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Beyond Therapy *v.* Enhancement?

Multidisciplinary analyses of a heated debate

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Enhancement and the vulnerable body: Questioning some philosophical assumptions

Mark Coeckelbergh

1. Introduction: Two conceptions of human enhancement

The term "human enhancement" can refer to many technologies, concepts, and visions of the future. I propose to distinguish between two mainstream conceptions of human enhancement. One the one hand, there are what seem to be rather "exotic" ideas about creating posthumans or about uploading ourselves, especially in the work of transhumanists such as Nick Bostrom and Raymond Kurzweil. For example, in *The Singularity is Near*[1] Kurzweil has argued that, due to the acceleration of the development of information technologies, we will become cyborgs, have nanobots in our bloodstream, and upload ourselves. He thinks we can and should transcend biology. We should, as John Harris puts it, "enhance evolution".[2] He announces a "new process of evolutionary change" that will "replace natural selection with deliberate selection, Darwinian evolution with 'enhancement evolution'".[3] This enhancement conception belongs to a domain that many people would describe as 'science-fiction'.

On the other hand, and as Harris also recognizes, enhancement in a less radical sense is a far more mundane phenomenon: we already enhance ourselves by means of bicycles, glasses, and indeed computers and smartphones. For example, the recent introduction of Google

[1] R. Kurzweil, *The Singularity is Near: When Humans Transcend Biology* (New York: Penguin, 2005).

[2] J. Harris, *Enhancing Evolution: The Ethical Case for Making Better People* (Princeton, NJ: Princeton University Press, 2007).

[3] *Ibidem*, 4.

Glass – smart glasses that provide augmented reality by means of a head-mounted display connected to the Internet – can be regarded as one of the most recent 'enhancements' available. In this view, there is continuity between radical and less radical forms of enhancement. If we adopt a broad understanding of enhancement, we have always 'enhanced' ourselves by means of technology. The invention of fire and the wheel, for example, can be considered as enhancements. Moreover, if we consider that modern medicine (meant as therapy) has extended our life-span (enhancement), and that some forms of enhancement can be very useful for people who are ill or disabled, the distinction between enhancement and therapy is blurred. Thus, in this sense enhancement is everywhere and has always been there. It is not something exotic but already part of what we do today and what we always have been doing. The question then is not *if* we should enhance the human but *how*.

However, even if we adopt the second, more mundane conception of enhancement, this does not mean that it is pointless to discuss more radical proposals for enhancement such as those made by transhumanists. Indeed, for the purposes of normative ethics and so-called technology assessment[4] it might be best to focus directly on contemporary and near-future technologies, since they seem to pose urgent ethical questions. For example, what if someone hacks my Google Glass device and spies on me by (almost literally) looking through my eyes all the time? Who is responsible when my automated car drives into a pedestrian that crosses the street? However, philosophers can and must also make a contribution to the debate about human enhancement by thinking through the more radical ideas and by exploring what they tell us about how we think about the human and about technology. Such reflections are then – albeit indirectly – relevant to more empirically oriented ethics of technology and its case studies, for example since they can help us to ask different questions ('to question the question'), to question the assumptions made in ethical discussions, and to critically analyze the discourse. This is crucial in order to avoid superficial or predictable ethical analysis and to make sure that ethics remains connected to other (sub)fields in philosophy.

[4] Technology assessment studies and evaluates new technologies and their social and ethical implications. It also aims to contribute to the formation of public opinion about these issues.

If we consider the discourse on radical human enhancement and in particular the public and academic debates about this issue, we see that these debates are typically polarized between rather radical "pro" and "contra" positions, in particular between "transhumanists" and "bioconservatives". The first wish to change humans and human nature; the latter wish to keep humans and human nature as they are. This paper clarifies some of the stakes in the debate by articulating and discussing some important philosophical assumptions that are shared by both positions, in particular four theoretical and normative assumptions about the human body, about history, about vulnerability, and about the relations between bodies, vulnerability and technology. In addition, I show that there is space for a third, alternative and nuanced, meta-position that overcomes the polarization in the debate.

2. First assumption: The human body as "robot" body

The first assumption is that the human body can and should be approached from an objective, outsider point of view according to which we 'have' a body rather than 'are' a body.[5] The enhancement enthusiasts claim that we should (re-)engineer the body, the opponents say that we should not touch it (e.g. since it is given to us by God). But both positions presuppose that the body is something we are only externally related to. An alternative meta-position, by contrast, starts from subjective experience as embodied experience: we do not only 'have' a body, but we 'are' also a body. It is not something separate from us, that can be "given" or "engineered" as if it was a kind of robot we (temporarily) inhabit and use. This meta-position, which is offered by the phenomenological philosophical tradition (Merleau-Ponty, Heidegger, etc.) but also by contemporary cognitive science,[6] seems to be absent in the debate. Instead, the focus in the current debate is on the body as thing: a 'something' that is the result of either evolution or

[5] M. Merleau-Ponty, *Phénoménologie de la perception* (Paris: Gallimard, 1945). Trans. C. Smith, *Phenomenology of Perception* (Abingdon/New York: Routledge, 2002).

[6] See for example F.J. Verela, E.T. Thompson and E. Rosch, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, MA: MIT Press, 1991).

divine creation, but that is a mere instrument in relation to our mind or spirit (*Geist*), the 'controller' of the 'robot' body.

More generally, with regard to human enhancement it is important to take into account the variety of bodily experience and how that experience is mediated and shaped by technology. Therefore, we better study how we (already) experience various kinds of enhancements and, more generally, study our relation to technology, to our body, and to our vulnerability. For example, when we wear glasses we do not usually encounter them as a separate object; rather, it is something that has become part of our embodiment. This is what Don Ihde has called an "embodiment relation".[7] Similarly, chip implants or artificial limbs can come to be experienced as parts of our body and indeed as part of 'me', as part of what I *am* – not only what I *have*. The technologies we use to enhance ourselves may become more-than-tools, more-than-things: they become part of our identity. They co-shape who we are and what we are as humans. For example, today smartphones seem to have become part of what it is to be human today. People see the world through the 'glasses' of their phones, and their identity is linked to the technology. Then the phone becomes more than an instrument; it becomes an extension of the human, the phones they are incorporated: they become part of the lived body, the experienced body.

For ethics of human enhancement, taking this alternative meta-position means that opposition to human enhancement can no longer be framed as opposition to enhancement as such for at least two reasons. First, it is recognized that we already enhance ourselves in various (more mundane) ways. Second, it no longer makes sense to think of technology as something that is necessarily and essentially separate from the human, something artificial that can be either used or not used, but that never belongs to what we are. Rather, an ethical evaluation has to start from an analysis of how a particular technology changes (or would) change our experience: not the experience we have 'of our body' or 'of the technology', but our already embodied experience that is (or would be) already mediated by the technology.

This alternative meta-position is difficult to accept by bioconservatives who assume that the body is something given to us (for us to use), but also by pro-enhancement authors who talk about

[7] D. Ihde, *Technology and the Lifeworld: From Garden to Earth* (Bloomington: Indiana University Press, 1990).

new enhancements as if they are a mere update of our robot bodies and neglect embodied subjective experience, or at least, *other* ways of experiencing our body and indeed of experiencing technology. To perceive our body as if it is a kind of robot that can be either repaired (therapy) or improved and updated (enhancement), is only *one* epistemic mode, only one kind of experience of the body and its relation to technology. It is a position that is rooted in Cartesian thinking, which makes a sharp distinction between on the one hand the body-machine, the 'robot' body, and on the other hand the soul or mind. But there are alternative ways of thinking that are less Cartesian or non-Cartesian.

3. Second assumption: A future without a history

The second assumption concerns the a-social and a-historical tendencies in the current discourse on human enhancement, in the discourse in the media but also in the discourse among human enhancement 'experts'. For example, one may think that the question regarding changing the human is only relevant today and in the future, since we now have the technology to do so (whereas before we didn't). It is assumed that there is a sharp line between 'old' technologies, which are supposed not to have changed the essence of the human, and 'new' technologies, which are seen as constituting a 'revolution' in the sense that they have the potential to change the human. It is assumed that 'before' we were natural humans, whereas today and in the future we are becoming *cyborgs*. But can this strict distinction be maintained? How 'new' is the question regarding human enhancement?

An alternative position would hold that technology has always changed the human. Transhumanists such as John Harris seem to acknowledge and even emphasize this, but they do not offer a systematic analysis of the relation between technology and the human body: how technology has always shaped the human body. Developing a full-blown alternative meta-position would need to do this, and would investigate how subjective embodied experience changed and has been changed by particular technologies (in particular contexts).

More generally, the discussion about human enhancement seems to disregard social, cultural, and historical context. There is little attention to questions such as: *Who* wants human enhancement? What kind of

background do these people have? In what kind of *culture* did they grow up? What kind of culture makes it possible that the question regarding human enhancement is asked at all? Why do we ask questions like this *today*? Who would benefit from the human enhancement measures proposed by, say, transhumanists? What kind of *society* is assumed by proponents and opponents of human enhancement? What kind of politics do they presuppose? What kind of *economic system* goes with, say, genetic enhancement?

These questions are not entirely absent from the debate. For example, in response to criticism that human enhancement proposes a form of totalitarian eugenics (usually comparisons are made with Nazi eugenics), Nicholas Agar has proposed a "liberal eugenics".[8] But in general the focus of the discourse, especially in the media, is on the technologies. In so far as this happens, it denies insights from so-called Social Studies of Science and Technology (STS) and related fields about the entanglement of social and technological changes. More generally, it denies the social and cultural dimension of human being. Again this can be partly explained by the Cartesian assumptions mentioned in the previous section: it is only if we presuppose that there is a strict distinction between, on the one hand, the bodily and material, and on the other hand, the mind and the spiritual, that we can divorce the discussion about human enhancement *of the body* and *by means of technology* from questions regarding subjective experience, society, and culture.

A good example of this separation (and the neglect of the social and cultural dimension) can also be found in a discussion that is often related to human enhancement: the debate about Singularity. Authors such as Raymond Kurzweil who make claims about a Singularity – the relatively sudden emergence of superintelligence, which we would not be able to comprehend – make a claim about *technological* evolution, about the progress of *technology*, without considering any relation whatsoever with societal or cultural changes. The claim originates in the fields of mathematics and is, like many claims in the discourse on human enhancement, entirely alienated from any consideration of social and cultural context.

[8] N. Agar, *Liberal Eugenics: In Defence of Human Enhancement* (Oxford: Blackwell, 2004).

An alternative approach would embed questions regarding human enhancement, Singularity, and other so-called 'technological' issues in a broader framework that enables us to ask questions concerning the relation between technology and society. Questions regarding the future of technology and the future of the human are always also at the same time questions about the future of our societies and cultures. If we want to think about 'enhancing' the human at all, we should also think at the same time about 'enhancing' society. Otherwise we neglect the social dimension of technology and the deeply social nature of the human.

4. Third assumption: Human vulnerability is constant and untouched by technology

The third assumption, which relates to the previous one, is that in the past human vulnerability has always been constant and untouched by technology. Transhumanists argue that we should eradicate human vulnerability by getting rid of disease and even death,[9] whereas opponents seem to argue that we should accept human vulnerability as it is. But this assumes that there is such a thing as 'human vulnerability' (and, more generally, 'human nature') which has remained constant since *homo sapiens* has entered the stage. Thus, such human vulnerability would not be influenced by (previous) technological changes.

The background of this assumption has again to do with the view of the human body that is assumed in these discussions. Some think that the human body has evolved, but still assume that there is such a *thing* as a 'human body' that is relatively stable and that – so far – has been untouched by technology, that is 'natural' as opposed to 'artificial'. Others think that the human body is created, given by God, but again this assumes that there is (in fact a much more constant) 'human body' as opposed to *other things*. For thinking about human vulnerability, this means that vulnerability is again related to 'this thing called body'. This has resulted in a neglect of the deeply relational nature of the body and the deeply relational and holistic nature of human vulnerability.

[9] Consider for instance Bostrom's tale of the tyrant-dragon, which compares our struggle against disease and death to a fight against a giant dragon: N. Bostrom, 'The Fable of the Dragon Tyrant', (2005) 31(V) *Journal of Medical Ethics* 273-277.

Vulnerability does not only have an important subjective and existential dimension, it also changes since it depends on technology and on society, which also change.

An alternative meta-position, therefore, acknowledges that human vulnerability has always been changed by technology and also depends on societal change. For example, technology plays a key role in how we prepare food and how we make sure that we are sheltered against whatever the seasons and weather bring. We use food technologies and use material transformations of space that shelter us. But this changes our vulnerability. We have protections against the risks of eating raw meat and against cold and storms. We are less vulnerable in that respect. At the same time, new technologies also create new risks. For example, a house can burn. And nuclear technology makes us less vulnerable in the sense that it makes us less dependent on oil and gas, but there are new risks that change our vulnerability (radiation risks, risks related to nuclear waste). If we use the Internet and become less vulnerable on "physical" networks, or so it seems, then at least we become more dependent on what happens in the so-called "virtual" realm. For example, our vulnerability comes to include vulnerability to computer viruses. (And the Internet still depends on physical infrastructure.) New technologies, new 'enhancements', also mean new threats, new risks, and new vulnerabilities. Thus, human vulnerability always changes, and is not only about 'the body' (as if there were a body-in-itself) but always also about technologies and their relation to the human body.

A similar point can be made about societal change. The way we organize our societies has an impact on vulnerability. If we have social security systems, for example, this changes our vulnerability. Again what is called 'the body' plays a role in this, but there is much more going on. The human enhancement discourse assumes a highly impoverished view of human vulnerability and of the human body, which needs to be replaced by a framework that enables us to discuss the ethics of so-called 'human enhancement' technologies within a broader discussion about the transformation of human vulnerability, which has a history, a present, and a future, and which includes bodily but also technological and societal dimensions of these changes.

Accepting the latter meta-position would imply that proponents of human enhancement cannot longer argue that their posthumanist future will involve less vulnerability since new technologies always

create new vulnerabilities. As I have argued recently, it will involve *different*, but *not less* vulnerabilities.[10] Moreover, opponents can no longer assume that human vulnerabilities are fixed and untouched by technology. An alternative approach, then, does not ask the question if we are for or against human vulnerability, but asks which vulnerabilities we want.[11] The issue of human enhancement, in the 'narrow' sense of the word, is only part of this broader challenge, which is at the same time technological and societal.

This argument concerning human vulnerability and technology also relates to my previous point about Cartesian views of the body. The alternative meta-position I propose implies a non-Cartesian view of vulnerability: human vulnerability is not understood in terms of the vulnerability of a body that is separate from a mind or soul – a vulnerability, therefore, that we might want to deal with by trying to get rid of the body, by strategies of dis-embodiment – but rather as *experienced* vulnerability. Human vulnerability is then about *being* vulnerable rather than *having* vulnerability. It is part of what we are, existentially speaking. It is not my body that is vulnerable, *I* am vulnerable – as a human being and as the particular embodied person living in a particular culture. And if this is so, then the project of human enhancement can no longer be aimed at eradicating human vulnerability[12] – unless, of course, it wishes to move into the non-human.

4. Fourth assumption: Science versus religion

The fourth assumption is that bioconservatives hold a religious/metaphysical approach while transhumanists do not. More generally, it is assumed that the debate on human enhancement can be framed along the lines of science versus religion, or engineering versus metaphysics. This is understandable, since opponents often support their arguments by relying on the view that the human body is given to

[10] M. Coeckelbergh, 'Vulnerable Cyborgs: Learning to Live with our Dragons', (2011) 22(I) *Journal of Evolution and Technology* 1-9.

[11] M. Coeckelbergh, *Human Being @ Risk: Enhancement, Technology, and the Evaluation of Vulnerability Transformations* (Dordrecht/Heidelberg: Springer, 2013).

[12] *Ibidem*.

us by God, or the view that we have a fixed human nature. And transhumanists generally reject any 'religious' approach or 'religious' or 'metaphysical' interpretation of their work.

Yet those who argue that we should eradicate disease and aim for immortality or that we should 'upload' ourselves, assume an anthropology and world view that stands firmly within the mainstream Western tradition, and that tradition has never been entirely secular or entirely non-metaphysical. In particular transhumanist thinking can be interpreted as an exponent of the body-phobic and highly dualist current in Platonic and Judeo-Christian thinking. Both transhumanist and "religious" positions seem to aim at a bodiless state, a state that would be liberated from the chains of 'bodily' vulnerability; they 'merely' differ in the way they want to reach it (liberation by technology versus liberation by God). Many transhumanists and the 'religious' people they criticize share a longing for an invulnerable, dis-embodied existence.

More generally, 'digital' technologies can be helpfully interpreted as offering the promise of that kind of invulnerability – if not immortality. For example, a *virtual* existence seems to help people to cut off their ties to the physical world and to that vulnerable body that tortures them, that annoying *thing* (see again assumptions about the body). I agree with De Mul's claim that virtual reality revitalizes "the old Platonic and Cartesian dream of escaping the prison of the body",[13] a project that can never fully succeed[14] but that nevertheless persists in our culture in various forms. The transhumanist ideas concerning human enhancement can be meaningfully interpreted as being part of this project. This interpretation is also supported by Hubert Dreyfus, who argued that in current waiting for the singularity, religion and technology converge: these people desperately yearn for an eternal life in which our bodies are digitalized, in which we are transformed into information and achieve immortality.[15]

An alternative meta-position would be to, as Dreyfus puts it, face up to our "embodied finitude", and accept and even enjoy our existential

[13] J. De Mul, 'Digitally Mediated (Dis)embodiment', (2003) 6(II) *Information, Communication & Society* 257.

[14] See also M. Coeckelbergh, n 11 above.

[15] H. Dreyfus, 'A History of First Step Fallacies', (2012) 22(II) *Minds and Machines* 87-99.

vulnerability. Such a position would neither be 'religious' nor 'anti-religious' in the senses of the term used in the human enhancement discourse. Rather, it would question *one particular kind of religiousness*, one that seeks deliverance from the finite and vulnerable human existential condition. Taking distance from the Platonic and Judeo-Christian heritage, it would encourage us for example to explore more *immanent* rather than transcendent forms of thinking and spirituality.[16] It would seek freedom, meaning, and joy *within* the bounds given by our finite, embodied, and vulnerable existential condition. Moreover, this alternative meta-position would not be anti-technology or would not necessarily reject 'digital' or 'electronic' technologies (a position Dreyfus sometimes seems to take). Instead, it would investigate if and how current electronic technologies can be used and designed in a different way than proposed by post-Platonic and post-Christian transhumanists and Singularity prophets. It would try to think what 'enhancement' of humans, technologies, and societies, would mean if one did *not* make the assumptions identified here, if one did *not* subscribe to the Cartesian and Platonic ways of thinking that continue to haunt Western thinking and Western religious experience.

5. Conclusion

If we want to move on in the debate on human enhancement, we have to know more about how technology transforms vulnerable bodies and we need a different approach that supports the alternative meta-position sketched here. As I argued, this would need to be an approach that does not necessarily reject new electronic technologies. Instead, we need an approach that enables us to evaluate such technologies, but not 'as technologies' if this means that they are considered in isolation from a more holistic thinking about human vulnerability and from human experience as embodied experience, as social experience, and as spiritual experience. In my book *Human Being @ Risk*[17] the reader will find a more developed articulation of such an approach and more development of the alternative meta-position

[16] M. Coeckelbergh, 'Pervasion of What? Techno-Human Ecologies and their Ubiquitous Spirits', (2013) 28(I) *AI & Society* 55-63.

[17] M. Coeckelbergh, n 11 above.

explored in this paper; here I have focused on articulating some assumptions in the current debate and on showing that there are alternative meta-positions and approaches.

The challenge for a more applied and normative ethics that sets itself the task to *intervene* in the current discussions about human enhancement and, more generally about digital or electronic technologies, is then to break open rusty positions by questioning their assumptions about the vulnerable body and by trying to articulate the normative implications of starting from different assumptions. In particular, we need to know the implications for how to deal with particular technologies and how to design better ones, that is, how to design technologies that really make us better – keeping in mind that this is only partly a matter of design. Human enhancement, in the alternative third sense that emerged here in my discussion, depends on many changes that are not entirely under human control. If the future of the human depends on the future of our bodily, technological, social, and spiritual vulnerability, there might be much that we will have to accept. And, hopefully often enough, much that we can enjoy.