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Dual doctoral Program in
“Architecture. History and Project” (Politecnico di Torino)
and “Architecture” (Tsinghua University)

Data makes perfect

Urban ergonomics and data practices in design

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Abstract

This Ph.D. research explores the technological development of architectural devices within the framework of data practices for design research and practice. Observing laboratories such as the Urban Ergonomics Lab, the Design Data and Society Group at TU Delft, and MVRDV Next, this study highlights the growing interest in integrating data analysis and synthesis into architectural design. The research specifically examines these data practices through an ethnographic approach, focusing on their processes, challenges, and the diverse technological devices employed. Grounded in Science and Technology Studies (STS), Actor-Network Theory (ANT), and the Theory of Documentality, the research investigates the ecology of actors and devices—both human and non-human—at play in architectural design. It problematises the role and use of data in these settings, critically examining how data is collected, analysed, and synthesised within design practices. By exploring how laboratories select devices for data collection, structure processes of analysis, and define research outcomes, the study reveals both the potential and limitations of data in shaping architectural knowledge. These observations uncover the technological shifts in architectural design, demonstrating how the integration of data influences and reshapes the design process. Ultimately, the research aims to shape an understanding of the evolving role of technology in architectural practice, particularly how data practices modify and expand the scope of design research.

Keywords: data practices, theory of the architectural project, media, technology, ethnography.