

Russ's writing is clear but matter of fact: and the chapters reviewing research and theory are not especially fun to read, although the connection between play and creativity—with all of controversies—could have made for an exciting book. There is no question Russ comprehensively covers the extensive relevant literature; but because she covers so many studies, she does so in less depth than the typical undergraduate or even graduate student would find especially useful. Instead, the book might provide an incentive for more in-depth reading as well as the impetus to focus on the connection between play and creativity.

By compiling a large body of data that addresses the interface between play and creativity, by providing examples from her own work in which she has investigated this connection, by pointing out the varied sources from which evidence for this connection arises, and by indicating that the evidence at present is not robust, Russ has raised the issue to a greater level of awareness. In spite of the diffuse results from various studies, she seems convinced that the connection between pretense and creativity is strong, and she bases her view on her clinical research. If readers of the book are inspired to undertake a new round of research examining the connection between play and creativity, then the book will have served a good purpose.

—Doris Bergen, *Miami University, Oxford, OH*

Play, Playfulness, Creativity, and Innovation

Patrick Bateson and Paul Martin

New York: Cambridge University Press, 2013. Notes, references, index. 162 pp. \$34.99 paper. ISBN: 9781107689343

Patrick Bateson and Paul Martin's *Play, Playfulness, Creativity, and Innovation* is a fine short book, especially for two groups of readers of this journal: those who want an introduction to some of the most recent work on play in animals and its relevance to understanding play in the human animal, and those interested in the relationship of play with creativity. Both topics are currently important in biology and psychology. In eleven short chapters, a great number of topics are addressed. Recent years have seen a resurgence of interest in the play of nonhuman animals. Scholars and practitioners primarily focused on play in humans, especially children, should be aware of this rapidly accumulating body of knowledge. Those studying nonhuman animals are also becoming more aware of the important contributions from work on human play. Psychologists such as Anthony Pellegrini, Peter Smith, and others have facilitated these connections, particularly in relation to rough-and-tumble play and social play in general, although the literature on object, artistic, and physical play provides useful linkages as well. This book complements these efforts in that its focus moves largely toward play as a source of creativity. However, it does not shy away from broader issues, especially in the earlier chapters.

The first four chapters provide a brief overview of the history, biology, functions, and evolution of play. Brief and selective, the information is up to date and authoritative overall, but I think the authors

stumble a bit in covering the definition of play and in their central distinction of play and playfulness. While the criteria they posit for recognizing play in diverse species and contexts are useful, their assertion that my own criteria makes “problematical” claims about function and internal state is simply untrue. In fact, I developed my criteria precisely to avoid claims about either, which previous definitions of play typically did not.

This is not merely a personal quibble since the authors make as one of their central claims that not all play is playful and thus we need the concept of “playful play,” a kind of play that explicitly involves a mood or motivational/affective state. Such states are internal and, of course, difficult to assess in animals without anthropomorphically regressing to the idea of their having “fun” or of being enmeshed in the moment. This makes any claims that turtles, fish, or insects are being “playful” virtually impossible at the behavioral level. Thus, while Bateson and Martin accept data showing that spiders engage in sexual play, they dismiss it as not playful play for no apparent reason other than an uncritical anthropomorphism. Fortunately, this issue is not central to the second major focus of the book—creativity and innovation—although it can even enter into descriptions of human behavior as play.

The next six chapters give an overview of creativity research in people, novel behavior in animals, individual and group creativity, pretend play, creativity, education, humor, dreams, and drugs. These topics are all tied together in a fascinating final chapter that suggests directions for future research. Here the authors assert a critical distinction between creativity

and innovation that other scholars might challenge, especially pertaining to animals and children. For example, Bateson and Martin review the literature claiming that play is an important precursor to creativity and that creative individuals are playful. For them, creativity flourishes when people are in a playful mood free from constraints of time and stress. Creativity involves the generation of new ideas, which they sharply distinguish from innovation, or the “successful implementation of those ideas and their uptake by others” (p. 85). In a sense, the distinction is reminiscent of that between basic research and engineering. Different talents and skills—including “persistence, analytical thinking, and attention to detail”—are needed for innovation from those needed for play (p. 85). To answer the problems posed by their distinction in the growing literature on innovation in animals, the authors speculate that such work may conflate these two processes. In support of their distinction, they point to reports of tensions in organizations between the generators of ideas and those charged with implementing them.

While there is merit to this distinction, which is common in much of the human creativity literature, I think Bateson and Martin tend to rely too much on examples of industrial inventions. Instead, I wish they had discussed, for example, how their distinction might play out in art, music, athletics, and dance—topics almost totally ignored in the book although the latter two are elegantly depicted on the cover. How does their distinction relate to research on children and creativity, which they discuss without applying their ideas on innovation? I think the problem is that

creativity exists at many levels, including the prosaic productions of young children as they reinvent the wheel, so to speak, in their own development. In fact, there is a growing literature on animal creativity, and parsing of types of creativity in the literature and this seems to have been overlooked. Incorporating the work of Allison B. Kaufman and colleagues would have enriched an integrative analysis of creativity and play as they provide a model, neurobiological support, and incorporate aspects of novelty, exploration and play, observational learning, and innovation. The 4 C model, including “mini c creativity” might have provided a smoother way to segue from corporate to child creativity. (See “Applying a Creativity Framework to Animal Cognition,” in the 2004 volume of *New Ideas in Psychology*; and “Towards a Neurobiology of Creativity in Nonhuman Animals,” in the 2011 volume of the *Journal of Comparative Psychology*.)

The book includes a long section that argues pretend play is critical in child development. Here the authors, with their strong focus on empirical evidence, face a challenge, because the evidence for the function of pretend play in children is not only mixed, but controversial. The authors recognize this challenge but pass by it perhaps too quickly. In another curious omission, they mention neither computers nor video games, despite the recent research on such games and despite their impact, often negative it seems, on the kinds of play featured in the early part of the book. All this being said, this concise book engagingly integrates recent work from biologists—who have developed some intriguing and important approaches, concepts, theory, and findings—with a pressing aspect of

human existence. Because it does so, it should be useful in courses on behavioral development and creativity—and it might serve as a fine supplementary text in courses on play.

—Gordon M. Burghardt, *University of Tennessee, Knoxville, TN*

The Philosophy of Play

Emily Ryall, Wendy Russell, and Malcolm MacLean, eds.

New York: Routledge, 2013. Contents, bibliographies, index. 216 pp. \$145 cloth. ISBN: 9780415538350

In April 2011, the inaugural Philosophy at Play conference brought together academics, play-sector workers, policy advocates, and analysts, among others, to make play the subject of philosophical inquiry and practice. *The Philosophy of Play*, edited by Emily Ryall, Wendy Russell, and Malcolm MacLean, is a collection of essays that arose from that conference. According to the editors, the objective of the collection is “to provide a richer understanding of the concept and nature of play, its relation and value to human life” and to provide “a deeper understanding of philosophical thinking and to open dialogue across these disciplines” (p. 2).

Drawing on a range of philosophical traditions including the works of Plato, Wittgenstein, Gadamer, Nietzsche, Sartre, Burke and Deleuze, the collection—like the ubiquitous concept of play itself—is vast in scope, made up of sixteen chapters varying slightly in length and depth. No specific overarching questions or themes