

fourth chapter of the book deals with the transition from exhibiting people in their 'natural surroundings' to doing the same with exotic non-human species. However, in the course of this transition, Hagenbeck went through the stage of running a travelling circus and indeed became famous as a trainer of wild animals. The author does spend some time debating how 'humane' the training methods were and the animal welfare implications surrounding this. The author suggests that Hagenbeck's routines gave more dignity to the animals than did those of previous trainers. Hagenbeck did not actually open his famous animal park in Stellingen-Hamburg until 1907. This park was justly famous in showing animals in more natural groupings and surroundings with hidden barriers.

Hagenbeck was an animal dealer, who ended up creating a zoo which, for its time, was innovative and had better animal husbandry and welfare than many (although this latter topic is not addressed by the author). The author also very much restricts himself to Hagenbeck; there are many other examples of people who started off as animal collectors and progressed to keeping good zoos (Gerald Durrell being a notable example). It is a pity that the author did not further develop this subject in his discussions on the evolution and founding of zoos.

Thus, the bulk of the book consists of an interesting review of Hagenbeck and his evolving business in people and animals. The book is a good read and provides an interesting historical perspective. However, to fulfil its goal of helping the reader to 'grapple with zoos today' the conclusion chapter really has to deal with this topic, or at least link the Hagenbeck story to the present. This it fails to do. Much is a discourse about man trying to humanise animals, especially apes, with much debate about the problems of 'showing captivity'. The author deduces that Hagenbeck's revolution was not the moated enclosures but his 'narrative of freedom'. Little space is given over to changes in the 20th century and little mention is made of the advances in veterinary science and animal husbandry which made many of these changes in approach possible. Mention is made of 'immersion exhibits' (ie exhibits where the visitor feels as though he is in the animal's environment), but the author does not seem to appreciate the link that these make with conservation education and research both in the zoo and in the wild. There is very little information on the genuine conservation work carried out by many zoos. The justifiable question as to the origin of the fish in many aquaria is asked, but the author could have troubled himself to get the answers to some of these questions, which could have been done without too much trouble.

In short, this is an interesting book; it tells the story of Hagenbeck, his peoples and animals from a slightly different perspective. It does not, however, tell us much about the relationship between zoos and the contemporary culture of the times or anything much at all about the birth of the modern zoo, or indeed what comprises the modern zoo. Nor does it say anything about our understanding of the actual, rather than the perceived, needs of wild animals in captivity.

*Miranda F Stevenson*

*Bishops Waltham, UK*

### ***Minding Animals: Awareness, Emotions, and Heart***

M Bekoff (2002). Published by Oxford University Press, Great Clarendon Street, Oxford OX2 6DP, UK. 230 pp. Hardback (ISBN 0 195150775). Price £18.99.

This book made me feel at turns uncomfortable and mildly irritated. I suspect that Marc Bekoff would be pleased; he seems to write, if not quite to provoke, then certainly to make his readers think hard about their attitudes to animals.

*Minding Animals* is a highly personal view of our relationships with non-human animals. Bekoff explains the title by saying that "... 'minding animals' refers to caring for other animal

beings, respecting them for who they are, appreciating their own worldviews and wondering how they are feeling and why". The book is wide ranging and considers among other things animal rights and animal welfare, human impacts upon the environment and wild animals, and what we can and cannot know about animal minds.

Bekoff's style of writing is exuberant and passionate. He refers often in the text to the need for greater compassion in our dealings with non-human animals. Few would disagree with this, although I suspect that some readers may baulk at his frequent use of the word 'love', both in the context of animal courtship and mating and in pleas for humans to "love Earth and the universe and all of their inhabitants".

In a section of the book entitled "Animals in Love" (*sic*), Bekoff discusses monogamous pair bonds in various species and cites the evidence of a number of studies of avian behaviour where a long-lasting social pair bond is linked to greater reproductive success for both individuals. He goes on to say that, "the strength of the bond that is formed between mates is evidence that a close, loving relationship has been established". In my own research into monogamy in an obscure rodent with a particularly strong and long-lasting social pair bond, I found that sexual infidelity between pair members was rather common. Bekoff does not mention here any of the studies that have looked at genetic, rather than social, monogamy. Perhaps the DNA evidence does not fit quite so comfortably with his view that animals can experience enduring romantic love.

In another section of the same chapter, Bekoff describes sibling rivalry as "odious and enigmatic behaviour" but offers no view on how siblicide fits into his wider picture of animals' emotional lives. Examples of siblicide among non-human animals are merely presented as tableaux, with some evident distaste.

Throughout *Minding Animals*, Bekoff makes free use of anecdotes and argument by analogy. His accounts of the behaviour of individual animals are certainly entertaining and help to make the book a more enjoyable read. I would not wish to dismiss anecdotal evidence about animal behaviour out of hand — the rarely seen can lead to profitable new lines of investigation in ethology. But my eyebrows twitched when I read that "the plural of anecdote is data" and, further on in the same chapter, "anecdotes, like anthropomorphism, can be used to make for better science, if only we let them".

You do not have to be anthropomorphic or to believe that animals have emotions to care about their well-being. The implication that scientists — and ethologists in particular — who maintain an open-minded or somewhat sceptical approach to issues such as emotion in animals are in some way uncaring or unfeeling is misplaced and does not help to advance the cause of animal welfare. As HRH the Princess Royal once said of her work as patron of the charity Save the Children, "You do not even have to like children very much to see that it is important that they are treated decently".

By the time I got to the chapter where Bekoff expresses his dislike for what he terms "arrogance concerning the need for scientific objectivity", I had decided that this is not a book that I would recommend to my undergraduate students.

And this is, perhaps, the greatest pity of *Minding Animals*. Bekoff writes with passion and enthusiasm for the animals that he obviously loves, respects and wishes to understand more fully. Much of what he has to say is entertaining, thought-provoking and deserving of a wider audience. The research he describes is drawn from a wide (if rather selective) range of recent sources. But I suspect that many potential readers, at least among those who study or work with animals for a living, will do as I did and read the inside of the dust cover with a sinking

heart. Despite the thoughtful and beautifully written foreword by Jane Goodall, I wonder if Bekoff's "exhilarating tour of ... happy foxes, ecstatic elephants, despondent dolphins" will reach or change many human minds?

*Sheila Pankhurst*

*APU Cambridge, UK*

***The Welfare of Horses***

Edited by N Waran (2002). Published by Kluwer Academic Publishers, P O Box 17, 3300 AA Dordrecht, The Netherlands, or 101 Philip Drive, Norwell, MA 02061, USA. 225 pp. Hardback (ISBN 1 4020 0766 3). Price £95.00/\$138.00/€150.00.

My first comment must be a negative one. The book is costly and yet carelessly edited. For example, the first paragraph of the first chapter is repeated. There are other errors, such as unfinished sentences, sprinkled throughout the text. That said, the contents are quite good. Although not much of the information is new, it does pull together in one place studies on equine welfare, often by the original authors, that were previously scattered throughout the literature. There is a bit of overlap between chapters. For example, the fact that horses spend most of their time grazing and the consequences of deprivation of opportunities to pursue this behaviour are mentioned in several chapters. Nevertheless, managing horses in compatible social groups on pasture is optimal for their welfare.

The book is divided into nine chapters: 1) Horse behaviour: evolution, domestication and feralisation, by Deborah Goodwin; 2) Clinical problems associated with the intensive management of performance horses, by Rachel Casey; 3) Nutrition and welfare, by Nell Davidson and Patricia Harris; 4) Housing, management and welfare, by Daniel Mills and Andrew Clarke; 5) Stereotypic behaviour in the stabled horse: causes, effects and prevention without compromising horse welfare, by Jonathan Cooper and Paul McGreevy; 6) The effects of transportation on the welfare of horses, by Natalie Waran, Des Leadon and Ted Friend; 7) Training methods and horse welfare, by Natalie Waran, Paul McGreevy and Rachel Casey; 8) Welfare of the racehorse during exercise training and racing, by David Evans; and 9) Specific welfare problems associated with working horses, by R Trevor Wilson.

Welfare issues relating to grazing are seldom pointed out, so Casey's discussion of laminitis, ragwort and other plant poisoning, parasites, and injuries from fences or pasture-mates is welcome; however, grass sickness is not mentioned. Each use to which we put horses has some welfare problem. Unfortunately, it was only after horses suffered terribly during the Olympic equine events in Spain in 1992 that a study was undertaken to prevent heat stress to three-day eventers. Endurance events were also a cause of suffering for horses, but now are well regulated by frequent veterinary checks. Dressage, despite its slow pace, can be injurious because joints are extended while weight bearing.

Perhaps the most interesting parts of the book are the historical ones. Training methods of the Greeks, Romans (who invented the round pen), Mongols, Arabs and 18th century Britons were sometimes extremely harsh and dependent on harnesses and bits that resembled (and probably were) instruments of torture. Transport of horses by rail, and the two classes — race horses and second-class horses — have been forgotten by most of us. The history of transport of horses is interesting, but I missed a mention of the Viking horse that climbed into and then travelled in long boats. I would have liked to know how they trained the horse to embark.