

Asian tiger areas. It is also India's most renowned tiger reserve/tourist destination because of its proximity to New Delhi, the capital. Tourists can usually rely on seeing a tiger because most are habituated to people viewing them at close range from open jeeps and vans, although tigers were much more elusive when Thapar and Singh began their observations.

This account remains the most comprehensive available on the development of tiger cubs and their social milieu. The author presents detailed observations on the tiger's foraging, mating, rearing, dispersal, and refuging behavioral systems. Although not a trained behavioral scientist, Thapar is an accurate and efficient observer. Since the publication of the first edition, the author has become one of India's most vocal tiger conservation advocates, the narrative for which he very briefly encapsulates in the introduction and epilogue to this second edition. The chapter, *The End of a Century*, is a blueprint on the ways and means of tiger conservation in India's human-dominated landscapes. He includes a summary of Indian tiger population estimates as an appendix. This volume includes 20 stunning, full-color tiger photographs by Fateh Singh Rathore, down from the more than 100 photographs in the first edition.

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#### THE REAL CHIMPANZEE: SEX STRATEGIES IN THE FOREST.

By Christophe Boesch. *Cambridge and New York: Cambridge University Press.* \$115.00 (hardcover); \$48.00 (paper). xiv + 181 p. + 18 pl.; ill.; index. ISBN: 978-0-521-11008-2 (hc); 978-0-521-12513-0 (pb). 2009.

As our closest living relatives, chimpanzees excite special interest in the quest to understand the roots of human behavior. Boesch, who has studied West African chimpanzees for two decades as well as spending time at sites in East Africa, discusses population differences in characteristics shared with humans, including cooperative hunting, tool-making, and intragroup cooperation and altruism coupled with intergroup aggression: "Love is what makes war possible" (p. 2). In a sweeping argument similar but opposite to Adriaan Kortlandt's dehumanization hypothesis in which savanna chimpanzees have the most sophisticated abilities, Boesch claims that it is in the forests of central and west Africa rather than marginal edge habitats that these characteristics were elaborated. He singles out high levels of leopard predation to explain population differences, including higher female sociability and

influence, and the greater altruistic tendencies of West African chimpanzees.

For me, the most valuable parts of this book are new and surprising descriptions of violent intergroup interactions at Tai, including a female eating the genitals of a slain male, risky rescues of companions, and solicitude to wounded individuals. However, the discussion of what factors influence intercommunity aggression at Tai (and warfare in humans) is not easy to follow. Boesch emphasizes the quest for new females, and ignores a 2004 study from Gombe that suggests that group defense of the territory, including violent aggression toward neighboring females, preserves resources necessary for the reproductive success of resident females.

The meandering and iterative style, in which topics such as warfare are discussed in several different chapters, as well as the heavy use of footnotes, will make it hard for general readers to follow the logic of the arguments. Scientists will be irritated by unreferenced assertions and the lack of definitions and data sources in the tables and figures. But Boesch's provocative ideas will surely stimulate argument and new research.

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#### HUMAN BIOLOGY AND HEALTH

##### FIRST PEOPLES IN A NEW WORLD: COLONIZING ICE AGE AMERICA.

By David J. Meltzer. *Berkeley (California): University of California Press.* \$29.95. xviii + 446 p. + 16 p.; ill.; index. ISBN: 978-0-520-25052-9. 2009.

This book recounts recent transformations in the study of the initial peopling of the Americas, describing the events and evidence that have led most archeologists to accept the view that the first Americans preceded the hunters of the widespread Clovis culture. Much of the volume is devoted to an entertaining history of the field of Paleoindian archeology from the perspective of a key participant, complete with open-minded but not unopinionated summaries of ongoing debates. Meltzer's account is distinctive in synthesizing the latest contributions of such fields as genetics, geology, linguistics, and physical anthropology.

Chapter 2, for example, focuses on the unforaging North American glacial environment in which early human migrants journeyed, providing a fascinating narrative of the dramatic changes in

climate and landscape that occurred at the close of the Pleistocene. Chapter 5 covers the controversy that emerged when strands of reasoning from genetic, linguistic, and dental data were first fused (in a theory that has ultimately found little support) to suggest that the Americas were peopled in three successive waves corresponding to three language families. In addition to its fresh treatment of these topics, the book contains thoughtful commentaries on such issues as the evolving relationships between anthropologists and the native groups that they investigate, the mechanisms by which long-standing intellectual barriers are finally broken, and the importance of interdisciplinary approaches for resolving complex problems of prehistory.

The author clarifies how the rupture of the pre-Clovis boundary has drawn attention to numerous questions about the ways by which small bands of hunter-gatherers were able to rapidly occupy an unimaginably large swath of uninhabited terrain. The book includes a long section on the challenges that the initial peopling would have entailed, in preparing for unfamiliar climatic conditions, locating suitable sources of stone for everyday necessities, choosing what animal species to hunt, and developing the deep local botanical knowledge characteristic of indigenous populations worldwide. Lost in some discussions, but skillfully conveyed here, is a sense of the magnitude of the achievement of the Paleoindians in settling such a vast and heterogeneous territory so quickly. Whoever peopled the Americas peopled it well.

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#### SOURCEBOOK OF MODELS FOR BIOMEDICAL RESEARCH.

*Edited by P. Michael Conn. Totowa (New Jersey): Humana Press. \$229.00. xvi + 778 p.; ill.; index. ISBN: 978-1-58829-933-8. 2008.*

We are moving toward an era of using multiscale modeling for biomedical research. *Sourcebook of Models for Biomedical Research* is a collection of the various models developed over several decades in biomedicine. What makes this book particularly interesting is that the materials are organized to present this topic from many different perspectives.

The experimental animal used to develop research models is a glue of the materials. The volume begins with an overview of animal model selection and improvement, addressing general considerations such as ethical and regulatory issues, animal care, bibliographical tools, and database resources. It then presents the research models from the perspective of the experimental

animals, describing the well-established animal models, including yeast, worms, flies, sea animals, birds, rodents, cats, dogs, pigs, and nonhuman primates. The book follows up from the disease and behavior perspective, spanning over a wide variety of research areas such as visual and auditory disease, trauma and pain, cardiovascular disease, reproduction, neurology, genetic diseases, immunology and virology, mental health problems, cancer, diabetes, and obesity. Of particular interest is the last section of the volume, which introduces other tools such as mathematical and statistical methods, computer modeling and simulation techniques, and the Web platform for research collaboration, resource sharing, and training.

The chapters are presented clearly, easy to understand, and interesting to read. The only caveat I have for this book is minor issues in consistency of presentation and occasional overlapping among chapters. Considering this is a volume with 78 chapters, approximately 160 authors, and more than 750 pages, the editor has already done a remarkable job, and I hope these minor issues can be addressed in a future edition. In summary, this book would be a great addition to the library of anyone who is interested in an overview of model development for biomedical research.

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#### STRATEGIES FOR ORGANIC DRUG SYNTHESIS AND DESIGN. Second Edition.

*By Daniel Lednicer. Hoboken (New Jersey): Wiley. \$125.00. xvii + 682 p.; ill.; subject index, reaction index, and cross index of biological activities. ISBN: 978-0-470-19039-5. 2009.*

The preparation and evaluation of organic drug compounds represents an important branch of synthetic organic chemistry. In this book, Lednicer presents a detailed discussion of strategies toward the synthesis of pharmaceutical compounds. The volume's 15 chapters are organized based on compound class. Although most of the discussion rests predictably on heterocyclic (Chapters 8–13, 15) and aromatic compounds (Chapters 2 and 3), other well-known drug classes are discussed, including prostaglandins (Chapter 1), steroids (Chapters 4 and 5), nonsteroidal sex hormones (Chapter 6), opioids (Chapter 7), and beta-lactam antibiotics (Chapter 14).

The strength of the book is the wealth of data collected in one relatively short tome. The author has clearly taken great pains to significantly condense his well-known, five-volume series *The Organic Chemistry of Drug Synthesis* into this more manageable

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