

Demonstrating a material making process through the cultivation of mycelium growth

Dilan Ozkan

Newcastle University, UK

Abstract

Today, mycelium is used in many different ways: As packaging in industry; as acoustic panels; wall insulation; bricks in buildings; as a textile or as a raw material in designed objects such as furniture. The purpose of this research is to explore the ways to cultivate mycelium as a living building material that has its own tendencies. Going beyond the limitations of linear moulding techniques and developing a method that guides the mycelium growth will help designers to, as Richard Sennett says, always be a step ahead of the material. The first phase of the study involves experimentation by paying close attention to any factors that might cause a difference in the behaviour of mycelium, to understand its properties and nature. After having understood its act, the research will continue by the cultivation of mycelium growth. Design of an automated system that enables to reach the intended growth, by anticipating its reactions, is going to be the end product and the final phase of this investigation. In this study, rethinking about architectural fabrication that focuses on revealing potentials of living organisms such as autonomy, self-assembly or responsivity, can demonstrate a new approach in material making processes and geometries.

Keywords: Cultivating mycelium, non-linear materiality, reconfigurable moulding, guided growth.



Biography:

Dilan Ozkan is an architect and researcher who focuses on working with living systems. She aims to push the limits of traditional architectural production and bring different approaches by discovering new material making processes. She is integrating other fields' findings into her experimental architecture, particularly computation and biology. Dilan completed an architectural design masters at Pratt Institute in New York, where she was first inspired by the strange aesthetics of living organisms. After this, she worked for the nonprofit architecture and urban design group Terreform One.

Currently, she is a PhD student at Newcastle University. Within her research, she is investigating fungi and adapting its divergent qualities to the field of architecture by demonstrating a material making principal. She formed a study group called Mycology for Architecture to collaborate with other disciplines and share knowledge about fungi

Speaker Publications:

1. Approach to Biologically Made Materials and Advanced Fabrication Practices
2. Demonstrating a material making process through the cultivation of mycelium growth



5th Annual [Conference and Expo on Biomaterials](#); Webinar - August 31- September 01, 2020

Abstract Citation:

Dilan Ozkan, Demonstrating a material making process through the cultivation of mycelium growth, Biomaterials 2020, 5th Annual Conference and Expo on Biomaterials; August 31- September 01, 2020

<https://biomaterials.insightconferences.com/abstract/2020/demonstrating-a-material-making-process-through-the-cultivation-of-mycelium-growth>