

that have relevance to other mammals, and reading about them may provide the animal psychologist and animal welfare scientist with deeper insight into the subjects they are exploring. It may even raise unexplored questions, such as, are there comparable conditions in animals to the Hawthorne effect in people? The Hawthorne effect can be defined as improved behaviour, activity or work performance in social or workplace subordinates when they receive attention and interest from social or workplace superiors. The overall value of the book to animal welfare scientists would be greater if there were more discussion of the emotions.

The book is edited by Richard Gregory, who is Emeritus Professor of Neuropsychology at Bristol University. He has made valuable contributions to the profiles on past psychologists, and through one of his specific areas of interest, which is 'Illusions'. This is a revised edition, and is 20% longer than the previous one. There are over 50 important additions including entries on compassion, cruelty, depression, dreaming, emotion, genetics of mental illness, male and female brains, science and religion, and synaesthesia.

This is not a standard reference textbook, and it may not appeal to the undergraduate student who wants uncomplicated synopses of theories in human psychology. Instead it is a book to relax with and explore, and including 'Companion' in its title is highly appropriate. It may not put your mind at rest as to how the human mind functions, but if you consult it as a Companion, I expect you will enjoy it and find yourself wiser and more thoughtful about the workings of the mind.

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Poultry Behaviour and Welfare

MC Appleby, JA Mench and BO Hughes (2004). Published by CABI Publishing, CAB International, Wallingford, Oxon OX10 8DE, UK. 276 pp Paperback (ISBN 0 85199 667 1). Price £35.00.

As the authors explain in the Preface, this book is based in part on Appleby *et al's* 1992 book *Poultry Production Systems: Behaviour, Management and Welfare*, with revised, updated, and extra material. Unsurprisingly, the overwhelming majority of information in most chapters relates to chickens as this species has attracted a far greater amount of research than other poultry species. Turkeys, ducks, geese, quail, pigeons and ratites are, however, given appropriate space where relevant research material is available.

The fourteen chapters, each with a helpful summary at the start, are grouped in four parts: 'Poultry', 'Behaviour', 'Welfare' and 'Practice'. The first part, 'Poultry', covers the origins and biology of poultry, and surprised me by being one of the parts of the book that I most enjoyed reading. The succinct account of how the red jungle fowl became the modern domestic chicken was especially good. Coverage of poultry biology is brief but informative and interesting (I did not know that the eye of the ostrich is the largest of any land vertebrate) and, as for the many topics throughout the

book, frequently discussed in relation to the adaptation of poultry to different housing systems.

The second part of the book, 'Behaviour', starts with a chapter entitled 'Causes and Effects'. Though perhaps not evident to non-ethologists, this is the pivotal chapter around which the rest of the book is centred as without reference to its content, subsequent behaviour and welfare chapters would amount to little more than descriptions or guesswork. The chapter uses the appropriate and familiar format of Tinbergen's (1963) 'four questions' to provide the context for understanding why poultry perform different behaviours. Most importantly it emphasises the need for careful investigation to interpret poultry behaviour correctly and for avoidance of casual assumptions or uncritical anthropomorphism. It will be especially useful for readers already familiar with poultry husbandry who are less confident about correctly interpreting what the birds are doing.

The three remaining chapters in this part cover maintenance behaviour (feeding, drinking, movement and comfort activities), behaviours related to living in groups, and finally, reproductive behaviour. The challenging task of reviewing and condensing the information for these chapters was, I thought, achieved very successfully. Inevitably some of the same topics arise in more than one place, and just occasionally this was a little confusing. For example, different figures and text relating to the synchrony of feeding appear in different chapters in the sections 'Social influences on feeding' and 'Social learning and behavioural synchrony'. Also, although technically correct, I felt some statements could be easily misinterpreted in the absence of fuller explanation (eg "feather pecking...is on average worse in cages than in other systems" [p 64]).

The third part of the book, 'Welfare', starts with chapters discussing perceptions of welfare and sentience. Much of the content of this part deals with general concepts relevant to an understanding of the welfare of all animals, not just poultry, although many poultry-related examples are given. It is a balanced and comprehensive account of the subject but, more crucially, is highly readable even when tackling challenging topics such as sentience and consciousness. Significantly, emphasis is given to the importance of 'pleasurable' experiences for good animal welfare, in addition to the avoidance of negative influences. Whilst this is a fairly widely accepted belief in the general field of animal welfare, I felt its inclusion in a book about the most numerous and intensively farmed land vertebrate was refreshing and should be thought-provoking to all who read the book. The possibility that poultry may have the capacity to experience boredom is also discussed, as are the implications of having this emotional state for poultry in cage housing systems.

Later chapters cover physical and environmental aspects of welfare and in this part the authors do not shy from criticising the poultry industry on several matters. For example, they describe how the law in many countries requires at least daily inspections of flocks to identify sick birds, yet

this is 'widely flouted' due to the huge numbers of birds managed by each worker. The authors are also disparaging about some promotional habits used by the poultry industry such as invention of the term 'livability' (which avoids any need to mention 'mortality'), the inaccuracy of figures for livability, and welfare 'dilemmas' such as food restriction and eye abnormalities created entirely by the industry's emphasis on production.

The final part of the book, 'Practice', initially describes the different sectors that make up the structure of the poultry industry. This chapter will be particularly useful for readers familiar with the production stage of, for example, the laying hen's life cycle but who have less idea about how these hens are bred, reared or slaughtered and the extra welfare issues that can arise during these stages. The next chapter discusses the various production systems for poultry meat and eggs, and helpfully explains confusing terms such as 'aviary', 'perchery', 'barn' and 'deep-litter' within a regulatory context. To complete the picture, the last two chapters explore the political (including legislative) and economic factors influencing poultry husbandry and welfare, mainly comparing attitudes in the USA and Europe. I thought these chapters provided a wealth of useful information, although I was slightly disappointed to find UFAW's full title incorrectly reported in a section on Animal Protection Societies.

Overall, the book's easy-to-follow structure, simple layout and well-written text make this an accessible and highly useful book for anyone with an interest in the production, behaviour or welfare of poultry. I suspect the imbalance in species-specific information could be, at times, frustrating for non-chicken enthusiasts. However, the book is not solely about providing bird-related facts. It also highlights how the interaction of so many variables — the bird's biology, the physical and social environment, economic and commercial considerations, our concepts of animal welfare, our attitudes and ethical stance, and politics — influence how we keep and treat poultry, and ultimately influence the birds' welfare. Current practice in all the major poultry production systems has yet to achieve an acceptable compromise between the quality of life experienced by poultry and the priorities of the other stakeholders. This book makes a valuable contribution towards our understanding of the challenges ahead, and for this reason I thoroughly recommend it to all who have a commercial interest in poultry as well as legislators, animal science students, veterinary surgeons and animal scientists.

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Wildlife Tourism: Impacts, Management and Planning

Edited by K Higginbottom (2004). Published by Common Ground Publishing Party Ltd, PO Box 463, Altona Vic 3018, Australia, ABN 66 074 822 629, in association with the Cooperative Research Centre for Sustainable Tourism, <http://www.crctourism.com.au>. 294 pp Paperback (ISBN 1 86335 545 60 [print] and 1-86335-548-0 [pdf]). Price AUD\$89.95.

This is a collection of thirteen chapters written by Australian academics focusing on themes relating to the increasingly important and growing phenomenon of wildlife tourism. Wildlife tourism is defined as "tourism based on encounters with non-domesticated (non-human) animals" (p 2). The term 'non-domesticated' is preferred to 'wild' because it is unclear whether the latter term relates to the species or to its setting (for example a tiger in a zoo represents a non-domesticated species but it can be argued that the individual animal is no longer wild). This gives an important clue to the scope of this book, which may surprise many readers. Indeed, four classifications of wildlife tourism are identified in the first chapter of the book for further study: 'Wildlife-Watching Tourism' (viewing free-ranging animals); 'Captive Wildlife Tourism' (viewing animals in confinement, such as in zoos, wildlife parks and aquaria); 'Hunting Tourism'; and 'Fishing Tourism'. The justification for adopting this broad focus is that distinctions between all four categories have become increasingly blurred in recent times. A large, fenced nature reserve, for example, might vary little in practice from an open-range zoo, which may be specifically designed to resemble the animals' natural habitat and be almost as large in size. In both cases the enclosed animals are effectively captive and similar tourism experiences may be offered in both contexts. The decision to include hunting and fishing tourism, meanwhile, rests on the view that distinctions between 'consumptive' and 'non-consumptive' tourism activities are largely illusory. Indeed, it is argued that "poorly managed wildlife watching can cause serious negative impacts on wildlife, while well-managed hunting or fishing can be ecologically sustainable" (p 4). Not all readers will be comfortable with these arguments, particularly from an animal welfare perspective. On the other hand, the decision to include zoo, hunting, and fishing tourism does serve to bring to the fore a number of animal welfare considerations that might otherwise have not been included in the book.

Another important consideration in terms of the animal welfare implications of this book is the adoption of the concept of 'Triple Bottom Line' sustainability as a theoretical construct to link the practice of wildlife tourism with its impacts, management and planning. This view of sustainability places equal focus on economic prosperity, environmental quality and social justice, and therefore requires the impacts on the host community, the natural environment, the tourism industry and tourists all to be