Do animals have cognitive maps? Do they possess knowledge? Do they plan for the future? Do they understand that others have mental lives of their own? This volume provides a state-of-the-art assessment of animal cognition, with experts from psychology, neuroscience, philosophy, ecology, and evolutionary biology addressing these questions in an integrative fashion. It summarizes the latest research, identifies areas where consensus has been reached, and takes on current controversies. Over the last thirty years, the field has shifted from the collection of anecdotes and the pursuit of the subjective experience of animals to a rigorous, hypothesis-driven experimental approach. Taking a skeptical stance, this volume stresses the notion that in many cases relatively simple rules may account for rather complex and flexible behaviors.

The book critically evaluates current concepts and puts a strong focus on the psychological mechanisms that underpin animal behavior. It offers comparative analyses that reveal common principles as well as adaptations that evolved in particular species in response to specific selective pressures. It assesses experimental approaches to the study of animal navigation, decision making, social cognition, and communication and suggests directions for future research. The book promotes a research program that seeks to understand animals’ cognitive abilities and behavioral routines as individuals and as members of social groups.

“This excellently edited, important book addresses one of the most vexing questions in the study of animal behavior: Do animals think? The editors bring together an outstanding group of contributors addressing navigation, decision making, communication and knowledge in insects and vertebrates. This book is about concrete empirical results rather than vague concepts and is exquisitely suitable for graduate courses.”

—Bert Hölldobler
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Contributors


The Ernst Strüngmann Forum is founded on the tenets of scientific independence and the inquisitive nature of the human mind. Through its innovative communication process, it facilitates the continual expansion of knowledge.

Themes selected for a Forum transcend classic disciplinary boundaries. They are problem-oriented, of high-priority interest to the disciplines involved, and timely to the advancement of science. Proposals are submitted by leading scientists active in the field and selected by the Forum’s Scientific Advisory Board.

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