Formal descriptions of material manipulations

An exploration with cuts and shadows

Benay Gürsoy[1], Iestyn Jowers[2] and Mine Özkar[3]

[1] Istanbul Bilgi University
benaygursoy@gmail.com

[2] The Open University
i.r.jowers@open.ac.uk

[3] Istanbul Technical University
ozkar@itu.edu.tr

Abstract. Shape computation in design is never purely limited to visual aspects and ideally includes material aspects as well. The physicality of designing introduces a wide range of variables for designers to tackle within the design process. We present a simple design exercise realised in four stages where we physically manipulate perforated cardboard sheets as a case to make material variables explicit in the computation. The emphasis is on representing sensory aspects rather than easily quantifiable properties more suitable for simulations. Our explorations demonstrate the use of visual rules to represent actions, variables and form as well as how to control the variables to create new results, both desired and surprising, in materially informed ways.

Keywords: material computing**,** shape rules**,** making.

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