

# Natural Material in Interactive Art

Byeongwon Ha

Virginia Commonwealth University  
hab@vcu.edu

## Abstract

This paper explores how to create a significant relationship between natural materials and interactive art. It deals with studying diverse examples from sculpture to architecture to interactive art. The research finds a coexisting relationship between computer-generated images and random algorithms. It suggests natural materials as a physical interface to provide the immaterialized programming with the quality of natural materials. This combination emphasizes natural materials as a creative interface between human and interactive art.

## Joseph Beuys's Three Sculptures

Synthetic materials have been replacing natural materials due mainly to the economic reason. However, some digital media artists still use natural materials, which are expensive and mortal in their works. These primitive materials in emerging technology give audiences strong tensions between high and low technologies. Why do they use such anachronistic materials? How are viewers fascinated by this bipolar juxtaposition? The answer starts with Joseph Beuys's installation works.

Beuys's *fat Battery* (1963) shows natural materials such as fat, felt and copper in a paper box. These can be the main elements of making energy, as the title says. According to his famous story, felt and fat were essential materials for Beuys to survive in his critical air crash. Likewise, *Capri Battery* (1985) implies his story of his recovering from a lung ailment on the Mediterranean island, Capri. [1] A yellow light bulb is connected to a real lemon. The combination between natural materials and electric parts represents environmental sustainability between chaos and order, or undetermined and determined. [2] With the helps of volunteers, Beuys planted the social sculpture *7000 oak trees* (1982) in Kassel, Germany. Like the composites used in the battery series, basalt is a strong symbol of the energy of lava. In the project, each tree is next to a vertical basalt stone on the street. Comparing to the unchanging hard stones, neighbors can pay attention to the growing trees day by day. He used the natural materials to make people actively observe the minute change between undetermined and determined in society. Ecologic activist Beuys stimulated people to experience their surroundings by blurring the boundary between art and life with these different qualities of the natural materials.

## Materiality in Architecture

*7000 Oak Trees* inspired architecture group UN Studio to choose the material for an electrical substation in

Innsbruck, Austria. As Beuys utilized the basalt stone, the architects used the same stone for walls of the building to illustrate a natural symbol or storage of the energy in society. [3] As phenomenological architects emphasize, natural materials reveal its property through its natural environment. The natural materials can be a significant interface in algorithmic environments. The inherent difference between random numbers and dice numbers is based on materiality. A number from a dice relies on real materials like wood as John Cage's composition with chance operation depends on the materiality of coins. However, a random number from computer algorithms is disconnected with real materiality and depends on its intellectual process. [4]

## Natural Material in Interactive Art

Christa Sommerer and Laurent Mignonneau link natural materials to computer algorithms in interactive art. They synchronize natural materials with artificial life images. Their early project, *Interactive Plant Growing* (1992), is one of the first interactive computer artworks to use a natural and tactile interface, instead of computer interfaces. [5] Viewers can manipulate artificial plant images by touching real plants. The materiality connects materials to artificial life, which assigns random functions to the whole algorithms to make computer-generated images more natural. [6] This plant becomes a dice-like interface to generate quasi-chance numbers. [7] In this regard, natural material as a chance operator is applied to a natural interface for interactive art.

## References

1. Joan Rothfuss, Energy. <http://www.walkerart.org/archive/4/9C4311B2C56C80996167.htm> retrieved 29 March 2016
2. Allan Antliff, Joseph Beuys (New York: Phaidon Press, 2014), 125.
3. Todd Gannon, UN Studio : Erasmus Bridge (New York: Princeton Architectural Press, 2004), 17.
4. Kostas Terzidis, Algorithmic Architecture. (Boston: Architectural Press, 2006), 145.
5. Erkki Huhtamo, "Tactile Temptations: About Contemporary Art, Exhibitions, and Tactility," Interface Cultures. Eds. Christa Sommerer, Laurent Mignonneau and Dorothee King. (Bielefeld: Transcript, 2008), 135.
6. Christa Sommerer and Laurent Mignonneau, "Modeling the Emergence of Complexity: Complex Systems, the Origin of Life and Interactive On-Line Art." Leonardo 35.2(2002): 161
7. Byeongwon Ha, "The Study on the Chance of Media Art," (M.F.A. diss., Graduate School of Communication & Arts, Seoul: Yonsei University, 2009), 62.