

Book Reviews

Anthrozoology: Human-Animal Interactions in Domesticated and Wild Animals

Edited by G Hosey and V Melfi (2019). Published by Oxford Press, Great Clarendon Street, Oxford OX2 6DP, UK. 192 pages Hardback (ISBN: 978-0198753629). Price £70.00.

The subjects of this book are the animals that humans interact with regularly and the implications of these interactions on both the animals and humans. Human-animal interactions and resulting human-animal relationships have been increasingly studied since the 1980s, with an ever-increasing body of evidence demonstrating that these human-animal relationships may have profound effects on both partners. To some this may be obvious, but for others, it remains less obvious or even contentious.

This book consists of eight chapters on the interactions and relationships between humans and animals in companionship, farming, zoos, research, wild and urban settings. Chapter 1 by the editors (Geoff Hosey and Vicky Melfi) provides a valuable introduction to the subject and scope of the book by defining human-animal interactions, human-animal relationships and human-animal bonds, and summarising the human-animal interactions and human-animal relationships in these settings and their societal importance, such as the financial and human health implications.

Most of the research on human-animal interactions and human-animal relationships has been conducted on companion and agricultural animals. Chapter 2 (James Serpell) covers the companion animal setting. The history of domestication of the companion dog and cat is briefly reviewed as well as companion animal ownership today. The author's pertinent perspective of the recent discussion and debate on the benefits of companion animal ownership is thoughtfully and concisely considered. The results of both prospective studies on acquisition of a new pet and longitudinal analyses on pet ownership highlight potential improvements in owners' physical and emotional health associated with pet ownership. The author emphasises though that despite the weight of studies on health benefits, companion animal ownership is not uniformly or universally beneficial, since the quality of the relationship may determine the outcomes for owners. Indirect benefits of companion animals are covered, including childhood experiences associated with more positive attitudes as adults to companion animals and possibly animals in general. Nevertheless, companion animal ownership has a downside and the emotional and public health costs as well as animal welfare and environmental costs are reviewed succinctly. The final section of this chapter deals with future areas of research. In addition to a better understanding of the causes and consequences of many of the risks associated with pet ownership, the author stresses the need for a better understanding of the individual characteristics of both the owner and the animal in appreciating implications of the relationship for both the owner and the animal.

Chapter 3 (Susanne Waiblinger) covers agricultural animals. An informative synopsis is presented on the devel-

opment of human-animal relationships in agriculture, particularly the influence of stockperson attitudes and context of the setting on the type and quality of the interactions. The literature on the direct and indirect effects of the human-animal interactions and the human-animal relationships on animal welfare, health and productivity is well reviewed as well as the brief literature on the possible effects of these interactions and relationships on human health and welfare. The author identifies several key areas for future research: implications of mechanisation and scale of production in agriculture, early experience of the animal, understanding the quality and quantity of the interactions in commercial settings on animal welfare, including positive welfare, social effects on the animal and genetic selection. The author concludes on the importance of multidisciplinary research on this topic. A relevant commentary by Weiner Zollitsch (University of Natural Resources and Life Sciences, Vienna) is included in this chapter on the complex interactions between the benefits of agricultural animals in both high input-high output production systems and their impact on the environment.

Chapter 4 (Kristine Coleman and Allison Heagerty) cleverly summarises the implications of human-animal relationships in the research environment on animal stress and thus the potential to confound experimental results. The authors initially provide an overview of animals and their use in research and the societal implications of animal research and then consider the type and nature of caretaker interactions, both associated with routine management and the imposition of research treatments on experimental animals in laboratory conditions. Clearly, negative caretaker interactions, associated with routine management and/or imposition of research treatments, can affect the scientific validity of the research results by introducing experimental confounds, as well as affect the welfare of the animals. However, the authors emphasise that there is a paucity of evidence on the implications of positive relationships with caretakers on the welfare of the animals as well as the scientific validity of research results in this situation. The authors identify a number of future areas of research, such as how human-animal interactions and relationships affect scientific outcomes, not only in non-human primates and rats but also other research animals, the importance of human-animal interactions in mitigating stressful events, variation both within and between animals in their perception of human interactions, including those of a positive nature, and a better understanding of the effects of human-animal interactions on caretakers, particularly the emotional costs associated with imposition of treatment or euthanasia.

Chapter 5 (Samantha Ward and Sally Sherwen) provides a well-considered review of the relatively recent research subject of human-animal interactions and relationships in zoos. The authors highlight that while many factors affect the welfare of zoo animals, the implications of humans which are a prominent feature of the zoo animal's environment have been less studied than for animals in other

settings, such as in agriculture and companionship. The authors consider human-animal relationships in zoos from the perspective of the animals, keepers, visitors and zoos themselves as well as the implications of visitor experience on visitor conservation activities. The authors draw attention to the dilemma faced by modern and progressive zoos. While these zoos consider themselves as conservation organisations with the need to improve zoo visitor experience and thus motivate conservation actions in visitors, zoos also need to increase their emphasis on the welfare of their animals with the increasing public interest in animal welfare. However, few studies have examined the influence of close visitor interaction on zoo animal welfare. Furthermore, the authors remark that the influence of visitor experience on their conservation activities has been rarely rigorously studied. Keepers are obviously an important determinant of the welfare of their animals and the authors review several of the limited number of studies examining the association between keeper behaviour and animal stress and behaviour. An area in which considerably more research has been conducted is that of the relationships between visitor numbers and animal stress and behaviour. The authors review these correlational studies as well as the limited number of experimental studies in which visitor variables have been manipulated in a controlled manner to highlight the potential range of effects of visitors on zoo animals. This chapter concludes with suggestions on future research including studying the effects of rearing history, enclosure design, close visitor encounters and keeper-animal relationships on zoo animals.

Chapter 6 (Ralph Buckley) reviews a fascinating topic that has received less attention than animals in captivity, the influence of tourists on wildlife. As with other chapters, the effects of human-animal interactions on both the animals and humans are considered. The types and intensity of these visitor interactions depend on the ecosystem, species and sites, and tour guides where present. A wide range of negative impacts on wildlife are considered with effects on the animals ranging from short-term disturbance to losses of almost an entire year's progeny in a single tourism event. In contrast, there are some examples of positive effects on wildlife conservation arising through economic, social or political support for conservation in some circumstances and examples of these are discussed. While tourist interactions with wild animals may be intentional or incidental, the author identifies situations in which these interactions may benefit tourists in terms of emotions and possibly both physical and mental health, although wildlife tourism may be a human safety risk. The author concludes that while there are successful models for ecotourism in some countries, these models may not be directly transferrable between countries and cultures and that clearly an understanding of the effects of different social, political and legal systems for conservation and different ecological systems on tourist-animal interactions and, in turn, conservation is required. It is also

recommended that research should examine the emotional response of tourists to wildlife tourism in order to extend tourism to a broader range of species and make a greater contribution to wildlife conservation.

Chapter 7 (Seth Magle) continues the discussion on wild and free-living animals, but this time in urban settings. While there are limited data on numbers of these animals worldwide, the outcomes for wildlife living in cities are complex and vary between species. The author discusses the types of interactions and their negative implications for humans in terms of nuisance value, property damage, attacks on humans and pets and zoonotic disease, as well as implications for wildlife in terms of zoonotic disease and mortality. Furthermore, possible beneficial relationships arise, for example, with conservation or creation of parks, nature areas and other green space within cities and consequent psychological and social benefits for humans and habitat for wildlife. The author identifies several areas for future research, including the modification of human behaviour to minimise human-wildlife conflict and maximise positive interactions.

Chapter 8 by the editors (Vicky Melfi and Geoff Hosey) concludes on the topic of the human-animal interactions and relationships covered in the preceding chapters and raises a number of questions on these relationships in companionship, farming, zoos, research, wild and urban settings. The main question being whether the human-animal relationship in these contexts is a single phenomenon. The authors also consider models and types of relationships and why animals form relationships with humans.

I believe that this is a valuable book on human-animal interactions and relationships in a range of contexts and the costs and benefits of the relationships for both humans and animals in these settings. This book therefore should be of interest to students, researchers and animal managers across the spectrum of human-animal contact. However, one of the disappointing aspects of this book is the limited discussion on the regulation of these relationships, particularly the need to understand the characteristics of humans that determine their interactions with animals in situations in which the contact is frequent or less so, either intentional or incidental. While briefly raised (Chapter 3 [Susanne Waiblinger] and Chapter 8 [Vicky Melfi and Geoff Hosey]), research on the human-animal relationship in agriculture shows that this relationship, which can profoundly affect animal welfare, can be manipulated through understanding firstly, the human attributes related to the animal's behavioural response to humans and welfare and, secondly, the education and training opportunities to target these key human attributes necessary to safeguard and indeed improve the animal's welfare.

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