

Book Reviews

Emotion: Pleasure and Pain in the Brain

ML Kringelbach and H Phillips (2014). Published by Oxford University Press, Great Clarendon Street, Oxford OX2 6DP, UK. 304 pages Paperback (ISBN: 978-0-19-959349-1). Price £29.99.

Emotion by Morten Kringelbach and Helen Phillips is a science textbook about emotions, and a top text at that. I would recommend it to any student of psychology, human biology or medicine. I'll later consider how well it is suited to students of animal welfare but first let me explain what makes it so good.

To start with there is the writing style. The text is written in simple, jargon-free English broken up into digestibly sized paragraphs, clarity such as this can only be achieved through true mastery of the subject. It is, thus, utterly accessible and authoritative at the same time. Which is where the combined expertise of the authors comes in: Morten Kringelbach is a Senior Research Fellow in the Department of Psychiatry and Senior Research Fellow and College Lecturer in Neuroscience at The Queen's College (both University Oxford), and also Professor at the Centre of Functionally Integrative Neuroscience at Aarhus University, Denmark; his particular research interest is in the neuroscience of pleasure, reward and emotions; Helen Phillips is a journalist and writer with a background in neuroscience.

The book is also beautifully produced. Pages of text are broken up with simple anatomical illustrations, tables, graphs of key findings, flow diagrams. These effectively support understanding and learning of the text's main points. Each chapter starts with a box of context, which helps link chapters and sets the scene for what's to follow. Stand-alone boxes provide further detail on selected topics or summarise key points. Chapters conclude with a list of proposed essay or tutorial titles, recommended further reading and references used in the chapter. An online resource centre provides figures from the book in electronic format and 'Journal Clubs' with discussion questions for research papers on featured topics. All of which highly recommends the book as a teaching and learning resource. Onto structure and content. The book is slim at only 284 pages, split into nine chapters. The first chapter considers the concept of emotion and previous attempts at defining it. It also introduces and promotes the evolving idea of emotion as playing a key role in all brain processes in humans. Chapter 2 elegantly takes us through 2,500 years' worth of the history of emotion theories and study. Readers like me with an interest in, but incomplete grasp of, the theoretical background will find this chapter particularly rewarding. Chapter 3 is on individual emotions, focusing on 'The Big Six' of fear, anger, disgust, sadness, joy, and surprise. Each is approached from a biological point of view by explaining neural mechanisms and presumed survival function. The following chapters cover social emotional development (Chapter 4), pleasure and pain as building blocks of emotion

(Chapter 5), the role of emotion in decision-making and memory (Chapter 6), emotional disorders (Chapter 7) and future avenues in emotion science (Chapter 8). The final chapter is a ridiculously concise yet comprehensive guide to the different techniques used in emotion science ranging from descriptive methods over fMRI to network analysis. It finishes with four pages on brain anatomy and functional brain anatomy — an inspired inclusion.

I would have only two points on my mental wishlist for future editions. One is to make *Emotion* into a bigger volume by expanding Chapters 3–9 and, in particular, the sections on individual emotions. The second is to include more material explicitly on animal emotions and on how they can be studied.

How useful then will this first edition of *Emotion* be to students of animal welfare? The book as it is provides a contemporary and extremely clearly presented introduction to the scientific study of emotion. While aimed at human psychology students, it will thus still be a very useful primer for those interested in the study of animal emotions where they are relevant to welfare. Many of the concepts, approaches and techniques presented in *Emotion* have already found their way into current thinking in animal welfare science. But even if you are neither directly interested nor involved in animal emotion research you may well find this book impossible to put down.

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Dilemmas in Animal Welfare

Edited by MC Appleby, DM Weary and PS Sandøe (2014). Published by CAB International, Wallingford, Oxon OX10 8DE, UK. 216 pages Hardback (ISBN 978-1-78064-216-1). Price £75.00.

Animal welfare seems to have more than its fair share of dilemmas. No one can be involved in this area — at least from a practical point of view — without quickly coming up against questions of life and death, choices between different values, making decisions about euthanasia and quality of life, preserving one living being at the expense of another, or how to balance the short-term suffering of an individual against its long-term life prospects. The editors of this book have chosen to tackle these dilemmas with a series of chapters that address specific issues and actual practical problems, rather than with broad-brush philosophical generalisations or theories. This has the advantage that non-philosophers can immediately grasp the points being made and at the same time no one can avoid the uncomfortable fact that deeply held moral views about animals and humans almost inevitably come into direct conflict with one another.

A good example of how a practical and almost mundane example can be used as a vehicle for discussing profound philosophical problems is the chapter by Clare Palmer on

neutering feral cats. She starts with a mutilation (neutering) that is carried out not primarily for the benefit of the animals themselves but to reduce the number of free-roaming, unowned cats. This raises questions about what neutering does to the quality of life of the cats and whether the life of a feral cat, neutered or otherwise, is really a life worth living anyway, given their high mortality. And, if they have poor quality of life and the main aim is to stop them killing so many other animals, wouldn't it be better to euthanise them altogether rather than releasing them after they have been neutered? On the other hand, if large numbers of them are routinely killed, what does that say about the value we humans have chosen to put on a cat's life? And, if we decide that it is acceptable to us to kill the cats but not for the cats to kill other species, shouldn't we be killing other predators to stop them killing their prey too? Does neutering or euthanising cats then commit us to widespread interventions in the natural world against carnivores and in favour of herbivores? The life, death or reproductive failure of a single cat without an owner thus raises some pretty large dilemmas. Carla Molenta uses dog control in relation to human disease to illustrate similar points while Ngaio Beausoleil raises even broader issues of the conflict between conservation and welfare, through such issues as killing one species to preserve another.

You might think that one way of avoiding the moral dilemmas of animal welfare would be to concentrate on the welfare of individual animals and refuse to worry about the wider social or ecological consequences but even here there is no escape. Different welfare requirements for the same animal may come into direct conflict and even the Five Freedoms may point in different directions. One example is the conflict between wanting food and becoming obese. As Peter Sandøe, Sandra Corr and Clare Palmer explain in their chapter, giving pet dogs and cats food is an obvious way of achieving positive welfare in the short term but there are damaging effects on that same individual of over-eating on its long-term health and well-being. Sandra Edwards and Pauleen Bennett discuss a comparable dilemma in whether to tail-dock pigs and other animals and what is really best for their welfare. Nuno Franco heads a team chapter discussing real-life conflicts between welfare and quality of life. This covers some interesting ground but leaves an uneasy feeling that most people's views about welfare and death are inconsistent at best. Why is killing an elderly dog or an injured chicken 'humane' and ethically right on the grounds of diminished quality of life, whereas 'putting down' Granny on the same grounds quite the opposite?

Raising such dilemmas is one thing. The hard part is seeing if they can be resolved with some sort of consistent moral viewpoint. Maria Hötzel discusses this in relation to farming methods while Mike Appleby argues that we can make rational decisions when thinking about which animals to eat. Geoff Rushen and Anne Marie de Passillé go even further and put forward a risk assessment framework in which they argue that it is possible to quantify the welfare benefits of different housing systems. Daniel Weary uses comparisons with humans to clarify definitions of 'suffering'.

The book contains some thoughtful and thought-provoking chapters, together with some extremely useful factual information about the examples discussed. Where it is slightly disappointing is in the dilemmas in animal welfare that it does not cover, particularly ones I find are most often raised by non-biologists and people outside animal welfare science. For example, I am very frequently asked where we should 'draw the line' in the animal kingdom as far as animal welfare is concerned. The growing belief that the welfare of fish, cephalopods, crabs and lobsters needs to be taken into account only serves to raise the even more difficult question of whether our concern should also not be extended to other invertebrates, especially insects. If lobsters, then why not other arthropods and in particular the vast hordes of insects that make up the most numerous species on the planet? Some illumination of the dilemmas raised by including the welfare of insects in our moral decision-making would have been very welcome. What effects would this have on pest control, for instance, and would including insects in our lists of beings deserving respect for their well-being make it more or less difficult to improve the welfare of birds and mammals?

A second dilemma that many people face is how to deal with the cultural differences in attitudes to animals that exist in different parts of the world. Rich people in the West (or at least some of them) may be concerned about the welfare of food animals but not everyone is convinced, particularly when they are on low incomes and are struggling to feed their own families. How is it best to deal with these different views of what animals are and how they should be treated? What are the ethical dilemmas in balancing one person's view of animal welfare against another's religious beliefs on how animals should be treated or killed?

A third dilemma is one that we are increasingly likely to face in the years ahead is that of animals bred especially for meat or other particular purposes. If they are selected to be healthy in small cages and even not to want to show the natural behaviour of its ancestors when given the chance, what ethical issues does this raise? Since it has seriously been asked 'Are brainless chickens the solution to animal cruelty?' (<http://www.takepart.com/article/2012/02/21are-brainless-chickens-solution-animal-cruelty>), the debates — and the need for clarification of the ethical issues involved — are needed now.

In summary, this book is a useful guide to some of the dilemmas that animal welfare faces and has faced for some time, and its firm roots in practical example are an effective way of dealing with them. However, there are some omissions so that perhaps a second volume covering an even wider range of dilemmas may be needed in the not-so-distant future.

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