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OMB2UV - ZAVIER ARCHER

Executive summary: Tourism is often proposed 1) as a strategy to fund conservation efforts to protect great apes and their habitats, 2) as a way for local communities to participate in, and benefit from, conservation activities on behalf of great apes, or 3) as a business. A few very successful sites point to the considerable potential of conservation-based great ape tourism, but it will not be possible to replicate this success everywhere. The number of significant risks to great apes that can arise from tourism require a cautious approach. If great ape tourism is not based on sound conservation principles right from the start, the odds are that economic objectives will take precedence, the consequences of which in all likelihood would be damaging to the well-being and eventual survival of the apes, and detrimental to the continued preservation of their habitat. All great ape species and subspecies are classified as Endangered or Critically Endangered on the IUCN Red List of Threatened Species (IUCN 2010), therefore it is imperative that great ape tourism adhere to the best practice guidelines in this document. The guiding principles of best practice in great ape tourism are: Tourism is not a panacea for great ape conservation or revenue generation; Tourism can enhance long-term support for the conservation of great apes and their habitat; Conservation comes first--it must be the primary goal at any great ape site and tourism can be a tool to help fund it; Great ape tourism should only be developed if the anticipated conservation benefits, as identified in impact studies, significantly outweigh the risks; Enhanced conservation investment and action at great ape tourism sites must be sustained in perpetuity; Great ape tourism management must be based on sound and objective science; Benefits and profit for communities adjacent to great ape habitat should be maximised; Profit to private sector partners and others who earn income associated with tourism is also important, but should not be the driving force for great ape tourism development or expansion; Comprehensive understanding of potential impacts must guide tourism development. Positive impacts from tourism must be maximised and negative impacts must be avoided or, if inevitable, better understood and mitigated. The ultimate success or failure of great ape tourism can lie in variables that may not be obvious to policymakers who base their decisions primarily on earning revenue for struggling conservation programmes. However, a number of biological, geographical, economic and global factors can affect a site so as to render ape tourism ill-advised or unsustainable. This can be due, for example, to the failure of the tourism market for a particular site to provide revenue sufficient to cover the development and operating costs, or it can result from failure to protect the target great apes from the large number of significant negative aspects inherent in

tourism. Either of these failures will have serious consequences for the great ape population. Once apes are habituated to human observers, they are at increased risk from poaching and other forms of conflict with humans. They must be protected in perpetuity even if tourism fails or ceases for any reason. Great ape tourism should not be developed without conducting critical feasibility analyses to ensure there is sufficient potential for success. Strict attention must be paid to the design of the enterprise, its implementation and continual management capacity in a manner that avoids, or at least minimises, the negative impacts of tourism on local communities and on the apes themselves. Monitoring programmes to track costs and impacts, as well as benefits, [is] essential to inform management on how to optimise tourism for conservation benefits. These guidelines have been developed for both existing and potential great ape tourism sites that wish to improve the degree to which their programme contributes to the conservation rather than the exploitation of great apes.

The 2e of the gold standard text in the field, *Nonhuman Primates in Biomedical Research* provides a comprehensive, up-to-date review of the use of nonhuman primates in biomedical research. The *Diseases* volume provides thorough reviews of naturally occurring diseases of nonhuman primates, with a section on biomedical models reviewing contemporary nonhuman primate models of human diseases. Each chapter contains an extensive list of bibliographic references, photographs, and graphic illustrations to provide the reader with a thorough review of the subject. Fully revised and updated, providing researchers with the most comprehensive review of the use of nonhuman primates in biomedical research. Addresses commonly used nonhuman primate biomedical models, providing researchers with species-specific information. Includes four color images throughout.

A comprehensive, up-to-date review of the use of nonhuman primates in biomedical research, emphasising the biology and management, diseases, and biomedical models for nonhuman primate species most commonly used in research.

This book presents a series of integrated papers on the latest techniques and concepts for understanding the fossil record of primates; including humans. Papers review the dating of primate fossil finds from many areas of the world, as well as the status and importance of recent discoveries of fossils linking the monkeys and apes to humans. Further contributions compare the anatomy and growth of living primates to that of the ancestral animals in order to give an understanding of trends in evolution. A final section discusses the application of recently developed genetic techniques to interpret and explain the evolution of primates. By presenting the most recent research, this volume provides a valuable synthesis of the new developments in primate and human evolution.

"The book includes an extended appendix of monograms and tables using the new load factors,

strength reduction factors, and limit strains design procedures mandated by the new ACI 318-05 code. Comprehensive sketches and sets of working drawings, end-of-chapter problems, pictures of actual structural tests to failure, and flowcharts appear throughout the book."--BOOK JACKET.

This volume reviews the broad topic of welfare in nonhuman primates under human care. Chapters detail the history of primates in captivity, ethical and legal issues surrounding the use of nonhuman primates as entertainment or in research, the different approaches that welfare are measured, and how housing, enrichment, and other conditions can foster or degrade welfare. Since humans began keeping nonhuman primates we have made vast strides in understanding their cognitive abilities, strong social bonds, vibrant personalities, and their capacity for joy and suffering. With an increasing number of countries banning the use of great apes in biomedical research, the welfare of primates in zoos and research facilities has gained increasing attention. This interdisciplinary work features contributors from many of the fields involved and those on both sides of the issue, thus providing an exhaustive overview of primate welfare. Readers from animal welfare science, primatology, animal testing, veterinary medicine, conservation to ethics and legislation will find this an important account.

AAP Prose Award Finalist 2018/19 Management of Animal Care and Use Programs in Research, Education, and Testing, Second Edition is the extensively expanded revision of the popular Management of Laboratory Animal Care and Use Programs book published earlier this century. Following in the footsteps of the first edition, this revision serves as a first line management resource, providing for strong advocacy for advancing quality animal welfare and science worldwide, and continues as a valuable seminal reference for those engaged in all types of programs involving animal care and use. The new edition has more than doubled the number of chapters in the original volume to present a more comprehensive overview of the current breadth and depth of the field with applicability to an international audience. Readers are provided with the latest information and resource and reference material from authors who are noted experts in their field. The book: - Emphasizes the importance of developing a collaborative culture of care within an animal care and use program and provides information about how behavioral management through animal training can play an integral role in a veterinary health program - Provides a new section on Environment and Housing, containing chapters that focus on management considerations of housing and enrichment delineated by species - Expands coverage of regulatory oversight and compliance, assessment, and assurance issues and processes, including a greater discussion of globalization and harmonizing cultural and regulatory issues - Includes more in-depth treatment throughout the book of critical topics in program management, physical plant, animal health, and husbandry. Biomedical research using animals requires administrators and managers who are knowledgeable and highly skilled. They must adapt to the complexity of rapidly-changing technologies, balance research goals with a thorough understanding of regulatory requirements and guidelines, and know how to work with a multi-generational, multi-cultural workforce. This book is the ideal resource for these professionals. It also serves as an indispensable resource text for certification exams and credentialing boards for a multitude of professional societies Co-publishers on the second edition are: ACLAM (American College of Laboratory Animal Medicine); ECLAM (European College of Laboratory Animal Medicine); IACLAM (International Colleges of Laboratory Animal Medicine); JCLAM (Japanese College of Laboratory Animal Medicine); KCLAM (Korean College of Laboratory Animal Medicine); CALAS (Canadian Association of Laboratory Animal

Medicine); LAMA (Laboratory Animal Management Association); and IAT (Institute of Animal Technology).

The past century has seen many changes in the study of psychology. One of those major changes was the adoption of scientific principles to define and build the discipline of psychology. These principles were manifested in the discipline's method of investigation and subject matter. For many, this constituted a revolution in the study of psychology. This work examines the results of this revolution and asks whether it has been beneficial. The author explains how the psychology-science union came about and examines the positive and negative results. He then describes the major characteristics of science (empiricism, generalization, hypotheses, theories, and models, analysis, reductionism, and determinism), explaining how each principle was utilized in regard to psychology. Dr. Abra also includes information on psychology's most eminent authorities who have fundamentally influenced its directions.

Contents: General principles of durability design of reinforced concrete structures: State of the art; Structural features of engineering installations for storage of dry materials and liquids; Analysis of defects and damages in reinforced concrete silos, bunkers, and reservoirs in service; Analysis of main degradation processes in concrete and reinforced concrete structures of engineering installations; Analysis of models of durability for the main degradation processes in concrete and reinforcement ; Investigation of statistical parameters of operational loads in engineering structures; Experimental and theoretical investigation of strength of reinforced concrete members of engineering structures under sustained low-cycle loading; Durability design of reinforced concrete structures of engineering installations based on the Limit State Method; Application of Finite Element Method in numerical investigation of durability of reinforced concrete silos; Practical methods of enhancing durability of reinforced concrete structures of engineering installations service; Conclusion; Index.

This practical volume brings together a group of distinguished primate researchers to synthesise field, laboratory, and conservation management techniques for primate ecology and conservation.

A study of primatology, discussing its history, the scientists in the field, and the issues that have shaped its development, particularly gender, technology, and the media.

Sources of clinical treatment information on nonhuman primates are generally scattered across journals, textbooks, conferences, personal conversations, and more. However, when a clinician on the treatment floor is faced with a patient requiring an immediate treatment decision, time spent on making an informed decision becomes a critical factor. An alternative to conducting a literature search in time-sensitive situations, the Pocket Handbook of Nonhuman Primate Clinical Medicine supplies guidance and initial direction on diagnosis and treatment, including working doses based on past case experience. It is the frank, to-the-point nature of the writing that makes readers feel as if they had just asked a colleague how to approach a clinical problem and obtained a quick, "what you need to know" answer. The chapter authors draw on personal experience to describe commonly encountered clinical conditions and how to treat these cases—including not only the "dos" but also the "don'ts." This format gives readers easy access to clinical signs, diagnostic criteria, and options for treatment. The Pocket Handbook of Nonhuman Primate Clinical Medicine is a convenient, concise, case-based handbook written by and for clinicians in charge of the diagnosis and treatment of nonhuman primate patients. Available in both print and electronic formats, this handbook saves readers

from having to wade through pages of data and case studies to find answers when time is a factor on the clinic floor.

A comprehensive, interdisciplinary review of the research on etiology and treatment of this chronic condition for which there is no known apparent cure. With an estimated prevalence rate of 13 per cent. SIB occurs most frequently among persons who are retarded and autistic. In this volume, the field's leading researchers examine a new generation of models and theories with a level of specificity far beyond what was heretofore imagined possible. From the burgeoning area of research on functional assessment and the behavioural and biological antecedents of SIB, to the role of Lesch-Nyhan Syndrome and opioid peptides, the work of these foremost basic, applied, and behavioural researchers is sure to greatly enhance fellow researchers', teachers', and clinicians' understanding of this devastating condition.

Of all the PE exams, more people take the civil than any other discipline. The eight-hour, open-book, multiple-choice exam is given every April and October. The exam format is breadth-and-depth -- all examinees are tested on the breadth of civil engineering in the morning session; in the afternoon, they select one of five specialties to be tested on in-depth. Our civil PE books are current with the exam; they reflect the new format, and they reference all the same codes used on the exam. Quick Reference, which facilitates finding formulas during the exam; and subject-specific reviews on the complex areas of bridge and timber design. -- Organizes all important formulas for fast access during the exam -- Corresponds to topics in the Civil Engineering Reference Manual, 8th ed.

This volume introduces materials that are the core knowledge in the theory of computation. The book is self-contained, with a preliminary chapter describing key mathematical concepts and notations and subsequent chapters moving from the qualitative aspects of classical computability theory to the quantitative aspects of complexity theory. Dedicated chapters on undecidability, NP-completeness, and relative computability round off the work, which focuses on the limitations of computability and the distinctions between feasible and intractable. Topics and features: *Concise, focused materials cover the most fundamental concepts and results in the field of modern complexity theory, including the theory of NP-completeness, NP-hardness, the polynomial hierarchy, and complete problems for other complexity classes *Contains information that otherwise exists only in research literature and presents it in a unified, simplified manner; for example, about complements of complexity classes, search problems, and intermediate problems in NP *Provides key mathematical background information, including sections on logic and number theory and algebra *Supported by numerous exercises and supplementary problems for reinforcement and self-study purposes With its accessibility and well-devised organization, this text/reference is an excellent resource and guide for those looking to develop a solid grounding in the theory of computing. Beginning graduates, advanced undergraduates, and professionals involved in theoretical computer science, complexity theory, and computability will find the book an essential and practical learning tool.

Bringing together leading researchers, this book comprehensively covers what is known about the amygdala, with a unique focus on what happens when this key brain region is damaged or missing. Offering a truly comparative approach, the volume presents research on rats, monkeys, and humans. It reports on compelling cases of people living without an amygdala, whether due to genetic conditions, disease, or other causes. The consequences for an individual's ability to detect danger

and regulate emotions--and for broader cognitive and social functions--are explored, as are lessons learned about brain pathways and plasticity. The volume delves into the role of the amygdala in psychiatric disorders and identifies important directions for future research. Illustrations include six color plates.

Comprehensive Toxicology, Third Edition, discusses chemical effects on biological systems, with a focus on understanding the mechanisms by which chemicals induce adverse health effects. Organized by organ system, this comprehensive reference work addresses the toxicological effects of chemicals on the immune system, the hematopoietic system, cardiovascular system, respiratory system, hepatic toxicology, renal toxicology, gastrointestinal toxicology, reproductive and endocrine toxicology, neuro and behavioral toxicology, developmental toxicology and carcinogenesis, also including critical sections that cover the general principles of toxicology, cellular and molecular toxicology, bio-transformation and toxicology testing and evaluation. Each section is examined in state-of-the-art chapters written by domain experts, providing key information to support the investigations of researchers across the medical, veterinary, food, environment and chemical research industries, and national and international regulatory agencies. Thoroughly revised and expanded to 15 volumes that include the latest advances in research, and uniquely organized by organ system for ease of reference and diagnosis, this new edition is an essential reference for researchers of toxicology. Organized to cover both the fundamental principles of toxicology and unique aspects of major organ systems Thoroughly revised to include the latest advances in the toxicological effects of chemicals on the immune system Features additional coverage throughout and a new volume on toxicology of the hematopoietic system Presents in-depth, comprehensive coverage from an international author base of domain experts

A Practical Guide to Maintenance Carrying a billion-dollar price tag, corrosion of reinforced concrete is the enemy of every country's investment in real estate. The widespread and long-term use of reinforced concrete makes its correct and proper examination, maintenance, and repair paramount. Steel-Reinforced Concrete Structures: Assessment and Repair of Corrosion explains the corrosion of reinforced concrete from a practical point of view, highlighting protective design and repair procedures. The book begins with a discussion of the corrosion phenomena, the effect of concrete properties on corrosion, and the precautions available in the construction stage to mitigate corrosion. It covers the theoretical and practical methods in evaluating the concrete structures and new, practical methods to protect steel reinforcement. The book also includes methods established in the last decade that provide new ways of protecting steel-reinforced bars and the traditional and advanced repairing methods. The author explains the importance of implementing an integrity management system to provide a comprehensive maintenance strategy and concludes with coverage of the traditional, time-tested, and advanced repair techniques. A special feature is a chapter focusing on the advance maintenance plan philosophy and risk-based maintenance for reinforced concrete structures. The author examines economic analysis procedures and the probability of structural failures to define structure risk assessment. He covers precautions and recommendations for protecting the reinforced concrete structures from corrosion based on codes and specifications. He uses case histories from all over the world to demonstrate the widespread application and range of advanced repair techniques and presents a practical guide to the maintenance of concrete structures. The book pro-

vides procedures for corrosion diagnosis and determining the appropriate methods for repair, as well as economic models for on-site decision making.

The Nonhuman Primate in Drug Development and Safety Assessment is a valuable reference dedicated to compiling the latest research on nonhuman primate models in nonclinical safety assessment, regulatory toxicity testing and translational science. By covering important topics such as study planning and conduct, inter-species genetic drift, pathophysiology, animal welfare legislation, safety assessment of biologics and small molecules, immunotoxicology and much more, this book provides scientific and technical insights to help you safely and successfully use nonhuman primates in pharmaceutical toxicity testing. A comprehensive yet practical guide, this book is intended for new researchers or practicing toxicologists, toxicologic pathologists and pharmaceutical scientists working with nonhuman primates, as well as graduate students preparing for careers in this area. Covers important topics such as species selection, study design, experimental methodologies, animal welfare and the 3Rs (Replace, Refine and Reduce), social housing, regulatory guidelines, comparative physiology, reproductive biology, genetic polymorphisms and more. Includes practical examples on techniques and methods to guide your daily practice. Offers a companion website with high-quality color illustrations, reference values for safety assessment and additional practical information such as study design considerations, techniques and procedures and dosing and sampling volumes.

This text presents the mechanical aspects of reinforced soil (RS) behaviour. Beginning with simple reinforced soil models, it discusses various aspects of this material, such as properties of its constituents, and stresses and strains in reinforced soil, up to the more complex analysis of RS structures. Its scope and level ensures it will be a valuable resource for students, academics and geotechnical engineering professionals alike.

Study Guide for Houston, Bee, Hatfield, and Rimm's Essentials of Psychology aims to aid students in their study of psychology. Each chapter in the Study Guide corresponds to the chapter of the same number in Essentials of Psychology and is broken down into component sections: Learning Objectives, Key Terms, Study Questions, and Practice Quizzes. The topics covered in these chapters include the following: the definition of psychology; the psychological basis of behavior; sensation and perception; learning, memory, and cognition; motivation and emotion; abnormal psychology; and social behavior. Proper use of the Study Guide will help students get the most from what could be their only formal course in psychology. To maximize their learning, all of the components of each chapter must be completed. While no single approach to learning is the best, many students benefit greatly from the use of a study guide.

This market-leading book provides comprehensive coverage of behavior management concepts and techniques and presents them in a versatile and practical manner for teachers. This new edition has been shortened and streamlined and chapters flow step-by-step through an actual behavior analysis, using classroom-based examples and practices firmly grounded in research. Content is presented in the order of decision-making by: 1) a teacher who has a student exhibiting challenging behavior in class; or, 2) a student who needs to execute a behavior-change project. The text covers: identifying target behavior, collecting and graphing data, functional assessment, experimental design, arranging antecedents and consequences, generalizing behavior change and discusses the importance of ethical considerations in using applied behavior analysis in the classroom. Inservice

Teachers and Special Educators.

Why do we do the things we do? Over a decade in the making, this game-changing book is Robert Sapolsky's genre-shattering attempt to answer that question as fully as perhaps only he could, looking at it from every angle. Sapolsky's storytelling concept is delightful but it also has a powerful intrinsic logic: he starts by looking at the factors that bear on a person's reaction in the precise moment a behavior occurs, and then hops back in time from there, in stages, ultimately ending up at the deep history of our species and its genetic inheritance. And so the first category of explanation is the neurobiological one. What goes on in a person's brain a second before the behavior happens? Then he pulls out to a slightly larger field of vision, a little earlier in time: What sight, sound, or smell triggers the nervous system to produce that behavior? And then, what hormones act hours to days earlier to change how responsive that individual is to the stimuli which trigger the nervous system? By now, he has increased our field of vision so that we are thinking about neurobiology and the sensory world of our environment and endocrinology in trying to explain what happened. Sapolsky keeps going--next to what features of the environment affected that person's brain, and then back to the childhood of the individual, and then to their genetic makeup. Finally, he expands the view to encompass factors larger than that one individual. How culture has shaped that individual's group, what ecological factors helped shape that culture, and on and on, back to evolutionary factors thousands and even millions of years old. The result is one of the most dazzling tours de horizon of the science of human behavior ever attempted, a majestic synthesis that harvests cutting-edge research across a range of disciplines to provide a subtle and nuanced perspective on why we ultimately do the things we do...for good and for ill. Sapolsky builds on this understanding to wrestle with some of our deepest and thorniest questions relating to tribalism and xenophobia, hierarchy and competition, morality and free will, and war and peace. Wise, humane, often very funny, Behave is a towering achievement, powerfully humanizing, and downright heroic in its own right.

Decision Neuroscience addresses fundamental questions about how the brain makes perceptual, value-based, and more complex decisions in non-social and social contexts. This book presents compelling neuroimaging, electrophysiological, lesional, and neurocomputational models in combination with hormonal and genetic approaches, which have led to a clearer understanding of the neural mechanisms behind how the brain makes decisions. The five parts of the book address distinct but inter-related topics and are designed to serve both as classroom introductions to major subareas in decision neuroscience and as advanced syntheses of all that has been accomplished in the last decade. Part I is devoted to anatomical, neurophysiological, pharmacological, and optogenetics animal studies on reinforcement-guided decision making, such as the representation of instructions, expectations, and outcomes; the updating of action values; and the evaluation process guiding choices between prospective rewards. Part II covers the topic of the neural representations of motivation, perceptual decision making, and value-based decision making in humans, combining neurocomputational models and brain imaging studies. Part III focuses on the rapidly developing field of social decision neuroscience, integrating recent mechanistic understanding of social decisions in both non-human primates and humans. Part IV covers clinical aspects involving disorders of decision making that link together basic research areas including systems, cognitive, and clinical neuroscience; this part examines dysfunctions of decision making in neurological and psychiatric disorders, such as Parkin-

son's disease, schizophrenia, behavioral addictions, and focal brain lesions. Part V focuses on the roles of various hormones (cortisol, oxytocin, ghrelin/leptine) and genes that underlie inter-individual differences observed with stress, food choices, and social decision-making processes. The volume is essential reading for anyone interested in decision making neuroscience. With contributions that are forward-looking assessments of the current and future issues faced by researchers, Decision Neuroscience is essential reading for anyone interested in decision-making neuroscience. Provides comprehensive coverage of approaches to studying individual and social decision neuroscience, including primate neurophysiology, brain imaging in healthy humans and in various disorders, and genetic and hormonal influences on decision making Covers multiple levels of analysis, from molecular mechanisms to neural-systems dynamics and computational models of how we make choices Discusses clinical implications of process dysfunctions, including schizophrenia, Parkinson's disease, eating disorders, drug addiction, and pathological gambling Features chapters from top international researchers in the field and full-color presentation throughout with numerous illustrations to highlight key concepts

Study Guide for Houston, Bee, Hatfield, and Rimm's Invitation to Psychology seeks to aid students in their study of psychology. Each chapter in the Study Guide corresponds to the chapter of the same number in Invitation to Psychology and is broken down into component sections: Learning Objectives, Key Terms, Study Questions, Optional Exercises, and Practice Quizzes. The topics covered in these chapters include the following: the definition of psychology; the psychological basis of behavior; sensation and perception; states of awareness; learning, memory, and cognition; motivation and emotion; abnormal psychology and social behavior. Proper use of the Study Guide will help students get the most from what could be their only formal course in psychology. To maximize their learning, all of the components of each chapter must be completed. While no single approach to learning is the best, many students benefit greatly from the use of a study guide.

The field of occupational health and safety constantly changes, especially as it pertains to biomedical research. New infectious hazards are of particular importance at nonhuman-primate facilities. For example, the discovery that B virus can be transmitted via a splash on a mucous membrane raises new concerns that must be addressed, as does the discovery of the Reston strain of Ebola virus in import quarantine facilities in the U.S. The risk of such infectious hazards is best managed through a flexible and comprehensive Occupational Health and Safety Program (OHSP) that can identify and mitigate potential hazards. Occupational Health and Safety in the Care and Use of Nonhuman Primates is intended as a reference for vivarium managers, veterinarians, researchers, safety professionals, and others who are involved in developing or implementing an OHSP that deals with nonhuman primates. The book lists the important features of an OHSP and provides the tools necessary for informed decision-making in developing an optimal program that meets all particular institutional needs.

Structural concrete members often show great deviation in structural performance from that predicted by the current code of practice. In certain cases the predications considerably underestimate the capabilities of a structure or member, while in others the predictions are unsafe as they overestimate the member's ability to perform in a prescribed manner. Clearly, a rational and unified design methodology is still lacking for structural concrete. This book presents a simplified methodology

based on calculations which are quick, easily programmable and no more complex than those required by the current codes. It involves identifying the regions of a structural member or structure through which the external load is transmitted from its point of application to the supports and then strengthening these regions as required. As most of these regions enclose the trajectories of internal compression actions the technique has been called the 'compressive force path' method. Ultimate limit-state design for concrete structures will provide designers with a practical and easily applied method for the design of a concrete structure, which is fully compatible with the behaviour of concrete (as described by valid experimental evidence) at both the material and structural level.

The essential guide to successfully designing, conducting and reporting primatological research.

This eBook is a collection of articles from a Frontiers Research Topic. Frontiers Research Topics are very popular trademarks of the Frontiers Journals Series: they are collections of at least ten articles, all centered on a particular subject. With their unique mix of varied contributions from Original Research to Review Articles, Frontiers Research Topics unify the most influential researchers, the latest key findings and historical advances in a hot research area! Find out more on how to host your own Frontiers Research Topic or contribute to one as an author by contacting the Frontiers Editorial Office: frontiersin.org/about/contact.

We live in a world in which inconsistency is the rule rather than the exception and this is particularly true for rewards and frustrations. In some cases, rewards and frustrative non-rewards appear randomly for what seems to be the same behaviour; in others a sequence of rewards is suddenly followed by non-rewards, or large rewards by small rewards. The important common factor in these and other cases is frustration - how we learn about it and how we respond to it. This book provides a basis in learning theory and particularly in frustration theory, for a comprehension not only of the mechanisms controlling these dispositions, but also of their order of appearance in early development and, to an approximation at least, their neural underpinnings.

A respected resource for decades, the Guide for the Care and Use of Laboratory Animals has been updated by a committee of experts, taking into consideration input from the scientific and laboratory animal communities and the public at large. The Guide incorporates new scientific information on common laboratory animals, including aquatic species, and includes extensive references. It is organized around major components of animal use: Key concepts of animal care and use. The Guide sets the framework for the humane care and use of laboratory animals. Animal care and use program. The Guide discusses the concept of a broad Program of Animal Care and Use, including roles and responsibilities of the Institutional Official, Attending Veterinarian and the Institutional Animal Care and Use Committee. Animal environment, husbandry, and management. A chapter on this topic is now divided into sections on terrestrial and aquatic animals and provides recommendations for housing and environment, husbandry, behavioral and population management, and more. Veterinary care. The Guide discusses veterinary care and the responsibilities of the Attending Veterinarian. It includes recommendations on animal procurement and transportation, preventive medicine (including animal biosecurity), and clinical care and management. The Guide addresses distress and pain recognition and relief, and issues surrounding euthanasia. Physical plant. The Guide identifies design issues, providing construction guidelines for functional areas; considerations such as drainage, vibration and noise control, and environmental monitoring; and specialized facilities for

animal housing and research needs. The Guide for the Care and Use of Laboratory Animals provides a framework for the judgments required in the management of animal facilities. This updated and expanded resource of proven value will be important to scientists and researchers, veterinarians, animal care personnel, facilities managers, institutional administrators, policy makers involved in research issues, and animal welfare advocates.

What is animal intelligence? In what ways is it similar to human intelligence? Many behavioral scientists have realized that animals can be rational, can think in abstract symbols, can understand and react to human speech, and can learn through observation as well as conditioning many of the more complicated skills of life. Now Duane Rumbaugh and David Washburn probe the mysteries of the animal mind even further, identifying an advanced level of animal behavior—emergents—that reflects animals' natural and active inclination to make sense of the world. Rumbaugh and Washburn unify all behavior into a framework they call Rational Behaviorism and present it as a new way to understand learning, intelligence, and rational behavior in both animals and humans. Drawing on years of research on issues of complex learning and intelligence in primates (notably rhesus monkeys, chimpanzees, and bonobos), Rumbaugh and Washburn provide delightful examples of animal ingenuity

and persistence, showing that animals are capable of very creative solutions to novel challenges. The authors analyze learning processes and research methods, discuss the meaningful differences across the primate order, and point the way to further advances, enlivening theoretical material about primates with stories about their behavior and achievements.

This book explores the role of aggression in primate social systems and its implications for human behavior. Many people look to primate studies to see if and how we might be able to predict violent behavior in humans, or ultimately to control war. Of particular interest in the study of primate aggression are questions such as: how do primates use aggression to maintain social organization; what are the costs of aggression; why do some primates avoid aggressive behavior altogether. Students and researchers in primatology, behavioral biology, anthropology, and psychology will read with interest as the editors and contributors to this book address these and other basic research questions about aggression. They bring new information to the topic as well as an integrated view of aggression that combines important evolutionary considerations with developmental, sociological and cultural perspectives.