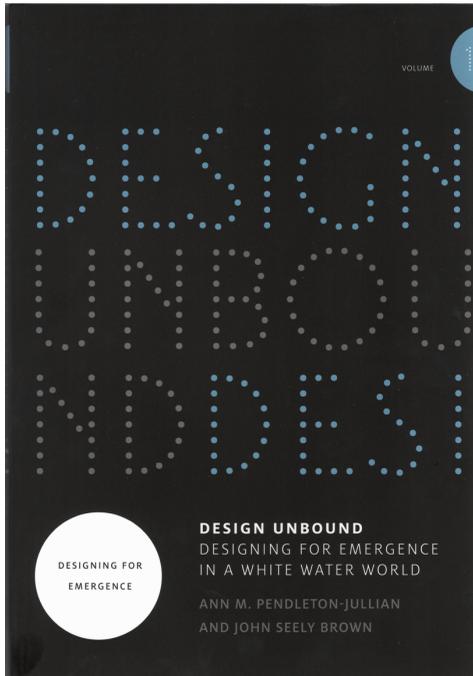


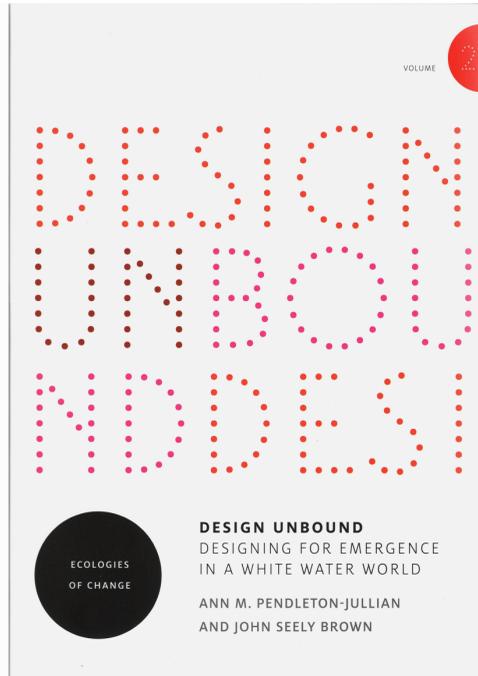
Design Unbound. Designing for Emergence in a White Water World

MIT Press 2018

Ann Pendleton-Jullian
and John Seely Brown
two volume set



Volume 1: [Designing for Emergence](#)



Volume 2: [Ecologies of Change](#)

“There is no special sphere of the environment, no distinct lands of oil, no detached global economy, and no separate issue of public health. ‘When we try to pick out anything by itself, we find it hitched to everything else in the universe.’”¹

At a moment when every action seems to dislodge stones in precarious terrain – ecologically, politically, culturally, technologically – we are increasingly confronted with complex dynamic events and complex problem environments. These are *environments* rather than isolated problems. They are socio-technological in nature. And they move through multiple scales from the individual, to communities and organizations, to societies. These problem environments are often characterized as ‘wicked’ problems.

Summer 2010, at an information technology roundtable discussion in Aspen Colorado, one of the participants² said:

“the world just came together too quickly. We have little understanding of its true diversity.”

And a second participant³ responded:

“we are forcing the past as a solution set. But the past as a solution set is not a viable option. We need a new tool set.”

Design Unbound presents a new tool set for having agency in the world today, which we characterize as a white water world – one that is rapidly changing, hyperconnected and radically contingent. The tools presented are not the tools of a coder or a carpenter but tools that are directly associated with a new kind of practice that is the offspring of complexity science and architecture.

Complexity science gives us a new lens through which to view the world as one that is entangled and emerging. It gives us new concepts and tools. Architecture is about designing contexts in which things happen. From a room, a house, a complex ensemble of buildings, cities, landscapes, and territorial systems of occupation, it takes only one more level of abstraction to imagine design, unbound from its material thingness and from its disciplinary boundaries, set free to work both *in* and *on* contexts from a complex systems perspective.

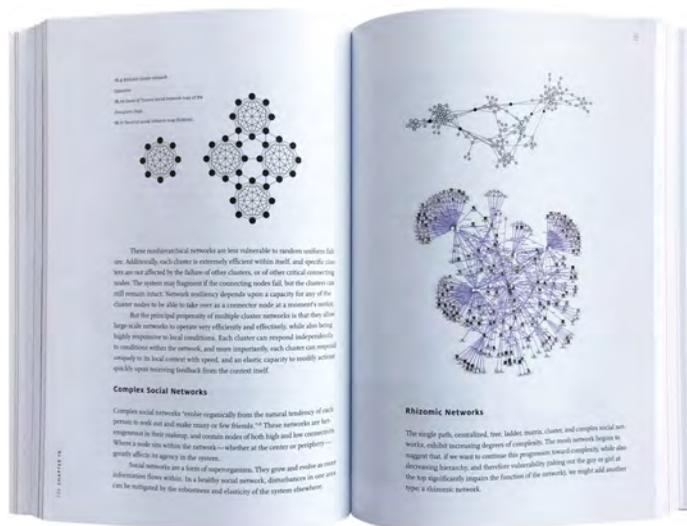


While embracing the making of things, Design Unbound proposes an expanded role for architectural design both epistemologically – in terms of the knowledge we build of the world; going broader -- and ontologically – how we approach and act in the world.

We start in architecture but are interested in the architecture in all things.

If architecture is about the art of giving form, structure, and meaning to physical things that are contexts for the lives we live, then expanded, the ‘architecture in all things’ is the art of doing the same for human systems and contexts more broadly.

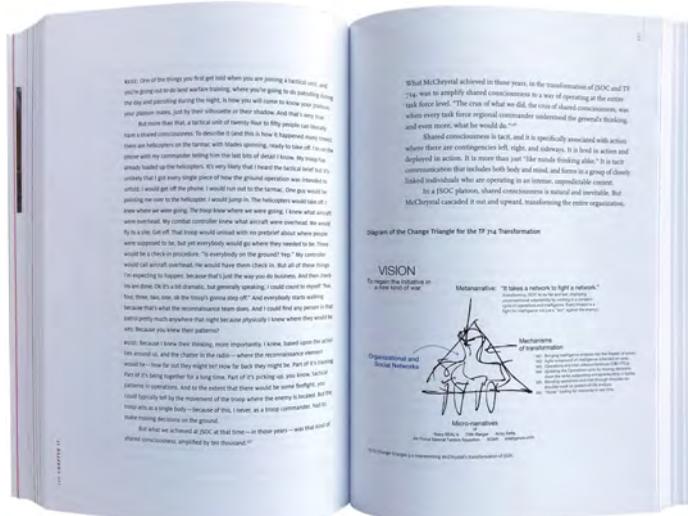
Having agency today requires thinking and designing with an understanding that we cannot design for absolute outcomes in a world where causality and what influences what, if even knowable, are systemic, entangled, in flux, and elusive. Whether one is interested in agency within one’s own life, agency in leadership, or agency to work on some of the most complex social problems, agency involves creating intentional actions in the present that are informed by past experiences and aimed at desired outcomes, *in relationship to contexts that are connected and ever-changing.*



Complexity science helps us understand contexts that are hyper-connected and ever-changing through the behavioral phenomenon of emergence. For agency, we need to understand emergence and we need to design for emergence. *Design Unbound*, not only makes this case through theory and concepts, but also presents a set of tools to do so, linking a new epistemology to action. It does this through case studies that range in scale and scope from a new kind of university to organizational, and even societal, transformation. These case studies are the basis of generalizable and adaptable tools forged through reflection and intent.

Design Unbound draws from a vast array of domains: from architecture, science and technology, philosophy, cinema, music, literature and poetry, the military, even.

It is a system of nineteen chapters, organized in five themes and bound as two volumes. Different chapters within the larger system of chapters and themes will resonate with different reading audiences. It blends a polymathic reservoir of thought seamlessly with real life examples of successful design and action, but it does not expect all readers to be polymaths. So, from architects to people involved re-conceiving higher education to the public policy or defense and intelligence communities, each audience will find different chapters most relevant. For this reason, we have provided different entry points allowing readers to discover and navigate their own pathways through the work. Each of the five themes begins with a chapter that wrestles with the underlying 'why' of the theme and then includes a different set of inter-related tools.



Complex problems change when you look at them, when you talk with them, and when you engage with them. Interactions are non-linear and disproportionate; minor changes yield major consequences.

In times of change, fundamental aspects of society are called into question as old systems are challenged to radically transform or become obsolete. How we educate and govern ourselves; how we stay healthy and secure; how we communicate across increasingly porous disciplinary, socio-political, and socio-economic boundaries; how we work together, play together and think together—these are all questions that are being reframed within a context that is more global, more dynamic, more unstable, more connected, and more personal.

Designing for agency and impact in complex contexts that are continually changing means that one must work at the very operational level of the system, focusing on the dynamics of emergence and exchange within.

This requires a completely different type of tool set — one that aims at designing ecologies of change.

Different from top-down strategic plans, which organize phased management of an operational pathway aimed at a goal, or tactical responses that create incremental improvement—both of which have value under conditions that are stable, knowable, and hierarchically organized—ecologies of change are specifically useful for working on complex problems and shaping change in a white water world.

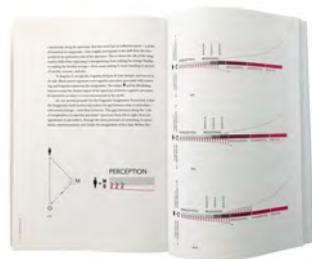
“Twenty-first century,” as a meme, has come to imply many things. For some, it conveys the anxiety that comes from being lost in contexts of uncontrollable change: without agency, even in the small things, and without understanding the ‘why’s and ‘how’s of events. For others, it carries positive promise of a future made better, more novel, more fun, by technology, and a democratization of things and practices that lead to agency. *Design Unbound*, in addition to presenting concrete tools and case studies, unpacks how to think about the “twenty-first century.” It lists to the optimistic side but looks with “eyes wide open” at how one can accomplish things with a new tool set.

- 1 Parag Khanna, international relations expert and author, quoting John Muir, *My First Summer in the Sierra*, 1911, p. 110.
- 2 Tim El-Hady, Director of the Middle East Leadership Initiative of Aspen Institute’s Global Leadership Network.
- 3 John Rendon, Founder and CEO of the Rendon Group; senior communications consultant to the White House and Department of Defense.

The tools we propose are a set of ten knowledge-, skill- or method-based instruments for acting through design in a manner that honors emergence. The first five come from the DNA of architectural design – what architects do already and have been doing successfully for centuries – but now amplified, updated, and deployed differently.

The tool set also includes three meta-tools as mechanisms that do work of a higher order – at the level of the ecology of the project. They are not abstract constructs but have emerged from work that we, the authors, have done or been involved in. Beyond the design of thing(s), these projects required recalibrating, stretching, and working on the design process itself – designing design.

Individual chapters of *Design Unbound* are available for classes, conferences and convenings at DesUnbound.com



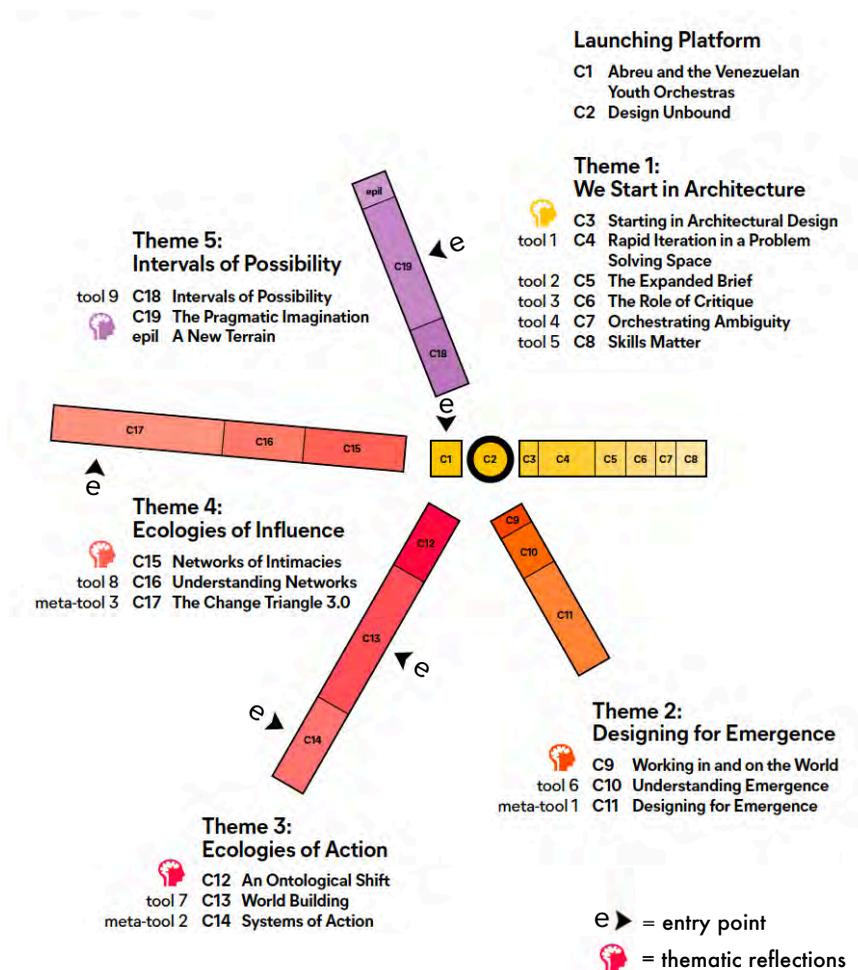
Pragmatic Imagination is a single from *Design Unbound* that was released in 2017 as a preview of the larger work, introducing concepts and themes that both anticipated and encapsulated the larger project. As both parent and child of the larger work, it presents a framework for the most critical underlying assumption of the project: that agency in, and on, the world today requires a productive entanglement of imagination and action. Perhaps the most esoteric of the chapters, it is meant as an opening, not a proven theory.

Tools

- T.1 RAPID ITERATION IN A PROBLEM-SOLVING SPACE
- T.2 THE EXPANDED BRIEF
- T.3 CRITIQUE
- T.4 ORCHESTRATING AMBIGUITY
- T.5 SKILLS MATTER
- T.6 UNDERSTANDING EMERGENCE
- T.7 WORLD BUILDING
- T.8 UNDERSTANDING NETWORKS
- T.9 INTERVALS OF POSSIBILITY
- T.10 THE PRAGMATIC IMAGINATION

Meta-tools

- MT.1 DESIGNING FOR EMERGENCE
- MT.2 SYSTEMS OF ACTION
- MT.3 THE CHANGE TRIANGLE 3.0



Design Unbound is a celebration of individual potential to make a difference.
–JONATHAN FANTON, Former President, American Academy of Arts and Sciences; Former President, John D. and Catherine T. MacArthur Foundation

Perhaps the most important contribution of Design Unbound is to return a sense of optimism to people about the possibility that humans can usefully affect the course of such complex environments through the mechanisms of design provided in this important book.

– JEFF COOPER, Former Vice President for Technology, Science Applications International Corporation

Design Unbound shows how we can manage complexity, even if we cannot completely master it, to produce great outcomes.

–PETER HO, Senior Advisor, Centre for Strategic Futures; Chairman, Urban Redevelopment Authority; Chairman, Singapore Center of Environmental Life Sciences and Engineering

Design Unbound will be essential reading for the very many of us who care about how context informs/transforms thinking and practice.

– MARGARET LEVI, Director, Center for Advanced Study in the Behavioral Sciences (CASBS) at Stanford University

Design Unbound is a terrific, thought-provoking book! I was greatly heartened by the authors' clear, erudite, and well-reasoned use of complex adaptive thinking and the role of emergent phenomena in their vision of a new tool kit for creative design in our fast-changing modern global system.

–JERRY SABLOFF, Former President, Santa Fe Institute

Design Unbound is exactly the book that the peacebuilding, development and humanitarian communities need right now to make sense of the world, and to create social change that is truly impactful in complex systems with no linear solutions. The book is brilliant, ground-breaking and breathtakingly creative.

–MELANIE GREENBERG, President & CEO, Alliance for Peacebuilding

Design Unbound gives us a fresh conceptual framework and set of tools to approach the future through design that honors the dynamics of complex and evolving contexts. It is a new and essential ingredient for shaping and re-conceptualizing all sectors of business, social enterprise and government.

–MICHAEL CROW, President, Arizona State University

The scope, scale and complexity of the contemporary problems facing us in security, energy, health, economics, and climate, to cite just a few, are daunting. Attacking these problems demands "reconceptualizing the problem and opening the boundaries of possible solution spaces". That is precisely what the authors have accomplished clearly and remarkably in Design Unbound.

-R.P. O'NEILL, Director, The Highlands Forum for the Office of the Sec. of Defense

A gorgeously written and produced volume about the emerging science of creativity by two of today's most intellectually ambidextrous thinkers and doers.

-BETH NOVECK, J.M. Hutlin Global Network Professor and Director, The Governance Lab, NYU

As we convene conferences and seminars of business executives, government officials, non-profit leaders and academics to address navigating the rapidly changing environments that challenge each and every one of them, Design Unbound will be a guiding light to our constituencies.

-CHARLIE FIRESTONE, Executive Director, Communications and Society Program; Vice President, Aspen Institute

This book offers a fresh and immensely insightful look at the mystery of imagination. Full of history and practical advice, it will change the way you think about imagination, and quite possibly, the world around us.

-PAUL SAFFO, Chair, Future Studies and Forecasting, Singularity University

Ann Pendleton-Jullian and John Seely Brown have produced a deep analysis of the creative process rooted in their own professional experience and in reflections over a vast array of intellectual contributors from philosophy, poetry, music, science and technology. In chapter after chapter they make you see old things and old actions in new light.

-ANTONIO DAMASIO, David Dornsife Professor of Neuroscience and Director of the Brain and Creativity Institute, University of Southern California

This book is a collaboration between two fearless and unbounded thinkers working together across disciplinary and professional boundaries to address core questions about how the human mind works. This jam-packed book sets the stage for what promises to be a rich toolkit we might use to imagine, design, and build a better world.

-HENRY JENKINS, Professor of Communication, Journalism, Cinematic Art and Education, University of Southern California



Ann Pendleton-Jullian is an architect, writer, and educator of international standing whose work explores the interchange between architecture, landscape, culture, science, and technology within complex contexts. She is currently Full Professor and former Director of the Knowlton School of Architecture at Ohio State University, advisor to the President of Georgetown University, and advisor and distinguished Visiting Professor at the Pardee RAND Graduate School of Public Policy. She has co-taught world building studios at USC's School of Cinema. From 1993-2007, she was a tenured professor of architecture at MIT.

ApJ's projects range in scale and scope from things to systems of action: from houses to hotels, a Congress Hall in Chile, universities and cultural buildings. Much of her recent work focuses on empowerment and economic development through various projects including the Asian University for Women in Bangladesh and an eight-village ecosystem conceived around rural craft tourism in Guizhou province in China.

ApJ entered the field of architecture after missing 'architecture' in the course catalogue and instead studying astrophysics. This and growing up in the Midwest of Ray Bradbury has tinged her perspective on pretty much everything.

John Seely Brown (JSB) was Chief Scientist of Xerox Corporation as well as the director of the Xerox Palo Alto Research Center (PARC) until 2002. A master integrator and instigator of productive friction, JSB explores the whitespace between disciplines and builds bridges between disparate organizations and ideas. In his more than two decades at PARC, Brown transformed the organization into a truly multidisciplinary research center at the creative edge of applied technology and design, integrating social sciences and arts into the traditional physics and computer science research and expanding the role of corporate research to include topics such as the management of radical innovation, organizational learning, and complex adaptive systems.

JSB is currently a visiting scholar and advisor to the Provost at the University of Southern California (USC) and the Independent Co-Chairman for Deloitte's Center for the Edge. He is a member of the American Academy of Arts and Sciences, the National Academy of Education, a Fellow of the American Association for Artificial Intelligence and has served on numerous private and public boards of directors, including Amazon.