

Introduction and overview

Animal Welfare Reconsidered

This volume is the second in our series providing a forum for critical reflection on topics relevant to animal welfare. Animal welfare is conceptually challenging and methodologically vexatious, and any changes required to improve it are often difficult to implement. For all these reasons there is a need for critical reflection among people studying or aiming to improve the welfare of animals in human care.

Our project began with the simple aim of creating an opportunity to engage with others in the discussion of ideas central to our field, but which are rarely addressed in the routine of everyday conferences and scientific publishing. In publishing this volume, we hope now to share with readers the ideas that we discussed with the aim of providing a useful springboard for their discussions. Our ideal audience for this volume is the graduate student seminar series, as this provides a time and format for careful reading and for critical discussions among peers.

Following the procedure for our first volume (*Dilemmas in Animal Welfare*; Appleby *et al* 2014), we began by bringing together a diverse group of scholars, keen to advance our thinking regarding conceptions of welfare, measures of welfare, and implementing welfare change. Our first volume was published as a book, but that was expensive for readers, potentially limiting readership among our target audience of graduate students. Thus, we are pleased and proud to partner *Animal Welfare* in publishing the current volume as a compilation of open-access papers.

The volume begins with four papers that all seek, in different ways, to challenge traditional conceptions of animal welfare. Becca Franks (2019) asks the reader to reconsider the relationship between motivation and animal welfare, from simply seeing motivation as a means (to provide the animals with the resources required for good welfare) to considering it as an end (eg that being motivated is itself important for welfare), and as a process (eg that learning about contingencies can be rewarding, because these allow the animal to be more effective in its behaviour). Marek Špinka (2019) addresses the related theme of agency, exploring, for example, how providing choice may improve welfare because the process of learning about and choosing among options may be pleasurable, may be effective (and thus result in better outcomes for the animal), and may make animals feel more effective. Becky Meagher (2019) tackles what might be considered the opposite problem: how environments that provide animals with too few options may induce boredom, and how this lack of meaningful stimulation can be considered a welfare issue. Finally, Weary and Robbins (2019) argue that societal conceptions of animal welfare can include a variety of perspectives extending beyond even these diverse scientific conceptions, and that experimental surveys can be used to better describe and understand this diversity.

The papers in the second section of this volume address the assessment of welfare. Bateson and Poirier (2019) propose that biological age (assessed, for example, using telomere length and hippocampal volume) can provide a biomarker of cumulative experience, such that animals that appear old for their age are likely to have experienced worse lives. This type of simple, biologically focused measure contrasts with the desire of others to develop and apply mentalistic constructs, such as ‘animal happiness.’ Such constructs aim to provide richer insights into animal welfare but, as argued by James Serpell (2019), are subject to the “problem of subjectivity”. He argues that our assessment of welfare may be especially prone to bias when dealing with companion animals with which we have close relationships, and that these biases can lead to decisions that actually reduce the animal’s quality of life as assessed using other criteria. The last two papers in this section specifically consider the issue of how to aggregate multiple measures, such as those encountered in farm-level assessments of animal welfare. Sandøe *et al* (2019) argue that attempts to aggregate multiple measures into a single score, and to aggregate scores across individual animals, involves contentious ethical assumptions, for example, concerning distributive justice. They also critically discuss the attempt made in the influential Welfare Quality® project to develop a scheme for aggregation. In a similar vein, as Winckler (2019) reviews, group level assessments can fail to identify serious problems at the individual level, although the rise of on-farm automation may provide individual-level assessments that could both help inform individual treatment plans and monitor overall performance of the farm.

The final three papers in the volume consider how best to achieve changes that benefit animal welfare. Michael Appleby’s (2019) paper asks the strategic question of how much to ask for when negotiating new animal welfare policy, and argues that a pragmatic approach that seeks compromise will generally be most effective. Tove Christensen and colleagues (2019) address the role of economic analysis as a driver of changes relevant to animal welfare. They argue that economic analyses can be most useful if they consider benefits as well as costs of welfare improvements and take into account the full range of factors (including non-financial) that influence the perceived utility of the different options. Finally, Sena and Currie (2019) address how improved attempts to assess the purported benefits and harms of animal use can lead to better decisions on whether and how animals should be used.

Participants prepared draft papers in advance of a workshop held at the Wissenschaftskolleg zu Berlin in December 2017. At the forum, each of the individual

papers was presented by an ‘opponent’ (one of the other participants), who summarised key arguments and introduced ideas for plenary discussion. Participants then used this feedback to improve their papers before these were formally submitted for peer review. We are grateful to Wissenschaftskolleg zu Berlin who funded our workshop and provided gracious hospitality and the perfect setting for our discussions. We are also grateful to *Animal Welfare* for their help making this open access special issue a reality. Finally, we thank all the participants of the Berlin forum, including the authors of this volume and Lorenz Gygax, Edna Hillmann and Ute Knierim, who contributed greatly to the workshop.

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