

Towards a “Human Enhancement Society”? Opportunities for an Aristotelian Approach to Frame the Question

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ABSTRACT

The essay is subdivided into three parts. In the first and introductory one the current debate on human enhancement is presented, with specific reference to its interdisciplinary characteristics and to the aspects which explicitly challenge “the human condition” as a whole. The second and third parts attempt to frame the comprehensive area of questioning opened by such a perspective, which is grounded in the practical philosophy of Aristotle – a model that seems particularly neglected within the human enhancement debate. Specifically, part two (§ 1) is devoted to a “rehabilitation” of the theory of justice and fairness developed in the *Nicomachean Ethics*. In turn, part three (§ 2) goes into detail with reference to the taxonomy used, and tries to sketch out a possible area of theoretical application regarding both the rights of restoring and possible criteria of legitimate advantage. The proposal outlined is also integrated by a synthetic list of possible points of criticism which might be taken seriously into account in a wider and deeper exploration of this approach to the topic.

Introduction

The debate on human nature – that is *why* man exists as such, on *how* he has been able to evolve, and on *who* he can become in the near or more distant future – constitutes a combination of questions that are constantly and inexhaustibly proposed.¹ This is perhaps the outcome of an intrinsic specificity

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¹For a recent book on the topic, see Downes & Machery (2013).

of human beings. As has been acutely observed, in no other living species does technology (or more precisely the need for technological development), play such an important role as it does in the human species (Gerhardt, 2008, pp. 98 ff.). Almost every animal species is able to implement “techniques” in order to improve its living conditions, that is to produce tools or structures capable of enhancing its ability to procure food and defend itself. No animal, however, to the same extent as the human being, seems unable to do without the constant innovation of its own capacities and their outcomes. This is a constant factor which unequivocally connotes our being human. It is a constant that we can say is expression of an essentially dual nature: fear of inadequacy, on the one hand, anxiety for perfection, on the other.

It is perhaps this very same constant which is currently active in one of the most virtuously interdisciplinary debates that is taking place on the contemporary scene and which is frequently labelled as human enhancement. The expression “human enhancement” at the beginning of this debate substantially had the meaning of an intervention cogitated in order “to develop the appearance or functioning of the human being beyond what was necessary to sustain and re-establish good health” (Juengst, 1998, p. 29). In definitions like this, of a bioethical form and to this day particularly influential, at the centre of attention there is the binomial of illness/health. But the debate has developed rapidly, introducing different definitions of the very concept of human enhancement which, together with that of “health”, imply the concept of “normal functioning” but also those of “therapy”, “well-being”, “dignity” and so on. A particular characterization of this debate developed throughout the first decade of the 21st century, polarizing along two aspects of the argument, often presented as ideologically opposed, the *transhumanist* viewpoint and the *bioconservative* viewpoint.² Very briefly, those who follow the first line of argument, sees the current form of the human species, on both a somatic and cognitive level, as constituting only one of the stages of human development, whilst we have only just begun to grasp the universe of possible integrations between natural and artificial that the succeeding phase of this development will involve. Conversely, the other line of argument stresses the need to investigate the significance and implications of the transformations concealed behind the apparently neutral technological development involving

² There is an attentive and equidistant comparison in Parens (1998). For a more updated framework, see Carnevale & Battaglia (2013).

the human subject, framing the concepts of nature and human dignity as insurmountable limits. Whilst the exponents of the first line of reasoning are criticized for being entrenched in an implicit (and naive) determinism regarding the progressive unproblematic development of the human species, those of the second line of argument are chastised for their excessive “metaphysical” vagueness regarding the basic concepts introduced in defence of more cautious positions.

The main merit of this development of the debate can be found in a more widespread knowledge of the underlying implications regarding his issue and a series of interventions on the human body that make invasiveness, non-reversibility and growing technological integration its distinctive characteristics. An indication of this awareness has been and still is the increasing entrustment, on the part of public bodies and institutions, of research aimed at better mapping a phenomenon that is difficult to contain and which has potentially unpredictable outcomes. The clearest result, following an important series of documents regarding this research, are definitions that are decidedly “wider”, or better “more comprehensive” of the various possible aspects of the phenomenon. A significant example is that of the work commissioned by the European Parliament and involving the research group coordinated by C. Coenen. Here, human enhancement is seen as “a modification aimed at improving individual human performances and determined by interventions carried out on a scientific or technological basis on the human body” (Coenen, 2009, p. 17).³

It is clear, from definitions like this, that there is awareness of the fact that the issue of human enhancement goes very much beyond the borders of the relationship illness/therapy. At the point where this label is used for high value technological interventions ranging from aesthetic surgery to pre-implant genetic diagnosis, from empowering chemical compounds that determine enhanced performances to bionic prostheses or wearable exoskeletons, there appears to be much more than the medical sphere involved. There is the perception that the entire human condition comes into play, to recall the famous expression of Arendt in a sense perhaps not yet unveiled to the German philosopher.

³ The document, elaborated by the research unit *Science and Technology Options Assessment* (STOA), a part of the European Parliament, can be found at: [http://www.europarl.europa.eu/RegData/etudes/etudes/join/2009/417483/IPOL_JOIN_ET\(2009\)417483_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/etudes/join/2009/417483/IPOL_JOIN_ET(2009)417483_EN.pdf).

The profound reflection that such a radical upheaval will cause in the near future must depart from some basic assumptions that are already transversally well-known. Above all, it appears that we can reject monistic viewpoints, those in absolute agreement or absolute disagreement as regards this set of modifications, of unprecedented complexity and extremely rapid qualitative growth. Secondly, it does not seem that the understanding of such an amalgam can be entrusted to a single analytical perspective, but certainly requires a decidedly interdisciplinary approach (Straub, 2012; Grion, 2012; Cerqui, 2002).⁴ Thirdly, it appears to be a particularly demanding task to identify precisely the very object of this approach, that is distinguish a clear “set” of technologies explicitly oriented towards human enhancement, given the highly diverging and incomparable characteristics they represent, from intervention on single cell groups to structures or bio-robotic prostheses, from neurological interactions with external computers on the single subject to tools involving the sensorial enhancement of touch or sight, to cite but a few examples.

With respect to all this, together with a pragmatic attitude, contextualized and as free as possible from ideological implications, such as that recently inaugurated by the U.S. National Science Foundation (Allhoff, 2009), it is the intent in that which follows, inevitably in a preliminary form, to put a different theoretical-critical modality to the test. The need for an anti-monistic and anti-reductionist approach, together with the need to appreciate the contextual conditions in which this enhancement should be placed and with the need to examine case by case with its risks and opportunities, in fact make the attitude appear to be frenetic and the entire perspective of Aristotelian practical philosophy as a potentially useful orientative tool and currently ignored by the present debate on this issue. Furthermore, this perspective seems to connect with one of the developments of a pragmatic nature regarding this theme which appear today to be most fruitful but, equally, are not totally aware of the preciousness of the Greek antecedent which can equip a toolkit suited to contemporary complexity.⁵

Therefore, in what follows there is the intent to launch an exploration of a scheme of Aristotelian matrix for different possible applications to ethical-political questions relative to what we could term the “human enhancement

⁴ This consideration has also been made by some that the extreme interdisciplinary nature of an approach suitable for human enhancement urges the need for a totally new discipline (Savulescu and Bostrom, 2009).

⁵ I refer above all to the commendable volume of Keulartz et. al. (2002).

society”. We are certainly speaking of a futuristic perspective, but which, in many respects, already appear real and looming over the present.

1. Towards An Aristotelian Approach I: Human Enhancement through the Lens of the Theory of Justice

In order to try and elaborate a scheme of this type, it seems opportune to return to the heart of Aristotelian practical philosophy and, in particular, to the virtue to which the Greek philosopher dedicates a wholly exclusive space within the context of the *Nicomachean Ethics: justice*.⁶

1.1. What is justice? The first Aristotelian answer

Here, as we know, Aristotle starts by considering justice as virtue ethics, on the one hand. On the other hand, justice is immediately treated as a very special virtue: justice is considered as the “complete virtue in its fullest sense”. Following Aristotle’s words:

This form of justice, then, is complete virtue, but not absolutely, but in relation to our neighbour. [...] It is complete because he who possesses it can exercise his virtue not only in himself but towards his neighbour also; for many men can exercise virtue in their own affairs, but not in their relations to their neighbour. [...] Now the worst man is he who exercises his wickedness both towards himself and towards his friends, and the best man is not he who exercises his virtue towards himself but he who exercises it towards another; for this is a difficult task. (Eth. Nic., 1129a 25 – 1130a 8)

A crucial point stressed here by the author is that the perfection of justice does not come so much from its being a virtue (that is “a moving towards the good”) of the person who exercises it, but rather from his being engaged in seeking the good of others. Thus, according to a first approximation, what does justice mean? Aristotle proposes here two meanings, one wider: “The just, then, is the lawful”, and a second and narrower one (as we will discover later on): “The just is the fair” (Eth. Nic., 1128b 34). By expressing the latter meaning in other terms we could rephrase it as: “just is what respects equality”. We must remember that Greek does not have a vocabulary of fairness distinct from that of equality. And this becomes evident by looking at the conduct of an unjust

⁶ The English Translation by D. Ross of the *Nicomachean Ethics* will be used in what follows, as well as the reference to the traditional pagination.

man who – says Aristotle – is a man “grasping” (Nic. Eth., 1129b 5), d.i. a man who seeks to obtain more (in terms of goods) than others. But this is not sufficient (even if Aristotle is not so explicit here about this): the unjust seeks to obtain more than others “by grasping”, namely: through unfair means, or by using unfair or undeclared forms of advantage.

1.2. Which Justice? A Second Definatory Frame

Following the argumentative path of the fifth Book, Aristotle appears as mainly (even if not exclusively) committed to the definition of this second and narrower sense of justice: justice as respect of equality. And this is the core assumption of the argumentation presented in paragraphs 2–4 of this Book. In this context the Greek philosopher puts forward the paradigmatic distinction between *distributive* and *rectificatory justice* (Nic. Eth., 1130b 30 – 1131a 1). Thus, *distributive justice* concerns only public goods, namely public offices, which – this is the line which will be developed in the following paragraphs – should be distributed only by respecting a ranking of merits and of relationships of proportionality among the community’s members (to give to each one what he/she deserves proportionally to their role within the polis). This is the particular way of interpreting the claim of equality in the public domain.

Conversely, there also exists a second form of justice: *rectificatory justice*; this is always related to the restoring of equality, but in this case concerning private relationships, namely, relations among “privates”. This is a quite generic category put forward for identifying single citizens first, but also, more generally, human beings (including in this way also women), or beings that cannot be completely considered as human (slaves) or that are not yet fully human (children). Therefore, rectificatory justice appears crucially engaged in the interpretation of that relationship between individual and otherness, which justice as a virtue represents in an exclusive manner. In paragraph 4 the author defines more sharply the concept of rectificatory justice:

justice in transactions between man and man is a sort of equality indeed [...]. For it makes no difference whether a good man has defrauded a bad man or a bad man a good one, nor whether it is a good or a bad man that has committed adultery; the law looks only to the distinctive character of the injury, and treats the parties as equal. (Nic. Eth., 1131b 32 – 1133a 5)

Such justice is a sort of equality, but the author does not forget that justice is also an ethical virtue. As virtue, justice constitutes firstly as a *metriotes*, a sort

of mediation between two extremes, namely between a *maximum* and a *minimum* (Nic. Eth., 1131b 32 – 1133a 5). Thus, justice is a medium point between a sort of gain and a sort of loss; “it consists in having an equal amount before and after the transaction” (Nic. Eth., 1132b 19-20). The very distinctive point is its orientation to the restoring recovery from an existing inequality, or a disparity, a dis-equilibrium – innate or which is formed at a certain point – between a gain and a loss.

1.3. Beyond Justice: The Role of Fairness

Chapter 5 of the *Nicomachean Ethics* offers an area of questioning which is certainly richer than can be taken into account in the present schematic context. However, simply to give an example contemplated within Aristotelian theory, a “complete” theory of justice, which is aimed at grasping the problematic whole presented by the technological age, will surely be faced with the problem of “justice and liability” or with the question as to whether “it is possible to suffer injustice voluntarily”.

Among other concepts and arguments, almost at the end of the Book, Aristotle introduces the concept of *fairness*, which we have to consider analytically. The author devotes his preliminary attention to a fundamental statement clearly aimed at inscribing fairness within the framework of justice.

For on examination they appear to be neither absolutely the same nor generically different; and while we sometime praise what is fairness and the fair man [...] at other times, when we reason it out, it seems strange if the fair being something different from the just, is yet praiseworthy; [...] they are all in a sense correct and not opposed to one another; for the fair, though it is better than one kind of justice, yet is just, and it is not as being a different class of thing that it is better than the just (Nic. Eth., 1136b 31 – 1137a 5).

Fair is part of the same class of things and of being of the just. Nonetheless, it is in a sense superior: “it is better than the just”. Aristotle stresses this point immediately after, integrating it with additional defining elements.

The same thing, then, is just and fair, and while both are good the fair is superior. What creates the problem is that the fair is just, but not the legally just but a correction of legal justice. (Nic. Eth., 1137b 10-13). But, one could ask, why is the fair a correction and why and in which sense does the just need a correction? The reason for this is intrinsic to the same nature of the law:

all law is universal but about some things it is not possible to make a universal

statement which shall be correct. [...] When the law speaks universally, then, and a case arises on it which is not covered by the universal statement, then it is right, where the legislator fails us and has erred by oversimplicity, to correct the omission – to say what the legislator himself would have said had he been present, and would have put into his law if he had known. Hence the fair is just, and better than one kind of justice – not better than absolute justice but better than the error that arises from the absoluteness of the statement. And this is the nature of the fair, a correction of law where it is defective owing to its universality. (Nic. Eth., 1137b 14-27).

It can occur that the universality of the law, due to a particular case (a new one which is not yet contemplated in that law), must be corrected by the intervention of a sort of “second legislator”, the fair man, who seeks to adapt the universality of the statements of a law to the cases that may not fit it, or that could be also deeply misunderstood, if they were not submitted to such an intervention of fairness. Along this path, we should note the terms in which Aristotle finally depicts the fair man: he is “the man who chooses and does such acts, and is no stickler for his rights in a bad sense but tends to take less than his share though he has the law on his side” (Nic. Eth., 1137b 14-27).

The fair man is not the man who abuses from his position of (indirect) prominence in order to gain advantages for himself or for the members of his restricted community. On the contrary, the fair man is he who takes less than what the law would have allowed and assigned to him.

Restoring the previous schema, which we saw in relation to rectificatory justice, we could claim that the fair man, instead of putting himself on the side of advantage, prefers to occupy the side of loss, in order to give more place and possibilities to a wider community of possible others, in the present and for the future. He takes less for himself, in order to leave more for others: this is perhaps the best and deepest spirit of justice in an embodied form that the fair man represents.

2. Towards an Aristotelian Approach II: Opportunities, Limits, Open Questions

It is unfortunately not possible within this context to fully elaborate all the points that in the fifth Book of the *Nicomachean Ethics* returns, perhaps a little unexpectedly, to the reader interested in its possible application to today’s technological society. In what follows there is the intent merely to trace the profile of a possible taxonomy of justice and fairness of an Aristotelian matrix to put in relation to the forms of human enhancement, limiting oneself

to evoking some problematic aspects and theoretical nuclei that certainly deserve a succeeding and more analytical close examination.

2.1. Going Back to Aristotle – I

Firstly, as can be recalled, justice consists in the search for good not only from the viewpoint of the first person, but also, and above all, “for others”. Furthermore, since the unjust man is first of all he who attempts to obtain more of others “by grasping”, that is to say: using disloyal or undeclared forms of advantage, it will be corrective justice that will identify and re-establish an intermediate way between a sort of profit and loss. Its specific difference is in fact its orientations towards recovery, the restoration of an existing inequality, or from a disparity, a dis-equilibrium– we could say: innate or which has been generated at a certain point – between a profit and a loss, in all the terms in which both can be possibly imagined.

From this point of view, one could put forward here a first proposal of development of the model of corrective justice, directing it explicitly towards all the needs of recovery from situations of damage or disability, congenital or acquired following traumatic events, illnesses or aging. In these cases human enhancement can be treated as a form of profit relative to the recovery from a form of loss. Extensively, we could call the questions that are a part of this context “questions of justice” for a human enhancement society.

These questions should be aimed – as far as is possible today, thanks to the multi-formed technological contribution – at restoring capacity and functioning typical of a “healthy” adult person to that person who has lost these capacities and functioning or has never possessed them.⁷

Starting from an analytical elaboration of all the public questions that could be part of this perspective might take the first steps towards a new system of public policies, committed to considering the set of technological innovations directed towards human enhancement as a possibility of rehabilitation of high standards of quality of life for each and every citizen of a community. We should certainly analytically consider each context in which each possible technological innovation could evoke claims of corrective justice in the sense clarified above. The field of the new generation of biomedical applications – such as bionic hybrid systems, bio-mechatronic prostheses and components for

⁷ Here the reference is to the terms *capacity* and functioning in the meaning elaborated in Nussbaum and Sen (1993).

sensorial and motor augmentation – but also the cutting edge context of biomedical research – consider the universe of nanotechnologies or neural interfaces – certainly presents problematic areas that require new and specific languages of justice. If one retains that there are margins of fruitfulness, this is certainly a pathway to proceed with entirely *ex novo*.

2.2. Going back to Aristotle – II

A suitable integration of this provisional and partial scheme is without doubt offered by the reference to fairness. As we can recall, the fair is something superior to the legal just and constitutes a sort of corrective to the latter in relation to single cases. Specifically, the just man aims to obtain fewer advantages for himself than that which the law would have allowed. In this way, let us say, the just man operates a correction, individual and voluntary, to the advantage of possible others.

Bringing this problematic combination back to the context of human enhancement, in a first approximation one could establish the criterion on the basis of which the enhancement of the same sphere of human capacities and functionings beyond the line of what is “normally” attributed to a “healthy” adult person is considered as a form of advantage that must be compensated with a corresponding form of loss or of “restoration” of the positive consequences of these advantages to his community of reference.⁸

This criterion cannot avoid some clear boundaries: first of all, we should preserve the maximum space for the self-determination of the individual, where the enhancement required does not infringe existing laws.⁹ However, if this determination has directly or indirectly an impact on others, producing situations of undesired and suffered disadvantage, we must have the political-judicial possibility of arresting this self-determination and assessing its possible effects under the lens of fairness. Corresponding to this view, there could depart from here a hypothetical list of “questions of fairness” for the human enhancement society.

The basic objective of these questions should be the elaboration of criterion of legitimate advantage: not all that which can be done must also be realized

⁸ On this theme, for a first framing of a very wide question, see again Lucivero & Vedder (2013).

⁹ The theme of regulating spaces of legitimate spaces of freedom with respect to the challenges posed by new technologies is certainly one of the main debating points within this context. For a preliminary framing see the volume Palmerini & Stradella (2013) and, in it, the essay Pirni & Carnevale (2013a).

(see for example the voluntary and informed use of doping by an athlete, but also a possible neural implant which emphasizes unexpectedly my cognitive or memory capacities). Pandering acritically to the possibilities of implementation of our body and brain put at the disposal of the advancement of technology can open the door to also relevant distortions of social cohesion and free competition between individuals within a community. The risk of damage that is difficult to evaluate diachronically seems clear: an individual advantage could reveal itself to be a social loss and an undeserved human improvement could trigger chains of iniquity difficult to compensate.

2.3. Mapping a Territory of Open Questions

Wishing to attempt a summary of the profiles of this taxonomy, one could affirm that, whereas a theory of justice (in terms of corrective justice) suited to the challenges of human enhancement should be aimed at the legitimate protection of the recovery of loss or injury, a parallel theory of fairness should have the objective of safeguarding the legitimate improvement.

Obviously this articulation seems still very much preliminary and needful of integration. One could add as support that a first and perhaps most urgent task for an ethical and political theory which is directed towards this context of reflection is that of offering a mapping of the territory of open questions which is as analytical and detailed as possible – often in a radical manner – from the combination of possibilities and risks offered by the various dimensions of human enhancement. However this cannot, already at this level, avoid the emersion of a preliminary series of objections.

With respect to the aspect of corrective justice, whilst it appears quite clear that an intermediate point can be identified for the metriotes between “normality” and “disability” at a physical level (for example in the case of a mutilation or evident limitation of a limb), this could be much more complex to do in the case of cognitive or psychic damage in terms of the status of what is “healthy”.

Conversely, with respect to the aspect of fairness, it would seem clear to have the right to interrupt “egoistic” forms of distortion and improvement. But are the questions brought up above in this regard “juridifiable”, that is able to launch a legitimate legislative production within a democratic juridical framework?

Again, under a more general ethical-juridical profile, one could wonder whether and to what extent the current legislation regarding privacy, responsibility and informed consent is adequate, with respect to the long-term effects of devices that are often available for use even if they are beyond the ordinary standards of reliability. One should also discuss the issue of the risk of non-reversibility, together with that of the definition of the duration and legitimate aims of these “enhancements”. Last but not least, one should understand the degree of exclusivity or inclusivity of these procedures, with the aim of avoiding or at least contemplating *ex ante* new and more or less explicit forms of “divides”, subtler and more specific than the well-known “digital divide”, that is the insurmountable differences between who can afford and not afford technological enhancements (Pirni & Lucivero, 2013).

Conclusion

As regards what has been presented so far, whilst on the one hand it has the intent of suggesting a line of framing of Aristotelian matrix of questions of justice and fairness for the technological society, on the other hand it prompts detailed investigation of the foundations of problematic contexts, like those now presented only summarily which, in reflecting the objective difficulty of the questions regarding human enhancement, make an answer to these questions still more urgent.

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