



# Konrad Wachsmann and the Grapevine Structure

Edited by Christian Sumi

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- Konrad Wachsmann was an important pioneer of prefabrication and modular systems and of automated on-site assembly in architecture, whose work remains inspirational for contemporary architects
- Demonstrates the lasting significance of Wachsmann's ideas
- Features new research and rich, previously unpublished material on Wachsmann's 'Grapevine Structure' and 'Local Orientation Manipulator'
- Published to coincide with an exhibition at the 16th International Architecture Exhibition of the Venice Biennale 2018

This book sheds new light on the work of German-born modernist architect Konrad Wachsmann (1901-1980) and his legendary knotted joints. It is based on years of research on Wachsmann's work by Swiss architect Christian Sumi. At the core of this book is Wachsmann's dynamic 'Grapevine Structure', a universal construction element developed with students in the early 1950s at the Chicago Institute of Design. The book also investigates the 'Local Orientation Manipulator' (LOM), an apparatus developed in 1969 by Wachsmann at the University of Southern California in Los Angeles that anticipated the robotic assembly of building components. Moreover, it explores Wachsmann's 'Packaged House System' and his designs for relocatable hangars for the US Air Force. The book features these through concise texts and rich illustrated material, the majority of which are published here for the first time. Fabio Gramazio, Matthias Kohler, and Hannes Mayer (Gramazio Kohler Research, ETH Zurich) revisit Wachsmann's ideas from a contemporary perspective where robotic building processes become increasingly common. An essay by neuroscientist Andreas Burkhalter looks at the phenomenon of knotted joints in the context of similar structures in the human brain. Architectural historian Marko Pogacnik highlights the significance of Wachsmann's lectures at the Salzburg Summer Academy in the late 1950s. Published to accompany the 16th International Architecture Exhibition of the Venice Biennale, 26 May – 25 November 2018.

**Marianne Burkhalter** is an architect and co-founder of Zurich-based Burkhalter Sumi Architects. Between 2008 and 2016 she was a professor at the Academy of Architecture in Mendrisio, Switzerland, and held appointments as visiting professor EPFL in Lausanne and SCI-Arc in Los Angeles. **Christian Sumi** is an architect and co-founder of Zurich-based Burkhalter Sumi Architects. Between 2008 and 2016 he was a professor at the Academy of Architecture in Mendrisio, Switzerland, and held appointments as visiting professor at EPFL in Lausanne, Harvard GSD, University of Geneva, and University of Strathclyde in Glasgow.