

‘Power and irony’ is the ambiguous title of lawyer Lesli Bisgould’s essay about the Canadian art student Jesse Power’s physically injuring and eventually killing a cat, while videotaping the events, allegedly as a statement about cruelty to animals. The essay discusses the irony of a legal system where charging the act as an animal cruelty offence (against the cat herself) would result in a milder penalty than charging it as a property offence (against the family owning the cat), and where causing similar injuries to agricultural animals is accepted as a necessary part of farming practice.

In the essay ‘Blame and shame: how can we reduce unproductive animal experimentation’, with part irony, part frustration, the biologist, Anne Innis Dagg, tells the story of her endeavour telling the biomedical research community off for doing unproductive research with animals. Based on citation analysis, numbers of animals used and severity of experiments, she wrote several critical papers which were sent to different biomedical journals and organisations without any reaction from their side (but eventually published in the *Journal of Applied Animal Welfare Science*).

Johanna Tito, scholar in phenomenology, has chosen the title ‘On animal immortality’ for her essay, the last in the book, which again is more of a metaphor than a description of the content of the essay, which explores the impossibility of distinguishing between human and animal, immortal and mortal. Based on phenomenology, that area of philosophy dedicated to consciousness as experienced from the first-person viewpoint, Tito argues that animals are not to be understood through objective observation but through empathic interaction. The message that we should not discard animals as so distinctly different from us as to deny them respect is clear.

Reading this book was not an easy task. Was it worth it? Often it was frustrating. Sometimes because I found it just plain difficult to understand (but then I must recognise my own lack of preparation and training). Sometimes because I felt that long abstract discussions about Rembrandt’s paintings and Descartes’ dissections or Husserl’s and Bataille’s phenomenology had very little to say about animals (but then cultural studies *is* a very wide field and in a collection of essays some will unavoidably be peripheral). What frustrated me most, however, was when I had no problem in understanding the text but was left disappointed. It may be that Tito writes for a different readership than animal welfare scientists whose profession is to think about *how* to understand animals’ subjective experience. But who will be helped by rhetoric questions describing empathy with animals as “Who of us, when ill or lonely, has not been comforted by an animal companion? And who has not unmistakably understood the pleas of the hungry, cold stray asking to come in? Was it not *impossible* to refuse?” Anyone minimally familiar with animal welfare science knows it takes more than everyday anthropomorphising to make a convincing argument about subjective experience. It also takes more than the superficial analyses Innis Dagg presented and tried to publish to tell biomedical researchers the inconvenient truth — which I don’t dispute — that there

is too little critical thinking about when and how to use animals appropriately in biomedical research.

But there were also rewards. I was delighted by Haraway’s elegant and pungent writing, and Allen Fox and McLean powerfully convinced me that to situate animals in moral space to the extent that their place is taken seriously in practice, we need many different approaches and many different languages and that the rational discussion isn’t enough. I learnt some interesting facts I didn’t know, about the history of anatomy teaching or the legal case against the art student who videotaped himself harassing and killing a cat. I was prompted to reflect on my view of animals, on preconceived ideas and widespread assumptions underlying how we handle animals in practice and law. Having to look things up in dictionaries, I’ve learnt something about concepts, such as critical theory, cultural studies and phenomenological philosophy and was for the first time confronted with the works of philosophers, such as Derrida and Levinas — who are not contributors to the book but play major roles in a couple of the essays — which I’ve until now shied away from.

As I’m writing this review, the contents alert for December 17 issue of *Nature* (Number 7275) reaches my email inbox. One of the editorials addresses the prospect of true interdisciplinary dialogue between natural sciences and social sciences with part optimism, part scepticism. Animal welfare science is by nature interdisciplinary, but there are aspects of the social science view of animals which admittedly haven’t yet made their way into the animal welfare discussion. *Animal Subjects: An Ethical Reader in a Posthuman World* covers a great deal of those, but not all of the essays are written in a style which promotes interdisciplinarity beyond the social sciences. The book may nevertheless be influential in that it clearly demonstrates the position of non-human animals in an intellectual tradition which has largely overlooked them.

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The Welfare of Pigs

Edited by JN Marchant-Forde (2009). Published by Springer Publishing Company, New York, NY 10036, USA. 349 pp Hardback (ISBN 978-1-4020-8908-4). Price £114.95.

This book is the seventh volume of a series dealing with the welfare of farm, companion and laboratory animal species. The stated aim of the series is to contribute towards a culture of respect for animals and their welfare, by describing and considering the major welfare concerns for each species. It is designed to provide a set of texts for researchers, lecturers, practitioners and students. In this respect the current volume sometimes falls between objectives for different readerships. Some chapters are very heavily referenced, with a research focus, making them difficult reading for the practitioner. Others are more accessible to a general audience, but give more superficial treatment than required by the research scientist.

The book contains eleven chapters written by European and North American researchers, all of whom are authoritative scientists in their field. It is a pity that there is no Asian perspective, given the high proportion of pigs located in this continent, and a very limited mention of more traditional, extensive systems to be found in both developed and developing countries. The chapters include a mix of those which discuss overarching welfare concepts, and others describing the practices and issues relating to each of the production stages. In general, they have been well edited to fit together in a logical structure, although there is some duplication of descriptions of natural behaviour and welfare concepts in different chapters, and a few major issues appear to have been missed or are significantly under-represented.

The opening chapter provides an introduction to welfare issues and to the pig production process, providing good background and context for the rest of the book. It highlights the intensive nature of much of the current world of pig production and the consequential welfare challenges. It introduces the different concepts of welfare and highlights the dangers inherent in system evaluations. It also provides a general description of the organisation of a pig unit and the pig production cycle for the non-specialist. This is followed by a detailed and heavily referenced chapter on the natural behaviour of the pig, starting with an explanation of why an understanding of this subject is important for interpretation of the welfare needs and problems of the farmed animal. It outlines the evolutionary history and domestication process of the modern pig, before providing a detailed description of the behavioural ecology of the wild boar throughout its lifecycle. It highlights the contrasts between the natural and farm situation, and how these give rise to welfare problems for the animal. The third chapter is perhaps the most interesting one in the book, since it gives detailed coverage of a subject area not specifically dealt with by most other textbooks of this nature. It describes itself as dealing with 'studies of the mind', covering cognition, behavioural priorities and emotions. It reviews the sensory and cognitive capacities of the pig, including learning, memory and social recognition, and discusses recent approaches to the assessment of emotional state. This provides an excellent overview of a challenging but critical welfare area, where the science is now rapidly developing. I would have welcomed more detailed critical discussion of the scope for application of some of these newer methodologies, such as quality of life indicators and qualitative behavioural assessment.

The next three chapters deal with the practical welfare issues in the main production stages, covering dry sows, farrowing sows and fattening pigs. There is a significant imbalance here, with each of the sow chapters coming in at nearly 50 pages, whilst the finishing pig receives only ~30. The weaned piglet, despite its many welfare issues, is not given a chapter in its own right, but is dealt with as part of farrowing and lactation. The dry sow chapter covers the main issues of housing, grouping and feeding systems. Whilst it deals well with issues of space, social organisation and aggression, a more detailed discussion of the key

welfare issue of chronic hunger and its role in the development of stereotypic behaviour could have been given. There is also little mention of the welfare of the breeding boar, of housing over the service period or of more extensive outdoor production systems. The farrowing chapter provides a very comprehensive and well-illustrated description of different housing systems and discussion of their welfare advantages and disadvantages. However, it lacks detailed discussion of the important welfare issue of piglet mutilations which are widely carried out during this period. Similar important omissions occur in the fattening pig chapter which, whilst covering the important subjects of space requirement, flooring, bedding and enrichment, includes little detailed discussion of injurious behaviours, such as tail biting, or of thermal comfort. Once again, alternative, more extensive systems in use around the world receive no coverage.

The next three chapters revert to dealing with key overarching issues. The first discusses the importance of the human-animal relationship and how the performance of stockpeople can be optimised. The second deals with the complex issue of disease and welfare, and is another chapter which should be highlighted as fairly novel for such a book. It outlines the key aspects of immune function and sickness behaviour, before going on to discuss the practical prevention and management of disease, including such topics as biosecurity, vaccination, genetic selection and nutrition. Chapter 9, entitled 'Welfare into practice', deals with issues relating to drivers for welfare improvement on farm, including public opinion, legislation, education and assurance schemes. Whilst, again, a novel and potentially very interesting chapter, it is much too brief with only limited discussion and referencing of work in most of these key subject areas.

The penultimate chapter returns to a specific production stage and discusses transport and slaughter. This focuses primarily on the finishing pig, although some mention of transport of weaned piglets is made. Road transport is comprehensively dealt with, but there is no discussion of other transport modalities. In addition to a full description of large-scale commercial stunning and slaughter methodologies, there is also a useful section on on-farm euthanasia.

The final chapter looks forward to the future of pig welfare. Building on a short description of the historical development of welfare awareness, it discusses the likely trends in legislation and market demands for greater welfare assurance. Once again, the geographic and socio-economic scope of this discussion could have been wider. It identifies housing, transportation and genetics as current concerns likely to receive further attention, and concludes that, as a result of societal pressure and improved scientific knowledge, future generations of pigs will experience progressively improved welfare.

Overall, this book provides a fairly comprehensive coverage of pig welfare issues and is distinguished from other recent books on the subject by some interesting and novel chapters reviewing generic welfare topics which are

less commonly covered in their own right. Whilst lacking in detailed discussion of some key welfare issues, and dealing primarily with the intensive production systems of Europe and North America, it still constitutes a useful reference work for academics, students and industry specialists.

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Infectious Disease Management in Animal Shelters

By L Miller and K Hurley (2009). Published by Wiley-Blackwell, 2121 State Avenue, Ames, Iowa 50014-8300, USA. 400 pp Paperback (ISBN 978-0-8138-13790). Price £39.99, €66.70.

The preface tells us that this is the sequel to *Shelter Medicine for Veterinarians and Staff*, the first textbook for veterinary surgeons devoted to the care of animals in shelters. The book is edited by Lila Miller and Kate Hurley, two of the leading proponents of shelter medicine in the US, and there are contributions from a number of well-known US authors. Inevitably the book is centred on the diseases and treatments common and available in the US and this undoubtedly limits its usefulness for other parts of the world. The euthanasia rate in many US shelters is often relatively high and there may be different attitudes to euthanasia elsewhere that affect a number of issues throughout the book.

The first section of a hundred pages discusses disease management. This is a thorough examination of the principles behind management. It includes the concept of wellness and the influences that management can have on that in the very stressed animal in a shelter. Quality of life is discussed and related to the Five Freedoms and the behavioural issues that can be a consequence of poor quality of life. Throughout the section the inevitable implications of cost are included. Tables show the core vaccines advised in the US and their preferred site of administration that again may differ in other countries. Chapters on outbreak management and disinfection follow giving logical advice on procedures. Much of the following chapters on vaccination and pharmacology will be revision for most veterinarians and I wonder why so much detail is deemed necessary if the primary readers are intended to be veterinary surgeons.

The second section deals with a number of specific diseases that are common in US shelters. The relevance of this section to readers outside the US will vary as the prevalent diseases will be different and influenza seems mainly to be a US disease, although the chapter on influenza as an emerging disease is interesting. The chapter on feline upper respiratory disease correctly highlights the importance of this to shelters across the world and gives some useful advice.

The third section deals with gastrointestinal disease. It correctly highlights the importance of the parvoviruses to both cat and dog shelters as being the greatest risk. There is a good discussion of the diagnosis of parvovirus and the potential for confusion in dogs vaccinated with live virus and its subsequent excretion causing false positives on

ELISA tests. The section also includes a chapter on internal parasites and gives information on some pretty obscure species. It also highlights the zoonotic potential of *Echinococcus multilocularis* that is endemic in the US and appears not to be present in much of the rest of the world and especially Europe. The chapter on bacterial and protozoal disease includes the common organisms but the availability of some of the ELISA tests is clearly variable between countries and so some are not mentioned. The prevalence data is also at odds with current data from other countries for species such as *Campylobacter* that may be more common as a normal gut flora.

The fourth section deals with dermatology. There is a thirty-page discussion of dermatophytosis and the important implications, particularly for shelters dealing with cats, are covered in full. The risks to staff are highlighted throughout. The recommended treatment with lime sulphur seems unusual in this day and age of more effective pharmaceuticals. Diagnosis of external parasites is covered in some depth but the treatment regimes suggested are often not what would be considered best practice with the range of available pharmaceuticals, particularly the improved ivermectins.

Section five deals with a number of other diseases relevant in the US, particularly rabies. The chapter on FeLV and FIV again highlights the differences between the US and other parts of the world. As there is a licensed FIV vaccine in the US that is unavailable in other countries, vaccination antibody status is indistinguishable from field infection. The data on prevalence of FIV is significantly different in other countries where it seems to show a higher risk for feral tom cats. There is an extensive chapter on FIP that correctly highlights the difficulty in diagnosis.

The fulsome chapter on vector-borne diseases is largely relevant to the US and illustrates the potential effect of climate change on more temperate countries. The chapter on heartworm only discusses *Dirofilaria* with no mention of *Angiostrongylus*. The final chapter on zoonoses raises all the well-known risks of working in a shelter and is a salutary warning to shelter staff.

Without doubt, the textbook draws attention to a host of issues that could affect the welfare of animals in shelters. In summary, it is well written and thorough. But it is clearly aimed at the US market, and so much of it has to be read with that in mind, and an appropriate UK pinch of salt used to interpret the contents.

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Biostatistics for Animal Science, Second Edition

M Kaps and W Lamberson (2009). Published by CABI, Wallingford, Oxfordshire OX10 8DE, UK. 528 pp Paperback (ISBN 978-1-84593-540-5). Price £39.99.

This is a large (528 pages), comprehensive textbook on statistics and experimental design directed at people doing research mainly with farm animals although, as the authors point out, the principles and methods are appropriate for