Review

T. J. Kasperbauer, *Subhuman: The Moral Psychology of Human Attitudes to Animals* (Oxford: Oxford University Press, 2018), 248 pp. ISBN: 978-0-19069-581-1. £25.49 (hbk).

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In the last two decades, our attitude towards animals has faced interesting adjustments as it became increasingly important in several areas, such as human-animal interaction, animal welfare, and wildlife conservation. Indeed, moving from an initial phase in which relevant attention was only directed towards domestic animals (such as cats and dogs), now, in parallel with changes in production efficiency, herd structure, housing and management, unprecedented transformations in consumers' attitudes to farm animals have also occurred. Nowadays, animal husbandry may well be questioned, not only as regards efficiency of organization, ownership, production, health, and economy, but also at an ethical level. There is clearly a strong link between animal welfare and overall efficiency in the food production chain, but consumers are now increasingly asking that public concerns about the ethics of production should have a place in modern animal husbandry. At the same time, an increase in the number of species that we host in our houses has also occurred to the point that typical farm animals have been turned into domestic pet animals (rabbits are a good example), thus contributing to slowly, but steadily reshaping the societal perception of overall animal welfare, and ultimately strengthening the criticism of contemporary farming methods and meat production.

At the same time, today we are entering a new era in genetics based on innovative techniques of genome editing (such as CRISPR-Cas9) that drastically expand our chances of producing genetically modified animals allowing larger gains over a shorter time-period by creating novel beneficial alleles or introducing known desirable alleles from other breeds or species.

For example, pigs that expressed the *fat-1* gene from the nematode *Caenorhabditis elegans* have been made in the laboratory to significantly reduce ratios of n-6 to n-3 fatty acids, which might have human health benefits. The same genome editing techniques also made possible the generation of animal models of human diseases in order to improve our medical knowledge and laboratory testing, for instance about cardiovascular disorders and cancers, and thus favouring the development of innovative drug and/or gene therapy strategies. However, even if the usefulness of this approach is clear, current tendencies in the attitude towards animals should be also carefully considered before planning the creation of animal models for disease. Recently, for instance, a Chinese research group has reported the generation of gene-edited monkeys exhibiting a wide-range of circadian disorder phenotypes, including reduced sleep time, elevated night-time locomotive activities, dampened circadian cycling of blood hormones, increased anxiety and depression, as well as schizophrenia-like behaviours. Disorder of circadian rhythms could lead to many human diseases, including sleep disorders, diabetic mellitus, cancer, and neurodegenerative diseases, and thus these monkeys could be used to study the disease pathogenesis as well as therapeutic treatments. However, several ethical concerns were raised soon after the publication of the results. Bioethicist Carolyn Neuhaus from *The Hastings Center*, for instance, stated:

“If I were on an ethics review committee, I would be very hesitant to approve [this research] because of the incredible amount of harm to the animals. [...] I would expect the scientists who are proposing this research to have very good responses to very hard questions about their methods and the expected benefits of their research. [...] It’s very clear that these monkeys are seen as tools” (Mendelbaum 2019).

It is therefore clear that genome editing could also amplify worries about such use of animals in experimental research. This means that in biomedicine too, it is important to understand human attitudes to animals.

Current literature shows that worldwide there is a variety of attitudes towards animals and numerous reasons exist for these attitudes. However, a major question is: what are the key drivers of these attitudes?

Previous studies showed that human attitudes towards animals are associated with social and demographic variables, such as gender, age, and pet ownership, whereas other studies focused on psychological factors, like personality traits, empathy, and anthropomorphic belief. In particular, it has been showed that there is a significant correlation between a person’s belief in animal mind, capacity to empathize with animals, and attitude

towards animals, hypothesizing that belief in animal mind facilitated the perspective-taking process, in turn leading to empathic concern. At the present moment, however, a deep analysis considering other factors that could be relevant, such as the geographic region, economy, human demographic, purpose of animal usage, human culture, and religion, is still lacking. For instance, European students have more concern for animal welfare than Asian students, whilst compared with northern European students, students from communist Asian and Southern European countries (such as Italy and Spain) have more concern about animal killing. Moreover, children and adults often show different views of animals. How can we face this complex and heterogeneous request for change in our attitude towards animals?

The answer is not easy, but in my opinion, T. J. Kasperbauer's recent book entitled *Subhuman: The Moral Psychology of Human Attitudes to Animals* is best suited to help us make sense of our own puzzling attitude towards animals. In particular, Kasperbauer tries to understand both the origins of our attitude to animals, thus uncovering how people think about animals, and the psychology of human attitudes to animals from an evolutionary perspective. Kasperbauer clearly suggests that, even if in the last 20 years the way animals have been treated has steadily improved, human psychology towards animals has peculiar biases that make our attitude to animals difficult to modify by culture due to peculiar evolutionary processes that fixated those biases during the deep time of our evolution.

Kasperbauer indeed points out that a change in our attitude to animals occurs during our early ontogenetic stages as clearly assessed by several authors, suggesting that children worldwide, and even when belonging to different social classes, have similar and positive attitudes to animals. Attachment to pets is facilitated by compassion and caring and pet-directed friendship behaviours, and this particular attachment may predict positive attitudes towards animals. Pets may indeed offer children aspects of emotional attachment, such as an affectional bond, special friendship, and may meet the prerequisites for an attachment relationship in terms of proximity seeking/maintenance, safe-haven, secure base, and separation distress, which are observed in human-human attachments. However, as Kasperbauer underscores, encouraging children to participate in pet care behaviour falls short of what is needed to promote prosocial and humane behaviour towards animals. This is because young children have in their mind a clear distinction between *us*, that is human beings and *them*, i.e. animals, and are therefore reluctant to view humans as animals. They are recalcitrant to do so even after receiving formal education. The point that

I have appreciated the most is that this analysis illustrates the occurrence of ancient and stable biases in the attitude towards animals and these are plausibly inherited rather than learned, thus illustrating how evolution may have provided *Homo sapiens* with an ontological and intuitive folk understanding about a species-specific divide between *us* and *them*.

Indeed, as far as adult human beings are concerned, animals seem to activate a threat detection system that evolved both to act quickly and to favour a general animal identification over an accurate and particular distinction. This is why rats, cockroaches, and spiders elicit immediate fear and disgust, and rodents and slimy invertebrates provoke disgust. Disgust is indeed related primarily to our protection from infection and parasites, generating avoidance and inhibition behaviours. More generally, vertebrates are preferred to invertebrates even if the latter are far more relevant than vertebrates when we take into account both ecological services for human beings and the overall ecosystem's functioning.

Several studies evidenced that anthropomorphism, i.e. the application of human mental states to non-human animals, is quite common and seems to be related to some *a priori* preferences for some animals rather than reflecting our current knowledge about animal neurobiology. For instance, we have recent evidence suggesting that invertebrates may be more similar to humans than previously thought, in that they may be capable of feeling pain, but they still remain largely disliked. Of course, any preference for similar animals created through anthropomorphic thinking may not be adaptive in itself, but simply reflects a pleiotropic effect, that is a cascade-like unintended by-product. However, anthropomorphism could also be adaptive since it may be related to an increased ability to make inferences about the thoughts and feelings of others, including animals, enabling the domestication of companion and agricultural animals. This potentially co-evolved trait, combined with human identification with similar others, provides good reasoning as to why humans should recognize their similarities to other animals and prefer them. In contrast, when humans encounter those animals with which they cannot identify (for example, many invertebrates), there is less care and concern and they may remain generally disliked.

Interestingly, Kasperbauer analyses how anthropomorphic bias affects and compartmentalizes different rates of moral concern towards animals, revealing that this approach could be at the very heart of our relationship with animals. Indeed, even if our moral assumptions may be (or could be) modified and our attitudes towards animals has actually changed in the last two decades, the improvement of legal rights granting animal protection is not due to diffuse change in moral sensibility towards animals nor to an increase in the number of different species that are morally worthy for us.

This does not mean that human attitudes to animals cannot be changed or improved, but that this change does not result from an extension of our moral circle so that the moral acceptance of some animals could quickly change. I think that the analysis of the moral psychology of human attitudes towards animals represents not only the key of *Subhuman*, but it is also Kasperbauer's most original and intriguing contribution to the current debate about human attitudes towards animals, making this book extremely useful for future discussions. Indeed, our main goal, if interested in the promotion of a positive judgement of *all* animals, should be related to the creation of policies aimed at primarily modifying our moral psychology by taking into account our evolved predispositions (alas, no systematic account of moral psychology currently exists in the field of animal ethics).

Even if multidisciplinary analyses are quite common in different fields of life science, it is still unusual to find a single author able to undertake such a deep analysis on attitudes toward animals from a variety of disciplines, including philosophy, psychology, anthropology, history, law, sociology, and economics. Furthermore, Kasperbauer identifies concrete steps to change our moral psychology. In particular, he suggests the creation of new policies and regulations that diffusely change our moral attitudes focusing primarily on animal use in laboratory research, in meat production, and zoos. Kasperbauer also makes an interesting case for the improved learning of psychology and philosophy of mind including experimental research conducted across the cognitive sciences, together with the identification and analysis of the numerous biases that are part of our psychology. In this respect, for instance, the existence of processes that result in animal devaluation should be carefully studied since negative judgments about some animals may enable things like abuse and neglect. Lastly, considering that debates over animal sentience seem to have been exhausted, Kasperbauer suggests the inclusion of moral psychology in further debates in order to decentre our (biased) moral attitudes towards animals.

Today we are currently witnessing the first steps towards a more comprehensive integration of non-human animal welfare within human morality and Kasperbauer's book *Subhuman* is a brilliant and concrete guide to identify and address our future challenges to achieve this goal.

References

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