

BIOMIMICRY In Architecture

Biomimicry or *biomimetics* is the examination of nature, its models, systems, processes, and elements to emulate or take inspiration from in order to better human solutions to many emerging problems or to better the approaches of processes made by us. The term biomimicry and biomimetics come from the Greek words bios, meaning life, and mimesis, meaning to imitate.

WHAT IS BIOMIMICRY? The lead expert on biomimicry problematics, Janine Benyus, has this to say on the subject matter: Biomimicry is an innovation method that seeks sustainable solutions by emulating nature's time-tested patterns and strategies, e.g., a solar cell inspired by a leaf. The goal is to create products, processes, and policies—new ways of living—that are well-adapted to life on earth over the long haul. Read "A Biomimicry Primer"

Many people starts to understand that the current state of many of human used models, systems or processes is pretty bad, because of the pollution, input requirements and very low efficiency. As example we could take a spider web. The silk that's created by the spider and used to build them is up to 30 times stronger than any human made fiber. And we use high pressure mechanics extreme temperatures and special materials to create something that takes spider few second room temperatures and basic carbon based substances that could be found everywhere in the nature. Furthermore he does it with zero pollution and no waste product what so ever.

Large number of world class architects have designed new buildings so that it derives from biomimicric ideas and principles.

For example this is the picture of Shi Ling bridge

Soubor:019 Shi Ling bridge copyright Tonkin Liu Architects edit.jpg

the author of this project drawn inspiration from an internal structure of ants nest that are well known for their very rigid and clever structures.

Some try to take a lessons from nature's architect masters to make a fully independent, self-sustainable houses or whole complexes for people to live or work in.

1. Taiwan BioLab [1] (<http://webecoist.momtastic.com/2010/12/17/oceanic-biomimicry-13-designs-inspired-by-the-sea/>)
2. Biomimicry and architecture [2] (<http://esibuilding.wordpress.com/2010/04/07/biomimicry-and-architecture/>)

Like the project that was launched on Taiwan the BioLab. Its shape was inspired by Nautilus Shell.

A nautilus shell is one of nature's most perfect shapes, and it is from this sophistication that architect Manfred Nicoletti drew inspiration for the BioLab Squadron in Taiwan, which are set to be among the most technologically advanced laboratories on the planet. Nicoletti's honorable mention-winning proposal not only used the nautilus shape as the basis of the two labs, but delved further into biomimicry with an outer skin pattern that emulates the four symbols attributed to the DNA sequence of the bacteria that would be studied inside the labs.

I guess that main lesson to take from nature is to connect with it. Don't go the opposite way. There are so many fascinating and incredibly efficient processes and models in nature to be drawn from to enhance our lives. And with passing time people are starting to realise that the planet cannot sustain much more of our abuse and that we cannot waste so much raw materials and energy to do things that could be done very simply without waste and pollution.

Nekompletní citace webu. . *Wikipedia* [online]. [cit. 2012-12-06]. <<https://en.wikipedia.org/wiki/Biomimicry>>.

Nekompletní citace webu. . *Biomimicry* [online]. [cit. 2012-12-06]. <http://www.biomimicryguild.com/guild_biomimicry.html>.

Natures Genius (http://www.ted.com/talks/michael_pawlyn_using_nature_s_genius_in_architecture.html)

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