

Book Reviews

The Science of Animal Welfare: Understanding What Animals Want

M Stamp Dawkins (2021). Published by Oxford University Press, Hipwell Road, Kettering, Northamptonshire NN14 1UA, UK. 160 pages Paperback (ISBN: 9780198848998). Price £27.50.

The reasons for writing this, says Marian Stamp Dawkins in the preface to her most recent book, are two-fold: a need to clarify what is meant by animal welfare, and to put the animal's point of view at the centre. This would leave most animal welfare scientists exhausted at the mere thought of yet another take on defining animals' welfare, but Dawkins is not one for shying away from the difficult questions. She is not even afraid of letting us know that she has changed her mind about certain aspects of animal welfare assessment.

From the beginning, Dawkins takes us to the core issue of what is wrong with many (most?) animal welfare definitions: they are treating the issue as being too complex to simplify, and they often involve the subjective experiences of animals. This book is a journey through different ways of looking at and defining animal welfare, and what the pitfalls are if you cannot agree on what to measure, nor on what constitutes animal consciousness. Without spoiling the book for future readers, Dawkins suggest a simple, basic definition of animal welfare that is based on the health of the animal and what the animal wants. She then describes and explains in a series of chapters why this is a workable, yet simple definition, and how it can be applied in a variety of contexts, as well as to assess if a given measure reflects the welfare of an animal.

The inclusion of health in the definition, argues Dawkins, counterbalances the situations where animals want something that is not good for them. A thread throughout the book is the emphasis on valence, that we need to establish if a given treatment, experience, or situation is perceived as positive or negative by the animal. Several well-known measures and methods are being reviewed and tested against the simple definition of whether they affect the health of the animals or inform us about what the animal wants. Among these are cortisol, stereotypies, and play, and a whole chapter is dedicated to natural behaviour.

Towards the end of the book, the gloves come off. In an inspiring, well-written, no-holds-barred chapter, the author puts forward the argument that the "definition of animal welfare does not need consciousness and, more importantly, is better off without it." Dawkins is very clear about having changed her mind about the importance of animal consciousness for defining animal welfare. And she encourages —sometimes in a teasing or even provocative tone — animal welfare scientists to be less woolly in their wordings because animals will not benefit from lack of clarity when it comes to their welfare.

Overall, the book is very readable (but with a surprising absence of Oxford commas), with chapters in bite-size sections, and a total of 110 pages of text. For my liking, there is an overuse of the word 'fact', and I am not sure why 'affect' is a more ambiguous concept than 'valence.' The statement that "we have yet to identify any task that can only be performed by a conscious being" sent me down a rabbit hole looking for examples (to as yet no avail), and the introduction of the word 'pre-preparedness' made me smile.

This new definition of welfare does not solve all the problems associated with the pre-existing definitions. We are still faced with the complexity of weighing up different aspects of an animal's life in terms of, say, how much health outweighs opposite animal desires/wants. And finding the cut-off point for certain practical issues affecting animal welfare, such as space allowance, where the curve is sigmoid are still not solved by this definition.

This is, overall, a gem of a book. Not because it is covering a subject of far-reaching importance, but because it is refreshing to be reminded of our shortcomings as animal welfare scientists, and with very constructive suggestions on how we can do better. We may not all agree with everything this book promotes, but it is a great start for a debate that is long overdue. If you read one book about animal welfare this year, let it be this one.

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Advances in Pig Welfare, First Edition

Edited by M Špinka (2018). Published by Woodhead Publishing, The Officer's Mess Business Centre, Royston Road, Duxford CB22 4QH, UK. 506 pages Hardback (ISBN: 978-0-08-101012-9). Price £160.00.

Advances in Pig Welfare is one book from a series collating a body of work within the field of animal welfare science to provide an overview of the current understanding, the factors influencing and the approaches to improving the welfare of several farmed species; pigs, cattle, chicken and sheep.

The book consists of 16 well-written chapters that cover much of the existing scientific knowledge on pig welfare. Divided into two parts, the first covers the understanding on the present-day 'hot spots' in swine welfare, the topics that have proved most challenging to address whilst also provoking great ethical concern and societal debate. Within are included chapters on the welfare of the farrowing sow, piglet mortality, the early physical and social environment on the ontogeny and welfare of pigs, tail-biting, enrichment, hunger in gestating sows, aggression, transport and slaughter of pigs.

Part two looks ahead, covering 'pig welfare emerging topics'; areas that have received far less research attention to date, but where current thinking is going and where there are clear needs for further investigation. Within this section are chapters on: pain in pigs, welfare assessment on farm

and at slaughter, improving pig welfare through positive pig-human interactions, the opportunities and challenges in breeding for improved pig welfare, positive pig welfare and what it brings to the debate on animal welfare and the welfare of pigs when used as laboratory animals.

Supporting understanding for a broad readership, part one opens with an introductory chapter giving an overview of the typical pig production cycle in commercial operations and the accompanying welfare challenges, written in the context of EU welfare regulations. This valuable chapter helps to ensure that even the naïve reader has a level of understanding before the book progresses into more detail.

Each chapter discusses the science and what can be concluded from the current body of evidence, containing colour pictures and schematic diagrams — helping the reader to appreciate what is being discussed and to visualise relationships. Importantly, what hinders progress towards the end goals — changes to practices and the management of pigs, the knowledge gaps for future research and suggestions for solutions to long standing areas of gridlock resulting in a lack of progress in the adoption of the science — is also discussed.

This book is a much-needed resource. There have been significant advancements in the understanding of swine welfare and the challenges to adoption over the last several decades, and the pace of research output continues to grow. It is a major challenge for busy professionals who are stakeholders in this field to stay abreast of the information on these evolving topics. This is made all the more challenging when dealing with the especially complex and multifaceted nature that some of these welfare challenges present, such as tail-biting. This book breaks down the most important information and delivers it in an easily digestible format — providing conclusions on the body of science, along with discussion on adoption and navigating the barriers.

Particularly helpful is the detailed yet concise dissection of the factors that contribute to, and therefore should be considered, when wanting to develop long-term solutions to a particular welfare issue. Reading through, the reader is able to understand the interlinking relationships between the major challenges in pig welfare. To illustrate this, a noteworthy example is chapter two, covering sow welfare in the farrowing crate and alternative farrowing house designs. This chapter covers not only the basic welfare requirements for the sow, the challenges in the traditional farrowing crate, and the pros and cons of the alternatives when considering the ‘triangle of needs’ — those of the sow, her piglets and the farmer. The chapter also presents the reader with the other elements that should be considered for a truly comprehensive understanding of the situation when evaluating the welfare of the farrowing sow, and how these factors might interact with the housing system. This includes a review of the biology (behaviour and physiology) of the domestic sow at farrowing in relation to her wild counterparts, how genetic improvement for increased productivity has implications for sow welfare at farrowing; and how the management of the sow (human-animal relationship, the use of

cross-fostering and nurse sows, feeding strategies and weaning age) in any system can influence her welfare. Together, these factors must be considered for the success of systems and the balance of improving sow welfare.

This detailed breaking down of the factors is repeated throughout the book and is done to a high standard. This makes it a very useful book for the reader to truly appreciate the range of considerations that must be given if long-term solutions to these welfare challenges are to be developed. This information provides impetus for areas of new research and for stakeholders to work together on solutions.

The topics covered in part one are those to which there has historically been more research attention to date. The chapters in part two cover several areas that are overall less well researched but are presently receiving more research attention and the progress, at least for some areas, is evolving with some pace. Chapters within part two consider some areas that are greatly in need of research attention, in particular the chapters on pain in pigs and laboratory pig welfare underscore how little is known about porcine pain and how little attention has been given to the needs of pigs in a laboratory research setting despite much research already existing on the needs of pigs as a farmed species. Whilst the chapters on positive pig welfare, human-animal interaction and monitoring animal welfare open up discussion for promising new areas for improving pig welfare.

Advances in Pig Welfare is a comprehensive book that would be a valuable addition to the library of those with an interest in the welfare of pigs, be they a veterinarian, academic, student, industry personnel, an animal welfare charity representative, government body or policy-maker. I hope that future editions of this book are published to deliver updates as the knowledge and understanding evolves to help readers stay abreast of the information for the betterment and advancement pig welfare. As the editor, Marek Špinko, writes in the Introduction, I too wish that this book serves as a useful resource and inspiration in the effort to improve pig welfare worldwide.

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Mental Health and Well-being in Animals, Second Edition

Edited by FD McMillan (2019). Published by CABI, Nosworthy Way, Wallingford, Oxon OX10 8DE, UK. 384 pages Hardback (ISBN: 9781786393401). Price £67.50, €90.00, \$US112.50.

The spirit and heart behind this ambitious book are admirable. It aims to cover all aspects of animal well-being, from happiness to PTSD and suicide, in diverse species and contexts (from people’s homes to biomedical research labs), with the aim of motivating treatment and better animal care. If all the authors were to meet up in some fantastic workshop or retreat (what a lovely vision that is, in this dreary pandemic world!), it’s hard not to imagine that their