

## Book Review

RATIONAL ANIMALS? Editors: Susan Hurley and Matthew Nudds. Oxford University Press, 2006. ISBN 0-19-852826-4, 561 pp.

*Rational Animals?* is a collection of essays contributed by an impressive lineup of scholars from a range of academic fields: philosophy, psychology, primatology, cetology, zoology, and anthropology, to name a few. This multidisciplinary approach to a discussion of rationality in animals balances empirical findings with philosophical arguments, leading to a comprehensive review of what has quickly become a hot topic for those tackling the problem of the animal mind. Whereas the editors note in their introduction that “we may be ready to admit that non-human animals are intelligent” (p. 2), this volume makes clear that the idea of rationality in animals is not yet ready for a similar proclamation. A fundamental problem is the methodological challenge of testing for rationality in the absence of a clear, operational definition of rationality itself. Rationality can come in many types and forms, and each contribution to this book highlights the challenge of ascribing a rational process to either observable behaviors or unobservable mental processes. This kind of problem produces fertile ground for philosophers and cognitive scientists and represents a place from which a modern view of the human and non-human animal mind will take shape.

Each chapter in this book can be placed roughly into one of two categories: (1) a philosophical essay or (2) an empirical account. Noted philosophers like Kim Sterelny confront theoretical issues surrounding a definition of rationality, while experimental psychologists like E. Sue Savage-Rumbaugh relay accounts of possible rational behavior in animals resulting from empirical tests. Animal species featured in empirical studies represented in this volume include bottlenose dolphins (*Tursiops truncatus*), chimpanzees (*Pan troglodytes*), bonobos (*Pan paniscus*), capuchin monkeys (*Cebus apella*), New Caledonian crows (*Corvus moneduloides*), Gray parrots (*Psittacus erithacus*), Japanese quail (*Coturnix japonica*), and western scrub jays (*Aphelocoma californica*).

The editors' introductory chapter is particularly valuable as it presents the problem of rationality clearly and succinctly. What's more, it provides summaries of subsequent chapters where the results of each contributor's discussion are placed

into the editors' established framework. The introduction functions almost like Cliff'sNotes. With such a complete overview of each of the chapters, lethargic readers (or resourceful students) who only manage their way through this first chapter will nonetheless be able to bluff their colleagues into believing that they have studied the book in detail. It is worth re-reading the introduction after having read the book in its entirety in order to appreciate the editors' commentary on each of the contributions. The editors' notes are also peppered throughout the book, helping to keep each contributor's discussion on-track.

Despite the fact that *Rational Animals?* features authors from diverse academic disciplines, and discusses a mishmash of animal species, the book does not feel disorganized. This is not to suggest that all of the authors approach rationality from the same perspective, nor do they reach the same conclusions. Part of what makes this book valuable is its ability to bring together scholars who do not always see eye-to-eye on the subject of the animal mind. As an example, in Chapter 17, Michael Tomasello and Josep Call provide experimental evidence of chimpanzees' ability to attribute mental states to other agents, specifically the capacity to understand what other individuals can and cannot see. Confident that their interpretation of the data is parsimonious, they conclude that their experimental findings make a strong case for mind reading in chimpanzees. In direct opposition to this conclusion, Chapter 18 reveals Daniel Povinelli and Jennifer Vonk's appeal to parsimony in concluding that “there is no compelling evidence that [chimpanzees] understand seeing in others” (p. 411). This “gentle controversy” adds to the richness of ideas presented in this book.

Much of the empirical work described in this book had not been initiated specifically to address the problem of animal rationality. Instead, experiments dealing with a variety of cognitive issues have been reworked to fit into a discussion of rationality. This has the result that it can often be difficult to determine where an author has broken from a discussion of animal cognition/intelligence and begun specifically tackling rationality. While some authors take pains to establish a working definition of rationality to which their results might be compared, others are not so thorough in establishing such parameters. Thus, their discussions bleed into, or are indistinguishable from,

other psychological concepts. As an example, for the chimpanzees' "mental state" controversy mentioned above, and discussed at length in Chapters 17 and 18, the word "rational" appears only once. Is rationality necessarily even related to a discussion of mind reading, social cognition, or mental state attribution? Clearly, the ability to reason about one's own or others' mental states could be expressed as a rational process, but the specifics of these relationships are often implicit, only reaching the reader through a trickle-down effect. Scientists should be forgiven, however, if they do not have well-established definitions of rationality or decades of experimental results to draw on for this discussion. Rationality seems to be a concept that lurks expectantly between the lines of the cognitive scientists' reports, which is perhaps why philosophers are of such value to this discussion—they may yet gently coax rationality into the empirical domain.

Readers of *Aquatic Mammals* will be pleased to learn that this book includes no less than three chapters discussing rationality in dolphins. Alain Tschudin presents a set of remarkable, yet equivocal, experiments concerning false belief and social cognition in bottlenose dolphins. Although plagued by methodological hiccups, the experiments contain sufficient evidence to lead the author to conclude that the dolphins' performance "supports a case for rationality in animals" (p. 428). Louis Herman provides a detailed discussion of the many decades of experimental research produced by his lab, documenting a variety of intelligent dolphin behaviors. Herman's discussion searches for evidence of rational responses within the results of his many experiments. Lastly, Richard Connor and Janet Mann present observational accounts of the complex social lives of the wild bottlenose dolphins they study in Shark Bay, Australia, which they term the "Dolphin Gombe." Relating their discussion to the "Machiavellian intelligence hypothesis," they posit that the need to mediate complex social relationships has resulted in the evolution of a cognitively complex (and rational?) dolphin brain.

This book is weighted slightly towards a philosophical discussion of rationality in terms of contributions, but it leaves experimental researchers with lessons that will carry over into the lab. Unlike discussions of animal intelligence which often seem to dilute themselves by including a broad and often disparate assortment of cognitive and behavioral phenomena, *Rational Animals?* (generally) stays focused on a much narrower topic, producing an in-depth and thorough discussion that should be mandatory reading for modern students of the animal mind. Lastly, for those of you who might judge a book by its cover,

you won't be disappointed here. The hardcover version of *Rational Animals?* that I am using is printed on thick paper with a solid binding and attractive cover-art, making it a magnificent addition to any bookshelf—candy for both the eye and the brain.

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