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EXPERIMENTAL ARCHITECTURE

In this ground-breaking book, the first to provide an overview of the theory and practice of experimental architecture, Rachel Armstrong explores how interdisciplinary, design-led research practices are beginning to redefine the possibilities of architecture as a profession. Drawing on experts from disciplines as varied as information technology, mathematics, poetry, graphic design, scenography, bacteriology, marine applied science and robotics, Professor Armstrong delineates original, cutting-edge architectural experiments through essays, quotes, poetry, equations and stories.

Written by an acknowledged pioneer of architectural experiment, this visionary book is ideal for students and researchers wishing to engage in experimental, practice-based architectural and artistic research. It introduces radical new ideas about architecture and provides ideas and inspiration which students and researchers can apply in their own work and proposals, while practitioners can draw on it to transform their creative assumptions and develop thereby a distinctive "edge" to stand out in a highly competitive profession.

Rachel Armstrong is Professor of Experimental Architecture at Newcastle University. Her work focuses on establishing the conditions for a "living" architecture that couples the computational properties of the natural world with building structures and infrastructures. She is Director and founder of the Experimental Architecture Group (EAG) whose work has been published, exhibited and performed at international biennales, and Coordinator for the Living Architecture project, which is an ongoing collaboration of experts from universities in the UK, Spain, Italy and Austria. She has written a number of academic books including: Liquid Life: On Non-Linear Materiality (2019); Soft Living Architecture: An Alternative View of Bio-informed Practice (2018); Star Ark: A Living, Self-Sustaining Spaceship (2016); Vibrant Architecture: Matter as a CoDesigner of Living Structures (2015). Her fiction books include Invisible Ecologies (2019) and Origamy (2018).

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Designing the Unknown

Rachel Armstrong



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PREFACE

". . . we still don't know where fish go in a storm, we know a little bit about when they go."

(Preston, 2015)

Opposing the overwhelming abstraction of architectural ideas and the encroachment of neoliberalism, experimental architecture prototypes are subversive, resisting control, componentisation and mechanisation. Their fundamental unpredictability and unruly pluripotentiality evade traditional design protocols, so that architects are required to continually negotiate their terms of engagement with such agentised bodies. Since the twentieth century has ill equipped architects to quell nature's monstrous transformations, or impose order upon their undifferentiated expanses, experimental architects draw upon the "wicked" principles of ecosystems to establish seven principles that renegotiate the terms of human inhabitation and the nature of a lively world:

- 1. Experimental architecture exceeds the human scale, embracing the ephemeral and material realms from the subatomic scale to the cosmos extending beyond the limits of its surfaces and deep into its own materiality.
- 2. Experimental architecture grows and develops from seeds of exchange between inhabitants and their sites.
- 3. Engaging in continual negotiation with contexts, people and materials, experimental architects participate in the formation of ecosystems and resource cycles.
- 4. Rendering indistinct its disciplinary ontology, ecological architecture embraces its radical transdisciplinary nature, assimilating countless disciplines, practices and worldviews. Experimental architects develop their own toolsets and evaluation systems through the production of prototypes that perform as avatars for shaping the process of inhabitation.

- Remembering and considering the consequences of its actions, experimental
 architecture forges values within spaces, appreciating their multiple histories
 and emerging futures.
- Integrated with the cycles of life and death, the prototypes of experimental
 architecture are not materially immortal but return to the soil when they are
 no longer inhabited. In doing so, they shape the memories of spaces.
- Experimental architecture embraces hybrids, exceptions, monsters, "interlacing of opposites and of all contradictions, grotesques, inconsistencies: LIFE" (Tzara, 1918).

