existing cities to make a biomimic sustainable city more healthier and more conducive to life, and get a better biomimic urban design. A group of experts, architects, biologists, scientists, economists and ecologists should work together to face all the financial and designing difficulties, to have better solutions and good innovative ideas for biomimic sustainable urban design, it is not the only solution, but it is one of the best studies for a better future.

Keywords : biomimicry, built environment, sustainability, urban design

Conference Title : ICUTS 2015 : International Conference on Urban Transformations and Sustainability

Conference Location : Paris, France

Conference Dates : April 27-28, 2015