

## Social complexities

W. C. McGrew

**In Quest of the Sacred Baboon: A Scientist's Journey.** By Hans Kummer (translated by M. Ann Biederman-Thorson). Princeton University Press: 1995. Pp. 337. \$29.95.

In the field study of monkeys and apes, a species often becomes linked with a particular scientist, such as chimpanzees with Jane Goodall or orangutans with Biruté Galdikas. This association sometimes reflects a life's work of journal articles, conference presentations and book chapters synthesized into a single academic volume, plus a memoir of the same

takes the reader straight into the bush, to the moving final paragraph that will resonate with long-term field workers, it is compelling.

Hamadryas baboons are worthy of attention on several fronts. They are probably the toughest of all higher primates, surviving in the hottest, driest and most open spaces, where sparse resources such as water and shade can be a matter of life or death. Their society has four hierarchical layers: the troop, numbering hundreds, reflects the scarcest resource of all, the cliffs for safe overnight sleeping; the band, numbering scores, is suited to other defensible resources such as a water-hole; the clan, numbering tens, relates to the richest food-patches such as 'fields' of underground tubers; finally, the family of typically a fully adult male, several adult females and their offspring, plus a secondary, 'follower' male, is the smallest unit, linked to the patchiest resource, such as the shade or fruits of a single tree. Kummer argues that such complex social life is an adaptation to these most testing of environmental conditions; the simpler, troop-oriented lives of the rest of Africa's savanna or forest baboons simply would not suffice. That such social structure is inherited (and

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this persists in zoos, even when captive baboons are emancipated from these constraints) became clear when Kummer's team studied natural hybrids: where the range of hamadryas and savanna baboons overlap, their societies show some intermediate characteristics.

Kummer's view of baboonery is arguably unique. Unusually in primatology, he is a classical ethologist, and so interested not just in the function of behaviour, but also in its causation, development and evolution. Some of his keenest insights apply to how (rather than why) individuals succeed in such a stratified society. Also, he has been committed from the start to combining many different methods: observation and experimentation in captivity and nature. It is the latter combination that is most impressive: replicating controlled encounters between triads of such dentally armed, large mammals in the middle of the bush is no picnic. Of course there is also fuel for debate: he rails against anecdotes, but recounts some excellent ones; he warns against anthropomorphism, yet characterizes the species' core relationship as marriage; he generalizes about primates, when he really means Old World monkeys and apes.

The book has apt figures, including eight colour plates. Citation is scanty, and key figures such as John Crook are mentioned but not referenced; more puzzling, the

index is curious in that co-workers such as Angst and Kurt are absent whereas Sigg and Stolba are present. There are two reference lists, one being the complete bibliography of scientific publications on Project Hamadryas by the Zurich group, should the reader wish to pursue details; the other list more conventionally refers to all other works cited.

The pertinent question for the reader of *Nature* is whether or not the book is too specialized for the non-primatologist. The answer is that the scientific material is as richly focused as one would expect, but the other half of the book, the thoughtful, personal disclosures, are uncommonly telling, and deserve wide attention. □

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REASONS

**Toughing it out — is the complex social life of the hamadryas baboon an adaptation to harsh environmental conditions?**

material for a more popular audience. Here, the title hints at an innovative attempt to combine the two, and Hans Kummer delivers in superb fashion.

His species is *Papio hamadryas*, the sacred (to the ancient Egyptians) or desert baboon, as studied mainly in the arid scrublands of eastern Ethiopia. Originally published in 1992, the book's German title, *Weisse Affen am roten Meer: Das soziale Leben der Wustenspaviane*, adds more: another population of these monkeys lives across the Red Sea in Saudi Arabia. (Kummer may be the only primatologist to study wild subjects of the same genus on two continents.) His 'Project Hamadryas' spanned 20 years, starting in Zurich Zoo and finishing in 1977 when hostilities in Somalia made the region too insecure.

The resulting volume is truly multi-dimensional. On the one hand it is a distillation of decades of making sense of the most complicated social organization of any species of non-human primate. This is achieved with elegance and economy, culminating in a six-page summary chapter that is a paragon. On the other hand it is the reflections of a 65-year-old Swiss scholar, ranging from revelations of conscience (for example, he regrets some of his early experiments, on ethical grounds) to aspects of his non-scientific life that vary from litterbug to gunslinger. From the arresting first page of the preface, which

## Bending perception

Irving M. Klotz

**Nazi Science: Myth, Truth, and the German Atomic Bomb.** By Mark Walker. Plenum: 1995. Pp. 325. \$28.95.

THE jacket of Walker's new volume has the first two words of its title printed in inch-high letters, the next four in quarter-inch letters and the final three in half-inch letters. But, there really was no "Nazi science", except perhaps for some pseudo-scientific ramblings such as Hanns Hörbiger's cosmic ice fantasies, which impressed Himmler and Hitler. What did exist were scientists who were Nazis. Despite its grandiloquent title, this assembly of previously published material is essentially a collage of three topics (dealing almost solely with German physicists) related primarily by historical contiguity. Scintillating slogans ("there are neither simple answers nor simple questions") are interspersed as guides for the perplexed. This monograph would have benefited substantially from greater care in preparation, in minor matters as well as major ones. An example of a trivial item is the statement that the president of Germany in 1934 was Otto von Hindenburg, when his actual name was Paul Ludwig Hans Anton von Beneckendorff und von Hindenburg. Far more serious faults are the misleading and erroneous interpretations of many aspects of fission physics and of the state of understanding of that field by the wartime German atomic scientists.

About a quarter of the book is devoted to a chronicle of the machinations and rantings of the Nobel prize-winner Johannes Stark, who had joined the Nazis in the early 1920s. He was a frustrated, bitter man with an exceptional talent for