

# Exploring Materiality as an Alternate Generator of Form for Sustainable Architecture

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**Abstract**—Material oriented design is an approach that aims at generating architectural forms wherein the form generating process is informed by the combination of material properties and its behaviour keeping in mind its impact on the environment. It may serve as an alternate approach to help Architects in shifting from the regular form finding processes based on values of modern architecture of the industrial age to materiality as an important aspect in the form generating processes.

The paper compares the current attempts at experimental design practices of based on material oriented design approaches especially of two contemporary architects Neri Oxman and Achim Menges who are working extensively in this field. This will help to achieve a better understanding of the design processes and possibilities through literature review and comparison. Though the two architects address design through the use of materiality yet they have quite distinct approaches to it. Neri Oxman's works at the MIT, Media lab is more through material ecology (where material is considered a living and growing) whereas Achim Menges at the AA lab approaches it through the material morphology (where the inherent structural properties are studied along with its behaviour under various forces)

This paper emphasises on distinct material oriented approach (both ecological and morphological) as a need of the hour to address form generation for a more holistic Sustainable Architecture.

**Keywords:** Materiality, Material Ecology, Material Morphology, Sustainable Architecture, Biomimicry, Bio inspired.