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TOOLUSE INANIALS

COGNITION AND ECOLOGY

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Tool Use In Animals Cognition And Ecology

Crickette Marie Sanz, Josep Call, Christophe Boesch

Tool Use In Animals Cognition And Ecology:

Tool Use in Animals Crickette M. Sanz, Josep Call, Christophe Boesch, 2013-03-07 Presentation of groundbreaking research on an extensive range of tool using animals looking particularly at the evolution of cognitive abilities Tool Use in Animals Crickette Marie Sanz, Josep Call, Christophe Boesch, 2013 The last decade has witnessed remarkable discoveries and advances in our understanding of the tool using behaviour of animals Wild populations of capuchin monkeys have been observed to crack open nuts with stone tools similar to the skills of chimpanzees and humans Corvids have been observed to use and make tools that rival in complexity the behaviours exhibited by the great apes Excavations of the nut cracking sites of chimpanzees have been dated to around 4.5 thousand years ago Tool Use in Animals collates these and many more contributions by leading scholars in psychology biology and anthropology along with supplementary online materials into a comprehensive assessment of the cognitive abilities and environmental forces shaping these behaviours in taxa as distantly related as primates and corvids Tool Use in Animals Crickette Marie Sanz, Josep Call, Christophe Boesch, 2013 Presentation of groundbreaking research on an extensive range of tool using animals looking particularly at the evolution of cognitive abilities Animal Tool Behavior Robert W. Shumaker, Kristina R. Walkup, Benjamin B. Beck, 2024-12-10 This revised and updated edition of the landmark publication reveals the current state of knowledge regarding animal tool behavior When originally published in 1980 Animal Tool Behavior was the first volume to catalog and analyze the complete literature on tool use and manufacture in non human animals Benjamin B Beck showed how animals from insects to primates employed different types of tools to solve numerous problems This work inspired and energized legions of researchers to study the use of tools by a wide variety of species This new edition reveals the current state of knowledge regarding animal tool behavior updated and revised with 300 additional references that have been published since the second edition Through a comprehensive synthesis of studies produced through 2023 Robert W Shumaker Kristina R Walkup and Benjamin B Beck define tool use discuss the modes of tool use that have emerged in the scientific literature examine all forms of tool manufacture and address common myths about non human tool use Specific examples involving invertebrates birds fish and mammals describe the differing levels of sophistication of tool use exhibited by animals This volume provides a thorough framework for understanding animal tool use and manufacture Encyclopedia of Animal Behavior, 2019-01-21 Encyclopedia of Animal Behavior Second Edition Four Volume Set the latest update since the 2010 release builds upon the solid foundation established in the first edition Updated sections include Host parasite interactions Vertebrate social behavior and the introduction of overview essays that boost the book s comprehensive detail The structure for the work is modified to accommodate a better grouping of subjects Some chapters have been reshuffled with section headings combined or modified Represents a one stop resource for scientifically reliable information on animal behavior Provides comparative approaches including the perspective of evolutionary biologists physiologists endocrinologists neuroscientists and

psychologists Includes multimedia features in the online version that offer accessible tools to readers looking to deepen their understanding Animal Creativity and Innovation, 2015-10-29 Animal Creativity and Innovation explores theories and research on animal innovation and creativity comparing and contrasting it with theory and research on human creativity and innovation In doing so it encompasses findings from psychology biology neuroscience engineering business ecology and education The book includes examples of animal innovation in parrots dogs marine mammals insects and primates exploring parallels from creative play in children The book defines creativity differentiating it from play and looks at evolutionary models and neurological constructs The book further explores applied aspects of animal innovation and creativity including tool use and group dynamics as well as barriers to creativity The final chapters look into how creative behavior may be taught or trained Each chapter is followed by a commentary for integration of thoughts and ideas between animal and human research behavioral and cognitive research and theory and observation in real life Compares theory and research on animal and human creativity Defines and differentiates creativity from play Reviews applied creativity in tool use and social dynamics Includes examples of animal creativity in multiple species The Palgrave Handbook on the Problem of Animal Suffering in the Philosophy of Religion B. Kyle Keltz, 2025-07-28 Atheists argue that animal pain disease suffering and death cause a problem for theism because they believe that an all knowing all powerful and all good God would not use millions of years of animal suffering just to make a world suitable for humans Animal suffering was not a concern for theism through the medieval period but it has been increasingly discussed in philosophy of religion since modern times and there is especially a large and growing amount of literature on this subject that has been published in the last few decades This handbook serves as a guide for those interested in the literature on the problem by bringing together experts in the philosophy of religion theology environmental ethics and the philosophy of animal minds It not only presents major formulations of the problem of animal suffering and major theodicies but it also discusses metaethical issues regarding animal suffering the question of animal consciousness and self awareness and their implications for animal suffering and what implications available theodicies might have for animal ethics The Routledge International Handbook of Comparative Psychology Todd M. Freeberg, Amanda R. Ridley, Patrizia d'Ettorre, 2022-08-31 The Routledge International Handbook of Comparative Psychology is an international reference work that offers scientists and students a balanced overview of current research in the field of comparative psychology and animal behavior The book takes an integrative approach to animal behavior with most of the chapters discussing research involving both proximate developmental and mechanistic and ultimate functional and phylogenetic levels of analysis Chapters cover the major ideas of core topics in the field and examine emerging research trends to provide readers deeper understanding of these ideas One of the strengths of this book is its the coverage of core topics in comparative psychology and animal behavior from different and diverse perspectives The diverse perspectives come from the wide range of focal species studied by chapter authors a range

traditionally quite atypical for comparative psychology and from the widespread international representation of the authors and the diversity of departments and research centers at which these authors work in The first part of the Handbook examines historical and foundational principles and theories in the field The second part focuses on individual behavior systems The final part of the book is devoted to a diversity of ideas that extend our understanding of behavior into new directions The Routledge International Handbook of Comparative Psychology is an essential resource for advanced undergraduate and graduate students postdoctoral researchers and established academics as well as others who are interested in comparative psychology and animal behavior The Routledge Handbook of Philosophy of Animal Minds Kristin Andrews, Jacob Beck, 2017-07-06 While philosophers have been interested in animals since ancient times in the last few decades the subject of animal minds has emerged as a major topic in philosophy The Routledge Handbook of Philosophy of Animal Minds is an outstanding reference source to the key topics problems and debates in this exciting subject and is the first collection of its kind Comprising nearly fifty chapters by a team of international contributors the Handbook is divided into eight parts Mental representation Reasoning and metacognition Consciousness Mindreading Communication Social cognition and culture Association simplicity and modeling Ethics Within these sections central issues debates and problems are examined including whether and how animals represent and reason about the world how animal cognition differs from human cognition whether animals are conscious whether animals represent their own mental states or those of others how animals communicate the extent to which animals have cultures how to choose among competing models and explanations of animal behavior and whether animals are moral agents and or moral patients. The Routledge Handbook of Philosophy of Animal Minds is essential reading for students and researchers in philosophy of mind philosophy of psychology ethics and related disciplines such as ethology biology psychology linguistics and anthropology The Genius of Birds Jennifer Ackerman, 2016-04-12 Lovely celebratory For all the belittling of bird brains Ackerman shows them to be uniquely impressive machines New York Times Book Review A lyrical testimony to the wonders of avian intelligence Scientific American An award winning science writer tours the globe to reveal what makes birds capable of such extraordinary feats of mental prowess Birds are astonishingly intelligent creatures According to revolutionary new research some birds rival primates and even humans in their remarkable forms of intelligence In The Genius of Birds acclaimed author Jennifer Ackerman explores their newly discovered brilliance and how it came about As she travels around the world to the most cutting edge frontiers of research Ackerman not only tells the story of the recently uncovered genius of birds but also delves deeply into the latest findings about the bird brain itself that are shifting our view of what it means to be intelligent At once personal yet scientific richly informative and beautifully written The Genius of Birds celebrates the triumphs of these surprising and fiercely intelligent creatures Ackerman is also the author of Birds by the Shore Observing the Natural Life of the Atlantic Coast The Chimpanzees of the Taï Forest Christophe Boesch, Roman Wittig, Catherine Crockford, Linda Vigilant, Tobias

Deschner, Fabian Leendertz, 2019-11-28 An engaging account of the research and key findings on Ta chimpanzees to celebrate the 40th anniversary of this project *Neuroethics and Nonhuman Animals* L. Syd M Johnson, Andrew Fenton, Adam Shriver, 2020-03-06 This edited volume represents a unique addition to the available literature on animal ethics animal studies and neuroethics Its goal is to expand discussions on animal ethics and neuroethics by weaving together different threads philosophy of mind and animal minds neuroscientific study of animal minds and animal ethics Neuroethical questions concerning animals moral status animal minds and consciousness animal pain and the adequacy of animal models for neuropsychiatric disease have long been topics of debate in philosophy and ethics and more recently also in neuroscientific research The book presents a transdisciplinary blend of voices underscoring different perspectives on the broad questions of how neuroscience can contribute to our understanding of nonhuman minds and on debates over the moral status of nonhuman animals All chapters were written by outstanding scholars in philosophy neuroscience animal behavior biology neuroethics and bioethics and cover a range of issues and species taxa Given its scope the book will appeal to scientists and students interested in the debate on animal ethics while also offering an important resource for future researchers Chapter 13 is available open access under a CC BY 4 0 license at link springer com **Brain** Susan D. Healy, 2021-03-09 Why does brain size vary so widely among vertebrate animal species What role has natural selection played in shaping the structure and function of the vertebrate brain This accessible book unravels the myriad adaptive explanations that have built up over decades providing both a review and a critique of the work that has sought to explain which natural selection pressures have led to changes in brain size Debate over the causes of variation in brain size especially within extant humans and during the course of hominid evolution has persisted for at least a couple of centuries However it was not until relatively recently that there has been sufficient data to allow a coherent and taxonomically widespread evolutionary perspective to emerge The comparative approach employed by evolutionary biologists and behavioural ecologists has been particularly enlightening with regard to addressing variation in brain size However the extent to which correlational data currently generated in some profusion can provide a suitable explanation is not yet clear and a constructively critical analysis of the relevant data is now timely Five classes of selection pressure have formed the majority of explanations ecology technology innovation sex and sociality The book starts with a brief description of the difficulties of measuring both brain size and intelligence cognition before addressing the evidence for each of these five factors in turn It argues that although ecology currently provides the most convincing explanation for variation in the size of brain regions none of the factors yet offers a robust and compelling explanation for variation in whole brain size The book concludes by looking forwards suggesting the future steps necessary to reach such an explanation steps that are challenging but now within reach Adaptation and the Brain is suitable for graduate level students taking courses in animal behaviour and cognition behavioural ecology evolutionary ecology psychology and neuroscience as well as academics and professional

researchers in these fields The reader will not require a specific understanding of neuroscience nor of the function of any Wild Chimpanzees Adam Clark Arcadi, 2018-06-21 An introduction to chimpanzee behavior and particular brain region conservation synthesizing findings from long term field studies in the African rainforest belt Advances in the Study of Behavior, 2018-03-19 Advances in the Study of Behavior Volume 50 provides users with the latest insights in this ever evolving field Users will find new information on a variety of species including social behaviors in reptiles the behavioral evidence of felt emotions a section on developmental plasticity a chapter on covetable corpses and plastic beetles and the socioecological behavior of burying beetles and a section on the mechanisms of communication and cognition in chickadees This volume makes another important contribution to the development of the field by presenting theoretical ideas and research findings to professionals studying animal behavior and related fields Initiated over 40 years ago to serve the increasing number of scientists engaged in the study of animal behavior Makes another important contribution to the development of the field Presents theoretical ideas and research to those studying animal behavior and related fields The Comparative Psychology of Intelligence: Macphail Revisited Michael Colombo, Damian Scarf, Thomas Neuroethology of the Colonial Mind: Ecological and Evolutionary Context of Social Brains J. Frances Zentall,2021-03-15 Kamhi, Sara Arganda Carreras, Mathieu Lihoreau, 2023-10-02 Animal groups often display striking collective organization which relies on social interactions These interactions require neural substrates supporting the exchange of information among individuals and the processing of this information The social brain hypothesis suggested from neuroanatomical findings in primates posits that increasing levels of sociality involve a higher investment in neural tissue to cope with social information However distributed cognition and swarm intelligence might alleviate the cognitive load on the individuals and potentially reduce their neural requirements Research on social insects which are an exemplar of collective action has so far produced mixed results Individual cognition and collective action have received a lot of attention and much progress has been done in each of those fields however much less is understood about how the two interact Our goal is to aggregate theoretical and experimental research exploring the links between the complexity of individual and collective behaviors Experimental research testing the social brain hypothesis showed little support for a general explanation across the animal kingdom The relationship between the cognitive abilities of animals and their social interactions are much more complex than previously thought and tackling this problem requires a better knowledge of the fundamental mechanisms underpinning socio cognitive tasks What is the information used by the animals during social interactions How much information is necessary How many neurons and which neural circuits are required for processing this information What neural connections are important Do these social interactions involve memory formation How do the cognitive requirements and neural circuits vary between group members Answering these questions will bring considerable insights into the cognitive complexity involved for social and collective behaviors It will also advance our understanding of interindividual cognitive variability and

division of labor in most socially advanced species This Research Topic will be a unique forum for researchers from different fields neurogenetics neuro ethology evolutionary ecology cognitive ecology collective animal behavior computational modeling working on different species to present up to date advances on the physiological correlates of social behavior and delineate future directions for the field of social neuroethology We welcome contributions on any aspect of the cognitive requirements of social and collective behaviors from molecular cellular and circuit level approaches to how individuals contribute to group action at the behavioral level Specific areas of interest include but are not limited to studies on the neural underpinnings of division of labor neuromodulation or neurogenetics of social behaviors the neural circuits and neuroanatomical basis of group action and how social signals affect learning and behavior We encourage submissions that present original research and review evidence or compare data from multiple species We hope to include work from different disciplines and on a wide range of species including model non model and wild animals with the aim of gaining insight into the patterns of neural investment in individual cognition Thinking like a Parrot Alan B. Bond, Judy Diamond, 2019-07-02 From two experts on wild parrot cognition a close look at the intelligence social behavior and conservation of these widely threatened birds People form enduring emotional bonds with other animal species such as dogs cats and horses For the most part these are domesticated animals with one notable exception many people form close and supportive relationships with parrots even though these amusing and curious birds remain thoroughly wild creatures What enables this unique group of animals to form social bonds with people and what does this mean for their survival In Thinking like a Parrot Alan B Bond and Judy Diamond look beyond much of the standard work on captive parrots to the mischievous inquisitive and astonishingly vocal parrots of the wild Focusing on the psychology and ecology of wild parrots Bond and Diamond document their distinctive social behavior sophisticated cognition and extraordinary vocal abilities Also included are short vignettes field notes on the natural history and behavior of both rare and widely distributed species from the neotropical crimson fronted parakeet to New Zealand's flightless ground dwelling kakapo This composite approach makes clear that the behavior of captive parrots is grounded in the birds wild ecology and evolution revealing that parrots ability to bond with people is an evolutionary accident a by product of the intense sociality and flexible behavior that characterize their lives Despite their adaptability and intelligence however nearly all large parrot species are rare threatened or endangered To successfully manage and restore these wild populations Bond and Diamond argue we must develop a fuller understanding of their biology and the complex set of ecological and behavioral traits that has led to their vulnerability Spanning the global distribution of parrot species Thinking like a Parrot is rich with surprising insights into parrot intelligence flexibility and even in the face of threats resilience Comparative animal consciousness Louis Neal Irwin, Lars Chittka, Nicky S. Clayton, Eva Jablonka, Jon Mallatt, Todd E. Feinberg, 2023-07-10 Gibbon Conservation in the Anthropocene Susan M. Cheyne, Carolyn Thompson, Peng-Fei Fan, Helen J. Chatterjee, 2023-04-20 This volume brings together current research and practice on gibbon conservation ecology taxonomy and phylogenetics

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