Teaching Digital Literacy

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Abstract

In a post-digital era, digital tools have become ubiquitous. Consequently, teaching architecture has to develop a more comprehensive approach towards digital methods and their implications for design and materialization [1]. The authors discuss two experimental vertical prototypes developed with first year students in research-led design courses. The courses' briefs aimed at teaching students in digital literacy [2] by enabling an in-depth understand and design-sensitive control of digital processes. Students were trained in how to develop and navigate within a solution space, articulate and implement their design intents, and become aware of the reciprocal relations between digital set ups, design, structural ability, material performance and constraints of fabrication.

Both vertical prototypes are component-based material systems, which allowed for a self-regulated assembly process. While the first structure was made from individual paper strips, the second structure was constructed from wooden triangles. The structures were generated through feedback cycles of digital simulations and physical prototyping, stepwise increasing the size of mock-ups.

Fig.1 Bifurcation Tower (left) and the Reticular Tower (right)

The authors will discuss the underlying teaching approach as well as the overall workflow which was developed within the courses. The main focus will lie on how to guide the simultaneous development and refinement of design intent and digital process and the feedback cycles between physical and digital prototypes. Other points will be the soft and rigid constraints that were necessary for the self-regulated assembly process, the necessary preparation from the tutor's side, and the explicit planning of a timetable in close coordination with students.

References

[1] R. Snooks, Behavioral Formation - Volatile Design Processes and the Emergence of a Strange Specificity, Barcelona: Actar, 2018.

[2] V. Bühlmann, L. Hovestadt und V. Moosavi, Hrsg., Coding as Literacy: Metalithikum IV, Basel: Birkhäuser, 2015.