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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).

# **EXPERIMENTAL ARCHITECTURE**

Designing the Unknown

Rachel Armstrong



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## **CONTENTS**

Lis	st of figures	vii
	eface	x
	otes on contributors	xii
1	Architecture and research	1
	Rachel Armstrong	
	1.1 Experimental architecture reader 1	
	1.2 Architecture as discipline 3	
	1.3 Neoliberalism as worldview 7	
	1.4 Ways of knowing 11	
	1.5 Research 13	
	1.6 Nature of architectural research 17	
	1.7 Evaluation 19	
	1.8 Impact 21	
	1.9 Outreach 22	
	1.10 Research environment 23	
	1.11 Research context 24	
	1.12 Economic importance of architectural research 26	
	1.13 Principles of architectural research: a "wicked" discipline 28	
	1.13.1 Personal exploration 30	
	1.13.2 Academic environment 31	
	1.13.3 Research and education 34	
	1.13.4 Professional practice 36	

#### vi Contents

2	Experimental architecture Rachel Armstrong
	<ul> <li>2.1 Designing change 39</li> <li>2.2 Experiments versus "wicked" experiments 40</li> <li>2.3 Introducing experimental architecture 42</li> <li>2.4 Ethics 47</li> <li>2.5 Research principles of experimental architecture 49</li> <li>2.5.1 The role of apparatuses 51</li> <li>2.5.2 Sorting, ordering and valuing 54</li> <li>2.5.3 Laboratory environments 58</li> <li>2.5.4 Monstering 60</li> <li>2.5.5 Question-making 62</li> <li>2.6 Towards an ecological architecture 63</li> <li>2.6.1 The houme 65</li> </ul>
3	Architectural experiments
	3.1 Short experiments 69
	3.1.1 Harvested sunlight: an experiment with a novel photoautotrophic biomaterial 71  Simon F. Park and Victoria Geaney
	3.1.2 SuperTree 73 Claudia Pasquero and Marco Poletto
	3.1.3 Co-occupancy 75 Joyce Hwang
	3.1.4 PolyBrick 3.0: DNA glaze and digital ceramics 77 Jenny Sabin
	3.1.5 Graphene architecture: integrated intelligence in soft responsive skins 79  Areti Markopoulou
	3.1.6 High-resolution architecture designed/built by humans/AI/robots 81  Alisa Andrasek
	3.1.7 Tempietto on Mylar 83 $T+E+A+M$
	3.1.8 Nightly 86  Catie Newell

39

69

3.2 Long experiments 88	
3.2.1 Evolving, growing and gardening cyber-physical systems 89 Susan Stepney, Ada Diaconescu, René Doursat, Jean-Louis Giavitto, Julian F. Miller and Antoine Spicher	
3.2.2 About the architecture of the human mind: a mathematical experiment 102 Françoise Chatelin	
<ul><li>3.2.3 Nomadic Hamlet 2.0: testing place and video space for audiences 110</li><li>Esther M. Armstrong and Dick Straker</li></ul>	
3.2.4 Exaptive design: radical co-authorship as method 121 Simone Ferracina	
3.2.5 The cloud chamber 144  Andrew Ballantyne	
3.2.6 The third thing 166 Rolf Hughes	
4 Afterword Rachel Armstrong	185
Bibliography Index	187 197

# **FIGURES**

by Rolf Hughes.

Back	Cover: Cracked Hermione II, Living Brick detail, by	
Rach	nel Armstrong and Rolf Hughes, 2018. Photograph	
	olf Hughes.	
		-
2.1	SEEM[N]EST, Tallinn Architecture Biennale, 2017.	51
2.2	Rachel Armstrong and Areti Markopoulou at the (Re)playing	
	the Mineral Tape of Life workshop, IAAC, Barcelona, 2017.	59
2.3	Computational masks worn by EAG at SARN, Venice, 2016.	60
2.4	Making Monsters workshop at the University of the	
	Underground, Amsterdam, 2018.	61
3.1	BioAugmented Lace is a project by Simon F. Park and	
	Victoria Geaney, 2018. It is a unique hybrid and living	
	textile made with lace and the green photosynthetic	
	cyanobacterium Oscillatoria animalis. As the cyanophyte	
	grows, its microscopic filaments infiltrate the fabric and	
	make it photosynthetic.	71
3.2	SuperTree by ecoLogicStudio is an architectural apparatus	
	that repurposes the tree to optimise its infrastructural	-1
	operations as part of the present and future Urbansphere, 2018.	74
3.3	Co-Occupancy by Joyce Hwang is a prototype that	
	strategically incorporates habitats for wildlife into the	75
	built environment, 2018.	75
3.4	(Left) PolyBrick 3.0. Fluorescing clay body visible through	
	microscopic 1	

microscopic photography, showing adhesion between

Front Cover: Cracked Hermione I, Living Brick detail, by

Rachel Armstrong and Rolf Hughes, 2018, Photograph

	DNA hydrogels and clay disk. (Centre) Fired disks, directly	
	printed from Ember 3D printer. The signature "C"	
	fluorescing with 50uL of RCA-based DNA hydrogel	
	stained by final 5× of SYBR Green I. (Right) Previous	
	iteration of PolyBrick. PolyBrick 2.0 is generated with	
	the rules, principles and behaviour of human bone formation.	
	Right-hand photograph courtesy Cooper Hewitt	
	Design Museum, 2018.	77
3.5	This graphene image is produced by the Soft Skin and	
	In-Sense project, developed at IAAC MAA Digital	
	Matter Studio, 2018.	80
3.6	This Croatian Pavilion structure was inspired by natural	
	cloud formations and designed using a multi-agent	
	systems (MAS) algorithm, to produce a structure that	
	approaches the material resolution possible in the	
	natural world, 2017.	81
3.7	This image was part of the exhibition Tempietto Exemplum at	
	Yale School of Architecture, 12 April-14 May, 2018.	83
3.8	Nightly, photograph by Catie Newell, 2016.	87
3.9	Overview of the conceptual Gro-CyPhy architecture in	
	application (here, a skyscraper): application-specific	
	subsystem seed specifications are developed (wall, windows,	
	plumbing, etc.); the Seed Factory develops the relevant seeds	
	(subsystem genomes); Growth Engines grow these seeds in the	
	Computational Garden where the application-specific	
	gardening takes place, delivering the cyber-physical	
	system end product.	91
2.10	Conceptual overview of the search process in the Seed Factory:	7.
3.10		
	high-level phenotype (grown) specifications are input; the	
	search process develops the relevant seeds (subsystem genomes);	
	it uses the Growth Engine to grow candidate seeds into	
	phenotypes, which it evaluates against the specification,	0.2
	and feeds the information back into its search process.	93
3.11	Diagram representing the flow of information in Life.	105
3.12	Diagram outlining the process of incarnation on Earth.	105
3.13	An image design (top), audience view 1 in Nomadic Hamlet 2.0	
	by Dick Straker, 2018.	
	An image design (middle), audience view 2 in Nomadic Hamlet 2.0	
	by Dick Straker, 2018.	
	A design sketch (bottom) for Nomadic Hamlet 2.0 by	
	Dick Straker, 2018.	117
2 1 1	A prototype architectural design for Nomadic Hamlet 2.0	
3.14		118
	by Dick Straker, 2018.	

Y	Figu	ires

	The Memory of Parts (time lapse of totem installation),		
3.15	The Memory of Paris (time tapelo Scravaglieri, Simone Ferracina and Pierangelo Scravaglieri,		
	Tune All.		4.
	Newcastle-upon-Tyne, 2017.  The Memory of Parts (detail of totem), Simone Ferracina  The Memory of Parts (detail of totem), Simone Ferracina		138
3.16	1 Di angolo Scravaglieri, Newcasue-upon-1 yiic, 2017.		139
	where he wrote the first essays to be		139
3.17	called essays, photograph by Andrew Ballantyne, 2017.		144
2.10	Inscriptions on the beams in Montaigne's study,		144
3.18	photograph by Andrew Ballantyne, 2017.		145
3.19	The Temptations of the Non-Linear Ladder, for the		1 10
J.17	Do Disturb! festival at the Palais de Tokyo, Paris, 2016.		173
3.20	Caustic Ophelia, exhibited at the Living With		-,0
	Adaptive Architecture exhibition, Lakeside		
	Arts Centre, Nottingham, 2018.		183

### **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).

