

Book Reviews

The Biology and Management of Animal Welfare

F Ohl, R Putman and members of DWM, Utrecht (2018). Published by Whittles Publishing, Dunbeath, Caithness KW6 6EG, UK. 144 pages Paperback (ISBN: 978-184995-366-5). Price £22.50.

This is probably the best little book you will buy on animal welfare. The authors' claims that this book is "authoritative and accessible" as well as being "comprehensive, yet concise" are successfully delivered upon. In 132 pages, of which 102 are text and seven glossary, the brevity and highly accessible nature of this book makes it a must for a time-poor society. Unlike many key textbooks, which aim to provide an impersonal and objective perspective, which is almost *de rigueur* in science writing, this little book is written with care to engage the reader throughout.

A key aim of this book was to provide readers with the biological underpinnings upon which to consider animal welfare as a science and how it might or should be applied within an ethical framework. The authors present a personal account of how they feel animal welfare has evolved as a science and should be applied within society; summaries of the authors' views are included at the end of Chapters 7 and 10. This book is not however, simply an overview of the authors' 'educated reasoning', but provides a great entry into the world of animal welfare with well-rounded chapters supported by seminal and contemporary research examples. The conversational tone presents an historical perspective of the scientific study of animal welfare, from the 'founding fathers' in the shape of the Brambell Committee (1965) through to the authors' suggestion that the animals' adaptive capacity be used as a means of appreciating and measuring animal welfare.

Embedded within this book is the notion that animal welfare needs to be well-defined to be understood and operationalised. Providing robust and easily understood definitions is especially important to ensure clarity in animal welfare, as many terms which appear in the scientific study and description of animal welfare are used both in 'lay conversation' as well as scientific dialogue but have different meanings. Furthermore, the authors note that the subject of animal welfare is "special", because it is not simply a scientific discipline but, in many ways, shaped by societal views and ethics (p 9).

The role of animals in society is introduced in Chapter 2, where the complexities of human attitudes to animals are highlighted, alongside the many inconsistencies which exist in our reported value and use of animals (p 8), both historically and in the present day. Just a few of the factors attributed to our varied view of animals are culture, time, place and context. The authors make it clear that though the scientific principles which help us understand how the animal experiences the world are important, so too are considera-

tions about how we ought to treat animals. To do service to questions about "how should we treat animals?" it is necessary to consider different philosophical positions on the subject. The authors provide a great summary of the prominent philosophical views in Western ethics, in relation to their stance on animals; or indeed their lack of consideration of animals as moral agents or cause for consideration at all. Chapter 2 concludes with a box detailing the wide-ranging subject of anthrozoology; studying the interactions of humans and animals and their outcomes for both parties. Topics included in this well-written, condensed summary of a diverse and rapidly growing area, are studies which have found connections between human and animal welfare state (p 17), through to animal management and policy decisions made to "directly bolster connections and compassions between animal and human welfare" (p 22).

Integrating the scientific measurement and the ethical evaluation of animal welfare, to improve our understanding and management of animals for good welfare, is a strong thread throughout this book. Chapter 6 differentiates between welfare problems and welfare issues, both represent animals which do not have the capacity to adapt to their present situation, but where the former does not imply any moral judgement and the latter represents a situation viewed negatively by society. Chapter 7 broaches issues of our moral duty to animals and presents the dichotomy between those who believe that our 'duty of care' to animals should not change with context, versus those who feel that practical and economic constraints do present reasonable adjustments to how welfare should be viewed. Thus far, society has progressed only because of the caveat that some animal suffering is necessary and unavoidable, in order to achieve anthropogenic outcomes (Chapter 9 and the use of animals in experimentation).

It is noted that the authors wished to ensure readers gain an understanding of the biological principles underpinning animal welfare as a science, to appreciate, measure and manage animal welfare, and they do this well. Chapter 1 sets the scene with a familiar overview of key animal welfare scientists and their approaches to the study of animal welfare science. As we might expect, key approaches to welfare include Broom's (1998) physiological concept of coping in the environment, the need to include 'feelings' as advocated by Fraser and Duncan (1998), that the animals' health status and "what they want" be considered as highlighted by Dawkins (1990) and finally that we include the full repertoire of the animals' experience as exposed by Seijan (2012), namely the animals ability to cope "physiologically, behaviourally, cognitively and emotionally".

The legacy of the 1965 Brambell committee and the culminating Five Freedoms, is critiqued to provide a backdrop from which our contemporary understanding and action with regards to animal welfare are set. Generous respect is

paid to the legacy of the Five Freedoms, but also a light shone on the seemingly unchanging landscape of animal welfare science since its inception in what now spans over five decades. Though the authors note that reinventions of the Five Freedoms (Chapter 3) have been attempted, they conclude that these have not progressed our understanding or application of animal welfare beyond the limitations they feel exist within the Five Freedoms' framework. Namely, that they: do not lend themselves to the evaluation of animals which are not "closely managed by human agency" (p 24); have led to a bias in avoiding animal suffering which has stifled the exploration of positive animal welfare; have resulted in an often overly pragmatic measurement of animal welfare which belies its complexity, in terms of individual differences (Chapter 4), dynamic fluctuations, and impacts of social conspecifics (Chapter 5), which means that animal welfare is often measured indirectly as a consequence of the animals' environment rather than by observing the animals themselves. To mitigate these limitations, the authors suggest that we consider the welfare of animals in terms of their adaptive capacity; a measure of the animals' ability to cope within the scope of evolutionary parameters. Following an approach which will feel familiar to behavioural ecologists, and biologists more broadly, the authors suggest that if we consider the evolutionary pressures which have shaped an animal, alongside those lessons learnt in a lifetime, we could get a good impression of how an animal considers its own welfare state. When the animals' adaptive capacity becomes the focus of our understanding of their welfare state, it becomes important to measure the ability (freedom) animals have to adapt to change, as well as monitor what their environment is like, to discover what changes they might need to adapt to. Adaptive welfare acknowledges that many animals might experience negative welfare for short durations, but when able to adapt to the situation, their welfare state is transformed.

Chapters 3, 4 and 5 focus on the biology of animal welfare and how to measure it in individuals and potentially at a group level. In essence, Chapters 4 and 5 highlight the great many variables which make the observation and measurement of animal welfare so difficult, not least that measuring emotion is pivotal to our understanding of how individuals appraise their own welfare state and remains elusive in many situations (p 31). Emphasis is placed on the fact that different animals maintained in the same conditions might appraise their welfare very differently; a theme expanded upon when the authors consider the impact of social dynamics and genetic relatedness on how different individuals might view their welfare (at an executive level). Though not helpful to those of us who might want to measure the welfare of many animals in a group, the authors outline the restrictions of assuming homogeneity within populations when assessing welfare

and the importance of remembering that individuals differ in their sensitivity and perception of welfare and contributing factors (p 39). Using the evolutionarily stable strategy for explaining behavioural expression within populations, the authors argue that there might be a construct such as inclusive welfare. Similar to the concept of inclusive fitness, individuals in a group might appear to have poor welfare, but relative to the group might perceive the situation differently. Simplistically, an animal might 'volunteer' to give priority access to resources, to another individual enabling them to thrive, which the 'volunteer' views as enhancing their own welfare. At the end of Chapter 8, the authors provide an extremely helpful table that outlines how individual and group welfare might be considered and measured.

Though pitched principally at students embarking on masters courses in animal welfare, I believe the brevity and accessibility of this book, make it highly suited to professionals working with animals and anyone with an interest in the subject via provision of a backdrop of good scientific content alongside balanced discussions on the more philosophical and equivocal issues which seem to often hinder our understanding, measurement and, thus, implementation of practices to ensure good welfare.

In conclusion, this book provides an excellent summary of what is considered to be the accepted approach to studying animal welfare science and, importantly, why and how these studies can be framed within societal values. Unlike many animal welfare textbooks, the personal approach adopted in this book not only makes the fundamental principles easy to understand, it also enables the authors to present some complex ideas and their vision for how animal welfare should be considered and studied in the future. Whether you agree with the authors' suggestion that adaptive welfare is a more inclusive approach to animal welfare or not, this book offers the reader much to consider: another of the authors' goals was to push the reader into thinking outside the box, which I believe they have achieved very successfully.

References

- Brambell Committee** 1965 *Report of the Technical Committee to Enquire into the Welfare of Animals Kept under Intensive Livestock Husbandry Systems*. Her Majesty's Stationary Office: London, UK
- Broom DM** 1998 Welfare, stress and the evolution of feelings. *Advances in the Study of Behaviour* 27: 371-403
- Fraser D and Duncan IJH** 1998 Pleasures, pains and animal welfare: toward a conception of animal welfare that reflects public values. *Animal Welfare* 6: 187-205
- Dawkins MS** 1990 From an animal's point of view: motivation, fitness and animal welfare. *Behavioural and Brain Sciences* 13: 1-31
- Seijan V, Lakritz J, Ezeji T and Lal R** 2002 Stress and the general adaptive syndrome. *British Medical Journal* 1: 1383-1392
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