

On Human Enhancement: An ethical review for judgment and diagnosis

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Introduction

Issues of judgment and diagnosis, and their contribution to the dialogue between medicine and philosophy, take on a particularly important role when addressing the topic of Human Enhancement. Human enhancement has developed in the last fifteen years as a blossoming topic in applied ethics, but it is also widely discussed in science and medicine.

We will analyse human enhancement (HE) in its philosophical part, which is essential. We will consider HE intimate relationship with medical aspects, because, with Luigi Alici, «HE intercepts a *process of medicalization of life*, through which exerting increasing epistemological pressure on the optimization of the concept of health»¹.

Our starting question is the following: how can we have a judgement criterion for the human enhancement debate in this context?

We assume that the debate on human enhancement is an ethical debate. And that is not only because of its contents, but also because the great technological advances in the last 20 years have made us aware that scientific research is closely tied to ethical issues. This assumption implies the philosophical study of the role nowadays played by technologies, the overview of the human condition, and the pursuit of new paths to understand the relationship between nature and culture.

This thesis relies on the thought of Don Ihde, who, according to Jure Zovko, «abolished the separation of the natural sciences and the humanities introduced by Dilthey and elaborated a material hermeneutics. The reason for this step is that products of the technical sciences are integral components of our lifeworld»². Ihde writes:

Humans are no mere creatures of ‘nature’ or ‘biology’. They are not solely the products of ‘culture’ either. Rather, the human mode of being can be better described as ‘a continuum of human-

¹ Luigi Alici, ‘La Persona Tra Limite e Potenzialità. La Sfida Dello “Human Enhancement”’, in *L’umano e Le Sue Potenzialità Tra Cura e Narrazione*, ed. Luigi Alici and Paola Nicolini (Roma: Aracne, 2020), 97–98 (my italics and translation).

² Jure Zovko, ‘Expanding Hermeneutics to the World of Technology’, *AI & SOCIETY*, 2 September 2020.

prostheses inter-relations'. [...] Put it more simply: we make things which in turn make us.³

Understanding the thorough connection between human life and technological advances is the key unlocking ethical questions that arise from the human enhancement and medicine debate.

1. What is Human Enhancement? — Features of the transhumanist desire

Human enhancement is promoted by the Trans-humanist movement. Mainly of Anglo-Saxon culture and coming from the American cyberculture of the 1980s, the transhumanist movement formalized in 1998 into the World Transhumanist Association (WTA) and then updated in 2008 under the name Humanity+. Led mainly by philosophers - such as Nick Bostrom, Julian Savulescu, or Anders Sandberg - and engineers - such as Raymond Kurzweil -, Transhumanism defines itself as «the intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by developing and making widely available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities»⁴.

So, we can summarize that HE represents a process of transformation, modification, and development of human abilities and performances employing an intentional use of knowledge and technologies⁵. And that these transformations, modifications, and development of human abilities – for Transhumanists - are desirable.

The character of desirability is a cornerstone of philosophies supporting HE: desirability represents a sort of emotional engine of the HE processes which are aimed at common people now and in the future. Nick Bostrom, who is one of the greatest advocates of HE, writes in this regard:

With continuing advances in science and technology, people are beginning to realize that some of the basic parameters of the human condition might be changed in the future. One important way in which the human condition could be changed is through the enhancement of basic human capacities⁶.

It is clear from these few lines how the topic of HE is not merely a puzzling exercise. The promotion of HE involves, first and foremost, the (self-)perceptions of people in general. And it is precisely this promotion that is philosophically justified. The purpose of HE (and the Transhumanism

³ Don Ihde and Lambros Malafouris, 'Homo Faber Revisited: Postphenomenology and Material Engagement Theory', *Philosophy & Technology* 32, no. 2 (2019): 195–214.

⁴ 'Transhumanist FAQ', Humanity+, accessed 18 August 2022, <https://www.humanityplus.org/transhumanist-faq>.

⁵ Cf. Laura Palazzani, *Il Potenzamento Umano: Tecnoscienza, Etica e Diritto*, vol. 122 (G Giappichelli Editore, 2015).

⁶ Nick Bostrom and Rebecca Roache, 'Ethical Issues in Human Enhancement', *New Waves in Applied Ethics*, 2008, 120–52.

that supports it) is thus highly applicative and almost Promethean. It rests on a simple syllogism: since we have technologies, then we must use them. From here we understand the decisive role attributed to technologies and science, and the alleged need to modify the human condition by technologically intervening in «basic human capacities» becomes clear.

Firstly, it is important to focus on what kind of human capacities and performances would be modified by science and technologies and their intentional use.

The first, and most obvious, ground for intervention is related to bodily capacities. According to Transhumanists, biomedical grafts, prosthetics, dental implants, but also healthy eating and sports training are all examples of physical enhancement⁷. Another aspect to which HE could be applied, however, concerns cognitive capacities. Smart drugs or electronic devices can, for example, could help us to work more and more without feeling tired. Coffee or meditation serve the same purpose, namely, to increase our cognitive capacities. In addition, transhumanists talk about neural capacities enhancement to be achieved by inserting or introducing microchips into our brains or using brain stimulation or brain-machine interfaces⁸. But when we talk about human enhancement, we need to take into consideration the possibility of seeing moral capacities improved as well. Moral enhancement involves biomedical technology to morally improve individuals. Reducing racism or aggressiveness is an example of what moral enhancement could do and obtain⁹.

The examination of «basic human capacities» subjected to the lens of transhumanism necessarily leads to the identification of the technologies involved in the enhancement process. The GRIN (geno-, robo-, info-, nano-) technologies and «the convergence of nanotechnology, biotechnology, information technology, and cognitive science (NBIC) is creating a set of powerful tools that have the potential to significantly enhance human performance as well as transform society, science, economics, and human evolution». They represent the technical instruments, tools, and framework *trough* which and *in* which we live as «never before has any civilization had the unique opportunity to enhance human performance on the scale that we will face in the near future»¹⁰.

⁷ Cf. Franziska Bork Petersen, 'Utopias of Bodily Capacity', in *Body Utopianism*, by Franziska Bork Petersen (Cham: Springer International Publishing, 2022), 171–84; Arnold Roosendaal, 'Implants and Human Rights, in Particular Bodily Integrity', in *Human ICT Implants: Technical, Legal and Ethical Considerations*, ed. Mark N. Gasson, Eleni Kosta, and Diana M. Bowman, vol. 23, Information Technology and Law Series (The Hague, The Netherlands: T. M. C. Asser Press, 2012), 81–96.

⁸ Cf. Walter Glannon, 'Psychopharmacological Enhancement', *Neuroethics* 1, no. 1 (March 2008): 45–54; Roy Hamilton, Samuel Messing, and Anjan Chatterjee, 'Rethinking the Thinking Cap: Ethics of Neural Enhancement Using Noninvasive Brain Stimulation', *Neurology* 76, no. 2 (2011): 187–93; E. Paul Zehr, 'The Potential Transformation of Our Species by Neural Enhancement', *Journal of Motor Behavior* 47, no. 1 (2015): 73–78.

⁹ Cf. Parker Crutchfield, *Moral Enhancement and the Public Good* (Routledge, 2021); Allen Buchanan, 'Moral Status and Human Enhancement', *Philosophy & Public Affairs* 37, no. 4 (2009): 346–81; G. Owen Schaefer and Julian Savulescu, 'Procedural Moral Enhancement', *Neuroethics* 12, no. 1 (April 2019): 73–84.

¹⁰ James Canton, 'Designing The Future: NBIC Technologies and Human Performance Enhancement', *Annals of the New York Academy of Sciences* 1013, no. 1 (May 2004): 186–98.

All this staff puts in light the role played by technologies through which human beings could obtain the *desired* enhancement.

The issue of desirability is the background and theme of all positions in the field of HE. This is a key point to remark on. At the basis of the arguments in support of HE are a few fundamental questions: are we good enough? Can we - should we - improve ourselves? And, if so, how can we do it? These questions are the reason why HE theories and practices are being developed to improve (i) our way of communicating, being more and more connected; (ii) our value in terms of authority and matching mass paradigms to perform better and better at work and in relationships; (iii) our health, to have less disease and less aggression and better aging also in terms of life extension, achieving a good lifestyle; but also (iiii) our sexual and procreative dimension up to selecting the best children.

Here is an example of this latter case. This example is useful to understand the reasoning method of some positions in favor of HE. This is part of an abstract by Julian Savulescu. In this article, entitled “Procreative Beneficence: why we should select the best children”, Savulescu promotes the employing of in vitro fertilization and preimplantation genetic diagnosis from a particular point of view. He writes:

I will argue that: (1) some non-disease genes affect the likelihood of us leading the best life; (2) we have a reason to use information which is available about such genes in our reproductive decision-making; (3) couples should select embryos or fetuses which are most likely to have the best life, based on available genetic information, including information about non-disease genes. I will also argue that we should allow selection for non-disease genes even if this maintains or increases social inequality. I will focus on genes for intelligence and sex selection¹¹.

What is important here to understand is the argumentation by the author. Savulescu talks about «best life», «select» embryos or fetuses, and «reason to use information» not only about not diseases genes. Moreover, he admits that this «procreative beneficence» should be implemented even if this maintains or increases social inequality.

All these arguments refer to an idea of “Good” which, however, is neither explicit, nor explained, nor developed. We will come later to grasp the theoretical motivations of this position. At this level, it is important to note that the only thing that for Savulescu seems "good" is the application, the use, and the implementation of the technical - in particular bio-medical - possibilities of selecting the best children.

¹¹ Julian Savulescu, ‘Procreative Beneficence: Why We Should Select the Best Children’, *Bioethics* 15, no. 5-6 (2001): 413–26.

The stress placed on technological opportunities is the core of HE theory. Savulescu and Bostrom claim that we could, better, we *should* use medicine and technology to reshape, modify, manipulate and enhance even *healthy* individuals. They write:

Interest has been stimulated by advances in the biomedical sciences, advances which to many suggest that it will become increasingly feasible to use medicine and technology to reshape, manipulate and enhance many aspects of human biology even in healthy individuals¹².

And that's why? Because we have these scientific and technological advances.

At this point, we could summarize the two main features of HE theories: (i) the intentional use of technologies; (ii) the interest in «any kind of genetic, biomedical, or pharmaceutical intervention aimed at improving human dispositions, capacities, or well-being, even if there is *not pathology* to be treated»¹³.

2. The philosophical core of Human Enhancement theories

From a philosophical point of view, it's important to note that all positions in the field of HE start from this assumption: if you have more capacities, you will live better. Technologies, technical devices, and advances in medicine would give us more and more chances to experience the world and modify ourselves in order to communicate, to act, to control or express our emotions, to discover something new, to know more and more, in a word: to *be* better. All these opportunities, which contemporary medicine combined with technologies would have the merit of opening up, are interpreted as forms of Freedom.

HE theories and practices promote a form of Freedom founded on a particular interpretation of human evolution. Trans-humanists seem to outline a new anthropological status (a “new human” being) that they call *Posthuman*. Posthuman is a possible future being with capacities exceeding the current humanity's, obtained thanks to technical advances¹⁴. In this light, we can say that for Transhumanists the natural evolution of human beings corresponds to technological evolution. In other words, I evolve *because* technology evolves and *thanks* to technologies and scientific advances. In this light, the natural dimension of human beings is the artificial one. This is an important issue.

¹² Julian Savulescu and Nick Bostrom, *Human Enhancement* (OUP Oxford, 2009), 1.

¹³ Steve Clarke et al., *The Ethics of Human Enhancement: Understanding the Debate* (Oxford University Press, 2016), 1.

¹⁴ «Posthumans could be completely synthetic artificial intelligences, or they could be enhanced uploads [...], or they could be the result of making many smaller but cumulatively profound augmentations to a biological human. The latter alternative would probably require either the redesign of the human organism using advanced nanotechnology or its radical enhancement using some combination of technologies such as genetic engineering, psychopharmacology, anti-aging therapies, neural interfaces, advanced information management tools, memory enhancing drugs, wearable computers, and cognitive techniques». ‘Transhumanist FAQ’.

Transhumanists view human nature as a work-in-progress. For them, human nature is something that we can learn to remold in desirable ways *because* the current humanity need not be the endpoint of evolution. Therefore, Transhumanists trust in the fact that by use of science, technology, and other rational means we shall eventually manage to become something different: that is, beings with vastly greater capacities than present human beings have.

This desirable remolding brings a problem of freedom: why should I desire to have greater capacities? What kind of freedom are we talking about, according to transhumanist theory?

Sandberg proposes the concept of Morphological freedom, and he defines it in this way:

It is the fundamental right to freely modify (or not modify) one's body according to one's desires. Moreover, Morphological freedom as a right can be seen as a consequence of the right to one's body combined with the right to liberty (where the right to one's body follows from the right to one's life). In order to flourish as humans we need others to respect our bodies, but also respect our freedom of action. Some of these actions in a biotechnologically advanced society will involve modifying our bodies, and hence the more fundamental rights imply morphological freedom.¹⁵

Sandberg describes the origin of morphological freedom in the following scheme:

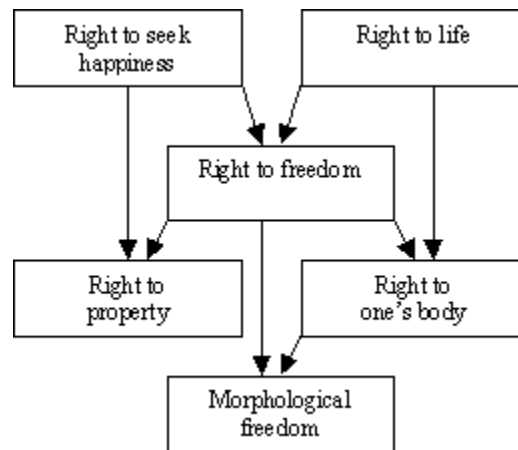


Figure 1. The scheme of Morphological Freedom as a Right

According to this view, morphological freedom appeals to the right to property and to the right to one's body. Both of these rights refer to the right to freedom. Thus, Sandberg seems to suggest that body and property are on the same level. Therefore, the body would be my property on which I can freely intervene under of my right to freedom.

¹⁵ Anders Sandberg, 'Morphological Freedom—Why We Not Just Want It, but Need It', *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future*, 2013, 56–64.

Of course, it is important having the right to one's body (we can think about gender reassignment) but morphological freedom outlines a form of freedom based on the body as a property and not on the body as a fundamental (part) of self-identity. Nevertheless, morphological freedom is described at the same time as something to be pursued in order to improve oneself, to *be* better or perfect in society. It is a paradox because, as Luna Dolezal points out, in the concept of morphological freedom «the body is, on the one hand, denied as central to the self – it is conceived of as an article of private property that can be strategically ‘reinvented’, modified or enhanced while the inner self remains intact. However, at the same time, the body is contradictorily positioned as intrinsically tied to one's core identity – through changing the body, one can improve oneself through enhancement»¹⁶.

For these reasons, it becomes clear that at the basis of HE there is the idea of an autonomous and self-directed neoliberal individual, from which the transhumanist position derives. Indeed, any positions in favor of HE hide utilitarian and strongly individualistic roots, which place the emphasis on the freedom of the *individual* in the context of a present and future society based on a global logic exclusively of *performance*.

3. Health care/promotion and Human optimization — The example of vaccinations

This global logic of performance invests of course medicine in its statute. Medicine becomes a performance itself, both for the physicians and the patients. Placing the accent on technological advancement in the medical field means accentuating the technical and instrumental imprint of medicine. The problem at this point is the following: the technical and instrumental imprint of medicine could lead us to forget the distinction between *health care or health promotion* and *human optimization*.

HE supporters argue that there is no dichotomy between therapy and enhancement. They claim that preventive medicine, palliative care, obstetrics, sports medicine, plastic surgery, contraceptive devices, fertility treatments, cosmetic dental procedures, or vaccines may represent both therapy and enhancement at the same time. In this sense, we can talk about an expanded meaning of Enhancement: it could represent a real improvement of one's ability, or it could be an extension of one's capacity (i.g., the smartphone could be seen as an extension of our capacity to communicate) but enhancement could also be a diminishing of something¹⁷: we can think at the vaccinations, that reduce the risks of diseases.

¹⁶ Luna Dolezal, 'Morphological Freedom and Medicine: Constructing the Posthuman Body', *The Edinburgh Companion to the Critical Medical Humanities Book*, 2016, 310–24.

¹⁷ Brian D. Earp et al., 'When Is Diminishment a Form of Enhancement? Rethinking the Enhancement Debate in Biomedical Ethics', *Frontiers in Systems Neuroscience* 8 (2014).

The case of vaccinations is interesting. It let us reason more deeply on the link between medicine and philosophy and the relationship between judgement and diagnosis.

A recent study shows that, from a technical point of view, the vaccine against SARS-COV-2 is an actualization of HE. «Besides its significance as a public health measure, vaccination is a sophisticated example of modern biotechnology. Since vaccination gives the human body an ability that it does not naturally possess, the [...] definitions of Human Enhancement include vaccination technology». But do people perceive the vaccination as a form of Human Enhancement? The authors conduct a study with N = 67 participants, and they reveal «that vaccinations are perceived neither as a clear nor poor example of Human Enhancement». They conclude:

Vaccination against SARS-CoV-2 is a practical example of Human Enhancement. This supports the notion that Human Enhancement is not a phenomenon of a distant, dystopian, or even utopian future but is already widely applied. Therefore, rejecting Human Enhancement per se is unjustified, as it would mean to condemn technologies that were used for hundreds of years. Instead of engaging in an overly alarmist or optimistic debate, Human Enhancement technologies suspected of having negative consequences should be examined on a case-by-case basis, taking various factors into account¹⁸.

We partially agree with the authors. Their study aimed to demonstrate that qualifying vaccination technology as HE does not provide convincing arguments to reject vaccination. But – to us - it demonstrates other things too.

Firstly – as we said – there are differences between health care, health promotion, and human optimization. Vaccinations are examples of health promotion in terms of prevention of diseases. Vaccines are technologies of course, but, as such, they do not aim at the human optimization but the improvement of our immune system. There is a gap between the latter kind of improvement and the first kind of optimization. This gap is represented by the *intentional use* of the employed technology. Moreover, if we reflect on HE only as the employment of technology, then we should conclude that all human history is a history of HE. This is in part true if we consider that technics has always represented the way through which humankind changes its environment and, therefore, its life. But HE – in its purposes - is something far more different from a technical intervention on the environment (both natural and social). Enhancement aims to *directly* modify humans and made them perfect in many desirable ways without any mediation of technical applications on the environment. In this light, medicine would itself be a process of obtaining the optimized human. Instead, the

¹⁸ Niklas Alexander Döbler and Claus-Christian Carbon, 'Vaccination against SARS-CoV-2: A Human Enhancement Story', *Translational Medicine Communications* 6, no. 1 (December 2021): 27.

difference between HE and medicine lies in the intentional use of technological means, namely, in the *purposes of this intentional use*.

The argument about intentional use leads us to the second issue. The goal of vaccination is to prevent diseases that could lead to even severe health consequences that could seriously affect our life. On the contrary, the goal of HE is obtaining the *best* life. It is unclear what this best life would consist of but is clear the purpose. In other words, we can say that vaccinations aim to avoid the *worst* (infection, diseases, death); HE aims to achieve the *best* instead.

Moreover – as we saw – there is an issue with public perception. Vaccinations – and medicine in general – are perceived as a social system, with possible benefits for all¹⁹. We would not discuss the cases of anti-vaccine groups or religious groups that oppose specific medical treatments. However, even the opposition of these groups is significant because they interpret medicine and health care as a social (democratic, economic, religious, etc.) issue.

4. Statute of Medicine

For its part, medicine represents a stratification of competencies. Competencies involve of course technical abilities but involve many other skills which a health professional should deploy and the aims a doctor may have. William Bynum explains this stratification of competencies by presenting five “kinds” of medicine that he summarizes in this table:

		CHARACTERISTICS			
		OBJECT of INQUIRY	FORM and SITE of EDUCATION	GOAL	EXAMPLE
KINDS	BEDSIDE	Whole patient	Apprenticeship	Therapy	Hippocrates (c. 460–370 BCE)
	LIBRARY	Text	Scholastic, linguistic, university	Preservation, recovery, commentary	Constantine the African (d. before 1098)
	HOSPITAL	Patient, organ	Hospital	Diagnosis	R. T. H. Laennec (1781–1826)
	SOCIAL	Population, statistic	Community	Prevent	John Simon (1816–1904)
	LABORATORY	Animal model	Laboratory	Understand	Claude Bernard (1813–1878)

Table 1. A schematic representation of the different “kinds” of medicine, highlighting the various units of analysis, workplace, and aims that doctors may have, according to Bynum.

¹⁹ « The positive sides of getting a vaccination are manifold. It is crucial not only to consider the direct effect on the individual human immune system but also proximal outcomes of various kinds. Here, herd immunity or fewer infections, in general, may allow unvaccinated individuals to benefit from the widespread administration of SARS-CoV-2 vaccination as a so-called *free rider*. Strictly speaking, this *enhancement-by-others* or “network effect” does not count as Human Enhancement, as there is no direct link between the enhancement technology and the free-riding individual». Döbler and Carbon.

Medicine looks at the patients, at studies, at research, at technologies and at the community in principle at the same time. This exemplification made by Bynum²⁰ permits us to better understand the role of medicine and consider its difference from HE interventions.

We argued that this distinction is not clear from a perspective that looks at medicine just like technical work, led by the means of technological tools and instruments. To explain this concept, it is useful presenting two types of models in medicine.

The attention placed on the technical and technological apparatus in medicine has its roots in the consolidation of Evidence-Based Medicine (EBM), which focuses its intervention on the treatment and elimination of the disease by the means of technical knowledge. According to Luigi Tesio, this is the model of biomedical science which identifies its statute and its application with its own method, the objectifying one²¹. The objectifying method of Evidence-Based Medicine explains the single case by subsuming it under general principles and laws, in turn, taken from statistical data or chemical-physical experiments of which the technologies can today exponentially improve the accuracy. In this model, medicine becomes a performance in terms of technological advances used to cure diseases, not in terms of also caring for the patients.

In recent years another model has been spreading, called Narrative-Based Medicine. This model proposes a paradigm founded on the attention to the patient, to his or her life, and to the way in which his or her pathology affects his or her routine and lifestyle. Narrative-Based Medicine is not an alternative to the Evidence-Based Model but an integration. Its approach is particularly useful in cases of long-term therapies, where the relationship and the trust between doctor and patient are fundamental. Promoted by the physician and literary scholar Rita Charon, who founded the Program in Narrative Medicine at Columbia University, Narrative Medicine was born as additional clinical practice of paying attention to the patients' personal stories but then, as Charon explains,

what crystallized was a dynamic and questing set of findings and concerns about the discovery nature of writing, the relational substrate of reading, the affective processes of narrating, the ethical complexities of the accounts of self, and how they all influence the wide, wide ground of health²².

For this reason, the Narrative-Based Medicine approach collects elements from Literature, and Continental Philosophy making them a codified practice. Charon assumes that «the nature of the

²⁰ William Bynum, *The History of Medicine: A Very Short Introduction* (OUP Oxford, 2008), 2.

²¹ Cf. Luigi Tesio, *I Bravi E i Buoni: Perché La Medicina Clinica Può Essere Una Scienza* (Il pensiero scientifico, 2015).

²² Rita Charon, *The Principles and Practice of Narrative Medicine* (Oxford University Press, 2017), 3.

clinical work itself would be transformed if narrative skills and methods could become part of the fabric of clinical thought and care»²³. The philosophical foundation is the following:

the physician's expertise obviously does not depend on his training through purely scientific research alone, but also on his ability to apply his general knowledge to concrete life-situations. In any case, it is not possible to set aside the question of humaneness in the art of healing because it is primarily about life itself which is entrusted to the physician's ability²⁴.

Humaneness and life are exactly the topics of medicine as the Art of healing.

5. Cure and Care: The Art of Healing

The representations of the two models – Evidence-based and Narrative-based medicine – consent us to reflect on the meaning of cure and care. Understanding the difference between cure and care means understanding their relationship and having a guide for judgment.

Curing is offering a treatment, a therapy according to a diagnosis of a disease. In Bynum's table, curing has, as objects of inquiry, the organs, and the patients as patients (i.g. as carriers of pathologies). Cure is therefore based on statistical data or chemical-physical experiments and must use the objectifying method in order to conclude the adequate therapy for one's pathology. In the practices of curing, technologies are nowadays fundamental: they help to obtain a correct diagnosis, they often represent the therapy itself, they allow surgeons to perform increasingly less invasive surgeries with positive repercussions on patients' recovery, they let customized prostheses, they consent better monitoring of postoperative phases and to follow the progress of drug therapies, which are also the result of increasingly advanced medical research techniques. Technologies are also useful today in the prevention of many diseases, from cardiovascular diseases to obesity. Think for example of smartwatches, now in common use, which keep track of heart rate, calories burned, and physical activity performed. We can say that technologies have generally shortened the distance between cure and wellness, but we need to remember that above them lies care.

Indeed, caring is something different from proposing a therapy or a treatment; caring is the proper tailored personal *surplus* of attention in terms of trust, communication, interest between doctor, community, healthcare system and patients. In the caring dimension, the ill is not his or her illness, the patient is not his or her pathology, namely, a broken arm, gastroenteritis, or cancer. In caring practices, detecting or not detecting an illness is not only an understanding of a state of affairs,

²³ Charon, 3.

²⁴ Jure Zovko, 'What Is so Specific about Moral Judgment in Bioethics?', *Bioethics Update* 5, no. 1 (January 2019): 25–33, <https://doi.org/10.1016/j.bioet.2019.02.003>.

i.e., a matter of intelligence, but also a matter of will, because it is part of the *person* suffering²⁵. In this sense, a disease is not what evidence-based medicine declares i.e., the outcome of a verifiable finding, but is an *experience* of the person suffering. The instance of care is thus accessed not by the way of intellect, but by the way of ethics, recognizing the patient's *dignity* as a person.

In other words, we can *cure* diseases, pathologies, and injuries, we can diminish pain (it is the case of palliatives), we can reduce risks of illnesses (it is the case of vaccinations), and for all these things technologies are important, are fundamental. But we also and always need to *care* for the patient, who is a person with a life beyond the disease. That is evident when we assume that disease - and therefore medicine that treats it - does not only refer to a biological fact, but also to a biographical and social event. If it weren't so, a doctor could be a mechanic, and the patient only a body to study, fix, disassemble and then recombine.

This thesis comes from the definition of health by Gadamer, who wrote *The Enigma of Health. The art of healing in a scientific age*.

For Gadamer, health is an enigma because it represents a hidden harmony, a natural equilibrium that we can't see. When health exists, we can't see it, we do not think about it: we can make anything as usual. On the contrary, the disease is a lack of equilibrium, it is a disbalance.

According to this thesis, medicine is an art and not a technique. Gadamer writes:

techne is that knowledge which constitutes a specific and tried ability in the context of production things, it is related from the very beginning to the sphere of production, and it is from this sphere that it first arose²⁶.

The technical aspects of medicine, and judgment in medicine, use the objectifying method of the biomedical science that we have presented in the Evidence-Based model. But medicine can't be a technique, not because it does not need a «specific and tried ability», but because it doesn't produce anything, it doesn't produce or create health, which when it exists is hidden.

From a logical point of view, if *techne* has its scope out of its process (create something) medicine as an art has the scope in itself, and more precisely, it is to make itself superfluous. Gadamer explains:

The expert practice of this art inserts itself entirely within the process of nature in so far as it seeks to restore this process when

²⁵ Maria Teresa Russo, *Corpo, Salute, Cura. Linee Di Antropologia Biomedica* (Rubbettino Editore, 2004), 193.

²⁶ Hans-Georg Gadamer, *The Enigma of Health: The Art of Healing in a Scientific Age* (Stanford University Press, 1996), 32.

it is disturbed, and to do in such a way that the art can allow itself to disappear once the natural equilibrium of health has returned²⁷.

So medicine as an art has the same behaviour as health: to be hidden. If health is something that we can't see, the disease is what it shows itself. Disease arises as a lack of balance. So, we need to cure the disease in order to fix the equilibrium. In particular, a patient «perceives his/her disease as an absence of something»²⁸: more precisely, as an absence of the natural equilibrium. It is important to notice that this equilibrium, according to Gadamer, is not only a physical functioning but a way in which the human being exists and lives: health is an openness to the world and our body is the door.

Paul Ricoeur says that the body is the first involuntary: it is something primordial and it exists even before we could recognize it. In this sense, the body is «a source of indetermination» and it «comes first as a “passion of the soul”»²⁹. The philosopher clearly writes: «The first non-deducible is the body as existing - and then he adds -, life as value»³⁰. With these words, Paul Ricoeur intends to stress the involuntary origin of the body, but he also remembers that our body is always alive, it denotes our life and is not mere material support or a useful mechanism to improve. Precisely as it is alive, it *is* a value, not *has* a value. In this light, body represents the contact point between objectivity and subjectivity, so between the world and myself. For this reason, the body - and its health with its equilibrium – is our way to *act* in the world. So, we can maintain that the Husserlian notions of «Körper» (*Körperhaben*) as object-body among bodies, and «Leib» (*Leibsein*) as lived body, are always together... and we say: also, the living body.

6. Fixing the Debate — The nature-culture continuum

At this point, we understand how complex and difficult the definition of HE is, the positions that support it, and, above all, its relationship with judgment and medicine. A review of some of the most important topics about this relationship becomes fundamental.

First of all, we would remark that at the basis of the arguments in favor of HE, there is an ontological and epistemological contrast between nature and culture. According to the supporters of HE, the natural dimension of the human condition is a kind of ballast, is a dead weight, which must be freed employing technical medical advances. Consequently, any artificial device or scientific discovers must be welcomed, accepted, and implemented and used.

²⁷ Gadamer, 34.

²⁸ Gadamer, 52.

²⁹ Paul Ricoeur, *Freedom and Nature: The Voluntary and the Involuntary*, vol. 1 (Northwestern University Press, 1966), 203.

³⁰ Ricoeur, 1:94.

Moreover, the artificial dimension, primarily represented by the technical advances in medicine, seems not to be produced by the human being itself: it looks like an external force capable of making us perfect if we want. And just because these advances are real and possible, we should want it. In other words, all positions in the field of HE seem to press and crush the human condition on the artificial dimension.

From a theoretical point of view, we are in front of a disbalance: HE theories focus on the artificial/cultural dimension in contrast with the biological/nature dimension of the human condition. According to transhumanists, human nature is a work-in-progress and it precisely coincides with the technical work-in-progress. In this light, our biological nature – that is, our organism - is only imperfect support that must be improved. Nature has no moral status in itself, so no value is derived from it. Transhumanists refuse at all the argument about the “wisdom of nature”, they rather propose an «Evolutionary Optimality Challenge» based on an Evolutionary Heuristic starting from the assumptions that nature is unwise³¹.

Bioconservatives oppose this idea by placing emphasis on the intrinsic normativity of nature. The natural world has frequently been seen as an ordered design and excellence as its whole. Enhancing or generally modifying one aspect of this excellence would «disrupt either the unity or the continuity of human nature»³² and compromise humanity. Yet additional concern is that HE would violate some special feature of human nature. Human nature – already starting with the human species - carries with it the duty of respect for life, as written by Eric Cohen: «All members of the human family [...] have a human life, and therefore deserve the respect that such membership commands»³³.

We disagree with neither transhumanists or bioconservatives. For transhumanists, nature *exists* as a fallacy condition in human opportunities. So, transhumanists betray themselves: they grant human nature a moral status. By viewing human nature as an unsuitable substance to be optimized and by emphasizing «evolutionary optimality», they are admitting that nature is a source of values, even if they are "negative" values. For this reason, in the previous example about «Procreative Beneficence» by Savulescu, we have underlined the quality of what “good” is: technologies’ use and implementation. If nature is not enough, technologies must supply. This assertion comes from an arbitrary moral judgement that serves as significant premise of any logic on HE: nature is not enough.

³¹ Nick Bostrom and Anders Sandberg, ‘The Wisdom of Nature: An Evolutionary Heuristic for Human Enhancement’, in *Philosophical Issues in Pharmaceutics*, ed. Dien Ho, vol. 122, Philosophy and Medicine (Dordrecht: Springer Netherlands, 2017), 189–219, https://doi.org/10.1007/978-94-024-0979-6_12.

³² Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (Farrar, Straus and Giroux, 2003).

³³ Eric Cohen, ‘Conservative Bioethics and the Search for Wisdom’, *Hastings Center Report* 36, no. 1 (2006): 44–56, <https://doi.org/10.1353/hcr.2006.0004>.

On the other hand, instead, bioconservatives frequently make the mistake of considering nature as the *only* source of “good” moral norms and therefore run the risk of flattening human life to biological life³⁴. Human life, in its place, cannot be explained by the mere functioning of an organism, enhanced or not. There is a gap between biological life and biographical life: staying alive is far different from having a life. Of course – as we said before – being a living body is a moral value, but we cannot hold this moral value as the only and absolute *discrimen* about judgment. Bioconservatives are the other side of the same coin; they start from this premise: nature is already perfect.

In light of this debate, we are convinced that we need to retrieve a dialectic between natural and artificial - nature and culture - in order to understand the human condition. This dialectic must be seen as a nature-culture *continuum* to reject both transhumanist and bioconservative views.

We draw this idea of nature-culture continuum from the thoughts of Rosi Braidotti. For her, the nature-culture continuum is that form of ontological reality that is «both technologically mediated and globally enforced» but that do not rely on «naturalistic foundationalism»³⁵. Nature-culture continuum’s reality is based on the “cross” reality of nature and culture; namely, natural and artificial, subjective and objective, global and local elements. Braidotti posits the nature-culture continuum as the starting point for her theory of post-human subjectivity and she maintains it as a scientific paradigm in which both poles of opposites parts – nature and culture, natural and artificial - persist within dialectical tension and paradox. The philosopher uses the concept of nature-culture continuum to propose the posthuman subjectivity in contrast with the humanistic subjectivity. Criticizing the domination in humanism that place Man at the center of the universe, she intends to break down the humanistic paradigm to open to the «posthuman nomadic subject [that is] materialistic and vitalist, embodied and embedded»³⁶. We can understand how far different this definition of posthuman from the transhumanists’ is one³⁷.

³⁴ The issue of human nature is broad and long-standing. The debate is always open. For insights related to this topic, see: Bjørn Hofmann, ‘Limits to Human Enhancement: Nature, Disease, Therapy or Betterment?’, *BMC Medical Ethics* 18, no. 1 (10 October 2017): 56, <https://doi.org/10.1186/s12910-017-0215-8>; Daniel Groll and Micah Lott, ‘Is There a Role for “Human Nature” in Debates About Human Enhancement?’, *Philosophy* 90, no. 4 (October 2015): 623–51, <https://doi.org/10.1017/S0031819115000376>; Kurt Bayertz, ‘Human Nature: How Normative Might It Be?’, *The Journal of Medicine and Philosophy* 28, no. 2 (1 April 2003): 131–50, <https://doi.org/10.1076/jmep.28.2.131.14210>; N. Austriaco, ‘Human Nature as Normative Concept: Relevance for Health Care’, *Handbook of the Philosophy of Medicine*, 2015, 1–10.

³⁵ Rosi Braidotti, *The Posthuman* (Cambridge, UK ; Malden, MA, USA: Polity Press, 2013), 82.

³⁶ Braidotti, 188.

³⁷ Besides, in doing so Braidotti proposes a *zoe*-centered subjectivity, distinguishing *zoe* («materialist and vitalist force of life itself») from *bios* and rejecting in this way the naturalistic foundationalism. We do not share the results of Braidotti’s reasoning. According to us, the definition of *zoe* is too weak so placing it at the ontological foundation of the theory is questionable.

Conclusions

In this light, at the end, we maintain that the nature-culture continuum could represent a key concept for judgment in the HE perimeter debate. Nature-culture continuum – as we understand it – represents a dialectical tension that allows avoiding dualism and simultaneously not surrendering to an indifferent monism that does not distinguish nature and culture. In this light, the notion of continuum is a sort of Higg’s boson, a particle able to make in relationships and give “mass” to the other particle but existing and granting coherence. Thus, nature-culture continuum should be understood as the ontological foundation of the human condition. Starting from this, we could rethink what human condition means.

First of all, in doing so we maintain we need to rediscuss limits. Limits (our not almighty capabilities) are what define us as human beings: they are the doors through which we keep in contact with the world³⁸. Of course, limit is something that we can push beyond itself over and over again but, at the same time, it is something that always defines us. In other words, the human condition is an ambiguity condition made of nature and culture, finitude and infinitude, imperfection and perfection. So, we need to consider fragility and bodily vulnerability not as defects. Moreover, the body is not a machine: it represents our own personal identity to the world. In this sense, I cannot transform my body without transforming myself and my life. That’s a moral indication: we need to be aware of it.

Secondly, we would claim that our perspective could help to rethink the debate on HE and medicine. We said that the main features of HE are (i) the intentional use of technologies, and (ii) the use of them even on healthy people. For this reason, when we talk about medical interventions we suggest starting with this question: is this intervention a *transformatio ad optimum* or a *restitutio ad integrum*³⁹? Is it something that literally transforms and manipulates my capacity or is it something that respects my integrity, my dignity? Is this implant a cure for a disease, or is it an empowerment device? Is the person infirm or healthy in the way we said? Curing the disease and caring for the person are corresponding with each other? Or, in other words, what is the relationship between the means and the scopes of the intervention?

This kind of questions becomes fundamental to preserve the distinction between *health care or health promotion* and *human optimization*.

The “dream” about human optimization relies on two main concepts at the basis of transhumanist view: desirability and individual freedom. These two concepts are related to each other.

³⁸ “Limit” means also “measure” as «proper form of the human» (Cf. Luigi Alici, ‘La Persona Tra Limite e Potenzialità. La Sfida Dello “Human Enhancement”’, in *L’umano e Le Sue Potenzialità Tra Cura e Narrazione*, ed. Luigi Alici and Paola Nicolini (Roma: Aracne, 2020), 105,113).

³⁹ Alici, 119.

The topic of desirability appeals to the insufficiency of nature and the pursuit of a supposed perfection. We have shown how the assumption that nature is not enough is, in a sense, arbitrary. From the transhumanist perspective, the insufficiency of nature becomes an ontological-anthropological failure to fix by biotechnological means. If nature (human nature in particular) is not enough, we must seek forms of perfection *outside* of nature. Hence the emphasis on the intentional use of technologies and their use even on healthy people.

The pursuit of perfection refers to a very specific concept of freedom. Freedom, for transhumanists, is the freedom of the *individual* in the context of a society based on the global logic of *performance*. Perfection is fitting mass paradigms, be more productive, be more attractive, be more powerful. Freedom is thus reduced to the simple options of choosing the artificial means by which to achieve these statuses. In this light, the concept of freedom has a vertical direction, instead of horizontal: freedom is understood as an escalation of rights (rights to one's body, right to property) at the top of which there are mass paradigms and at the bottom of which there is the self-directed and autonomous individual. "Autonomy" here is literally interpreted: *auto* and *nomos*, so "give yourself laws" that, in the HE context, becomes self-mastery. And this is the basis of neoliberal and capitalistic positions from which transhumanist view comes.

So, in the case of HE, we have a representation of the two Berlin's senses of freedom: «negative» freedom, as "freedom to", and «positive» freedom, as "freedom from". Instead, we suggest retrieving the notion of "freedom for" represented as self-realization and self-flourishing in a fair society. We like to refer this notion to the Ricoeurian aim «Good life with and for others in just institutions» that Ricoeur calls «ethical intention»⁴⁰.

This association is not random. Our implication is that HE topic is an ethical issue and so it is the debate. The use of technologies, the statute of human nature, the pursuit of perfection, the relationship between individual and society are new forms of ancient questions. This is a methodology indication in order to approach these themes.

The HE topic is only apparently related to medicine. With Gadamer (but also Jonas shares that point⁴¹), we consider medicine as the art of healing, in which curing and caring may correspond. This is far different from seeing medicine as an instrumental knowledge at the service of personal self-mastery as transhumanists suggest, where cure and care are superfluous.

It becomes evident if we reconsider the ethical position of human being. Human beings are always subject and object together: we are agents and patients at the same time. As in the Kantian categorical imperative, we need to act remembering to «treat humanity, whether in your own person

⁴⁰ Paul Ricoeur, *Oneself as Another* (University of Chicago press, 1992), 172.

⁴¹ Cf. Hans Jonas, *Technik, Medizin Und Ethik : Zur Praxis Des Prinzips Verantwortung 2* (1985).

or in the person of any other, never merely as a means to an end, but always at the same time as an end»⁴². That firstly means: we need to recognize humanity in ourselves and in others. That's the fundamental point of human dignity, which becomes a moral criterion in judgment. In our specific context: we run technological advances and medical discoveries, but at the same time depend on us how, when and for what to use them preserving humanity and human dignity as principles. As Jure Zovko underlines:

In a time of crisis, there is no alternative to morality based on respect for human dignity. I see the task of the ethical reflection in the context of modern biotechnological research – as well as with regard to other groundbreaking areas of scientific research – as consisting in the preservation of human dignity. Morality and cultivation of moral judgment provide the basis for interpretation of what it is to be human, and protect us from a “Weltanschauung” destructive of what is most valued in the human spirit.⁴³

For this reason, I suggest studying new forms of responsibility founded on human dignity. In doing so, we need to take into account the “columns of Hercules” represented, on one hand, by the duty (the moral duty) of respecting one's life and, on the other hand, by the value (moral value) to promote self-flourishing. As Luigi Alici points out, the moral duty of respect for one's life is an imperative, entrusted to collective responsibility; instead, the moral value to promote self-flourishing is an optative, in regard to one's self-realization, and it is entrusted to individual responsibility⁴⁴. In this sense, human dignity reflects what Hans Jonas defines the «authentic» feature of human beings: their «ambiguity»⁴⁵. The real integrity condition of human being is the ambiguity condition because human being is nature-culture continuum, is subject and object, is agent and patient, is an admixture of community and individuality. Responsibility relies on this constitutive ambiguity. In this sense, I would like to claim that today we are responsible not only for our present but also for the future that we are disclosing.

⁴² Immanuel Kant, James W. Ellington, and Immanuel Kant, *Grounding for the Metaphysics of Morals ; with, On a Supposed Right to Lie Because of Philanthropic Concerns*, 3rd ed (Indianapolis: Hackett Pub. Co, 1993), 36.

⁴³ Zovko, ‘What Is so Specific about Moral Judgment in Bioethics?’.

⁴⁴ Luigi Alici, *Il Fragile e Il Prezioso: Bioetica in Punta Di Piedi* (Morcelliana, 2016), 207.

⁴⁵ Cf. Hans Jonas, *The Principle of Responsibility : Search of Ethics for Technological Civilization*. K.: Libra, 2001.

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