

non-antagonistic and non-organicist form of individual and collective life, as by the hyper-real worlds of late capitalism, neo-imperialism, and the technocratic actualization of masculinist nuclear fantasies (p. 373)." Gee, we thought it was just a text book.

Haraway's message is also lost in the language of the book. Perhaps it is meant only for other deconstructionists, and not for anthropologists or primatologists. But, jargon aside, it seems reasonable to expect any scholar to communicate his or her thoughts to scholars in other disciplines. We need to communicate with each other more, not less. Clear, concise writing would help, not hinder, the deconstructionist view. In addition, much of her writing is intended to provoke, rather than inform (e.g., the description of Birute Galdikas and Rod Bindamour as the "holy family of post-World War

II natural science" (p. 149) or Jane Goodall as the "virgin priestess in the temple of science" (p. 182). It is difficult to take Haraway's analysis seriously when it is couched in such silly analogies. Finally, whole chapters jump from one subject to the next (e.g., Australopithecines, the film "Lucy in Disguise," apartheid, the Cold War, UNESCO, stress, and other subjects are covered in a chapter on Sherwood Washburn) in an order presumably understood only by Haraway herself. We are still waiting for a critical analysis of the field of primatology. Unfortunately, none of the interesting questions are answered in *Primate Visions*.

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UNDERSTANDING CHIMPANZEES. Edited by Paul G. Heltne and Linda A. Marquardt. Cambridge, MA: Harvard University Press. 1989. xviii + 407 pp., figures, tables, index. \$40.00 (cloth).

Understanding Chimpanzees is the product of a symposium held at the Chicago Academy of Sciences in 1986, integrating the results of current field and laboratory research regarding the two chimpanzee species, *Pan troglodytes* and *Pan paniscus*. Many of the key pieces of information needed to understand the lives of these animals remain unknown. This volume is an outstanding contribution toward remedying that lack, bringing together new data and interpretations about the social behavior, ecology, cognitive abilities, and conservation status of our two closest relatives. The ensuing volume is reminiscent in tone and scope of an earlier work, the 1979 volume *The Great Apes*. There are 33 contributors and 31 papers. The book is divided into five sections focusing on 1) current fieldwork on common chimpanzees in East, Central, and West Africa; 2) current fieldwork on pygmy chimpanzees; 3) chimpanzee cognition; 4) chimpanzee conservation; and 5) implications of chimpanzee research for models of human evolution (a short concluding section).

The first two sections consist of 18 papers dealing with the results of recent chimpanzee fieldwork and integrate very nicely with the contributions of both Goodall's long-term work at Gombe National Park with Nishida and associates in the Mahale Mountains. Goodall introduces the volume by discussing the work of the past 30 years at Gombe and indicates the direction of current research there. Past and present research is exemplified by papers by Wrangham and Goodall on the use of medicinal leaves by Gombe chimpanzees and by Boehm on his current work on chimpanzee long-distance vocal communication. The collection of papers on Mahale chimpanzees presents valuable data and discussion in papers by Nishida, Hasegawa, and Hiraiwa-Hasegawa on, among other things, the social interactions of immigrant females with resident males and females following the transfer of adult females of K community to M community. Nishida, for example, emphasizes that our current state of knowledge about the nature of affiliative relationships among female chimpanzees is lacking, in that some fieldwork has indicated that the adult females of a chimpanzee community engage in little social interaction, whereas Gombe data indicate some degree of kin-based female alliances. De Waal has shown that unrelated female chimpanzees do form coalitions, albeit in captive settings.

Hasegawa presents information on the reproductive behavior of immigrant females at Mahale, and shows that newly immigrated females' copulation rates increase relative to mating frequency in their old groups. He then weighs the evidence for the arguments that increased mating is intended to reduce the risk of intragroup infanticide by resident males observed in the Mahale population and concludes that immigrant female sexual behavior is not a counterstrategy to infanticide. Rather, Nishida interprets such sexual behavior as part of a migrant's strategy aimed at gradually enhancing her social status in the community. Notable by its absence from this section is any paper presenting the fascinating results of field research by Boesch and Boesch on the chimpanzees of the Tai Forest (Ivory Coast), although McGrew does summarize their findings about tool use and hunting behavior in a paper on current research on West African chimpanzee populations.

Perhaps the most significant advance made in this book over previous volumes of collected papers on great apes is that we now know enough about that other chimpanzee, the pygmy chimpanzee, to make some meaningful comparisons of the social behavior and ecology of the two species. The section on pygmy chimpanzees does this quite well. Papers by White, de Waal, Kano, and Kuroda detail aspects of pygmy chimpanzee behavior and ecology in field and captive environments. It is clear from these papers that this species' social and sexual repertoire is richer than that of *Pan troglodytes*.

Section three presents seven papers on the cognitive abilities of chimpanzees, introduced by an excellent paper by Menzel on Wolfgang Köhler's approach to studying the intellect of chimpanzees. Menzel stresses a point that Goodall also makes: only by appreciating the uniqueness of the individual animal can we truly hope to understand the limits of intellectual reasoning in any higher animal, especially the great apes. Two papers in this section by the Gardners summarize aims and methods of cross-fostering studies on chimpanzees. D. Fouts and Savage-Rumbaugh, Romski, Hopkins, and Sevcik contribute summary papers on their studies of the use of signing and lexical vocabularies.

Although the papers in *Understanding Chimpanzees* certainly contribute greatly to our knowledge of these apes, Teleki's paper

introducing the section on conservation is both the most important and most ominous in its assessment of the current state and future prospects of wild chimpanzee populations. His survey of the population status of *Pan troglodytes* in 25 nations across Africa confirms a worst case scenario, that the chimpanzee, once the most abundant of the great apes in the wild, is facing severe threats from loss of habitat, from commercial exploitation by the international trade in laboratory animals, and from the failure, so far, of the biomedical community to attain self-sustaining reproductive status for the world's laboratory chimpanzee population. The extinction threat to *Pan paniscus*, as emphasized by Malenky, Thompson-Handler, and Susman, is heightened by their relative rarity and by the lack of accurate population numbers from forests in which pygmy chimpanzees live. The volume concludes with a paper by Ghiglieri restating his preference for the chimpanzee as the best referent model for hominid behavioral evolution and argues that some form of "strategic modelling" ought to be capable of providing a conceptual framework that allows us to ask intelligent questions about the biology of our earliest human ancestors.

My only criticism of this book is that the papers are unevenly distributed in their length and scope; several of the contributions are really notes or single-page summaries, which make a single point but tend to detract from the volume's overall purpose. This may be an unavoidable hazard of compiling the papers from a large symposium in one volume.

Understanding Chimpanzees will be an invaluable portrait of the state of chimpanzee research in the late 1980s for years to come. The editors and nearly every author point out the amount of further research needed and the number of chimpanzee populations remaining to be studied that could cast much greater light on our understanding of *P. troglodytes*, *P. paniscus*, and ourselves. The main question is whether we can ensure that enough chimpanzees will exist in secure, wild populations in the years ahead to make those studies possible.

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