

SPECIAL ISSUE

CRISPR Paradise: the Ethical Debate on Affecting Animal Welfare through Gene Editing

Guest editor: Mattia Pozzebon, University of Trieste, Trieste, Italy.

Special Issue Information

The astonishing advancement in the field of gene editing technologies - of which the CRISPR-Cas9 technique is a cutting-edge example - provides new and wide-ranging opportunities to address ongoing challenges. Animal suffering - and consequently animal welfare - has been and still is a major issue within the ethical and philosophical debate. Could gene editing then provide new opportunities for tackling the problem? Quoting the title of an article by Adam Shriver, can technology succeed where morality has stalled (Shriver, 2009)?

David Pearce (Pearce, 1995; Pearce and Vinding, 2017) explored the idea of a future world in which suffering would have been abolished through recourse to genetic engineering and pharmacology. The aim of this Special Issue is then to present proposals to further expand the ongoing ethical discussion regarding the possibility of improving the welfare of non-human animals *via* genetic modification. We welcome any contributions that, while differing with regard to arguments and examples, are primarily concerned with ethically researching the implementation of gene editing in order to preserve or improve animal welfare.

Topics of interest include but are not limited to:

- The analysis of the notion of ‘disenhancement’. In 2008, Paul Thompson published an article (Thompson, 2008) in which, discussing two different approaches (‘build up’ and ‘dumb down’), he examined whether it was ethically right to disenhance animals in order to reduce the suffering they experienced. More than a decade later, research in both biotechnology and ethics has advanced. Given the current scientific literature on both gene editing and the ethics of animal disenhancement, could it actually be an ethical solution to improve welfare by disabling certain functions and capabilities of the animal?

- In *The Island of Doctor Moreau*, H.G. Wells presented the notion of ‘uplift’, i.e., the advancement of a species to a higher level of intelligence. In the novel, the scientist used to focus on the development of human/animal hybrids. George Dvorsky addressed the notion of ‘uplift’ by examining whether it is ethically legitimate to enhance animal intelligence. By upgrading animal intelligence to a human-like level, the uplift would allow animals to have access to kinds of welfare from which they are deprived because of their limited intelligence (Dvorsky, 2008). In 2019 the National Science Review published research (Bing Su *et al.*, 2019) conducted on eleven transgenic rhesus macaques carrying the human-derived gene MCPH1 (deemed relevant for human brain development). The macaques were able to complete the DMS (Delayed Matching to Sample) memory test with better results than non-transgenic macaques. May animals carrying human capabilities - not necessarily intelligence - be animals with better welfare?
- The notion of physical enhancement, meant as the upgrading of certain functions of the animal in order to cope with daily challenges, e.g., the ‘PRLR-SLICK cattle’ case (FDA, 2022).
- Besides an analysis of genome editing itself, it may also be useful to consider the social framework within which genome editing would be carried out. Does it make sense, for example, to discuss reducing animal suffering through gene editing, if these animals keep living exploited by humans, e.g., for the food industry (Ferrari, 2012)? Would there really be an improvement in terms of welfare? Another aspect is the one exemplified by the notion of ‘bio-objectification’. Does manipulating the animal genome, even if for the sake of animal welfare, risk consolidating humans’ position of power over the animal? Does the idea that the animal can be freely moulded risk reducing it to the status of an object? Could this have further consequences on the way humans relate to animals?

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Guidelines for Submissions

All abstracts and manuscripts should be sent to the guest editor at the following address: mattia.pozzebon@phd.units.it.

Authors are invited to submit an abstract in which they describe their proposal for an article.

- Deadline for submitting the abstracts: **May 1st, 2023**
- The length of the abstracts must be up to 750 words, included notes and references.
- The abstracts must be written in English.
- Decision about acceptance: **May 15th, 2023**

The authors of the accepted abstracts will be further invited to submit a full paper.

- Deadline for submitting the manuscript: **February 1st, 2024**.
- The length of the manuscript should range from 6000 to 8000 words.
- Papers must be submitted in one of the following languages: English, French, German, Italian, Portuguese, Spanish.
- Submissions must include an abstract (200 words) and 5 keywords. The abstract must be written in English.
- Manuscripts must be submitted in Word format (.docx, .doc).
- Manuscripts should be formatted in Times New Roman font, size 10-12.
- Authors are requested to use *The Chicago Manual of Style* for notes and references.
- Submitted papers are subjected to a double blind peer-review process.

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