Transhumanism, neuroethics and human person

Jorge Walker Vásquez Del Aguila [1], *Elena Postigo Solana* [2]

Abstract

Attempting to create new people, Transhumanism advocates deep structural changes in our concept of "human". Some of the most significant changes are related to the central nervous system and would be achieved through different technologies. In this paper, we present an overview of this philosophical tendency and the concept of Neuroethics, thereby presenting the practical problems of those presumed neurological enhancements and analysing the ethical issues arising from these practices. Finally, we discuss what we believe to be the fundamental cause of the problem: a misconception of Person.

Keywords: Ethics, clinical. Personality. Humanism.

Resumen

Transhumanismo, neuroética y persona humana

En el intento de crear nuevos individuos, el transhumanismo propone profundos cambios estructurales en nuestro concepto de "lo humano". Entre los cambios de mayor relevancia se encuentran los relacionados al sistema nervioso central, que serían implementados a través de diversas tecnologías. En el presente artículo, presentaremos una descripción general de dicha corriente filosófica y del concepto de Neuroética, para con ello abordar los problemas prácticos de las supuestas mejoras *o enhancements* neurológicos y analizar los problemas éticos derivados de dichas prácticas. Por último, estudiaremos aquello que consideramos la causa fundamental del problema: un concepto errado de Persona.

Palabras-clave: Ética clínica. Personalidad. Humanismo.

Resumo

Transhumanismo, neuroética e pessoa humana

Na tentativa de criar novos indivíduos, o transhumanismo propõe profundas mudanças estruturais em nosso conceito de humanismo. Entre as mudanças de maior relevância estão aquelas relacionadas ao sistema nervoso central e que seriam implementadas por meio de diferentes tecnologias. Neste artigo, apresentaremos uma descrição geral dessa corrente filosófica e do conceito de Neuroética, abordaremos as questões associadas ao suposto aprimoramento ou *enhancement* neurológico e analisaremos os problemas éticos decorrentes de tais práticas. Finalmente, discutiremos aquilo que consideramos a causa fundamental do problema: o conceito errado de Pessoa.

Palavras-chave: Ética clínica. Personalidade. Humanismo.

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Transhumanism is defined according to its supporters as *the intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially through the development and implementation of technologies available to eliminate aging and greatly improve intellectual, physical capabilities and psychobiological aspects of the human being* [1]. Also, *as the study of the ramifications, promises and potential dangers of technologies that will allow us to overcome fundamental human limitations, and the related study of the ethical aspects involved in developing and using such technologies* [1].

In 1998 the World Transhumanist Association (WTA) was established. This international organ began an extensive project entitled "Transhumanism: Frequently Asked Questions" [1] and published a statement [2]. In 2008, the WTA was renamed Humanity (+). Its greatest exponent is the Swedish philosopher Nick Bostrom, who in his article entitled "A History of Transhumanist Thought" [3], explores the origins of the ideology, going as far back as the epic of Gilgamesh and other searches for immortality, including that for the philosopher's stone.

The concept of "Transhumanize" was used for the first time by Dante Alighieri in his work, "La divina commedia", who believed it to be the experience elevated by grace, beyond humanity, towards the total and transcendent realization in God [4]. However, the concept of the word transhumanist given by biologist Julian Huxley in 1927 adds a new perception of the word: …*man remaining man, but transcending himself, by realizing new possibilities of and for his human nature* [5]. To put it another way, Huxley spoke of the superseding of humanity by virtue of technology as a purely human work, moving away from religion.

According to Bostrom, the ideological underpinnings of transhumanism are based on the empiricism of Hume, the materialism of La Mettrie (the "man-machine") and the evolutionism of Charles Darwin (humanity not as an end point of evolution, but as an early stage) [3]. In addition, it was influenced by Nietzsche's doctrine of the superman (…) *man is something that shall be overcome* (…), giving a particular, technological and biological interpretation to that originally proposed, which was, in terms of personal growth and cultural refinement, closer to the thoughts of John Stuart Mill than those of the author himself.

Transhumanism *seeks to improve human nature, overcoming its limitations and prolonging its existence through reason, science and technology*. In this path towards the future there needs to be an intermediate stage (transhuman or human+) to reach the posthuman (human++) [6]. To achieve this, he promotes three suggestions: (1) that the technologies for "improving" or the enhancement of humans must be widely available; 2) that individuals should have the right to transform their own bodies as they wish; and 3) that parents should have the right to choose what technologies to use when deciding to have children [7]. The transhumanists advocate the redesigning of the human condition, including parameters such as aging, intellectual limitation, undesirable psychology, suffering, and confinement to Planet Earth [2].

Since its creation, transhumanism has received many criticisms. The philosopher and political scientist Francis Fukuyama [8] called transhumanism *the most dangerous idea for democratic systems* and describes it as a threat to human essence that contravenes the principle of equality of all men. Also, Habermas criticizes it for leaving the moral autonomy of the individual subjected to social, political and economical interests [9]. Others argue that the eventual bifurcation of humans into posthumans would lead to slavery and genocide between both groups [10] or even that its ideas could lead to the extinction of Man [11].

For all practical purposes, the implementation of transhumanism would be based on four convergent areas: nanotechnology, biotechnology, information technology and cognitive science. From the neurobiological point of view, transhumanism seeks to improve sensory capabilities, increasing memory, accelerating reasoning processes and reducing the number of hours of sleep. For this, transhumanism seeks technological mechanisms, either pharmacological or from the field of engineering, ultimately seeking the development of artificial brains with the capacity for natural intelligence. It is precisely these "improvements", their dangers and their neuroethical implications, which we will be discussing in the present work.

General concepts of Neuroethics

The term "Neuroethics" was coined in 1973 by Dr. A. Pontius of Harvard University in the article entitled "*Neuro-Ethics of Walking in the Newborn*" [12]. However, its actual meaning is credited to writer William Safire, who defined it as *the examination of what is right and wrong, good and bad about the treatment*

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of, perfection of, or unwelcome invasion of and worrisome manipulation of the human brain [13].

In other words, Neuroethics could be defined as the study of ethical, legal, and social aspects that arise when scientific discoveries about the brain are brought forward in medical practice, legal interpretations and health and social policy [14]. A broader definition is given by Häyry: *Neuroethics is a field where the strict interpretations of the science that is being studied may conflict with the alleged metaphysics of the methods by which the supposition wasmade* [15].

In a simpler way, one could say that Neuroethics was established in order to cope with the rapid development within cognitive neuroscience and neuropsychiatry and findings specifically related to the sciences of the mind, including the central nervous system and the brain mechanisms underlying human behavior [14].

As indicated by the philosopher Adina Roskies, it is possible to speak of two divisions in Neuroethics: 1) the ethics of neuroscience or the ethics of its practice, which involves the ethical issues and considerations that must be evaluated in the course of design of neuroscientific studies and which include optimal design, guidelines for investigative practice, privacy, informed consent, etc.; and 2) the ethical implications of neuroscience, which involves evaluation of the social and ethical impacts that the results of these studies may entail [16].

Martha Farah [17], for his part, believes that Neuroethics, when covering the multiple ways in which developments in clinical and basic neuroscience intersect with ethical and social issues, could also be divided into two categories: "what we know" and "what we can do". In the first category would be the ethical problems generated from growing knowledge of the basis of behavior, personality, and consciousness, among others. In the second would be those issues related to advances in functional neuroimaging, brain implants, man-machine interfaces and psychopharmacology. These last three items, to be advocated through transhumanistic ideas, are the ones we will be discussing.

Neurobiological Transhumanistic "Improvements"

Among the improvements or enhancements suggested by transhumanism, cognitive improvement [18] can be included. This can be defined as the amplification or extension of the mind's basic capabilities through the improvement or expansion of internal and external information processing systems [19].

Its final objective would be the pursuit of superintelligence or ultraintelligence understood as the radical capacity to overcome the best human brains in virtually every field, including scientific creativity, wisdom in general, and social skills. Transhumanistic vision is so optimistic of this that it relates: *Creating superintelligence may be the last invention that humans will ever need to make, since superintelligences could themselves take care of further scientific and technological development t* [20].

Although they accept that it is an uncertain and long-term objective, they say that it could be accomplished through subsequent improvements or increments such as: drugs for cognitive improvement or "*nootropics*", cognitive techniques, instrumental tools as implantable computers, information filtering systems, etc.; brain-computer interfaces, implants, etc. In our view, these lines could be grouped in the following way: electronic brain improvement and pharmacological brain improvement.

Electronic Brain Improvement

This type of improvement includes, among others, cerebral neurostimulation. It is currently at different degrees of clinical acceptability in the treatment of diseases such as Parkinson's disease, epilepsy, refractory depression, etc.; from where its use would be extrapolated for cerebral improvement. It consists in the use of invasive and non-invasive methods that through the application of electrical or magnetic currents, seeks to alter spontaneous neural activity.

Anodal stimulation brings the action potential of the neuronal membrane toward its trigger point, increasing its excitability. Cathodal stimulation, on the other hand, inhibits it, reducing neuronal excitability. Its long-term effects would be based on protein synthesis accompanied by modifications to the AMPc and intracellular calcium levels; in addition, promoting changes in local concentrations of the neurotransmitters GABA and glutamate which are important in the synaptic mechanisms for implementing, for example, learning and memory [21].

Also included in this classification are the man-machine interfaces which would seek for information from the outside world able to be translated into neuronal activity and of which neuronal activity can be transmitted as external information for communication or for robotic control.

Even the brains of "cyborgs" (cybernetic organisms) can be cited, and postbiological existence in computers. A cyborg would be a superintelligent being resulting from the combination of organic and cybernetic elements. In addition, some authors suggest the possibility of a postbiological existence through scanners that allow all the synaptic matrix to be obtained from the brain of an individual and which can be reproduced on a computer. This process is called uploading.

Pharmacological brain improvement [22]

In the late 1990s, the growing use of Prozac (fluoxetine) triggered a debate on the possibility of feeling "better than well" [23]. Today, these possibilities for pharmacological improvement have multiplied, often driven by clinical studies, and marketing campaigns sponsored by the pharmaceutical industry [24].

The use of psychotropic drugs for brain improvement is based on the discoveries made as a result of preclinical and clinical studies for the treatment of neuropsychiatric pathologies. The question is raised: "*If X treatment can relieve a significant deficit in psychological function Y, what can it do for healthy people?*"

From these studies some theoretical and practical benefits could be deduced. For example, serotonin reuptake inhibitors (SIRS) promote affiliative behavior in healthy situations; dopamine agonists can improve the acquisition of motor skills and are associated with an increased neural plasticity; cholinesterase inhibitors can improve normal performance under certain circumstances. New non-addictive stimulants, such as Atomoxetine, seem to improve levels of excitation in normal subjects [25].

The development of new classes of drugs that do not seek to improve a disease, but are targeted directly to the healthy subject such as the AMPAkines and modulators of protein binding to the response element of CAMP (CREB) [25],is particularly intriguing. These drugs promote a cascade of intracellular events that lead to neuronal structural changes related to the acquisition of long-term memories.

Neuroethical Problems Derived From These Practices

Chatterjee, pursuing the problem of cosmetic neurology and which in my opinion can be extrapolated to the subject in question, finds that there are four reasons that would halt its practice[25]: 1) problems of security; (2) problems of justice; 3) issues of autonomy and; 4) problems of character.

Problems of Security

These include unwanted adverse effects in the short and long term; and problems of physiological and psychological addiction [26]. The aura of high technology by which such "improvements" would be developed could lead many people to accept them without any criticism [19]; it must, however, be taken into account that involved systems are far more complex than the simple synaptic interaction of neurotransmitters, which would put the subject at risk of unanticipated problems, so its real impact could be very unpredictable and involve unwanted cognitive and personality changes [17]. For example, in Transcranial Neurostimulation, when power is applied to any part of the cerebral cortex, other areas causing adverse effects in the long term could be included.

Another problem would be of aggravating previously undiagnosed Comorbidities. Some studies have reported worsening of depression by up to 18% in patients who underwent deep brain stimulation, particularly in patients with depressive episodes before the procedure [27]. Other studies have shown that SIRS may trigger bipolar disorders in susceptible patients.

In a study published in the journal World Neurosurgery, in which an interview was carried out with professionals from five hospitals in Canada, where deep brain stimulation was performed for the treatment of refractory medical pathologies, revealed that the majority of specialists saw the use of nerve stimulation for brain improvement as a definitive risk.

To this we can add the important statement of Echarte: *If the nature and probability of adverse neurological effects occurring is a matter difficult to evaluate, much more difficult to identify and assess are its effects on the maelstrom of the human psyche* [28].

Problems of Justice

The use of these procedures and drugs would require equity in the distribution of resources. An inadequate distribution could increase disparities at the extremes of the economic spectrum, above all in the field of education and employment [17]. In view of this, however, Bostrom raises an extremely optimistic time-dependent solution: the typical pattern

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with new technologies is that over time they become cheaper [29]. In addition, he presents a number of solutions dependent on public policies, as well as technical, social and economical aspects that Governments should observe to avoid inequity [18].

Problems of autonomy

Caplan refers to this as the individual right to determine whether or not drug for cosmetic purposes [30]. However, what starts as a matter of choice can lead to coercive force, especially in some social sectors. How will life be for those who choose to not "improve" in a society full of "improved" people?

Transhumanism justifies its "improvements" on the basis of a frank imperialism of autonomy [31], understood in this context as free will [32]. In this regard, we could propose some practical questions. For example, if these procedures affect the way people think and feel, would this not go against their cognitive liberty? If the answer were negative, then when and how would the privacy of the individual's mind be ensured? And if this were not done, would it not in itself affect their autonomy? This is to say: without privacy would their autonomy not be the victim of coercion? Going beyond this: in the creation of a different human being (posthuman) to which consent was given, is the original authorization valid to continue experimenting on or "improving" this new being? How would they themselves find their autonomy to be affected? Or even worse: would they still have autonomy?

If we take autonomy as the principal moral priority, it is possible to go so far as to justify dangerous and futile practices like those presented. Also, this overvaluation of autonomy, does not do any more than transfer responsibility for the consequences to the individuals who granted their permission.

As a sample of their pragmatic, utilitarian, liberal and individualist morality, while speaking about autonomy, the transhumanist seems to think that another moral theory is not necessary. Problems can be resolved "case by case", by employing it as a sole criterion. This can give answers to relatively simple ethical questions. Nevertheless, its use will lead, earlier or later, to conflicts and ambiguities as described in this paragraph; conflicts that can only be clarified by understanding the existence of pre-existing moral doctrines.

Problems of character

These drugs may undermine the sense of "individual identity ". We will discuss this later. As can be deduced from the above, the use of systems for the "improvement" of brain functions is a highly controversial subject. Simply, if we start from the concept of improving, the following should be asked: "if healthy adults come in a wide spectrum of normality, what does improving mean?". The problem lies in the fact that transhumanistic ideas verge on the pathologization of normal brain capability, which entails the risk of stigma and discrimination.

There are people who see their personal qualities of being forgetful, serious, lively, etc. as part of their own identity. These people could be victims of coercion or discrimination by feeling forced to alter their personalities. People who reject cognitive improvement could be taken as guilty of going against the norms accepted by the community [15], with the ultimate risk of mitigating diversity within a population.

Procedures and drugs that erase unpleasant memories from the memory may prevent the formation of a strong and consistent personality. In addition, without being aware of what we live, do or suffer, there might not be a place for justice or even for forgiveness. All that caused suffering would simply be forgotten [5]. As Echarte formulated in what he called the *fallacy of normality*, *reality would not be as important to Man as the fictions in which he would wish to live* [33].

Attempting to suppress the emotions and memories that the transhumanist considers negative does nothing but represent the substitution of the natural way in which the human being relates to their environment for a sentimental way, assuming a radical shift towards non-human ways of manifesting Being [34]. Thus, in the case of drugs for one to become "happier or to not suffer", the main moral criterion, i.e., judgments about the good and bad of a thing, would depend only on the feelings that they evoke in the user [33]. If sadness is evoked it is bad, and if the opposite is evoked it is good.

In the case of drugs that increase concentration and decrease the need for sleep, this could lead to a partnership with overwork, 24 hours a day/7 days a week, where people might be exploited to their own detriment and to the well-being of their family [33]. In addition, persons could be victims of commercial exploitation by seeing themselves forced to buy them. Conversely, physicians could face increased pressures to prescribe these "improvements" to the population. Such pressure could be augmented by pharmaceutical companies, who would stand to benefit from the expansion of the

spectrum of use and recommendations of their already approved products [26].

Another aspect to consider is that cognitive "improvement" can be considered a "cheat", in reference to one having an unfair advantage over others, in particular in situations of competition or taking of tests (taking into account that transhumanism justifies, for example, doping in athletes); entailing that virtues like hard work and motivation will become outdated, as being due to irrational effort, through considering these values as ends in themselves and not as means to attain an end [17]. All this can undermine our ability to confront with responsibility and dignity the imperfections and limits of our lives and those of others [6].

Some problems of ethical and philosophical anthropology in the transhumanist theory

Aside from the medical, social and economic problems presented above, we believe that the core of the problem focuses on an inadequate vision of the concept of the human person. To put it another way, before any discussion on the ethical dimension of the "improvements", it should be asked whether manipulation of the person is ethical in itself.

The transhumanist conception shows a malleable view of personal identity, taking the human body and the human being as merely instrumental. They do not assume that human nature can direct itself to an end [35]. To the transhumanists, Man is in himself embodied technology [36], and as such, it makes no sense to assert that technological modification of his body negatively affects his identity.

From the above it follows that transhumanism uses a reductionist concept of human nature, where it is reduced to pure matter (materialistic) and the human being is limited to their neural connections (neurobiological reductionism) [35]. Man is something that can be perceived and molded, without intrinsic purpose and without the possibility of transcendence to the immaterial. This absence of intrinsic finality precludes, in its turn, an ethic where the human being is the ultimate end. On the contrary, for transhumanism the ultimate end is the simple volition of the subject.

While seeking to understand and control the operation of the brain, the transhumanists seek to control human beings. This is to say that by knowing how the brain works, it would be known how the whole man functions: "the man is his brain". This reductionism forgets, however, that the brain is infinitely more complex than simple neural connections since it has capacity for reasoning, logical and illogical, expected and unexpected, chaotic or ordered, creative or not.

The decisions that Man takes and runs are not only based in reason and objectivity, but in his personal reality, his context, his culture, and his idiosyncrasies. Everything that defines his personal identity and human nature. In other words, the attribution of mental phenomena is responsible for the individual's background of reasons, beliefs, and intentions. It is not possible to reduce a psychic description that arises and makes sense in the mental context to reductionist theories about neuronal interactions, or images in a scanner; it not being clear that mind and brain are the same [35].

Regarding the concept of the person, transhumanists believe such to be those beings who have the capacity to reason. This would justify, for example, the exclusion of this concept (and hence the possibility of manipulation) from beings incapable of doing so as they are embryos, fetuses, children, insane, etc. With this it may be appreciated that the transhumanist moral posture does not impose any limitation on action [31].

This concept of the person would moreover bestow personhood on advanced machines, extraterrestrials, or, as they have come to affirm, higher apes. This form of rationalistic reductionism (person = reason), forgets that the individual is not a person because their rational capacity occurs, but rather that this last is able to manifest itself because the individual is a person in themselves. As a result of this rationalistic concept of the person is derived a similar concept of dignity: *a quality, a kind of excellence admitting of degrees and applicable to entities both within and without the human realm* [37].

For Bostrom, for example, dignity would be a quality in human functioning like a virtue or an ideal which can be cultivated, encouraged, admired or promoted, without realizing that this reduces it to a mere quality control. But it is then worth questioning: who would then establish that parameter of quality? Or in other words, who will then establish the standards of quality that human life ought to have? If some few are elected for this task on the basis of liberal and utilitarian criteria, there is an inevitable fall into technocratic nepotism, eugenics, and social justice issues.

In addition, Bostrom makes statements that conflict with traditional moral values: Other enhancements might reduce our Dignity as a Quality.

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For instance, a greatly increased capacity for empathy and compassion might (given the state of this world) diminish our composure and our self-contained serenity, leading to a reduction of our Dignity as a Quality. In the face of the preceding it is fitting for us to ask: are we less worthy for having more compassion?

Bostrom responds by establishing that dignity is also a virtue, but it is not the only one. *Thus, some loss of Dignity as a Quality could be compensated for by a gain in other virtues* [38]. Insisting that dignity "in the modern sense" consists of what we are and what we have the potential to be, not in our pedigree or our causal origin [37].

This concept of dignity takes brings him to speak of lives more worthy and therefore more valuable than others: ... *Additionally, we may favor future people being posthuman rather than human, if the posthumans would lead lives more worthwhile than the alternative humans would* [39].

Contrary to what they advocate, we believe that the dignity of the person does not reside in a mere internal or external assessment. The dignity of the person is in fact a matter of innate dignity. It is a fundamental intuition, an intrinsic value, which transcends social and cultural barriers and is present throughout the peculiar ontological range of the human person [40], beyond any other personal reality or assessment (for example, reasoning or not).

While the transhumanists are clamoring for the defense of human rights [37], for practical purposes, we can see that the transhumanistic concept of dignity contradicts three fundamental principles of the *Universal Declaration of Human Rights* [41]: 1) human dignity is universal, something that all individuals possess only by the fact of being human; (2) human dignity is inherent in human nature and is not dependent on their achievements or their particular "excellencies"; and (3) human dignity applies equally to all persons, not allowing different degrees of it.

Again, if the idea of dignity is equated to that of autonomy or quality as defended by the transhumanists, they could justify any instrumental practice in humans. Transhumanism forgets, however, that the imperfection of the human being and his dissatisfaction with reality allows for having aspirations, for progress, for thinking, for winning or even for being wrong... but allows him, above all, to live and to transcend; in other words, to be human.

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Participation of the authors

Jorge Walker Vásquez Del Aguila participated in the conception of the work, review of literature, critical analysis and writing of the article. Elena Postigo Solana participated in the orientation of the subject and the final review.

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