M Fisher (2018). Published by 5M Publishing Ltd, 8 Smithy Wood Drive, Sheffield S35 1QN, UK. 320 pages Paperback (ISBN: 978-1789180084). Price £24.95.

It is in the sub-header that what this book is truly about is best described: The evolving story of our relationships with farm animals. The book does indeed touch on the more well-known aspects of animal welfare science, from definition of welfare, ways to assess and understand the impact of husbandry practices and ethical frameworks. However, the book also takes an historical, and at times highly personal, view of how animal agriculture has developed over time, and the seemingly unstoppable increase in pressure on farming, farmed animals and farmers as we seek greater access to cheaper foods. Mark Fisher draws on evidence from history, art, literature, religion and social science, in addition to biological and agricultural sciences in describing our relationship with farm animals. The book delineates the increasing complexity of how we interact with animals and how this impacts on animal welfare. Mark does not necessarily provide a neat solution to this issue but does provide considerable background and clarification of the ethical issues underpinning our continued interactions with animals, which can bring greater awareness to our food choices. This is not a standard textbook on animal welfare science, although it does provide the basics of this area, but a fascinating treatise on the reasons why animal welfare is a 'wicked' problem and has proved so intractable to simple solutions.

The book begins, unexpectedly for a book that purports to be about farm animals, with a discussion of the entwined relationship between dogs and man. This serves to illustrate the complexities of our co-development with animals, which then extends to a long list of other domesticated species, including both familiar (cows, sheep, chickens and so on) and rather more unexpected species (goldfish, yaks and banteng among others). The sheer diversity of species and uses, and the complexity of how animals are used and managed is nicely illustrated in this first chapter. But this also brings us quickly to animal suffering. Where some of the early interactions between humans and animals may have been mutually beneficial, or relatively benign, these interactions are increasingly conflicted, negative and detrimental to the animals in some systems of raising animals. The first chapter also provides an overview of how animal welfare is defined, and how science can be applied to provide the evidence of animal suffering. However, this is placed firmly in the context of farming practice, and whereas "pigs are easy, people are the challenge" (p 27). This makes it clear that farm animal welfare is complex, that compromises to animal lives are made for human benefit, which our food production systems have developed, and the underlying drivers lie far beyond the farm gate.

Unusually, for a book on the welfare of farmed animals, Chapter 2 introduces the history of our relationship and

domestication of animals for food. This begins in prehistory and hunter-gatherers, through the developing relationships of humans with animals and onset of animal domestication and farming. The book nicely describes the many changes that this conferred on animals, from changes in body size, morphology and temperament, to subjugation and selection for increased production. Herein also lies the underpinnings of our dependence on farming to provide food to sustain a growing population, which is intrinsically linked to population growth — more food production and storage allowed populations to increase. However, this also then meant that it is impossible to turn back, even as diets became more limited and farming was harder work than hunting and gathering. The pressure to feed the increased population could now only be met by farming and more farming. Mark describes this paradox very well, drawing on case studies to demonstrate both our dependence on agriculture, and how many in the population both rely on animal agriculture but are becoming increasingly isolated from the realities of farming.

Mark has a background in animal agriculture, and this book comes from his background and perspective. Thus, it necessarily focuses on agricultural perspectives from Europe, North America and Australasia. This reflects much of the parts of the world where intensification of animal production has occurred, and where legislative changes have been most prominent. From this perspective Mark also has a deep understanding of and compassion not only for the animals but also for the people, the farmers, whose labours underpin our complex Western food systems. This is illustrated in Chapter 3, which demonstrates the effectiveness of our modern food production systems in increasing productivity (eg the illustrations of increases in eggs per hen or kg of milk per cow over the last 20-30 years; p 99), and the amount of work (energy burnt) by animals in different production systems, which places high yielding dairy cows not far behind Tour de France cyclists. However, farmers also work hard. The diverse impacts of lack of time, financial pressures, legislative pressures, sometimes social pressures, can impact on farmer well-being and animal welfare. Animal suffering, then, comes from outside and internal pressures to increase production at lower costs, which often means squeezing the resources (space, comfort, food, etc) available to animals.

In the fourth chapter, the book moves away from the farm to understand these pressures and influences on animal welfare. Here, the history of thought, attitudes and writing about animal husbandry and our relationship with animals is described, drawing upon literature from ancient Egypt to modern philosophy. This explores the history and development of legislation for farm animal welfare, and the use of certification and food-labelling schemes as drivers for improved animal welfare. And this then moves smoothly to the requirements for someone to pay for higher welfare, and who this should be, as well as willingness of consumers to pay. The increasing separation of the consumer from the source of animal proteins, and the industry that produces it, leads to a conundrum about the

willingness of consumers to pay for changes in production methods about which they are either unaware or do not wish to think about. Negative portrayals of farming in the media or elsewhere, can focus attention on issues, but the solutions may not be available, or ethical disquiet may be targeted at those most closely associated with the welfare issues, often the farmer, without understanding the complexity and complicity of consumers in these production methods.

Having covered the historical and cultural issues that underpin our relationship with animals kept for food, the book then addresses the broader and more positive or varied impacts that animals have on us. Again, this turns to history, arts and literature to describe how our understanding of animals derives from an 'ancient' contract (mutual value and care) to an 'affluent' contract (it is the products from the animals that are valued). And it is by understanding human relationships with animals that solutions, based on societal responsibility, may be found to provide good animal welfare. The book argues for a new understanding of animal welfare, in which what animals feel and experience (often the focus of much animal welfare science), is seen in the context of what people think and feel within the wider context of an interconnected food system.

This book does not provide a neatly packaged solution to the problem of animal welfare. Its value lies in providing a broad perspective on our relationships with animals, to demonstrate the benefits of our contact with animals as much as to describe the costs that animals are paying to meet our needs. It recognises that this is a problem with people, that if we want to improve animal welfare then it is people that must change or accept the trade-offs in the quality of animals' lives that not changing implies. These are not particularly new ideas, but Mark Fisher presents the evidence and story in a novel and compelling way. In some ways this is a book that argues for compassion, for animals and for the farmers that manage them, and for a societal approach to solving the 'wicked' problem of animal welfare. This will be an important resource for those working in agriculture and food policy, as much as for animal welfare. Finally, it is fitting that the book is dedicated to the memory of both a human (Ron Kilgour) and an animal (Bully Todd): an illustration of the complexity and inter-connectedness of our lives with farm animals, and their value to us.

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