

# IDEALOGY

JOURNAL



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This journal is purely academic and peer reviewed (double-blind review) platform. It caters to original articles, review paper, artwork review and appreciation, exhibition review and appreciation, and book reviews on diverse topics relating to arts, design, and social science. This journal is intended to provide an avenue for researchers and academics from all persuasions and traditions to share and discuss differing views, new ideas, theories, research outcomes, and socio-cultural and socio-political issues that impact on the philosophical growth in the contemporary events.

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*Taufik Panji Wisesa*

# Biomimicry In Creative Contemporary Art Making Process

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## ABSTRACT

This research was conducted in order to distinguish the different between artist and designer in using biomimicry in creating and constructing their design and artwork. Biomimicry is a method of solving complex problems by looking into Mother Nature. We as human sometimes have our own limits in dealing with things that need to be solved. Nature had provided us with a vast range of knowledge. We just need to look in the right place. By using nature as our mentor, we get to experience the powerful healing effects it has by connecting to the natural world while also finding empowering relief to solve these challenges together. Science and art, the twin engine of creativity in any dynamic culture, are commonly thought of as being as different as day and night. In creating art, artist also shares the same opinion in seeking back inspiration by observing nature.

**Keywords:** Biomimicry, sculpture, nature, dynamic culture.

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## 1. INTRODUCTION

*Biomimicry* in science had been developed since the 1950's. It is a concept of applying or referring to nature in solving complex human problems. In science and technology, there are significant amount of reason of why this approach was chosen because living organisms have evolved well-adapted structures and materials over geological time through natural selection. This evolution may also be the answer in solving any sort of problem in dealing with human imperfection.

As an art practitioner and also a science enthusiasm I learn that artist or art practitioner always refer back to nature as their inspiration in creating their work of art. This research was conducted in order to investigate how and why the artists do choose to use nature as their guideline or sometimes as their subject matter. As we can see, science and technologies have strong reason in choosing nature as answers to problems throughout our existence. Nature has solved engineering problems such as self-healing abilities, environmental exposure tolerance and resistance, hydrophobicity, self-assembly, and harnessing solar energy.

In art, artist usually uses art as the way we communicate our thoughts and emotions. According to Damien Osborne, a painter from South Africa among his ways of finding inspiration is to look back in nature.

## 2. BIOMIMICRY

### 2.1 Biomimicry Definition

According to Merriam-Webster biomimicry is the imitation of natural biological designs or processes in engineering or invention.

*“Biomimicry is innovation inspired by nature. In society accustomed to dominating or ‘improving’ nature, this respectful imitation is radically new approach, a revolution really. Unlike the Industrial Revolution, the Biomimicry Revolution introduces an era based not on what we can extract from nature, but on what we can learn from her.”*

## 2.2 Biomimicry function in design

Designers have often looked to nature for formal solution. The natural world contains infinite examples of how to achieve complex behaviour and applications by using simple material in a clever way. The best-known example is the microscopic “hook” on burrs that inspired the development of Velcro.

Early artists and philanthropists like Leonardo Da Vinci turned towards nature for inspiration. Design that was referred from nature always solves both aesthetic and engineering problems. Another example that we can see are the front ends of the Shinkansen or the Bullet Train that was originated from the beak of a Kingfisher.



**Figure 1:** A kingfisher entering water and the front of a bullet

One of the designers who designed the Bullet Train is a bird watcher. He saw a kingfisher dive into water and create a very little splash of water. Then he tried to apply the same principle from the kingfisher’s beak to the shape of the front of the bullet train.

## 3. BIOMIMICRY AS INSPIRATION IN CONTEMPORARY ART

### 3.1 The Reason

Like a designer, an artist also needs a good inspiration in producing their work. In science and engineering, designs that were inspired from nature were always intended to solve complicated and complex problems. In the contemporary art-making process, on the other hand, artists usually only use biomimicry in solving aesthetic aspects.

Artists like Bob Potts, for example, always imply natural rhythmical movements of all living creatures.

*“My work is the manifestation of ideas that come to me from the natural world. The grace and form of all living things, and the way they interact, leaves me in awe.” (Bob Potts)*



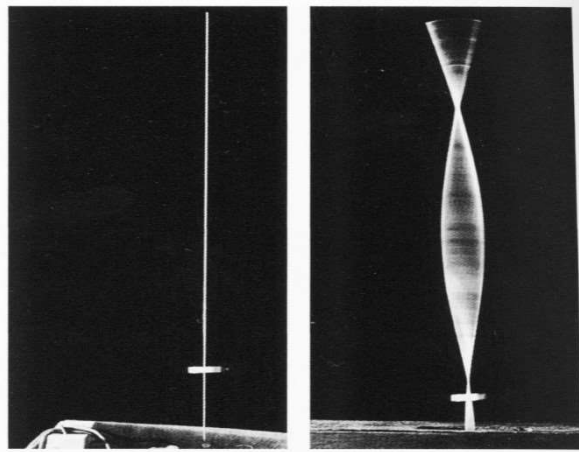
**Figure 2:** Pursuit II, among the work that were inspired by looking into nature

In the early era art was use as part of ritual, ceremony or tradition. During back then art was created with a specific particular reason and purpose. It has meaning and significance only within that context.

Talking about finding inspiration from nature in making art, observation is a very powerful inspirational tool. The physical world offered so many beautiful things and objects that can be observed. The creation of great idea like The Flying Object by Leonardo Da Vinci is the result of Leonardo’s observation on how birds fly. In the 2D art world, observation from nature doesn’t always end with realism. Take impressionist artist like Paul Cezanne and Claude Monet for example, line, shape and color from nature were borrowed and quickly turn and change into abstract and rearrange with a practice hand.

In the kinetic art world, artist that involve were always the kind of artists that are very fascinated with motion. The idea of moving sculpture began by the creation of kinetic Construction in 1881 by Naum Gabo. Actual motion in sculpture can always be divided into two kinds, a motion that were inspired by technology and industries or the other is the motions that were inspired from nature.

Masato Tanaka, a kinetic artist from japan has done an exhibition entitled TOKITSUGI in 2007. The exhibition was held in Gallery PETRONAS Malaysia. He used material such as steel and electric motor which were able to harness element of nature like wind and gravity. Masato’s purpose of creating his works is to show the balance between technology and nature. He concludes that technology can also bring a sense of hidden natural beauty not just the acceleration of modern life.



**Figure 3:** kinetic construction (standing wave) by Naum Gabo.



**Figure 4, 5, and 6:** Masato wrote that the main theme of his work is to follow the direction of artistic atmosphere that is able to prompt relaxation and comfort to people.

## 4. CONCLUSION

As a conclusion, nature always has the solution that we need in order to solve problems either the problems were occur in solving complexes human problems in science and technologies or seeking inspiration in constructing artworks such as sculpture and art installations.

Although the purpose of applying nature concept in artworks and design are far apart but the idea remains the same. The idea of appreciation and sense of grateful for what had been given to us by GOD. Artists have been eager to move into areas of scientific and technological research just to reach the idea of applying any physical motion, movement or visual that were observe from nature. This action indirectly leads to make art and science to move in the same direction.

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