

moral theories, that they are moral patients. That is they are worthy of receiving moral consideration. Animals are moral patients if, and only if, they are a legitimate object of moral concern, and irrespective of which moral normative theory you subscribe, animals (at least the higher ones) warrant moral consideration. It harms them in a meaningful way if they are harmed. No matter which moral theory you use, animals emerge as possessors of moral status. Moral agents are such if, and only if, they are morally responsible for their actions and thus can be praised or blamed for them. While to be a moral subject the bracket is quite wide. The being is a subject if, and only if, it is at least sometimes motivated by moral reasons.

For an animal to be a moral subject, they must at least sometimes be motivated to act by moral reasons. This does not mean they are necessarily responsible for their actions, it does not mean animals can be praised or blamed for their moral actions, but only that they may have moral reasons for doing an action and thus are moral subjects. The reason why animals cannot be held responsible for their moral actions is, as Rowlands explains, akin to Bernard Williams' argument on moral luck or, in fact, the concept of learned helplessness. They undertake an action for a reason that is *their* reason, their *moral* reason, they own the reason for their action but they are not responsible for it because they cannot evaluate that action. There is a distinction between the motivation and the evaluation of the action. The moral reasons can be driven by moral emotions. Moral emotions are the same as intention states, they are states individuated by their intentional content.

The focus of Rowlands' work is found in chapters 6, 7 and 9 on what is the phenomenology of moral motivation and the metacognition of animals. However, this book is a systematic building of an argument and cannot be dipped into. The real focus for these chapters, and for the book itself, is if animals can be elevated to the status of a moral subject and not just a moral patient. Animals are not just to be recipients of moral concern from people because we know they have a capacity to suffer, but the consideration we give them needs to be greater than that. If an animal is a moral subject, ie one who is able to make decisions and be motivated by the decisions in a moral sense and thus its actions have moral motivations, then the consequence is that the human-animal interaction must change too. These two key chapters examine the link between the ability to engage in critical moral scrutiny of one's motivations and then to have control over those motivations. This is where the book has its strength. The explanation and clarification of these concepts are compelling.

My own view of this book is that at times it is a little overly complicated with long tangential stories and allegories to reinforce very dense concepts written in philosophical logic. The writing style moves between a discursive narrative and concise deductive reasoning which makes the flow of the book and the core concept very uneven. The application of this idea is left very much open to the reader as is the very important matter of to which animals this applies. As Rowlands himself says "I have nothing to add to the obser-

vations of others better qualified to observe. My business is that of the philosopher: conceptual analysis and clarification." Whether or not any higher animal does act for moral reasons and thus qualify as a moral subject is for empirical science to answer. But the assumption that they don't is not something that we can consistently apply to our conclusions of animal behaviour without a defence. What the exact consequences are to being a moral subject rather than just a moral patient is probably something dependent upon virtue theory and will require considerable conceptual analysis, but it is something that should *not* remain unexamined.

Rowlands uses a language that will make many who belong to the very well established school of ethology uncomfortable. Discussions of moral reasons for action and not just causes, moral motivation and emotional status with a demonstrable moral content are all concepts from which we normally steer clear. This thesis though does use the terms precisely and accurately; it presents a clear and systematic well-reasoned argument for the inclusion of animals into the group of moral subjects. Or rather, an argument to not *a priori* exclude all non-humans from the group of moral subjects. I would strongly recommend this book, despite it being a difficult read at times, to those who are studying animal behaviour and to those who are working on ethics and moral status of animals. It is another treatise to undermine the use of Occam's razor in cognitive theory. It is another prick in the conscience of our use of animals and their position with our social construct.

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Restraint and Handling of Wild and Domestic Animals, Third Edition

ME Fowler (2008). Published by Wiley Blackwell, 2121 State Avenue, Ames, Iowa, USA. 488 pages Hardback (ISBN 978-0-8138-1432-2). Price £80.95, €105.00, US\$136.99.

Being able to humanely and safely restrain and handle animals is a fundamental part of every wildlife and captive animal practitioner's job. As such, a book that covers the fundamental basics of restraint, handling and immobilising animals is of critical importance in this field. *Restraint and Handling of Wild and Domestic Animal*, now in its third edition, has for a long time been the go-to reference book. It is written for a broad professional audience, ie essentially anybody needing to contact, handle and restrain animals. No other book on the topic is as taxonomically broad or covers and describes as wide a range of techniques. However, the title is misleading. It only deals with vertebrates and really only those in a captive setting. Any sections dealing with free-ranging wildlife are at best very brief and uninformative. Even within vertebrates, the book is limited; approximately 70% of the taxa-specific chapters are on mammals, so sections dealing with birds, reptiles, amphibians and fish are short. The book is illustrated very clearly with numerous colour photographs and diagrams, and most are generally well chosen. However, one major

criticism is the use of tables. Most are small and hard to read, and many are poorly placed within chapters. For example, Table 9.4 dealing with possible aetiology of signs observed during restraint would have benefited from being larger and at the beginning, not the end of the chapter. In addition, many tables within taxa-specific chapters are of little use, eg names for genders in different species. I also consider that listing body mass guides for different species is counterproductive for welfare, particularly as many are wholly wrong or of such wide ranges as to be useless. The book generally makes good use of references throughout, though I would personally seek extra taxa-specific literature to support the book. This is partly because the references are biased towards older literature, especially in certain chapters but also because it is impossible to cover the breadth of the subject matter into such a concise space. Even so, the author does a good job of distilling a large amount of information into the book.

The book is comprised of three sections. The first, 'General concepts', covers broad topics such as 'Tools of restraint' (Chapter 2) and an excellent chapter on 'Rope work' (Chapter 3). It also contains three important chapters of animal welfare relevance. However, the order of the chapters within the section is somewhat disorganised, with the chapters focusing on welfare 'Thermoregulation' (Chapter 4), 'Stress' (Chapter 7) and 'Medical problems during restraint' (Chapter 9), being separated throughout the section, rather than being a coherent, step-wise section. 'Medical problems during restraint' (Chapter 9), a section dealing with methods to monitor health and welfare would be useful. Though Chapter 9 rightly does not aim to replicate veterinary care, a description of any of the basic monitoring procedures, eg capillary refill or pupil orientation/reflex would be of benefit. In addition, the chapter does not and cannot cover all likely medical problems, but some important ones are missing. For example, some injuries, particularly those to the mouth, are missing from Chapter 9. This is of relevance for animals prone to biting in defence, eg carnivores, and may bite against tools used for capture and restraint. I would also have liked to see more linkage between specific medical and welfare problems and certain species/taxa which are susceptible to them. It is well known that certain animal groups are more susceptible to specific conditions such as capture myopathy or hyper/hypothermia. Linking problems with problematic groups at least would provide an increased awareness of problems that could occur.

In between Chapters 4, 7 and 9 are chapters dealing with 'Understanding behaviour for restraint' (Chapter 5), 'Training for restraint purposes' (Chapter 6), and 'Animal welfare concerns during restraint' (Chapter 8). These latter three chapters in fact offer little to the book and have the effect of breaking up the more important animal welfare-oriented chapters. The inclusion of 'Understanding behaviour for restraint', has real potential to benefit animal welfare. Understanding what constitutes normal behaviour in animals allows recognition of stress and illness as well as aiding the selection of appropriate restraint and handling techniques. Combined, the increased understanding of a

species' behaviour is crucial for animal welfare. This chapter attempts to introduce this topic, before illustrating the concept in South American camelids and elephants (African and Asian combined), reflecting an area of expertise of the author. Ultimately, they are useful for illustrative purposes but are of only direct relevance to people working on these groups. Instead, the chapter would have been of greater benefit if it expanded the section. Likewise, 'Training for restraint purposes' (Chapter 6) is potentially important for welfare, but the chapter lacked theoretical background on learning theory, and evolves again into anecdotal descriptions of the author's experiences with a limited selection of animals. The mis-named 'Animal welfare concerns during restraint' (Chapter 8), surprisingly does not deal with the welfare of animals, but rather the perception of animal restraint and handling to lay persons. It does comment on how practitioners should be concerned with welfare, but as such, it is of little real interest and offers nothing as a stand-alone chapter. It perhaps raises awareness of how restraint and handling may be perceived, but its placement is poor and would have been better shortened and incorporated into 'Introduction' (Chapter 1).

The second section deals with 'Domestic animals'. This section is very comprehensive, though again there is something of an imbalance between lengths of chapters, with 'Camelids' (Chapter 14), being considerably longer than either the 'Dog' (Chapter 15) or 'Cat' (Chapter 16). In general, the section provides a good practical guide to the main handling and restraining methods used for a range of domestic animals, and is especially useful for people without a background of working on a farm.

The 'Wild animals' section begins with 'Delivery systems' (Chapter 19) and 'Chemical restraint' (Chapter 20). 'Delivery systems', though brief, is a good overview of the topic. The author rightly acknowledges in 'Chemical restraint' that this chapter cannot be the definitive work on the subject and indicates that people should seek up-to-date literature. However, the chapter as a whole is of great benefit as a general background and provides a useful introduction to the main types and choice of chemical restraint. The section dealing with chemical restraint in free-ranging mammals is brief and reflects the captive animal-orientated focus. The main criticism of this chapter is that there is no mention of inhalant anaesthetics apart from their use for euthanasia and a greater discussion about euthanasia should be made, rather than referring to AVMA Guidelines. Inhalant anaesthetics are discussed in some taxa-specific chapters, but not in any great detail. Chapters 21–31 deal with wild animals in captivity. In general, each chapter provides an authoritative summary of the main restraint and handling techniques, with some longer chapters (eg Chapters 26–28) reflecting the author's greater experience on these groups. As already discussed, there is a bias towards mammals. The chapters on 'Birds' (Chapter 29), 'Reptiles' (Chapter 30) and 'Amphibians and fishes' (Chapter 31) are much shorter, but still comprehensive. In 'Birds' (Chapter 29), the author describes and demonstrates, with photographs, a variety of handling methods. However, many of these, especially for small birds, are inappropriate. In

Europe and North America, the ringers grip is widely used and allows adequate restraint and manipulating with constriction. Compared with Figure 29.101-103, the risk of crushing or asphyxiating a bird, especially if inexperienced is high. Similarly, the author highlights a technique for catching snakes as they engulf a prey item (Figure 30.54), before highlighting that it is a bad idea: why therefore highlight such a bad technique if it compromises welfare at all?

Overall, this book is a fundamental resource for every person working with animal handling. However, it does not deal adequately with many important issues and welfare implications of capture, it only briefly discusses the issue of tranquilising free-roaming wildlife nor does it adequately deal with pre-release welfare assessment or care. The latter is of equal importance to captive and wild-living animals. All taxa-specific chapters deal very specifically with the danger potential to humans. However, by balance, there is little focus on the specific welfare issues that may be encountered. As already discussed, some of these are covered in Chapter 9 ‘Medical problems during restraint’, but at no time is there a link between specific medical problems and more susceptible species/taxa. Such a link would be of great benefit to persons working on those species, as it would provide specific awareness to problems. Chapter 9 and to a lesser extent Chapter 20 also suffer somewhat from layout, with a confusing and sometimes difficult use of headings and sub-headings that aren’t easy to navigate.

The book also fails to remain subjective in either its opinions or the biographical anecdotes the author uses throughout the chapters. I fail to see the benefits of labeling animal rights activists as “usually are vegetarian” and animal rights advocates as “essentially against conservation” (both Chapter 9). The author frequently uses anecdotes to illustrate the dangers of taking animals lightly. These can have a dual effect; they can demonstrate the danger potential in real situations. However, they also fall into the personal opinions by the author. The use of loose comments, eg most (big) cats will be docile around people if trained properly, is counter-productive against the dangers of working with these animals.

The major question is whether this book improves animal welfare. In short, yes. Anybody who reads this book will have a better understanding of safely handling and restraining animals of all types. If the question, is whether it advances animal welfare, then the answer is no. In fact, the book is somewhat light on animal welfare and misses many opportunities to discuss or highlight issues of animal welfare concern. The book at times overly reflects the author’s personal opinions and experiences, and would in fact benefit more as a collaborative, edited volume. Nonetheless, this book is important for its content, particularly for students or those persons with little experience. However, it should be considered as a companion text amongst more taxa- or species-specific literature.

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Climate Change and Sustainable Development: Ethical Perspectives on Land Use and Food Production. (Edited papers from the EurSAFE 2012 Conference held in Tübingen, Germany 30 May to 2 June 2012)

Edited by T Potthast and S Meisch (2012). Published by Wageningen Academic Publishers, PO Box 220, 6700 AE Wageningen, The Netherlands. 528 pages Paperback (ISBN 978-90-8686-197-2). Price €74.00.

This collation of conference papers is like an omelette — for an animal scientist hoping to read about the potential effects of climate change on animals and animal welfare, much of the book is filled with the ‘opaque language’ of a quite different type of science. However, within the mix of the 79 papers in the collection, there are some nuggets of animal welfare interest.

The book covers a wide range of topics — including such diverse areas as: property rights; the ethical dilemmas of migration; the ethics of new ways that people are starting to live in forests; the six functions of agriculture — the 6Fs (Food, Feed, Fuel, Fibre, Flower and Fun!); the effects of shifts in agriculture to produce agro-energy; the possible role of a meat tax (to offset greenhouse gas emissions) and the potential welfare impacts of surveillance for animal disease in the changing international world of animal production; the effects of income on meat consumption; and changing animal use and the view of animals in China.

Some of the sentences created by the authors in their efforts to find words to describe the complex nature of the ethics of climate change are quite inscrutable. For example, what does “The main conclusion of the paper is that in order to have a climate friendly food policy it is necessary not only to oppose the economic and political power of corporations but also to challenge neoliberalism on theoretical grounds” actually mean? A small number of the papers cross the boundary between science and art: the paper on food production under the rubric of *poiēsis* (art) explores the multiple meanings of food — some of the “soft impacts” of which are “lifestyle, culture, religion, aesthetics, and human dignity, and summed up in the notion of food as an art disclosing these and unveiling a world”. Whilst some of the expressive writing used in many of the papers is interesting in its creativity, much of the writing I found to be quite opaque. I had real trouble in following the path of some of the arguments being made as the logic seemed to become obscured in a kind of brushwood of jargon-filled sentences, for example: “strategy scenarios assume implementation of SC instrument bundles”, or “four different worldviews: personal egocentric (subjective-reductionist), cultural-social (subjective-holistic), ecological (objective-holistic) and technical (objective-reductionist)” left me gasping for mental air as I tried to follow the course of the discussions. Perhaps every specialist group (animal welfare scientists included) become so embedded in their own word arena that to cross into another camp for a while becomes increasingly difficult? This is how I felt reading some of the papers in this collection.