

FUNDAMENTALS OF FORENSIC ANTHROPOLOGY. By Linda L. Klepinger. Hoboken, NJ: Wiley-Liss. 2006. 185 pp. ISBN 0-471-21006-4 (hardcover).

This book provides a much needed update to this ever expanding, applied specialty of biological anthropology. Reminiscent of the succinct chapters and practical approach of T. Dale Stewart's classic *Essentials of Forensic Anthropology* (1979), Klepinger's work brings the reader into the 21st century with all of its new developments and issues. Throughout the volume, information is imparted to the reader in a refreshing, straightforward, and, at times, tongue-in-cheek style. Klepinger tackles a dense subject head-on.

The author provides the background and history of forensic anthropology in Part I, and moves on to the methodological nuts and bolts in Part II. The latter includes the major categories considered by forensic anthropologists when developing a biological profile: initial assessment, sex, age at death, ancestry, stature, and markers of activity, occupation, and life history. Klepinger handles the voluminous literature and vast data supporting these chapters admirably. Part III addresses the medico-legal investigative responsibilities of the forensic anthropologist: identification of trauma, estimation of time of death, and expert witnessing. A final chapter recognizes the increasingly important role of DNA in forensic anthropological work; yet Klepinger rightly warns that this well-tested method also has its limitations.

The shortcomings of this volume are few. The historical information provided in Chapter 2 is not new and rehashes Stewart (1979) and Steven Byers' *Forensic Anthropology* (2005). The details of the Luetgert murder case are intriguing and well told, however. Also in Chapter 2, Klepinger glosses over the term "positive identification" in reference to DNA. It should be clarified, when discussing DNA and its application to individual identification, that mitochondrial DNA does not provide the specificity required in many cases to establish a positive identification. Chapter 3 begins with a discussion of how forensic anthropologists sort human versus nonhuman remains. In my experience, the initial sort is bone versus nonbone; then one may move on to differentiating species. Items such as stone, plastic (for example, from aircraft crashes), and the like can be confused with bone in the field and even in the laboratory until a microscope is employed. Later in Chapter 3, Klepinger mentions nonbone items and the need to sort them from actual remains, but this step should be detailed more thoroughly and in sequence.

My main criticism which may be more of a compliment is that I desired more from this author. The brev-

ity of the volume leaves questions in the reader's mind. The knowledgeable reader may wonder why more was not mentioned on particular topics (e.g., distinguishing bone versus nonbone material or the truncated discussion of sharp force trauma in Chapter 9). Novices will not get details that perhaps they might need. The lack of a concluding chapter was disappointing to me as well. With the last chapter entitled "DNA," one would hope that there would be a further final word from the author regarding the state of forensic anthropology today, its future directions, and potential contributions. The succinctness can be seen as a positive but also left me feeling a bit cheated.

The need for this volume is great, since there has been no such summary of the state of affairs in forensic anthropology since Stewart's 1979 volume was published. There will clearly be much interest in the book from students (graduate, upper division undergraduate) and the general public. The latter may be bamboozled by *CSI*-esque knowledge, or purported knowledge, and want to know more. *Fundamentals* will assist in this regard, since the author repeatedly mentions how misinformation and amateur practitioners plague forensic anthropology at this time. The current information in this volume makes it a work that the practicing forensic anthropologist will want to have on his or her own shelf. DNA and the changing legal precedents and perspectives of the courts are just two such topics.

The impact that *Fundamentals of Forensic Anthropology* will have will be multifaceted. It will be a core text for graduate students who are specializing in forensic anthropology, or biological anthropology graduate students who desire or require an exposure to the specialty. For the general public, undergraduate student, or medico-legal nonspecialist, this book sets the record straight regarding amateur practitioners and their future (or lack thereof) in forensic anthropology. This is an important contribution from a well versed and experienced forensic anthropologist, and will serve as a useful summary of the state of the science today.

ANN W. BUNCH
Department of Anthropology
State University of New York at Oswego
Oswego, NY

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MAN THE HUNTED: PRIMATES, PREDATORS, AND HUMAN EVOLUTION. By Donna Hart and Robert W. Sussman. New York: Westview Press. 2005. 312 pp. ISBN 0-8133-3936-7. \$27.50 (paper).

The influence of predation on primate behavior and sociality has generated significant controversy among physical anthropologists, fueled principally by a want of satisfactory empirical data. However, recent studies focusing on predators, rather than prey, have confirmed

that for some primates predation represents a significant source of mortality. Additionally, new experimental approaches have permitted field researchers to manipulate the perceived risk of predation and to examine behavioral responses to such risk in detail. Hart and Sussman's book ostensibly represents a timely contribution, purporting to summarize for a popular audience the influence of predation on primate, and specifically human, evolution. Sadly, this engaging premise rapidly deteriorates into a recycled critique of "Man the Hunter" that

mires itself in a simplistic dichotomy between *predator species* and *prey species* and all but completely ignores the modern anthropological literature on hunting and meat eating.

A single question pervades Hart and Sussman's book: "Were early humans bold hunters or were they fearful prey?" (p. 5). And early on the authors invest the answer with grave moral significance. Viewing humans as a predatory species descended from an "oppressive killer ape" (p. xv), they argue, inevitably leads to a belief that "humans are slaughter prone assassins by nature" (p. xviii) and that violence is unavoidable. Seeing humans as a prey species, on the other hand, is morally instructive, because it highlights our cooperative instincts and suggests that we "are just one of many, many species that had to be careful, had to depend on other group members, had to communicate danger, and had to come to terms with being merely one cog in the complex cycle of life" (p. xvi). "Let's quit accepting our spurious heritage as Man the Hunter," they urge, "to excuse why we start wars, torture others, and scorch the earth" (p. xviii).

Feet firmly planted in the naturalistic fallacy, the authors proceed to present evidence from both living primates and the fossil record that our ancestors were frequent meals for a variety of predators and thus a prey species. Their data comprise an exhaustive catalog of predation on humans and nonhuman primates by lions, tigers, bears, hyenas, wolves, pythons, crocodiles, sharks, Komodo dragons, and crowned hawk eagles, as well as a profusion of anecdotes from the popular media on everything from African schoolchildren savaged by raptors to American cyclists carried away by mountain lions. Occasionally this exercise produces fascinating nuggets, such as a discussion of why European wolves prey on humans but North American wolves do not. The authors are too polite to play these grisly episodes for their full tabloid potential, however, so the overall result is weirdly monotonous: Teacher mauled by crocodile? Check. Cattle herder smothered by python? Check.

This litany of human carnage is interspersed with fossil evidence for carnivore wear on the remains of various human ancestors. Here the biases of the authors are apparent as they uncritically accept any indication of carnivore damage as proof of predation. For example, signs that *Homo erectus* remains at Zhoukoudian were processed by the extinct hyena *Pachycrocuta* are taken to show unambiguously that "*Pachycrocuta* preyed on hominids in the area, and then brought pieces of their prey home to the cave" (p. 102). That *Pachycrocuta* may have scavenged hominids that died in some other fashion is never considered. Similarly, carnivore tooth marks on a jaw at Dmanisi generate the conclusion that the hominid there "wasn't a powerful hunter, and wasn't a competitor with the indigenous wolves for grazing animals . . . The little Dmanisi hominid acted like prey and was viewed as such" (p. 95).

One might well question why Hart and Sussman do not similarly consider the abundant evidence of cut marks from stone tools on faunal remains from various African assemblages as evidence of predation by hominids; however, on this issue they remain silent. This aspect of the archaeological record is omitted entirely, and it is left to poor Raymond Dart to present the case for hunting by hominids. One searches the bibliography in vain for references to Isaac, Bunn, Blumenschine, Kroll, Potts, Plummer, and many others who have documented signs of hominid butchery in the fossil record.

The authors' deafness to the issue of hunting by hominids seems largely a result of their curious and rigid dichotomy between prey animals and predator species. Hart and Sussman's basic premise is that any indication of predation can be taken as *prima facie* evidence that a species is a prey animal and, thus, not a predator species. Consequently, once it is established that early hominids were occasional prey items, it becomes unnecessary to even consider the evidence that they may have been hunters. However, this assumption is clearly at odds with observations of modern carnivore behavior. Interspecific killing is frequent and well documented among carnivores, accounting for 40–60% of mortality in several species and 68% in one cheetah study. Hyenas kill wild dogs, coyotes kill ferrets, mountain lions kill coyotes, foxes kill badgers, and lions kill hyenas, to list but a few examples. Sometimes the victims are consumed; sometimes they are not. But the fact that a coyote in Yellowstone shows all the fearful vigilance of a prey species when wolves are about, and may even end up as a wolf's dinner, says absolutely nothing about that coyote's effectiveness as a predator. Presumably this was true for human ancestors as well.

Hart and Sussman cling tenaciously to their predator species-prey species distinction, however, even as it leads down some bizarre paths. One might expect, for example, that the massive data set on chimpanzee hunting would be welcomed as verification that predation is an important source of mortality for a primate species (red colobus monkeys). However, viewing chimpanzees as effective predators conflicts with the authors' general notion of primates as prey species and their specific view of chimpanzees as prey items for leopards and lions. Thus, Hart and Sussman deny that chimpanzees are naturally predators, citing—oddly enough—Craig Stanford's data that in some years Gombe colobus suffer 30% mortality from chimpanzee predation. "How can such high rates of chimpanzee predation . . . be anything other than an aberrant situation?" they ask. "It is obvious that this chimpanzee predation on monkeys is a recent and unnatural phenomenon" (p. 54). What the authors omit here is the fact that Stanford's work shows significant variation in colobus mortality from year to year, with high mortality years followed by low mortality ones. Furthermore, the 30% figure that Hart and Sussman quote is not for Gombe colobus, but for colobus groups in the center of the Kasakela chimpanzees' territory. Stanford's data suggest a distinct source-sink dynamic in which colobus groups in the border zones between chimpanzee communities suffer less predation and enjoy larger group sizes than those more centrally located. Similar temporal and spatial variation in colobus predation rates has been reported from other long-term study sites, and it is anything but obvious that chimpanzee predation on monkeys is a "recent and unnatural phenomenon."

Unfortunately, this casual approach to the scientific literature extends to a range of issues. An entire chapter is devoted to debunking the idea that lethal intergroup aggression by male chimpanzees is part of an evolved behavioral strategy. Hart and Sussman are concerned that chimpanzee aggression might offer support for the killer ape hypothesis, so they maintain that escalated aggression in chimpanzees is: (1) much rarer than suggested by chimpanzee fieldworkers, and (2) the result of human provisioning. Sussman has produced these arguments in previous publications, and it is telling that he

chooses here to overlook recent reviews by Richard Wrangham and Michael Wilson that provide patient, detailed, and persuasive refutations of his claims. Instead, the authors refer only to Wrangham's ten-year-old popular book, *Demonic Males*, as though it provides the sole evidence for lethal intergroup aggression in chimpanzees.

Exasperating omissions of this kind are so frequent in *Man the Hunter* that portions of the book almost seem to exist behind glass. The penultimate chapter offers a lengthy critique of sociobiology that could have been written in 1976. Modern students of behavioral ecology will find this section almost embarrassing to read, so grossly anachronistic is the authors' apparent understanding of the field. And it's hard to know what to make of statements like: "many scientists, scholars, and members of the general public have a view of our ancestors as bloodthirsty brutes, not just defending themselves but aggressively entering into combat with every living creature" (p. 190). Do they really? Or was this just true in 1965? Never mind. What's the point in actually engaging with the modern anthropological literature when one can kick around Raymond Dart and Robert Ardrey?

Regardless of one's sympathies toward Hart and Sussman's general approach, it may ultimately prove irrelevant to the underlying question of what effects a history of

hunting might have had on human evolutionary psychology. For whether australopithecines and their immediate successors were hunters or hunted, even Hart and Sussman concede that by 400,000 years ago there is ample evidence of hunting in the fossil record. And if 50,000 years is sufficient for a new species to evolve, then surely 400,000 years represents adequate time for natural selection to have shaped novel psychological and cognitive adaptations in the human lineage. What these might be—and the extent to which they were influenced by a hunting and gathering lifestyle—is the focus of much current research. But readers interested in these issues will find little to draw them to the current volume. And those seeking a historical perspective on "Man the Hunter" will find an infinitely more nuanced and interesting treatment in Matt Cartmill's excellent *A View to a Death in the Morning*.

MARTIN N. MULLER
Department of Anthropology
Boston University
Boston, Massachusetts



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~~COOPERATION IN PRIMATES AND HUMANS: MECHANISMS AND EVOLUTION. By Peter M. Kappeler and Carel P. van Schaik. New York: Springer, 2006. 349 pp. ISBN 3-540-28269-6. \$149.00 (hardcover).~~

~~Cooperation is a topic that has long been of interest to biologists, anthropologists, and economists. Such interdisciplinary attention prompted Peter Kappeler and Carel van Schaik to organize the Fourth Göttinger Freilandtage (German Primate Center, December, 2003), which brought together theoreticians, primatologists, and students of human behavior to discuss recent developments in the complex field of primate cooperation. This book, a collection of chapters written by selected conference attendees, has two stated goals: "It documents and summarizes the range of cooperative behavior among non-human primates ... [and] ... identifies] mechanisms of, and prerequisites for, cooperation that are uniquely human" (pp. v–vi). Each chapter provides a thorough review of a cooperative behavior or mechanism, and some present new analyses. Several introduce novel frameworks to guide future thinking. Laudably, most authors emphasize the importance of proper tests of alternative hypotheses and analytical rigor.~~

~~In Chapter 1, van Schaik and Kappeler begin with a brief history of cooperation research, organized according to the three classic explanatory models: kinship, reciprocity, and mutualism. This provides a framework for the remainder of the volume. Next, chapters by Joan Silk and Bernard Chapais evaluate the role of kin selection in the evolution of cooperation. Silk argues that competition between relatives may counteract some of the positive effects of kin selection and points out that mechanisms other than kin selection may generate kin-biased behavior. Similarly, Chapais cautions against the temptation to explain all forms of kin-based interactions in terms of inclusive fitness. He challenges the tradi-~~

~~tional assumption that kin and nonkin make equally valuable cooperation partners by investigating the role of competence in the evolution of cooperation.~~

~~A section on reciprocity is headlined by a chapter by Robert Trivers, which provides a fitting, if somewhat wordy, summary of the complex evolution of reciprocity theory within and outside the prisoner's dilemma. Some of these complexities are subsequently addressed by Frans de Waal and Sarah Brosnan, who argue that a reciprocal pattern may arise from mechanisms that fall along a continuum from simple symmetry-based to calculated reciprocity. They emphasize the need to rule out simple mechanisms before accepting more complex alternatives. This is a point of critical importance, yet in some cases the authors appear to disregard their own advice. In their studies of food sharing, they effectively control for symmetry-based reciprocity but rather hastily discount the importance of other alternative mechanisms. Nevertheless, they provide a well-written and detailed description of two decades of research on reciprocity in coalition formation, grooming, and food sharing in captive macaques, capuchins, and chimpanzees. Next, John Mitani presents careful analyses of new data from the Ngogo chimpanzee community at Kibale National Park, Uganda. Here, Mitani builds on previous work, providing solid evidence of a reciprocal pattern of exchange of grooming, coalitionary support, and meat sharing among adult males. A chapter by Filippo Aureli and Colleen Schaffner rounds out the section with a discussion of the role of cooperation in postconflict reconciliation.~~

~~The discussion of wild chimpanzees continues in a section on mutualism, where Christophe Boesch, Hedwige Boesch, and Linda Vigilant focus on cooperative hunting at Tai National Park, Côte d'Ivoire. Using new analyses of genetic data, they conclude that males do not make kin-biased hunting decisions. Instead, they present previously published data supporting a mutualistic mechanism. They claim that group hunts are more energetically~~