## **Primate Behavior**

Apes of the World. Their Social Behavior, Communication, Mentality, and Ecology. RUSSELL H. TUTTLE. Noyes, Park Ridge, NJ, 1987. xx. 421 pp., illus. \$55. Noyes Series in Animal Behavior, Ecology, Conservation and Management.

Apes of the World "is meant to serve as a source book for a wide spectrum of biological and social scientists, most particularly those who would draw upon knowledge of apes to model human behavioral evolution." It succeeds. The 37-page index brings you quickly to the topic of your choice, and depending on your luck, you may find yourself offered as much as half a page of references—out of the more than 1500 cited. Each of the eight chapters, from taxonomy to sociality, has the same structure: a brief review of issues precedes a historical survey of the literature on gibbons, then orangutans, chimpanzees, bonobos, and gorillas. The survey is encyclopedic until 1984, and spotty thereafter. It is written as if by an intelligent computer limited to a few local rules: one paragraph and up to five key points per paper, accuracy essential, humor desirable. Remarkably, the whole is readable. Tuttle would probably attribute this to his light touch. The humor helps, but precision is the key. Tuttle has identified the highlights in every paper. He gives the impression of having read and thought about each one, and has found all sorts of gems.

Apes of the World is the second serious review of ape behavior, preceded only by The Great Apes of Robert and Ada Yerkes, published in 1929 (which despite its title included the lesser apes, or gibbons). Yerkes and Yerkes's choice of topics was dictated by their hope of showing the value of apes for psychobiological research; Tuttle's selection follows The Great Apes closely. This has the merit of allowing him to examine how knowledge has changed since 1929. Yerkes and Yerkes considered, for instance, that orangutans were less intelligent than the African apes, whereas now no clear differences among the great apes are seen. The disadvantage is that Apes of the World misses opportunities for wider biological comparisons. There are no graphs, one table, few monkeys, and virtually no mention of animals other than primates. There is almost no attempt at synthesis: even the summary chapter is a synopsis. The review of behavior in captivity is confined to studies of intelligence and communication. Some important subjects get short shrift. At one extreme, for instance, there is no account of species status in the wild, and at the other we find the rich analyses of chimpanzee political relationships reduced to "Some individuals tended

to assist one another if one of them was threatened by conspecifics." In a book on behavior and ecology that gives 20 pages each to "positional behavior" and "lodge sites and nesting" such omissions are odd.

This is less a criticism than a caution against false expectations. *Apes of the World* performs an enormously valuable service by collating a dispersed literature and by pointing to gaps in our knowledge. With ape populations crashing throughout Africa and Asia, and with long-term prospects for conservation looking generally exceedingly dim, many populations of wild apes must be

studied within the next decade if at all. Tuttle's catch-all compilation of field studies emphasizes the apparent differences in behavior between populations and implies that to understand them we need far more systematic documentation, whether of tool use, communication patterns, or social organization. The apes offer numerous clues to human evolution, but the clues are disappearing. Now is the time to get them.

RICHARD WRANGHAM Department of Anthropology, University of Michigan, Ann Arbor, MI 48109

## Prophecies and Politics of the Maya

Heaven Born Merida and its Destiny. The Book of Chilam Balam of Chumayel. Translated and annotated by MUNRO S. EDMONSON. University of Texas Press, Austin, 1986. x, 309 pp., illus. \$37.50. The Texas Pan American Series. Text in English and Mayan.

The Maya civilization of Central America was the only truly literate society encountered by the Europeans in their discovery of the Western Hemisphere five centuries ago. At the time of the Conquest, the Maya of the lowland country of what is now Mexico, Guatemala, Belize, and Honduras had been literate for well over a thousand years. The primary and pervasive medium for writing was the screen-fold book of bark paper starched with lime plaster and painted upon

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"Seizure of the chiefs, possibly Pat Ay and Op Ik of Valladolid (1776–1800)." [From Heaven Born Merida and Its Destiny; Princeton Collection of Western Americana, Princeton University Library]

with glyphic characters fully capable of conveying the spoken Maya languages. The central functions of literacy for the Maya were political and religious. The written word legitimated power in rulers and governments, and texts carefully wove the histories of these into the cycles of destiny, of time, nature, and the heavens.

Inevitably, the 16th-century Christian friars who worked among the Maya found themselves confronted with political and religious recalcitrance that focused on literacy in the ancient writing system. Hence they worked to destroy that literacy and to replace the Maya language with Spanish and Latin. In the view underlying Munro Edmonson's bold and innovative translation of the Book of Chilam Balam of Chumayel, the Europeans succeeded primarily in driving the ancient system of political thought underground, disguised in alphabetic script but true to the intent of hieroglyphic antecedents-indeed, probably true to hieroglyphic books still used by apostate Maya communities at least until the beginning of the 18th century. The Books of Chilam Balam are manuscripts named after the Yucatecan towns in which they were found. In 1933 Ralph Roys published an English translation of the Chumayel manuscript, a distinguished contribution to Maya ethnohistory.

"Chilam" is an official title pertaining to sorcerers and prophets of the aboriginal Maya. Roys and Edmonson agree that in the case of these manuscripts "Chilam" is to be translated as "mouthpiece" or "spokesman." Where Roys and Edmonson significantly part company is in the reference implied by "Balam": Roys regards this as the name of an individual and extraordinary prophet who lived just before the contact with the Europeans. Edmonson, on the other hand, proposes the term "Chilam Balam" to mean

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