

## Commentary: Setting the Bar Higher

NICOLAS DELON

Carolyn Neuhaus and Brendan Parent examine three main techniques aimed at enhancing animals' skills for sport—selective breeding, chemical enhancement, and genetic engineering. Their central focus is on “gene doping,” i.e., recent advances in gene editing such as CRISPR, that could be used to create stronger, faster, or more resilient animals. As they note, people have sought for millennia to perfect sport animals; CRISPR seeks to do it over many fewer generations and may even enhance animals' capacities beyond their typical limits. The paper discusses the general ethical limits of animal use for sport and analyzes current and future ethical issues raised by gene editing in the context of using animals in sports. They argue that sport enthusiasts and animal advocates alike should be concerned about the inevitable use of CRISPR in sports. Though in principle gene editing could be used to improve well-being, they caution that it is unlikely in practice to do so. I concur with Neuhaus and Parent's conclusion. In this commentary, I adduce further reasons for this conclusion. But I also suggest ways in which animal participation in sport could be enhanced in respectful ways. The basic principle of Neuhaus and Parent's welfarist framework is that: “The more a sport treats an animal as a creature with its own morally relevant interests and rights ... the more ethical it is.” They then go on to argue for a necessary condition of permissible use of animals in sport: an animal's assent, or at least absence of dissent, “because seeking assent and respecting dissent amount to respecting an animal's interests.” As I explain later, this condition is even more stringent than Neuhaus and Parent foresee. On the other hand, the welfarist framework creates more room for permissible participation than they initially envision. In what follows, I summarize the key claims of their paper pertaining to genetic enhancement and then introduce a series of remarks to determine more comprehensively its permissibility for animal use in sport.

### Why (Not) Gene Editing?

As Neuhaus and Parent observe, breeders, biohackers, and engineers “rely on the partial genetic basis for characteristics associated with sport animal success such as strong musculature, endurance, intelligence, herding instinct, speed, and aggression.” Besides skills, these changes could enhance the capacities of animals for consent and communication or diminish the capacities for pain, distress, or discomfort. Gene editing thus opens up an array of new questions regarding participation itself and enhancements *within* the bounds of permissible participation.

In their paper, they examine both the general question of animal use in sport and the specific question of gene doping from an interest-based, welfarist perspective. Because sports rely on animal traits that were either naturally selected or artificially selected long ago through domestication, the behaviors that animals display in sports often emulate part of their “natural” behavioral repertoire. In this sense, “animals have an interest in performing some of the behaviors they do

in sports,” but, Neuhaus and Parent note, this does not entail that “they have an interest in participating in sports in the way humans have constructed sports, primarily with their own human interests in mind.” The highly contrived framework of animal use in sports often forces animals out of this natural repertoire.

The prospects of permissible gene editing for sport, according to Neuhaus and Parent, do not look promising and depend on a range of empirical considerations. Given the relatively (albeit not fully) trivial interests that humans have in using animals for sport, and the significant animal interests that these practices can affect, the bar for permissible use is high. What we presently know of gene editing suggests it would often fail the interest test. In sports, animals are already and increasingly, as the authors observe, “treated as mere objects—commodities to be traded, bred, and drugged whatever the effect on the animals’ welfare and well-being—and instrumentally valued for the profits produced.” It is unlikely that gene editing would significantly alter these trends. Beyond sports, we should note that the spillover effects of normalizing gene editing for human ends could affect the treatment of animals in other domains such as pet keeping and animal labor.

*In theory*, CRISPR-based editing can, as the authors point out, “serve the same purposes as traditional breeding, but with greater efficiency when it comes to producing offspring with desired traits,” and unlike doping, “enhancements to musculature, recovery time, pain tolerance, lung capacity, or any other genetically enhanceable trait will be permanent.” They comment that increased efficiency has one major upside: it would “ideally eliminate the possibility of unwanted genetically ‘inferior’ offspring, and so reduce the number of animals that are discarded because they do not exhibit desirable traits.” But *in practice*, current complications in the implementation of the desired traits undermine these prospects. The ethical upside of CRISPR is outweighed by its risks. For instance, Neuhaus and Parent argue that “in the short term, if these animals with superior abilities compete against traditionally bred animals, they will win, that might mean longer and better-quality lives for the winners. But animals that lose are often discarded, abandoned, or killed.” Overall, genetic engineering could foster “unrealistic expectations” and commodifying attitudes that would adversely affect more animals than it would benefit.

Furthermore, while it is possible that enhancement could improve welfare, for instance by reducing pain, hunger, and thirst, or increasing metabolism efficiency,<sup>1</sup> the former are useful indicators of health and the latter would only benefit animals if we maintained the “existing parameters of competition,” as Neuhaus and Parent note. But given, as the authors propose, that breeders and trainers would likely push animals “to the new limit,” animals would not benefit from these enhancements.

We could also improve animals’ communication skills, including by modifying the genetic basis of verbalization and of the capacity to consent. These enhancements would in turn create new interests that would affect the permissibility of animal use. According to the authors, enhancing animals’ agential capacities could generate claims to “health care, education, and employment,” but the improvements would cut both ways; it may become more likely “that animal involvement—with consent—is ethical,” but many current uses of animals in sports would also become unethical because they fail to respect animals’ agential interests.

For all these reasons, Neuhaus and Parent conclude that, overall and in practice, gene doping is unlikely to be ethical. I now turn to complications concerning the basis for enhancement, species membership, nonwelfare reasons, and agency.

### Additional Consequences of Gene Editing

Enhancement per se is neutral. Some effects of enhancement are intrinsically harmful—e.g., decreasing sensitivity to potentially lethal threats; others can be extrinsically harmful, relative to context, competitors, type of use, etc. One question left aside by Neuhaus and Parent is which animals have a greater *capacity for enhancement*, or the degree to which an animal can be enhanced without diminishing its actual welfare or intrinsic potential for welfare (intrinsic so as to rule out alterations of the capacity for enhancement itself). This is likely to vary across both species and the types of traits that breeders target, but it is an important criterion affecting the permissibility of enhancement. Some species or populations have more allelic variety or more room for improvement along the relevant dimension, some are more adaptive, and so forth. Surely, the capacity for enhancement itself is something that could be enhanced if we discovered the genetic pathways of the capacity, but this might be costlier, less efficient, and take many more generations. Further, the capacity for enhancement depends on features inherent to a species' genome and population adaptations as well as on extrinsic factors such as technology and scientific understanding. Distinguishing to-be-enhanced capacities and capacity for enhancement is thus critical to a comprehensive ethical assessment of "gene doping."

Another worry is the predicament of enhanced individuals relative to their conspecifics. As Neuhaus and Parent note, "Genetically engineering animals might cause a shift in the ability range of a particular species far beyond that seen in traditional breeding, even possibly creating new species in a single generation," which, "without species benchmarks for ability range," might lead trainers to push animals "beyond their safe limits." Adding to Neuhaus and Parent's concern, gene-edited animals would be further away from their conspecifics, raising socialization and welfare-assessment problems. Enhanced animals would be less prone to successful retirement in foster homes, shelters, or sanctuaries. On an intrinsic potential account, where "fortune" and flourishing are relative to the potential for well-being of a single individual independently of species membership, technology, and other extrinsic factors,<sup>2</sup> enhanced animals might cease to benefit from their enhanced capacities past competitive age, unless their desired traits improved their welfare irrespective of their use in sport. On a species norm account, where fortune and flourishing are relative to species-characteristic standards,<sup>3</sup> enhancement of specific breeds would create significant deviations from the species norm, creating outliers that would either have to revert to an unenhanced baseline or be treated as exceptions without an appropriate benchmark. It isn't clear whether the interests of enhanced sport animals should be assessed against the standards of their species, their (enhanced) potential, their past use, or another benchmark.

There also are nonwelfare reasons to disapprove of gene doping. By hurting competition, it may damage the reputation, aesthetic merits, and ingrained norms of the sport. It may run counter to animals' dignity by increasing their perception

as mere performers, not unlike animals in circuses, zoos, and marine parks.<sup>4</sup> It may also undermine one attractive feature of using animals in sports, namely, the expression of a genuine interest in their unique skills and/or in perpetuating mutually rewarding partnerships between humans and animals.<sup>5</sup> For people intrinsically interested in the aesthetic value of sport, genetic enhancement could have effects similar to those of unregulated doping. Interestingly, Neuhaus and Parent bracket questions of fairness—whether genetic enhancement could bestow unfair competitive advantages to some animals over others. For sport enthusiasts, the generalization of CRISPR-based doping might be transformative. As with other technological interventions, we may be not just uncertain but ignorant about, in particular, social responses to such changes.<sup>6</sup> But note that fairness need not be alien to the welfarist framework. For, if animals have an interest in participating in fair competition, then they have an interest in not suffering from unfair disadvantages. Enhanced competitors themselves might have an objective interest in winning “the right way.” So, even if doping were bad *only* in virtue of unfairness, it might still be bad for animals themselves.

### Consent and Participation

Neuhaus and Parent’s criterion of positive assent or absent dissent delineates permissible use, i.e., participation, of animals in sport.<sup>7</sup> However, they fail to apply the criterion to gene editing itself. But since enhancements, however targeted, could have broader effects on the kind of lives that animals could live, it seems fitting to require their assent (or absence of dissent) for enhancement.

One obvious difficulty is that we lack the interpretive techniques to elicit assent to participation. If anything, existing animals are likely to *dissent* when coerced for enhancement. As for unborn animals, we simply cannot tell whether they would choose the enhanced life over the life they would otherwise have. This type of judgment is not impossible in principle, but in practice it is fraught with even more complications than assessing the well-being of living animals whose species we domesticated thousands of years ago. Given the broad and uncertain effects of enhancement relative to participants, competitors, conspecifics, and human interests, we cannot tell with confidence that animals would choose enhancements, especially under the description of enhancing performance *for the sake of human interests*. Neuhaus and Parent assume that animals cannot consent to participation in sport because it “requires knowledge of how the game is played, the capacity to understand the rules of the game as well as the potential risks, being free from undue influence, and the ability to express willingness to participate.” But while assent or lack of dissent can be observed quite reliably based on behavioral cues regarding participation, when it comes to enhancement they fall prey to the same sorts of considerations that undermine the appeal to consent regarding participation. There is no sufficiently informative equivalent to “an animal’s seeking of behaviors and willingness to participate as indication of assent” with enhancement. So, once we broaden the scope of the assent/dissent condition, it turns out that even fewer forms of enhancement would be permissible on Neuhaus and Parent’s account. One might think that my application of their criterion has a conservative bias, and this might well be so. But note that the criterion already restricts the scope of permissible use in general. And, in principle, it does not forbid enhancements that would clearly improve animals’ opportunities for well-being,

such as improved communicative abilities enabling them to either consent or more explicitly assent.

Broadening our concern to animal *lives* sheds light on additional relevant interests. Sports are more permissible the more they respect animals' agency as participants. They thus lend themselves to an analysis of the type of community that they promote. In Sue Donaldson and Will Kymlicka's citizenship theory, most animals currently used in sports qualify as cocitizens since most of them are domesticated and the citizenship category is only extended to domesticated animals.<sup>8</sup> On this view, qua domesticated animals, sport animals are entitled to membership rights that extend beyond humane use. Sport animals have rights of equal code-termination of the community (pertaining to association, reproduction, control over their environment, and the type of activities they engage in). On this view, the set of permissible uses of animals in sports is not empty (indeed, sports are, like work, one way in which domesticated animals can be treated as equals),<sup>9</sup> but it is significantly different than current practices. It may also depart from Neuhaus and Parent's account since membership generates more objective interests than assent or lack or dissent can express on their own.

Sports could foster the skills, attitudes, and dispositions required for equal membership in the community, and they could do so through behaviors that animals would assent to. Sports presuppose and foster agency, cooperation, association, fair play, and other community-related competencies. They can thus model forms of participation in the interspecies community of citizens.<sup>10</sup> Enhancement could target those skills, attitudes and dispositions in order to support rather than undermine cocitizenship. In principle, then, Donaldson and Kymlicka's account could have room for permissible gene editing *if* we could devise mechanisms to garner animals' assent to enhancement—enhancement is justified only if and insofar as it fosters the capacities required for equal membership and would, hypothetically, be endorsed by animals themselves. By the same token, enhancement would set the bar much higher for ethical sports by making animals more susceptible to dissenting and wanting to determine their own participation. This, I take it, is a welcome upshot.

## Notes

1. On welfare-improving (including through dis-enhancement) genetic engineering of farmed animals, see Shriver A, McConnachie E. Genetically modifying livestock for improved welfare: a path forward. *Journal of Agricultural and Environmental Ethics* 2018;31(2):161–80.
2. See McMahan J. *The Ethics of Killing: Problems at the Margins of Life*. New York: Oxford University Press; 2002.
3. Ibid. and Nussbaum M. *Frontiers of Justice: Disability, Nationality, Species Membership*. Cambridge, MA: The Belknap Press; 2006.
4. See Gruen L. *Ethics and Animals: An Introduction*. Cambridge: Cambridge University Press; 2011.
5. Gary Varner's idea of "domesticated partnerships" creates space for a welfarist analysis of permissible use of animals in sport, labor, and other forms of exercise. See Varner G. Pets, companion animals, and domesticated partners. In: Benatar D., ed. *Ethics for Everyday*. McGraw-Hill; 2002:450–75 and Varner G. A two-level utilitarian analysis of relationships with pets. In: Overall C, ed. *Pets and People: The Ethics of our Relationships with Companion Animals*. New York: Oxford University Press; 2017:64–79.
6. See Jamieson D. Discourse and moral responsibility in biotechnical communication. In: *Morality's Progress*. Oxford: Oxford University Press, 2002:308–20. On some epistemic problems and the transformative nature of CRISPR, see Delon N, Purves D. Wild animal suffering is intractable. *Journal of Agricultural and Environmental Ethics* 2018;31(2):239–60.

*Commentary: Setting the Bar Higher*

7. Interestingly, their analysis seems to apply equally well to the involvement of young children in sports and recreative activities. Indeed, I believe the ways we approach children's participation in sports could be a model for approaching the case of animals (they lack the capacity for informed consent, they can engage in activities critical to their natural development of physical, social, and agential skills, and such activities consist, at least in part, in treating them as self-determining participants in their own right).
8. Donaldson S, Kymlicka W. *Zoopolis: A Political Theory of Animal Rights*. Oxford: Oxford University Press; 2011.
9. See Kymlicka W. Social membership: Animal law beyond the property/personhood impasse. *Dalhousie Law Journal* 2017;40(1):123–55.
10. On work, for instance, Kymlicka writes: "Recognition of collegiality is precisely a membership relationship, and it carries with it membership claims, rather than claims to 'humane use.' Animals have always labored for us, but recognizing them as co-workers is new, and entails claims to shared membership of the workplace." (*Ibid.*, p. 149).