

EQUALITY FOR ANIMALS? COGNITIVE ENHANCEMENT BEYOND HUMANS¹

Olga Campos Serena

Universidad de Granada

RESUMEN

Tomaré un famoso parágrafo de J S. Mill como punto de partida para defender la idea de que la filosofía moral tiene que hacerse cargo definitivamente de aquellos que han sido menos afortunados en la lotería natural. Esto significa que debemos considerar con seriedad la posibilidad de incrementar la *capacidad* para el bienestar de los animales. La pretensión del texto es mostrar la relevancia del actual debate ético sobre *enhancement* también en el contexto de la reflexión en torno a nuestras obligaciones hacia los animales no humanos sensibles.

Palabras Clave: Valor de la vida, Igualdad, Derechos de los Animales, Mejora Cognitiva, Ética de la mejora.

ABSTRACT

I will take a famous paragraph from J S. Mill as a starting point for defending the idea that moral philosophy has to take charge definitively of those who have been less fortunate in the natural lottery. This means that we must take seriously the possibility of increasing the *capacity* for the well-being of nonhuman animals. The aim of the text is to show the relevance of the current ethical debate on *enhancement* also in the context of reflection on our obligations towards sensitive non-human animals.

Key Words: Value of Life, Equality, Animal rights, Cognitive Enhancement, Enhancement Ethics.

¹ [Recibido: 2017-07-16 Aceptado en su versión final: 2017-10-18.]

1. WHY IS IT BETTER TO BE A HUMAN BEING DISSATISFIED THAN A PIG SATISFIED?

‘Of two pleasures [...] If one of the two is, by those who are competently acquainted with both, placed so far above the other that they prefer it, even though knowing it to be attended with a greater amount of discontent, and would not resign it for any quantity of the other pleasure which their nature is capable of, we are justified in ascribing to the preferred enjoyment a superiority in quality, so far outweighing of small account. [...] Few human creatures would consent to be changed into any of the lower animals, for a promise of the fullest allowance of a beast’s pleasures. [...] It is better to be a human being dissatisfied than a pig satisfied; better to be Socrates dissatisfied than a fool satisfied.’ (Mill, 1863: Chapter II, paragraph 6).

The words of the selected author allow the reader to anticipate the moral paradigm in which the present article is offered. A non-anthropocentric paradigm that allows us to understand that the group of the less fortunate will not only be formed by certain human beings but also by many non-human animals that legitimately form part of the moral community. If I introduce non-human individuals to the deliberation it is because the most coherent moral paradigm is one in which the overcoming of anthropocentric prejudice is certain, and in which all who are capable of suffering from the actions of others deserve moral protection.² Obviously, there are many differences between human and non-human animals, but it will be plausible, consistent and not arbitrary extending moral consideration to those who can suffer. Then, it will not be the capacity of moral reasoning the more relevant characteristic in this debate. If one can or cannot act as a moral agent is irrelevant for the proposal of determine who are member of the moral community and therefore who should have some kind of moral protection. This way, many animals and some

² The arguments in favour of animal consciousness are not new (Singer, 1975: 46-49). It can be deduced that they have experiences of pain by observing their behaviour, and the fact that many of them possess nervous systems very similar to ours should also serve as proof. In addition, it seems obvious that denying consciousness of pain is incompatible with the theory of evolution because the presence of this ability increases the possibility of survival. On the other hand, the evidence is greatly increased thanks to the possibility to understand the subjective experience of animals. This is possible by applying preference tests, which show how painful a certain experience is for a particular animal (Dawkins, 2006: 26-39).

humans (babies, for example) will fall within the moral sphere even though they lack the ability to understand the rules of the reciprocity.³ However, even today, the issue of animal rights is not trivial. The explanation, among other more practical reasons, can be found in Cartesianism, a doctrine that insisted we must consider them as mere machines. Those who question the consciousness of animals are claiming that these can have a pain without being aware of it. These arguments rely on certain studies in which some individuals with brain damage showed in the experiments that they retained conceptual information yet were unable to feel anything (Damasio, 1994: 193-207).

Nevertheless, the reality is that behaviourism (roughly this approach assumes that animal behaviours are mere reflexes produced by a response to environmental stimuli) cannot provide an adequate explanatory model because, among other things, it is not compatible with the sufficiently proven thesis that animals are capable of learning.

A brief reference to this interesting discussion makes sense because the argument I will develop takes as its starting point a position that recognises our moral responsibility toward animals. Regardless of what each author understands as the best way to translate this responsibility into rights, the basic idea is that they matter in the decision-making process. Undoubtedly, the most complicated decisions are those in which we have to weigh up different lives. When the existences of different individuals come into conflict, this leads to very important moral issues that are useful to checking the coherence of moral theories.

The first idea defended here is that we must find ways to identify elements that will prioritise some lives over others, because this is the only way to take legitimate decisions in case of conflict.

One possible option would be to adopt a welfarist and deprivationist approach, in the style of Jeff McMahan's theory (1996, and 2002:

3 The orthodox analysis distinguishes between those individuals who are moral patients and those who have the ability to act as moral agents. In the rationalist tradition, since humans are the only ones able to understand moral rules, they are also the only ones who will be within the moral community. Those who claim to have overcome the classical anthropocentric paradigm insist on the fact that although there are individuals who are not morally responsible for their actions (they are not sufficiently autonomous), their ability to suffer leads them to deserving moral protection nevertheless.

145-165). This author defends the viability of paying attention to the potential of the individuals for well-being. This potential to well-being could be determined by observing the level that is understood as *normal* for the specie to which each one belong. However, McMahan argues that, when we die, we are really being deprived of the opportunity to attain the highest possible level of well-being, given *our* intrinsic capacities. This means that in order to determine how one's life is, skills and abilities (in relation to *individual intrinsic potential*) should be taken into account. Obviously, this analysis requires an external reference in order that a comparison can be established.

The author then proposes that someone will be unfortunate, or not, depending on whether the good things her/his life contains are above or below the norm for individuals with similar intrinsic potentials.⁴ In addition, McMahan knows that for his proposal to be considered viable, it is necessary to establish some restrictions about the potentials that matter when we are discussing intrinsic potential. The full potential, McMahan argues, must be identified at the time the individual begins to exist (ignoring the possible reduction that could take place after, due to an accident or disease, for example). Nevertheless, he would still have to identify the elements to which we need to pay attention in order to identify the individual intrinsic potential of somebody at beginning of her/his existence. He contends that his proposal is to understand intrinsic potential as those abilities *accessible* for each individual without a direct alteration of own internal constitution (McMahan, 2002: 153). If the relevant potential is one that a person has as a consequence of properties that are part of their innate constitution, then the idea is that intrinsic potential is based on internal conditions (non external).

However, it is difficult to ignore the fact that the line separating both types of conditions is very thin, to the extent that it can be argued that there is no clear distinction between internal and external potential. In my opinion, any type of individual development depends on both internal and external conditions. I understand that this is a good reason to choose another kind of analysis that dispenses with

4 This interpretation implies that those who have lost their abilities in an accident are individuals we have to consider very unfortunate (because their intrinsic potential for well-being is that of a normal human being), whereas this would not be the case with individuals suffering a severe congenital cognitive disability (because their intrinsic potential is much lower). The same reason would lead one to contend that animals are not in a disadvantageous situation.

the ambiguous concept of 'potential'. Alternatively, the attention could be focused on the well-being that each individual can experience. This does not imply identifying specific intrinsic goods that are being experienced at a given time. Rather, it proposes an approach that places the emphasis on the particular individual abilities for well-being. A greater capacity in this sense will open the field of possibilities around well-being. The idea is that a greater capacity for well-being enables a wider range of *opportunities* for satisfaction. And, a great variety of opportunities for satisfaction is a necessary condition for many other valuable things beyond the most basic pleasure, such as the ability to establish very rich relationships with others (Verhoog, 1992: 147-160).

I think that giving up the idea of potential for well-being, in favour of a focus on the perspective of opportunities for satisfaction, places us in the context of the work *Utilitarianism*.⁵

It is known that utilitarianism traditionally interprets 'good' as pleasurable experiences. Mill clarifies that to defend a theory in which the ultimate goal is pleasure it must be accompanied by the idea that human beings can experience a type of pleasures different from those we can legitimately attribute to animals. His idea is that the higher faculties that distinguish human beings should lead us to admit that the kind of pleasure experienced by non-human individuals cannot satisfy the complexity of our conception of happiness. Obviate the heterogeneity and differentiation of the good would imply assume, wrongly, that these variations are only due to different intensities and durations. Yet a more plausible theory will be capable of judging some kind of pleasure as superior, making certain lives better than others. Therefore, says Mill, pleasures are qualitatively different from each other, just like the activities with which they are associated. Qualitatively superior activities and pleasures are related to *higher human capacities*.⁶ Therefore, in this approach, a life will be more valuable

5 Mill's theory about how to value different lives can be found in Chapter 2 of his famous work *Utilitarianism* (Mill, 1984: 44-75).

6 The work of justifying a hierarchical order between them corresponds to the judgment of those who have experienced the full range of pleasures. These are the only *competent judges* in the matter. Knowing that in an entirely subjective approach no general agreement could prevail upon a discordant opinion, the author believes to have found in this resource a balance between subjectivism and objectivism. To further explore the role that competent judges have in Mill's theory, and also to see a comparison with the Rawlsian analysis of *original position* (Holbrook, 1988: 96-101).

than another if it is organised around the type of things associated with a high degree of awareness. The relevant issue, I insist, is the existence of certain distinctive abilities, regardless of our success or failure in achieving the goals that those abilities lead us towards. For this reason, the life of Socrates dissatisfied is always better than the life of a fool satisfied, because the important point is to have the highest possible *opportunities* for well-being.⁷

If the argument is correct, this would open the possibility to admit that, in general, the lives of human beings are preferable to those of non-human animals. We would have found a way to justify theoretically our tendency to choose to save human instead of animal in case of real conflict between their lives. The novelty is that the decision would be supported by reasons, which allows us make the choice in favour of human existence without relying on speciesist arguments.

2. COGNITIVE ENHANCEMENT: INCREASING OPPORTUNITIES FOR WELL-BEING

The previous conclusion will probably bring a sense of relief. That we can choose to save, legitimately, our neighbour's life before a dog's life in a fire, will probably come as good news for many interested in avoiding anthropocentric prejudice.⁸ Nevertheless the debate becomes complicated.

The point is that the fact of admitting, in line with Mill, that humans usually have better lives than animals could lead to a radical shift in our understanding of moral obligations. Given a normative context that recognises certain egalitarian constraints,⁹ the above

7 What cannot be ignored is the fact that, in many cases, the aim of postulating a qualitative hedonism is considered very problematic (Fletcher, 2008; Riley, 2003; and Schmidt-Petri, 2003). However, even admitting that the debate is very interesting, I maintain that this discussion about normative coherence should not put at risk the argument developed here in relation to the value of lives.

8 On the other hand, the inevitable moral equivalence established here between non-human animals and marginal human cases can be problematic. However, in the last case, the more counterintuitive moral decisions would be moderated if, for example, we accept a possible role for indirect obligations.

9 It is obvious that the relationship that should exist between justice and other goods is still under much discussion. Nevertheless, and conceding the reductionism, I am interested in dispensing with this particular debate in order to show where the argument leads us.

analysis will cause the activation of strong compensatory mechanisms towards non-human animals.¹⁰

In the debate about the implications of certain egalitarian assumptions beyond human beings, the idea described is known as *the problematic conclusion* (Vallentyne, 2005). The defense of a moral obligation to carry out a great movement of resources from humans to sentient animals is, undoubtedly, a very problematic norm. However, it seems obvious that although this conclusion is highly problematic in itself, we would have that be able to find reasons to elude responsibility¹¹. The contention that something is very controversial (in the sense that it clashes with our intuitions or prejudices) is not sufficient to invalidate an argument without a further explanation. In fact, it would be a good time to reflect on the role of certain moral assumptions.

I am interested to see where leads us the argument. The way in which compensation requirement is to be understood will depend on a number of factors. On the one hand, the commitment to a particular way of understanding the realisation of moral rights will, of course, be crucial.¹² On the other, the means available, according to

10 Certainly this would have involved some important normative issues that must be resolved in a more extensive analysis. For example, the question of if defend that equality should be promoted implies that should be maximized. In this sense, I propose the analysis developed by Oscar Horta. He is defending an axiological egalitarianism that brings us to distribute the value of the way more equally possible, and this inevitably leads to give up ethical anthropocentrism (Horta, 2010: 133-152).

11 N. Holtug has stressed the need to overcome our prejudices in this regard, given the difficulty to find good reasons to legitimize our first intuitions: 'I am myself inclined to accept the implications of prioritarianism with respect to non-human animals. While these implications may seem counterintuitive, the "counterintuitiveness" may very well be due to speciecist – and so unreliable – intuitions about fairness. Thus, I do not find it counterintuitive that justice requires us to give priority to people who have severe cognitive disabilities and short lives, and are for this reason much worse off than others. It is therefore up to prioritarrians (and egalitarians) who do not find the relevant implications of prioritarianism (and egalitarianism) acceptable to come up with a version of one of these principles that does not imply them. But, as I have argued, this may not be an easy task' (Holtug, 2007: 21).

12 If our interest here was only normative then we would have to commit with some moral theory to specify in practical rules our moral obligations to animals. It is known that different theories grant a significant interest to the provision of benefits to those whose welfare level (capacity) is low in some sense, and this may introduce shades in the decision-making process.

the historical moment in which we find ourselves, will be particularly relevant.

Suppose we start from the Mill proposal and recognise the following relationship: the higher cognitive abilities imply more opportunities for well-being. Suppose, further, we admit that the level of technological development allows the scientific community to identify, by pre-implantational genetic diagnosis, some genes associated with the cognitive capacities of the type mentioned. Once the relationship between the presence of such capacities and the existence of a wide range of opportunities for well-being is acknowledged, it seems that we should accept the *moral legitimacy* of enhancing the animals genetically to achieve a higher capacity for the well-being that the capacity in this respect provided by the natural lottery. In fact, if the activation of compensatory mechanisms to less fortunate individuals takes place under certain egalitarian demands, then we would probably be more correct to speak of a *moral obligation* to carry out the improvement.

In other words, if we defend a certain degree of objectivism, and maintain that is better living some lives more than others, then, from a moral point of view, we must acknowledge that new biomedical techniques could help many individuals to have a life much better than that for which have been genetically endowed. We would be falling into reductionism if we view enhancement technology only as a path to excellence, because such techniques should be considered first as a possibly effective tool for introducing greater equality.

The results promise to be good, but reticence in regard to these new biotechnological developments is common.¹³ Once we can modify dramatically to individuals, so many possibilities are opens that it causes important fears. Nowadays, we have the opportunity to carry out big changes in the physical and mental capacities of human beings, and, beyond the scope of health, this implies an enhancement of ourselves. The difference with the results obtained by traditional methods can become qualitative, which is why the debate is novel

13 The works of Michael Sandel are paradigmatic in this regard (2009). On the other hand, if we want to understand the factors underpinning this critical tendency, prevalent in our society, we can turn to Bostrom and Sandberg (2009: 375-416).

and relevant. In this way, an interesting philosophical discussion about the ethics of human enhancement takes place.¹⁴

Consequently, the argument developed forces us to take seriously the issue of a possible moral obligation to pursue increased cognitive capacity in animals.¹⁵ For this reason, it makes sense to bring up the above discussion and examine moral evaluation that deserves itself the goal of improvement through new technologies.¹⁶

In opposing sides are placed, on the one hand, those who think that everyone should be free to decide what use they wish to give individually to the enhancement technology available (transhumanists), and on the other, those who argue that we have no right to produce changes in human biology (bioconservatives). In this second case, the objection rests on the moral status attributed to the techniques themselves. Usually are underlined concepts such as dignity, integrity, essence or nature to indicate that *change* is something inherently wrong. Nevertheless, we could require them to answer some questions: what do the notions mentioned above really involve? Or, how does one relate such concepts to an objective state of affairs in which intersubjective criteria (something necessary for a reasonable decision-making process) can be established? This represents a significant difficulty for bioconservatives because it is not easy to justify that modifying the natural is wrong *per se*. A reasoned understanding of the concept of nature entails recognition of characteristics both desirable as undesirable, and this would be sufficient to value the possibility of removing some of the features that we consider undesirable (Buchanan, 2009).

14 I recommend the volume entitled *Human Enhancement*, edited by Julian Savulescu and Nick Bostrom (2009). This is a very current collection on this topic, with papers by great experts as J. Harris, M. J. Sandel, F. Kamm o P. Singer.

15 One question that cannot be ignored is if the egalitarian requirement also implies an increase in the life expectancy of animals. Can we defend the idea that having a longer life makes that life more valuable? Arguments for and against can be found within two perspectives known as *prolongevityism* and *quietism*, respectively. If interested in exploring this attractive debate, one should consult the monograph by Christine Overall (2003).

16 Until now, genetic techniques have been used to create transgenic animals as experimental subjects. Those interested in this issue from an ethical point of view can consult a range of texts (Appleby, 1998: 255-273; Loew, 1994: 3-5; Poole, 1995: 81-85; and Smith, 2002: 55-71). What I propose, however, is an amplification of the range of mental abilities by developing the internal and external systems dedicated to process information. This definition can be seen in Bostrom and Roache (2007).

Many anti-enhancement positions want to avoid essentialism, reject an understanding of nature as a wise entity, and recognise the advantage of carrying out a cost-benefit analysis. Still, this attitude, although more rational, can be equally paralysing, implying an *absolute* questioning of enhancement techniques. In this way, a strong version of the precautionary principle is usually defended, in which any possible risk entails inaction. The mentioned principle has problems of foundation and is very ambiguous, and can also be presented another additional argument in reply. Consider the possibility of making human beings better individuals in a finally very practical sense. That is, we think in a modification that achieves increasing the interest of the people for morally better reasons ('reasons' in this instance refer to the psychological state that leads a person to act). In this case, the risks identified from the precautionary principle could be questioned, given the moral enhancement of moral agents. This would be because the good consequences of improving the morality of human beings could offset the risks. Therefore, the possible problematic individual moral effects and the danger of loss of identity may not be so decisive if we could count on very empathetic individuals willing to take on the responsibility to solve the most serious global injustices (Lara, 2016). So, this type of modification could be understood as a counter-example, thus invalidating the anti-enhancement argument (that one that provided reasons) (Douglas, 2008; Faust, 2008).

The difference between the previous positions and those we might call *intermediate positions* lies in the aim itself. The aspiration of the latter is not the questioning of all new enhancement technology, though it insists on the necessity of carefully considering potential costs, on an individual and collective level. The role for the possible risks in the application of techniques is something that will obviously vary, depending on the normative context in which we place ourselves. However, there seems here an unavoidable matter of coherence that should guide the debate (Savulescu, 2006). If we want to be consistent, we must admit that what we consider valuable in the prevention and treatment of disease is also present in the aspiration to improve our abilities. In both cases, the underlying issue is the intention to increase our chances of having a happy life (that is, to have more opportunities for satisfaction). It is not easy to find a morally relevant difference between the prevention of diseases and the enhancement of our capacities. This, together with the fact that

the obligation to prevent and treat disease is generally recognised, leads logically to the moral duty to improve those aspects associated with a happier life. If we accept the viability of a consequentialist approach and accept the consistency of parallelism between prevention, treatment and enhancement, we should admit that the presence of some risk in the latter case fails to invalidate the obligation to act. The question of what constitutes here an acceptable level of risk could be solved by an equation with the level of risk we accept for the prevention and treatment of diseases.

In short, if we have technology to provide to individuals a better life (this also means a correction of disadvantages) and we choose not to do so, we would have to find a good reason for justify such inaction. This is not easy because both increasing the happiness and achieving a more just situation are reasons that weigh very much on considerations of the possible risks.

Therefore, we would have reasons to defend a very open position with respect to new technologies of enhancement. Admittedly, given its novelty, we must anticipate the presence of probable risks. However, we have seen that it would be more reasonable to recognize a margin of contingency in line with that which we are willing to accept in the case of the prevention and treatment of diseases.

Since this seems to provide a lot of possibilities for manoeuvre, it is largely rational and coherent defend that we are required to provide better lives for unfortunate members of the moral community, using all the available means (including genetic modification).

A conclusion like this will be problematic for many people and will be understood as particularly counterintuitive if duty is extended to many non-human animals. I admitted from the beginning that an acceptance of some theoretical common places was essential in order to follow the argument developed in this paper. The starting point was to recognise, as a demand of reason itself, the need to abandon the classic paradigm of moral anthropocentrism in order to defend the moral rights of nonhuman animals. Regardless of whether we are defenders of utilitarianism, formalism or a discourse ethics, for example, I think it is possible to recognize the logic of extending moral consideration to those who may suffer from the actions of members of the community (even although the differences in the understanding of our specific responsibilities as moral agents are large). The next step is given by the need to resolve the inevitable conflicts between rights, where the choice between different lives becomes

the most difficult decision. The reference to Mill's analysis afforded us the theoretical support for justify the common preference in favour of the kind of life that uses higher cognitive faculties. Those who know the different sides of the issue, Mill says, will understand that the better life is one in which individuals have access to a more complete happiness. Ignoring some problematic aspects of Mill's theory, I was left with the idea that, if we usually prefer the life of Socrates dissatisfied, the decision is related with the opportunities we have in this case. I saw that, putting to one side the well-being provided at a given time, the important concern is associated with opportunities of satisfaction, which go beyond the mere sensation and will probably be related to some type of cognitive capabilities.

What happens is that, given the possibilities open with respect to the development of new techniques for enhancement, it was inevitable that the question of moral legitimacy would arise. However, I wanted to point out that the key actually lies in the field of moral obligation. The difficulty of justifying a morally relevant difference between prevention, the treatment of diseases, and the enhancement of capacities, forces us to admit that the most coherent option is to acknowledge a moral obligation in the application of new technology. In all three cases, the goal is to provide better lives for all who form the moral sphere.

In short, the argument leads us to recognise that those with poorer lives will suffer some type of harm if we have the possibility to increase their chances of happiness but we choose not to do it. In addition to this, we mentioned the compensation requirement, which is unavoidable in an egalitarian approach. It is true that to accept an interpretation so demanding of the principle of equality can be very arguable. The challenges to this interpretation are many, but the idea of increasing the chances of well-being as a matter of justice could outweigh them.

Anyway, what I want to emphasise is that the arguments for human enhancement persist in the case of non-human animals belonging to the moral community. In fact, I think the content of the improvement noted can and must be specified. Indeed, for this purpose, Mill's analysis of the value of the lives can be particularly relevant as a starting point.

To compensate for a disadvantageous starting situation, for reasons of coherency, or both, it seems that we must take seriously the possibility of increasing the capacity for the well-being of nonhuman

animals. Although we remain a little far from real and effective possibilities in this regard, it cannot be denied that this mental exercise works as a magnificent setting in which to test our moral intuitions.

REFERENCES

- APPLEBY, M. C.: "Genetic engineering, welfare and accountability". *Journal of Applied Animal Welfare Science*, nº 1 (1998).
- BOSTROM, N., & ROACHE, R.: "Smart Policy: cognitive enhancement in the public interest". *Rathenau Institute in collaboration with the UK Parliamentary Office of Science and Technology*, 2007. On-line: <<http://ieet.org/index.php/IEET/more/bostrom20070606/>>
- BOSTROM, N. & SANDBERG, A.: "The wisdom of nature: an evolutionary heuristic for human enhancement", in *Human enhancement*. J. SAVULESCU and N. BOSTROM (Eds.), Oxford, Oxford University Press, 2007.
- BUCHANAN, A.: "Human nature and enhancement". *Bioethics*, nº 23 (3) (2009).
- DAMASIO, A.: *Descartes' error: emotion, reason, and the human brain*. New York, Avon Books, 1994.
- DAWKINS, M. S.: "The scientific basis for assessing suffering in animals", in *In defense of animals. The second wave*. P. SINGER (Ed.), Oxford, Blackwell Publishing, 2006.
- DOUGLAS, T.: "Moral enhancement". *Journal of Applied Philosophy*, nº 25 (3) (2008).
- FAUST, H. S.: "Should we select for genetic moral enhancement? A thought experiment using the Moralkinder (MK+) haplotype". *Theoretical Medicine and Bioethics*, nº 29 (2008).
- FLETCHER, G.: "The consistency of qualitative hedonism and the value of (at least some) malicious pleasures". *Utilitas*, nº 20 (4) (2008).
- HOLBROOK, D.: *Qualitative utilitarianism*. Lanham, University Press of America, 1988.
- HOLTUG, N.: "Equality for animals", in *New waves in applied ethics*. J. RYBERG, T. PETERSEN, and C. WOLF (Eds.), Basingstock, Palgrave Macmillan, 2007.
- HORTA, O.: "Egalitarianism, levelling down, anthropocentrism, and the value of life". *Revista de Filosofia*, nº 35 (2010).
- LARA, F.: "El imperativo ético de la mejora moral". *Gazeta de Antropología*, nº 32 (2) (2016).
- LOEW, F.: "Beyond transgenic: ethics and values". *British Veterinary Journal*, nº150 (1994).

- MCMAHAN, J.: "Cognitive disability, misfortune, and justice". *Philosophy & Public Affairs*, nº 25 (1) (1996).
- MCMAHAN, J.: *The ethics of killing: problems at the margins of life*. Oxford & New York, Oxford University Press, 2002.
- MILL, J. S. (1863). *Utilitarianism*. Oxford, Oxford University Press, 1998.
- OVERALL, C.: *Aging, death, and human longevity*. Berkeley, University of California Press, 2003.
- POOLE, T. B.: "Welfare considerations with regard to transgenic animals". *Animal Welfare*, nº 4 (1995).
- RILEY, J.: "Interpreting Mill's qualitative hedonism". *The Philosophical Quarterly*, nº 53 (212) (2003).
- SANDEL, M.: *The case against perfection: ethics in the age of genetic engineering*. Harvard, Harvard University Press, 2009.
- SAVULESCU, J.: "Genetic interventions and the ethics of enhancement of human beings", in *The Oxford handbook of bioethics*. B. STEINBOCK (Ed.), Oxford, Oxford University Press, 2006.
- SAVULESCU, J. & BOSTROM, N. (Eds.): *Human enhancement*. Oxford, Oxford University Press, 2009.
- SCHMIDT-PETRI, C.: "Mill on quality and quantity". *The Philosophical Quarterly*, nº 53 (2003).
- SINGER, P.: *Animal liberation: a new ethics for our treatment of animals*. New York, Random House, 1975.
- SMITH, K.: "Animal genetic manipulation: a utilitarianism response". *Bioethics*, nº 16 (1) (2002)
- VALLENTYNE, P.: "Of mice and men: equality and animals". *Journal of Ethics*, nº 9 (2005).
- VERHOOG, H.: "The concept of intrinsic value and transgenic animals". *Journal of Agricultural and Environmental ethics*, nº 5 (1992).

Olga Campos Serena
Universidad de Granada
e-mail: <olgacampos@ugr.es>