

Book Review

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Iterate: Ten Lessons in Design and Failure

by: John Sharp and Colleen Macklin

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Design thinking is understood as a driver of innovation and change – a series of organisational resources, theoretical perspectives and creative protocols that can seed positive innovation and organisational transformation in established corporate cultures (Brown, 2009; Kelley, 2013). Academic work on design thinking has focused on the reflective practices of designers (Murphy, 2015), the integration of the user into design work (IDEOU, 2019), and the use of the mindset to visualise and build prototypes (Carlgren et al., 2016), making a strong case for the ways that this designed approach to thinking (regardless of which model of creative problem solving protocol one adheres to) can catalyse a creative practice both inside and outside the design studio (Martin, 2009).

But what happens when, instead of treating design thinking as a creativity generation protocol, we examine one key element of the process as embodied in the work of designers and non-designers alike? In response to that question, Parson's School of Design at the New School Associate Professors John Sharp and Colleen Macklin offer us *Iterate: Ten Lessons in Design and Failure* (MIT Press, 2019): an examination of the role of failure in the creative process and of the relationship between learning and creative work. This engaging and accessible study of creativity in action seeks to make clear the ways that failure (and its handmaiden, iteration) can support creative transformation, taking us out of the oft-examined design studio space to explore the work of creative minds concerned with conceptualising, prototyping, testing and evaluating change in our world.

Books on design, and on design thinking, are usually characterised by three key areas of focus: the development of a human centred perspective through empathy, the leveraging of creative instincts and creative skill sets to move a team or initiative into the space of the adjacent possible, and the intense use of iterative solution generation as a rapid and effective source of learning (Brown and Wyatt, 2010). It is this third area – the generation of innovative and new ideas through the 'self-directed kind of deliberateness' [Sharp and Macklin, (2019), p.249] that fosters both creativity and failure – that is so richly depicted by the theoretical overview and case studies examined in this new work from the MIT Press.

Iterate: Ten Lessons in Design and Failure is presented in two parts. First, Sharp and Macklin render a meticulously researched and deeply personal exploration of the ways

that diverse fields of research understand the creative process (both inside and outside of a design thinking perspective). In the second half of the book, they share with the reader a curated collection of ten case studies representing the ways in which these academic concepts are made manifest in practice. Each section in this half of the book is supported by insightful illustrative concept explanations created by Steven Davis and Yu Jen Chen and through diagrams by Tuba Ozkan and Carla Molins Pitarch.

First, Sharp and Macklin examine the role of creativity, failure and iteration from an academic perspective, drawing upon academic work in each area to support a four-part definition of creative practice: intention, outcome, process and evaluation. The authors begin by connecting research into Bourdieu's theories of social practice, Amabile's conceptions of the social psychology of creativity and Schön's understanding of reflective practice (among others) in a nuanced and detailed understanding of both the process, and the practice of creativity. They then move to explore failure, presenting it as 'the way we learn' (p.24) – a strategy, a process of making generative mistakes (structured through Edmondson's 2011 continuum of nine types of preventable, complexity related and intelligent failures) and a deliberately acquired skill fostered through the development of a growth mindset (Dweck, 2008). Finally, Sharp and Macklin close this section with an examination of the role of iteration as a way to nurture learning and to foster innovation, and as a tool for reframing failure as "a productive step rather than a conclusive end" (p.43). Here, they weave together work on prototyping in computer science and Guilford's work on the development of an iterative mindset through the cultivation of conceptual foresight (p.52) to present iteration as the tie that binds creativity and failure in innovative work. What is especially interesting about this opening section of *Iterate: Ten Lessons in Design and Failure* is Sharp and Macklin's argument that the creative process is predicated on failure, and that creativity is made possible only once the practitioner has reflected upon, embraced and deliberately fostered acts of failure as part of their learning process. By examining the intersection between tacit and explicit practice in each phase of their creative process, the authors effectively contextualise the case studies to come in the following section, providing the reader with the scholarly tools required to decode both the tacitly informed failure-positive mindset, and the more explicit deliberate practices of failure cultivation required for creative work in each case.

The authors then present ten case studies of creativity and failure in action, indirectly contributing a series of knowledge-work focused cases to the field's wider exploration of expertise and the conscious mind (most recently described in Montero's 2016 exploration of thought in action). The ten cases are presented in pairs, each dealing with a specific continuum present within a highly reflective and productive creative practice. These include: material versus reflective contexts (as presented in the cases of Allison Tauziet, winemaker and Matthew Maloney, animator), targeted versus exploratory intentions (explored in the contrasting creative approaches of Jad Abumrad, host of the massively popular podcast Radiolab and Chef Wylie Dufresne), methodological versus improvisational processes (brought vividly to life through the methodological collaboration between architect Nathalie Pozzi, and game designer Eric Zimmerman, and the improvisational approach embodied by musician Andy Milne), internal versus external evaluation (manifested in the reflective processes of skateboarder Amelia Brodka and the external evaluation used by comedian Baratunde Thurston) and

the convergent versus divergent outcomes sought by toy designer Cas Holman and artist and filmmaker Miranda July.

In these pairings, the authors draw from theoretical and scholarly concepts introduced in the first half of the book to illustrate and unpack the practices of failure, iteration and creativity most relied upon by the subject of each case study. For example, in Chapter 4, Sharp and Macklin introduce Oxman's 2016 'Bermuda quadrilateral' of disciplinary approaches and John Maeda's 2018 matrix of art, design, science and engineering to explore the use of targeted and exploratory intentions in iterative processes. They illustrate the ways in which targeted intentions aim to convert knowledge to action by answering 'how' questions (p.66), while contrasting that to the way in which exploratory intentions add to knowledge by asking 'why' (p.67), and position each on the matrixes provided by Oxman and Maeda.

The authors return to this question of the intertwined questions of 'how' and 'why' in the case of Chef Wylie Dufresne, and use his approach to 'connecting the dots' (p.141) to demonstrate a third and more cyclical approach to fostering exploratory intentions in creative work, contrasting it clearly to the highly segregated approaches defined earlier. By grounding their analysis of the ways in which Wiley uses exploratory intentions to balance surprise and humour in the aesthetic experience in Maeda and Oxman's theoretical work, the authors work to connect the theoretical concepts which ground the creative practices presented in the case study with the tacit and explicit forms of knowledge made visible in their analysis of the use of exploratory intentions in action. The concepts provided in the earlier section serve as a lense through which the reader is able to see the more specific and unique ways that learning (and unforeseen outcomes) can be generated through failure in a professional kitchen in a new light.

In this book, Sharp and Macklin have set out to use existing evidence-based models of reflective practice, creative problem solving and abductive reasoning to investigate the ways that creativity, failure and iteration are made manifest in the daily practices of a wide variety of thought leaders from disciplines as diverse as winemaking to comedy (travelling across toy design, podcasting and skateboarding on the journey). However, I would like to suggest that with *Iterate: Ten Lessons in Design and Failure*, Sharp and Macklin have instead achieved something much more interesting – and potentially unique. They have provided the design community with an expanded definition of innovation, one grounded in the principles of design thinking and made evident through a re-framing of just who, and what, is included as creative work.

The use of design thinking in general, and of iteration specifically, as a driver of innovation and cultural transformation has been well examined by scholars within the field of design studies and within the larger arena of organisational theory (Brown, 2009; Cross, 2011; Liedtka, 2015). However, most of these investigations have addressed design thinking as a form of process creativity, which has contributed to the blurring of boundaries between this impactful mindset and studies of individual practices within creative industries. *Iterate: Ten Lessons in Design and Failure* represents a change in perspective: allowing us to see design thinking as a distinct innovation management practice (Hassi and Laasko, 2011), rather than exclusively a creative one. In reframing the iterative work of 'creatives' as small experimental and innovative acts informed by the very same literature that shapes our understandings of innovation models, Sharp and Macklin connect the ongoing debates surrounding the ontology of design thinking as a theoretical approach with larger conversations regarding the use of design thinking as an innovation management practice.

Iterate: Ten Lessons in Design and Failure does what few books on design thinking have been able to achieve: it decodes the methodised and commodified approach of design thinking and illustrates clearly how thinking itself can instead be designed. In this book, Sharp and Macklin present a vivid picture of how creative practitioners work to design their thinking – how they employ failure to deliberately craft a practice of mental ambidexterity aimed at shifting reasoning and sensemaking practices within a culture of changemakers. Much like practitioners of design thinking, this book occupies a liminal space between the tactical and the theoretical, providing the reader with practical actions for cultivating failure in their practice, and with a new theoretical lens through which to understand the practice itself. However, the conversations that this book will spark are sure to make an impact on both design practitioners and those interested in fostering and nurturing creativity alike.

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