

## Book Review

*Chimpanzee Politics: Sex and Power among Apes.* By Frans B.M. de Waal. New York: Harper and Row, 1982, 223 pp., \$16.50.

The tale is exciting: challenges from younger pretenders undermine the power of an aging patriarch. The old male loses his hold, and the once peaceful social order explodes into violence as ambitious contenders vie for power. The story tells of dramatic clashes between the powerful; ultimately, however, the outcome hinges not on brute strength but on intricate political machinations and subtle shifts in support from the masses, who yearn for peace and stability. Although a new order emerges, the tale's ending dangles uncertainly. The potential for renewed conflict among the rulers remains, and it is only a matter of time before another episode begins in the incessant struggle for power.

The plot sounds familiar. What is special is the skill with which it is told, the fact that it is true, and the identity of the protagonists: they are not people but chimpanzees. This is a brilliant book, elegant, suspenseful, and deeply engrossing. It also teaches a crucial lesson: chimpanzee power struggles resemble human political maneuvers in fundamental ways.

The account rests on long-term observations of a captive group of chimpanzees living in a large, outdoor enclosure in the Arnhem Zoo in the Netherlands. The establishment of the colony by Anton van Hooff in 1971 represented a stroke of genius; never before had anyone managed to keep a large group of adult chimpanzees together without chronic bloodshed. van Hooff solved this problem by feeding the chimpanzees singly or in small groups after they entered their individual sleeping quarters for the night. Without competition for food, conflicts within the

group were resolved primarily through sophisticated, ritualized encounters that seldom resulted in wounds.

*Chimpanzee Politics* spans 6 years of continuous observations of the colony by Frans de Waal and his graduate students. Studies of wild chimpanzees have covered longer periods of time, but, as de Waal points out, in the wild one witnesses only a fraction of the critical events underlying shifts in social relationships. At the Arnhem colony, observers could see virtually every interaction that occurred among the protagonists, and much of what happened was captured on film. Relying on a combination of rich, narrative accounts and meticulous, objective records of social interactions—the two major methods of data collection at Arnhem—de Waal has produced one of the most detailed and revealing descriptions of dynamic social relationships that is available for any nonhuman species.

The book begins with the history of the Arnhem colony and a sensitive discussion of how scientists learn to understand and record behavior, followed by a discussion of the behavioral repertoire of chimpanzees. This section not only describes facial expressions, gestures, and vocalizations but also provides an illuminating account of how chimpanzees use these signals to negotiate social relationships. The next chapter introduces the chimpanzee protagonists. de Waal dispenses with quantitative data and simply describes the animals as one would describe intimate friends. Highlighted by evocative photographic portraits, his assessments are utterly convincing.

The following long chapter, "Two Power Take-Overs," constitutes the heart of the book. Here, the events sketched in the first paragraph of this review are described in detail. The value of careful, objective records becomes clear: once the challenge to the leader, Yeroen, becomes obvious to the observers, they turn to earlier data to search for the first, subtle signs of change, invisible to the observers but not to the chimpanzees. The clue to the first dramatic power takeover lies in these early records: although the younger male had not yet challenged the leader directly, the frequency of his deferential greetings to Yeroen started to decline, and, perhaps in response, Yeroen began to spend more and more time in the intimate company of his female supporters. Yeroen's reliance on his friends and followers plays an increasingly important role as the tale unfolds, and by following the struggles of the males step by step, we gradually come to see why effective, stable leadership ultimately depends on social support rather than physical intimidation.

The next two chapters extend the story beyond the power takeovers to consider the processes underlying the stabilization of a new social order and the role of male dominance and female choice in mate selection. The penultimate chapter discusses the social mechanisms that sustain chimpanzee society, and the last chapter summarizes the major themes of the book.

de Waal's style is clear and direct, and from the first page he encourages us to view the chimpanzees not as simply detached observers but rather as active sympathizers, moved by their social dilemmas and fascinated by the intelligent, amusing, and poignant solutions that they devise. This intimate portrait of chimpanzee life is greatly enhanced by the author's photographs, which illustrate the subtle nuances of posture, gesture, and glance that play such an important role in chimpanzee communication.

de Waal wrote *Chimpanzee Politics* for a general audience, and he succeeds admirably in making chimpanzee society accessible to the nonspecialist. However, the book also has much to offer professionals and students in the behavioral sciences. I recommend it highly as an introduction to the methods and goals of ethology. Because de Waal's lucid explanations of scientific procedures intertwine with the story, they become compelling issues rather than dry disquisitions. The author interprets chimpanzee be-

havior boldly, and some teachers will be unwilling to condone his liberties, but de Waal has written this book to encourage discussion, not merely to assert his conclusions. He goes to great lengths to explain the basis for his interpretations, clearly distinguishing between conclusions derived from quantitative analysis and ones that rely more on a hard-won, intuitive sense of what chimpanzees are up to. Although there are few numbers in this book, all the major issues he discusses have been subjected to rigorous, quantitative treatment in scientific articles. This affords an unusual pedagogic opportunity: after reading *Chimpanzee Politics* and grasping the general issues, advanced students can turn to the more focused studies for further details about the quantitative analyses that underlie the author's conclusions.

*Chimpanzee Politics* focuses on the proximate mechanisms used to initiate, maintain, and alter complex social relationships. These mechanisms include formal means of acknowledging differences in status, more diffuse networks of influence, and reciprocal exchange of different types of social benefits, all issues of interest to social psychologists. Cultural anthropologists will be intrigued by the convincing evidence for shared social conventions and traditional "rules" of conduct in chimpanzee society. The book's central theme—that chimpanzee political behavior closely resembles that of humans—also presents an overture to political scientists that should not be ignored. For behavioral biologists, the book delivers a clear message: theoretical formulations that ignore proximate mechanisms and treat animals as reproductive machines are clearly inadequate for understanding the behavior of intelligent, emotionally complex primates (and, undoubtedly, many other animals as well). For example, in order to understand the role of reciprocal altruism and mutualism in social evolution, we need to focus not just on the theoretical "rules of the game," but also on how animals actually create alliances, decide whom to trust, identify defectors, communicate forgiveness, and enforce social conventions. *Chimpanzee Politics* represents a pioneering effort toward realizing these goals.

In its conclusion, this book raises two issues that are likely to prove particularly controversial. First, to what extent can we consider chimpanzee social behavior "rational?" de Waal argues that simple, associative learning fails to

explain many of the behaviors observed at Arnhem, and that we should seriously consider the possibility that chimpanzees can develop rational, long-term strategies designed to achieve specific goals, such as an increase in status. By analyzing numerous, vivid examples of behaviors that appear to imply sophisticated cognitive capacities, including several accounts of apparently purposeful deception, de Waal makes an important contribution to the debate about mechanisms of animal cognition.

The author raises a second, controversial topic: the nature and origin of sex differences in social behavior. In the Arnhem colony, females consistently support their friends and relatives in agonistic encounters, whereas male tactics are considerably more flexible and opportunistic, particularly during periods of instability when power takeovers are underway.<sup>1</sup> de Waal suggests the existence of a deeply rooted, fundamental difference in the social goals of males and females: females desire peace and stable social relationships, whereas males are motivated to increase individual status and power whenever circumstances permit. These differences clearly exist in de Waal's group, but whether they re-

flect fundamental sex differences remains open to question, because the particular circumstances of the Arnhem colony can have dramatic effects on behavior. For example, in the wild, female chimpanzees compete primarily over food. This source of competition was removed at Arnhem, perhaps paving the way for unusually amicable female relations.

Far from invalidating de Waal's findings, these differences serve the valuable function of clearly demonstrating the chimpanzees' extraordinary behavioral flexibility in response to changing circumstances. Under captive conditions of crowding or social deprivation, chimpanzees exhibit social pathologies, but under the enlightened conditions of the Arnhem colony, chimpanzees negotiate a workable society that reflects unique circumstances and particular historical events. By documenting this process, *Chimpanzee Politics* conveys a profound lesson: The true source of continuity between *Homo* and other anthropoid primates lies in a common capacity for creating societies based on social reciprocity, despite the conflicts of self-interest that are our shared evolutionary legacy.

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<sup>1</sup> These sex differences are explored further in a recent article: Sex differences in the formation of coalitions among chimpanzees, *Ethology and Sociobiology* (5): 239-255 (1984).