

## HUMAN REPRODUCTION IN THE TRANSHUMAN ERA: MAIN CHALLENGES FOR HEALTH LAW

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### Abstract

Since an intellectual movement called transhumanism (H+) is becoming more and more inseparable from worldwide technological progress, there is an ongoing debate about the possibilities to enhance human nature, especially its aspect related to the procreational dimension of a human being. Transhumanism is centered on the notion of morphological freedom and believes that society should implement a proactionary approach when it comes to improving the human condition. Some innovative techniques (preimplantation diagnostics, gene editing, and gestational surrogacy) are already deemed to take root in ordinary medical practice, thus, inevitably transforming the vision of human reproduction. However, transhumanism goes further and declares that all sentient entities are entitled to reproductive freedom, including through novel means (for example, creation of mind clones or solo parent children). Classical medical ethics, anthropological understanding of human procreation, and especially health care law, all face difficulties when trying to provide a solid answer to transhumanist thought.

**Purpose.** Considering this entire context, the purpose of this paper is to analyze the theoretical background of human reproduction that emerges from the transhumanist approach, and to identify the main legal challenges.

**Design/methodology/approach.** The present review paper uses content analysis, generalization and descriptive social science methods.

**Finding.** Transhumanism, as one of the leading intellectual movements, presents a challenging vision of human reproduction and breaks almost all the boundaries in classical medical ethics. As a consequence, global health law will sooner or later face serious legal challenges.

**Research limitations/implications.** Although human reproduction can be considered in a very broad sense, in the present paper this term only considers technologies related to reproducing human offspring (or human offspring with desired characteristics). Topics such as human sexuality (as long as sexual dimension is considered to be a part of the reproductive dimension), pregnancy care, post-partum healthcare, and genital mutilation are all excluded from the scope of this research.

**Practical implications.** This research is intending to initiate a bioethical and legal debate on the transhumanist vision of the human being and its reproduction. All the findings and conclusions outlined here are the subject of a wider philosophical discussion, and especially on legal theoretical consideration regarding the trends in legislation for human reproduction practices.

**Originality/Value.** This analysis contributes to a deeper and more conceptual understanding of the human reproduction phenomenon, from a transhumanist standpoint. As the transhumanist movement is novel, but extremely influential, there is a growing need to research its intellectual challenges and possible legal answers.

**Keywords:** health law, human reproduction, medical ethics, reproductive freedom, transhumanism.

**Research type:** general literature review.

## Introduction

Transhumanism is a social and philosophical movement devoted to promoting the research and development of robust human-enhancement technologies<sup>1</sup>. It “is the belief that the human race can evolve beyond its current physical and mental limitations, especially by means of science and technology” (Oxford Dictionary of English, 2015).

Dante Alighieri was the first to use the verb “transhumanate” or “transhumanize” (it. *transumanare, transumanar*) in *Divina Commedia*. The term “transhumanism” was first used by English philosopher and biologist Julian Huxley in 1957 in his essay *Transhumanism*. J. Huxley explained that the human condition (not just the nature of some individuals) should be enhanced until it achieves perfection and all humankind transforms into a superior race.<sup>2</sup> The entire transhumanist movement was inspired by the futuristic projection laid down in the essay. However, while J. Huxley referred to the social and cultural influence on the human transformation, transhumanists expanded this concept to include transcendence of the species by technological means.

Today, the transhumanist movement is supported by many famous academics (e.g., Nick Bostrom, Anders Sandberg, Simon Young, Max More, James Hugues) from the world’s leading universities. In 1998, transhumanist philosophers David Pearce<sup>3</sup> and Nick Bostrom<sup>4</sup> founded the World Transhumanist Association, an international non-profit organization that advocates the use of technology to expand human capacities. The organization changed its name in 2008, and is known today as “H+”, or “Humanity+”. Furthermore, the first transhumanist political party was founded in the USA in 2014 by Zoltan Istvan, who ran for the office of the President of the United States in the 2016 elections. In 2015, Istvan amended the Transhumanist Bill of Rights.<sup>5</sup>

The transhumanist movement is not merely an intellectual and academic affair, as the progress of modern science and technology has enabled the transhumanist thought to become reality. “The transhuman era has begun” – declared American critical thinker John Nosta in a 2018 *Forbes* article, basing his conclusion on a press release by Gartner Inc., an influential global research and advisory firm, which promoted the Gartner Symposium/ITxpo. The advert mentioned five distinct emerging technology trends that, according to Gartner, “will blur the lines between humans and machines” (Gartner Identifies Five Emerging Technology Trends, 2018). J. Nosta concluded: “We have both an event and a timeline that clearly puts transhumanism front and center of our changing world. Over the next decade, yes a decade, health technology will emerge as both profound and functional — saving lives, extending lives and even redefining life” (It’s Official, The Transhuman Era Has Begun, 2018). Because of its

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<sup>1</sup> According to transhumanist thinker Max More, in transhumanist language “technology” should be understood in a broad sense of the term “to include the design of organizations, economies, politics, and the use of psychological methods and tools” (More, 2013).

<sup>2</sup> J. Huxley wrote in his essay: “The human species can, if it wishes, transcend itself — not just sporadically, an individual here in one way, an individual there in another way, but in its entirety, as humanity. We need a name for this new belief. Perhaps transhumanism will serve: man remaining man, but transcending himself, by realizing new possibilities of and for his human nature.” (Huxley, 1968)

<sup>3</sup> David Pearce is a British philosopher and academic, mostly known for his work *The Hedonistic Imperative* written in 1995, where he laid out the idea that the abolition of suffering in the entire living world (not only human beings) should be a moral imperative. The thesis on the abolition of suffering gave rise to abolitionist, or hedonistic, transhumanism.

<sup>4</sup> Nick Bostrom is a Swedish philosopher and academic, famous for his concepts of human enhancement, hypothetical global catastrophic risk (existential risk) and superintelligence risk (his 2014 book *Superintelligence: Paths, Dangers, Strategies* was a bestseller), anthropic principle, and others. He is also the founder of the Future of Humanity Institute.

<sup>5</sup> The updated Transhumanist Bill of Rights can be found on the website of the Transhumanist Party: <https://transhumanist-party.org/tbr-3/>.

progressivity, transhumanism attracts more and more attention from bioethicists and lawyers that specialize in both intellectual property and health law.

Since one of the core tenets of transhumanism is to eliminate human suffering and provide technological solutions and medical procedures for enhancing the human condition, transhumanist philosophy challenges the ongoing discourse about human nature and dignity, as well as fundamental concepts like humanity and human being. In regards to medical ethics, classical medical principles (beneficence, non-maleficence, autonomy and justice) that emerged from the Hippocratic tradition are being deeply challenged in the light of the transhumanist thought. It is especially apparent in the context of human reproduction. Preimplantation genetic diagnosis, abortion on demand, contraception, gene editing, gestational surrogacy, and other procreation-related technologies (many of them still intensely discussed among ethicists) have already found their place in medical practice, and are evolving rapidly. For example, there are already dozens of cases of babies born to women with uterus transplants from living donors (Ejzenberg et al., 2018). In 2018, the first baby was born to a woman who received a uterine transplant from a deceased donor in Brazil (First baby born to woman with uterus, 2018). However, transhumanism goes even further by declaring that all human beings are entitled to reproductive freedom, including the use of novel means (e.g., designer babies, artificial uterus<sup>6</sup>, creation of mind clones, or solo and tri-parent children). In the view of all that, the transhumanist approach to human reproduction raises many questions about the legal implications and conflicts that may arise in healthcare ethics and law. Although many of these issues are subject for more in-depth investigation, the purpose of this paper is to analyze the theoretical background of human reproduction that emerges from the transhumanist approach, and to identify its main challenges for health law.

In the first part, the paper aims to explain the concept of transhumanism by highlighting its core notions and principles. In the second part, the transhumanist vision of human reproduction will be exposed. In the third part of the paper, the main legal challenges of transhumanism will be laid out, following main ethical principles used in modern bioethics.

### **Transhumanist thought: core ideas and principles**

N. Bostrom stresses that transhumanism is an *“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”*; it is also 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”* (Transhumanist FAQ, 2016). M. More adds that transhumanism also refers to *“philosophies of life [...] that seek the continuation and acceleration of the evolution of intelligent life beyond its currently human form and human limitations by means of science and technology, guided by life-promoting principles and values”* (More, 2013)<sup>7</sup>. As a movement, study and philosophy, transhumanism is rapidly evolving and aims to become a widespread approach to many social transformations.

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<sup>6</sup> In 2017, a study about the first successful experiment on animal fetuses growing in artificial uteri was published. Researchers from the Children’s Hospital of Philadelphia Research Institute led an investigation of the possibility to grow 8 premature lambs (comparable to a 23-week-old human fetus) in a plastic extra-uterine “womb” filled with amniotic fluid (Partridge et al, 2017).

<sup>7</sup> The notion of “transhumanism” as transhumanist philosophy was used by M. More in a 1990 essay *Transhumanism: Toward a Futurist Philosophy*.

Transhumanism has its roots in humanism of the Enlightenment. It emphasizes mastery over nature, technological progress and rational (scientific, logical, observational) approach towards the human condition, and it goes beyond humanism<sup>8</sup>. Systemic analysis of the literature about transhumanism helps to identify the main purposes of transhumanism as an intellectual movement and study: its foremost and most important goal is to contribute to human enhancement through technological solutions; second, to increase the human capability of choosing the way of self-determination and individualistic lifestyle by overcoming natural human limitations; and third, to completely eliminate or substantially decrease human physical pain and suffering, which are seen as constant and detrimental characteristics of the “imperfect” human condition.

The three main purposes of transhumanist movement can be folded into one megapurpose: to gradually transform a human being into a posthuman being, the ultimate status of the human perfection. Nevertheless, becoming a posthuman is not possible without passing through an “intermediary transition” (Bostrom, 2003), or the transhuman phase. *In one of his most notable works, Are you a Transhuman?*, transhumanist philosopher and futurist FM-2030 (originally named Fereidoun M. Esfandiary) used the term “transhuman” for the first time in the sense of a “transitional human” which is, according to the author, the “earliest manifestation of new evolutionary beings” (FM-2030, 1989). FM-2030 listed some features of a transhuman, which include prostheses, plastic surgery, intensive use of telecommunications, a cosmopolitan outlook and a globetrotting lifestyle, androgyny, mediated reproduction (e.g., in vitro), absence of religious beliefs, and a rejection of traditional family values. Nonetheless, some transhumanists do not agree with this list, and claim that it is possible to both be transhuman and embrace traditional values and principles of personal conduct (Transhumanist FAQ, 2016).

As previously stated, the ultimate aspiration of transhumanism is to exceed the limitations of the human condition and to transform human beings into posthuman beings. There is no agreement among transhumanists on how exactly posthumans would look or what form they would acquire; would they be similar to actual human beings, only completely redesigned through various technologies, or would they be transformed into synthetic artificial intelligences, uploaded into enhanced vessels? N. Bostrom mentions some of the features posthuman beings may have: „they yearn to reach intellectual heights as far above any current human genius as humans are above other primates; to be resistant to disease and impervious to aging; to have unlimited youth and vigor; to exercise control over their own desires, moods, and mental states; to be able to avoid feeling tired, hateful, or irritated about petty things; to have an increased capacity for pleasure, love, artistic appreciation, and serenity; to experience novel states of consciousness that current human brains cannot access“ (Bostrom, 2003). He later explained that a posthuman is someone that has at least one posthuman capacity: capacity to remain fully healthy, high general intellectual capacities and capacity to enjoy life and respond with appropriate affect to life situations and other people (Bostrom, 2008).

In order to enhance himself in such manner, a human being must be able to take a free and informed decision on what features he would like to acquire and what lifestyle he would like to lead. One of the core notions of transhumanism is the so-called morphological freedom (sometimes called prosthetic self-determination). This means that every human being has a

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<sup>8</sup> According to More: “The growth of humanism over the decades has begun this job, but now it is time to utilize the more inclusive and mimetically attractive option of transhumanism [...]. It goes beyond humanism by peering into the future in order to better understand our possibilities. As we move forward through time, our understanding of our immense potentials will evolve; there can be no final, ultimate, correct philosophy of life. Dogma has no place within transhumanism; it must be flexible and ready to move on, reconfiguring into higher forms, new versions of transhumanism and one day, posthumanism” (More, 1990).

right to enhancement and, respectively, a right to not experience coercion to enhance himself. The freedom to choose to enhance and augment is considered a human right (Vita-More, 2020). In 1993, Max More was one of the first to use the term of morphological freedom when referring to “the ability to alter bodily form at will through technologies such as surgery, genetic engineering, nanotechnology, uploading” (More, 1993). The notion has evolved over time; currently, the common definition of morphological freedom is the one proposed by N. Bostrom: a “civil right of a person to either maintain or modify their own body [...] through informed, consensual recourse to, or refusal of, available therapeutic or enabling medical technology” (Bostrom, 2005). The Transhumanist Bill of Rights specifies that it is the right to do with one’s physical attributes or intelligence whatever one wants, so long as it does not harm others. It also states that this right “includes the prerogative for a sentient intelligence to set forth in advance provisions for how to handle its physical manifestation, should that intelligence enter into a vegetative, unconscious, or similarly inactive state, notwithstanding any legal definition of death” (Transhumanist Bill of Rights, 2018).

Alex Hamilton stresses that morphological freedom has two aspects: freedom of coercion and freedom of privacy (Hamilton, 2015). The former means that in an ideal transhumanist world, it would be possible for every human being to make autonomous (free and informed) decisions about his body and lifestyle; the latter means that alteration of the appearance (and other features) should be considered an entirely personal matter. In other words, no one can judge another’s personal look according to their own religious or philosophical views. Morphological freedom reflects a radically individualistic perspective of human autonomy; in the field of medicine, such drastic redefinition of patient’s autonomy shapes the role of medicine in the era of transhumanism, where medicine not only treats diseases, but is also widely used as a wish fulfilling<sup>9</sup> practice. As Dale Carrico has noted, the politics of morphological freedom are related to the “transformation of the understanding of medical practice from one of conventional remedy to one of consensual self-creation, via genetic, prosthetic, and cognitive modification” (Carrico, 2006).

Another key concept of the transhumanist theory is the proactionary approach, or the proactionary imperative. The concept was formulated by M. More in 2004 in the Vital Progress Summit, organized by the transhumanist Extropy Institute<sup>10</sup> as a response to the Beyond Therapy report<sup>11</sup> by the President’s Council on Bioethics; the 2003 report exposed potential negative implications of the use of technologies (“tremendous new biotechnical powers”) with the purpose to achieve the human perfection. According to the organizers of the summit, the report threatened not only the technological progress (especially in biomedicine and neuromedicine), but also “the integrity of our minds and bodies [...], our rights and opportunities to make the most of our life and health” (Vital Progress Summit, 2004). The proactionary principle is generally presented as an alternative to (or, for some authors, attenuation or modification of (Lipinska and Fuller, 2014)) the precautionary principle<sup>12</sup> – one of the main principles of the Beyond Therapy Report. According to the

<sup>9</sup> In 2006, German clinical psychologist Matthias Kettner used the term “wish-fulfilling medicine” in his article *Wish-fulfilling medicine: between commerce and the utility of the patient*. The term referred to medicine that is used for individual purposes other than the traditional therapeutic functions of healing, prevention or palliative care (Kettner, 2006).

<sup>10</sup> The Extropy Institute is a philosophical and cultural organization. It was active from the late 1990s until 2006, and aimed to promote and support development of science and technology for human enhancement.

<sup>11</sup> Beyond Therapy: Biotechnology and the Pursuit of Happiness. The President’s Council on Bioethics Washington, D.C., (October 2003).

<sup>12</sup> In 1998, the Wingspread Statement on the Precautionary Principle summarized that “when an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context, the proponent of an activity, rather than the public, should bear the burden of proof” (Wingspread Statement, 1998).

founders of the Extropy Institute, the precautionary principle is pessimistic in regards to technological progress, assumes worst-case scenarios, distracts attention from established threats to health, especially natural risks, assumes that the effects of regulation and restriction are never negative, ignores potential benefits of technology, and conflicts with the more balanced, common-law approaches to risk and harm (The Proactionary Principle, 2004). In turn, the proactionary imperative is more progress-friendly; it takes into account the fact that despite some negative effects, every technological activity may provide beneficial and desirable gain for the humanity. It also underlines that we can learn by acting and experimenting, instead of merely anticipating the potential risks, remaining stagnant; in cases of undesirable side-effects, humans can work to remedy the harm. As it is expressed in the Transhumanist Manifesto, this principle provides “a balanced approach to access risks and opportunities by placing the burden of proof on all sides of the debate” (Vita-More, 2020). Lipinska and Fuller (2014) note that the two principles reflect different perspectives on the relation of the human being and nature: precautionary principle considers us metaphysically connected to the nature, while proactionary principle argues that we are a not part of the nature; instead, it states that human beings are self-transcendent and give meaning to the nature.

To sum up, transhumanism emphasizes the individual capacity to freely take decisions enhancing the human condition and believes in the individual capacity to competently cope with all the negative consequences arising from such enhancement. This perspective embodies a deep trust in human reason and freedom, as humanity moves towards becoming the best version of itself as a species – in other words, reaching self-transcendence.

### **Human reproduction in transhumanism**

As transhumanism is oriented towards the creation of an enhanced human (or posthuman) society, every possible limitation, disability, illness or disorder is considered an obstacle that should be eradicated from human nature by any means possible. Natural procreation, as a human reality, can be closely related to pain, suffering and trauma. From an anthropological standpoint, child bearing and raising are related to many complex processes that reveal how fragile and limited the human condition is: long and exhausting pregnancy, painful delivery and postpartum inconveniences, difficulties of raising a child, high dependence of the human babies many months<sup>13</sup> after the birth, and long childhoods; not to mention undesired, complicated, or risky pregnancies, offspring with disabilities or other undesired characteristics. It follows that transhumanism seeks to enhance the human condition in this regard. Another reason why reproduction is an important issue in the transhumanist project is because the road to enhancement and the posthuman stage of humanity begins from the very moment a new person is conceived.

In the context of human reproduction, the Transhumanist Declaration supports a wide variety of biotechnologies and other reproductive tools that give “individuals wide personal choice over how they enable their lives” (Transhumanist Declaration, 2009). The Transhumanist Bill of Rights also states that all sentient entities have a right to take free decisions about their reproduction and family status.<sup>14</sup> Therefore, the transhumanist project

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<sup>13</sup> According to anthropologist Meredith Small, “the human infant is born neurologically unfinished and unable to coordinate muscle movement. In a sense, the human baby is not isolated but is part of a physiologically and emotionally entwined dyad of infant and caregiver.” (Small, 1997)

<sup>14</sup> “Article XII. All sentient entities are entitled to reproductive freedom, including through novel means such as the creation of mind clones, monoparent children, or benevolent artificial general intelligence. All sentient entities of full age and competency, without any limitation due to race, nationality, religion, or origin, have the right to marry and found a family or

for the human reproduction underlines the principles of bodily autonomy and procreative liberty that are related with the aforementioned centric notion of transhumanism – morphological freedom. Bostrom stresses that “parents must be allowed to choose for themselves whether to reproduce, how to reproduce, and what technological methods they use in their reproduction” (Bostrom, 2003). In the area of human reproduction, the procreative liberty (or freedom) is today widely promoted under the concept of “reproductive and sexual rights”, which is also characterized by the individual-centered framework (Cavaliere, 2020). However, the agenda of transhumanism is a lot more diverse in its technological means. Significant examples of „transhumanized” reproduction include the use of an artificial uterus, digital contraception, mono or trio parenting, or even a child-free society. Z. Istvan stated in an interview that in 50 years we will likely no longer want to have children in a traditional way, because genetic modification will permit us to become any type of entity and have children with a brain that is a thousand times more capable (The Jesus Singularity, 2019). Kyle Munkittrick lists seven indicators which would signal that transhumanism has been attained. One of them is the possibility to take free decisions regarding one’s body: “actions such as abortion, assisted suicide, voluntary amputation, gender reassignment, surrogate pregnancy, body modification, legal unions among adults of any number, and consenting sexual practices would be protected under law” (When Will We Be Transhuman, 2011).

However, transhumanism stresses that procreation should be based not only on freedom of choice, but also on procreative responsibility. There’s some debate among transhumanists about individual moral responsibility to take safe and effective technological measures, such as genome editing or preimplantation genetic diagnosis, in order to ensure the health and wellbeing of the child. According to Bostrom (2003), the use of genetic medicine or embryonic screening, that increases the probability of a healthy, happy and talented child, is a responsible application of parental reproductive freedom. Bostrom also underlines that society has a legitimate interest in having healthy future generations. Munkittrick emphasizes that procreation itself means planned creation and conscientious rearing of offspring. He stands for better birth control and concludes that the main characteristics of the transhumanized reproduction are parental licensing, global birth stability, adoption and surrogacy, preference to artificial reproductive technologies, genetic modification, health screening, synthetic wombs and emphasis on responsible parenting rather than biological parenthood. He also notes that abortion will only be necessary in rare cases of unintended or mother-life threatening pregnancies (When Will We Be Transhuman, 2011).

The discussion concerning the parental responsibility is even more intense when the obligation to enhance children is considered. Julian Savulescu and Guy Kahane affirm that such an obligation does exist, not unlike the obligation to facilitate treatment or prevent diseases (Savulescu and Kahane, 2009). Could it be considered parental negligence to have an unhealthy child in an era when it’s possible to avoid through the so-called germinal choice technologies? Naturally, this question also raises concerns about eugenic policies which are to a wide extent approved of by transhumanists. However, Bostrom (2003) makes a distinction between genetic enhancements that are intrinsically beneficial to the child or society (health, cognitive abilities, and emotional well-being) and those that merely provide a positional

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to found a family as single heads of household. They are entitled to equal rights as to marriage, during marriage, and at its dissolution. Marriage shall be entered into only with the free and full consent of the intending spouses. All families, including families formed through novel means, are entitled to protection by society and the State. All sentient entities also have the right to prevent unauthorized reproduction of themselves in both a physical and a digital context. Privacy and security legislation should be enacted to prevent any individual’s DNA, data, or other information from being stolen and duplicated without that individual’s authorization” (Transhumanist Bill of Rights, 2018).

advantage to the child (attractiveness, athletic prowess, height, and assertiveness). Bostrom thinks that there should be less importance placed on positional advantages, while enhancements that are beneficial to the child should be encouraged. He rejects concerns about a possible “lack of diversity” in the case of genetic enhancement becoming a widespread technology, because according to him, parents will still make their choices based on their personal, differing aesthetic choices. On the other hand, he does not consider diversity of weak, unhealthy, unattractive and unintelligent human beings to be necessary, and defends the uniformity of populations composed of advantageous human beings (Bostrom, 2003).

In general, human reproduction is a topic of broad discussions among transhumanists. At present, many of the advanced techniques that transhumanists approve of are still at an experimental stage and are very dependent on further scientific progress. However, on the theoretical level, we can already contemplate the legal issues that may arise in this field should a transhuman future become a reality.

### **Main legal challenges of the transhumanist view of human reproduction**

Considering that transhuman enhancement of human reproduction would, at least at first, be practiced in a medical context<sup>15</sup>, transhumanism will inevitably cause many issues of health law. First of all, it would deeply challenge the principle of human dignity, which is one of the most important principles in bioethics. Secondly, it would also defy the classical medical principles applied to the medical practice and legal solutions in healthcare: non-maleficence (*primum non nocere*), beneficence (*bona facere*), autonomy and justice. In this section of the paper, the main legal issues will be highlighted in view of these bioethical principles.

#### *The principle of human dignity*

According to Andorno (2013), human dignity is a super-principle, which not only provides the foundation of all legal and social institutions, but also projects a general direction for a civilized society. Human dignity is a factor mentioned in many important documents relating to human rights (e.g., the Universal Declaration of Human Rights<sup>16</sup>, the Convention on Human Rights and Biomedicine<sup>17</sup>, the Convention for the Protection of Human Rights and Fundamental Freedoms<sup>18</sup>) and modern national constitutions; there’s an on-going discussion among lawyers and ethicists regarding the content, applicability and utility of this principle. Transhumanists support that the techniques for human enhancement do not harm the principle of human dignity, because human dignity itself does not rely on human nature. Bostrom (2005) stresses that for transhumanists, dignity consists in what human beings are (including their technological and social context) and what they have the potential to become, not in their pedigree or their causal origin. Therefore, according to Bostrom enhancements strengthen the principle of human dignity. In the context of human reproduction, the first significant question is related to the recognition of the dignity of a human embryo. Considering that for transhumanism human dignity is not related to human nature (the

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<sup>15</sup> There is a wide academic discussion about the distinction between therapy and enhancement (Bellver Capella, 2012), although it exceeds the scope of this paper.

<sup>16</sup> Universal Declaration of Human Rights. (adopted 10 December, 1948). GA Res 217A (III), UNGAOR, 3rd Sess, Supp No 13, UN Doc A/810 (1948) 71.

<sup>17</sup> Convention for the protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine (adopted 4 April 1997, entered into force 1 December 1999). ETS 164.

<sup>18</sup> Convention for the Protection of Human Rights and Fundamental Freedoms (adopted 4 November 1950, entered into force 3 September 1953). ETS 5; 213 UNTS 221 (ECHR).

natural law argument), generally speaking, the selection, manipulation or destruction of human embryos or fetuses is not a big issue. In some cases, the tendency of current laws that imply consent for the destruction of embryos is already clearly on the side of transhumanism (Guell Pelayo, 2014). However, many reproductive practices (surrogacy, human germline engineering, cloning, three-parent babies, etc.) are intensely debated or straight-up prohibited in many countries under the perceived threat to human dignity. It is quite possible that in the near future, alongside the expansion of transhumanist thought, the legal framework of human dignity will change radically. The second issue is that transhumanism in general does not approve of the view that human beings have a higher moral status (speciesism) than other entities (Transhumanist FAQ, 2016). For example, the Transhumanist Bill of Rights mentions “sentient entities” rather than just “human persons” as agents of moral status, and Bostrom (2005) attributes the dignity to other species<sup>19</sup>, including posthumans, to (at least) the same extent as to humans. However, procreation of rational individuals substantially more advanced than the general populace of human beings would entirely transform the foundations of human society and alter the very concept of “humanity” itself (Murphy, 2012). Should this approach be widely accepted, the right to enhancement would become a human right, protected by the various human rights instruments. On the other hand, what is today recognized as “human rights”, in the future could eventually include “transhuman” and “posthuman” rights, and probably even rights of other sentient entities.

#### *The principle of non-maleficence*

Another important principle challenged by transhumanism is one of non-maleficence (*primum non nocere*), which states that the foremost duty of any medical professional is to do no harm (not to kill, not to cause pain or suffering, not to incapacitate, not to offend (Jahn, 2011)) while intervening in the patient’s body, curing illness or improving his wellbeing. Bostrom (2003) holds to this principle, saying that if a prospective parent wants to undertake a harmful genetic modification, this should be prevented by law just like in cases of child abuse or parental neglect, where the state takes custody of a child. However, the main legal issue here is that the concept of “harmful” is not entirely clear within transhumanist ethics. Is the evaluation of “harm” based on individual understanding? If transhumanist ethics approve of creating three-parent embryos or carrying out pregnancies in artificial uterus (thus destroying the maternal-filial bond or transforming the natural understanding of “human identity” (Cruz, 2015) ), would it constitute “causing harm” to a human person under the law? The anthropological problem in transhumanism is that it represents a reductionist view of a human being and emphasizes the material dimension of a human person (Postigo Solana, 2016). Moreover, as transhumanism relies on the proactionary approach (rather than precautionary) and trusts the human potential to manage risks, there is a danger of creating a highly permissive legal framework for the use of such technologies. Some of the possible reproductive technologies currently exist only on a theoretical level or in early experimental stages. Taking this into consideration, healthcare laws should carefully provide the responsibilities of proactive agents.

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<sup>19</sup> For Bostrom, dignity is “a quality, a kind of excellence admitting of degrees and applicable to entities both within and without the human realm” (Bostrom, 2005).

*The principle of beneficence*

On the opposite side of the principle of non-maleficence is the principle of beneficence; it affirms a medical obligation to act in the benefit of a patient, defend the rights of others, remove harmful conditions, help persons with disabilities, and aid persons in danger (Varkey, 2021). In the context of human reproduction, Ian Savulescu and Guy Kahane propose a principle of “procreative beneficence”, which means that parents have a moral reason to use embryo selection in procreation of a new child (Savulescu and Kahane, 2016). As stated in the previous section, transhumanists generally approve of a new kind of eugenics (Transhumanist FAQ, 2016) that is not coercive. However, as Walker Vasquez del Aguila and Postigo Solana (2015) expressed, “what starts as a matter of choice can lead to coercive force, especially in some social sectors”. The principle of Savulescu was later “improved” and renamed the Principle of General Procreative Beneficence, which means that couples should select their future children not only because of their well-being, but also with regards to maximizing their expected value to the world (Elster, 2011). In this case, parents would likely be legally forced to choose a healthy embryo in accordance with the principle of public interest. Moreover, natural procreation would probably be impossible and considered harmful, which conflicts with the principle of procreative freedom and non-coercion in enhancement, defended by some transhumanists (Walker Vasquez del Aguila and Postigo Solana, 2015). Bostrom (2005) doesn’t adhere to the principle of general procreative beneficence, stating that the obligation to enhance a child should be imposed by law only in extreme or unusual situations. However, it would be a huge challenge to legally define such “extreme and unusual” situations; not only that, in light of the radically secular transhumanist ethics, it would be just as difficult to ensure appropriate respect to the religious beliefs and/or conscientious objections of parents and medical professionals.

*The principle of autonomy*

In the context of the principle of autonomy, transhumanism defends a very individual-centric understanding of reproductive freedom. It is “the right to do with one’s physical attributes or intelligence whatever one wants, so long as it does not harm others” (Transhumanist Bill of Rights, 2018). It is disputable if reproduction is a matter of “individual” options, since offspring are in general produced jointly with another individual (or individuals) and the result of many reproductive choices is another individual. It seems that transhumanism simply puts forward the interests of the autonomous agents able to make decisions. Therefore, it’s necessary to mention the legal issue related to free and informed consent. First of all, there is a danger that the requirement of informed consent can become a mere formality. Considering that in many experimental techniques even the healthcare specialists would sometimes act proactionary, can we really say that the patient (client) is sufficiently informed about the risks he takes and the possible consequences to his health and well-being? However, a truly informed consent is a minimum requirement that protects human beings from harm and from coercion to participate in research, thus dignifying their moral status (Coyne and Hauskeller, 2019). In such cases, participation of many third party agents (ethics committees, professional societies, etc.) is encouraged in order to ensure the best circumstances of consent; however, the patient (or subject of the research) in question can often be a child, who not only cannot give (free and informed) consent, but is also (much) more susceptible to (potential) harm (Johnlin, 2020). In the future, such cases may result in the increase of lawsuits related to the so-called issues of “wrongful birth” and “wrongful life”, parental refusal of imperfect and “unsuccessfully-modified” children, and medical liability.

### *The principle of justice*

In regards to the principle of justice, several important questions can be raised. If enhancement is recognized as a human right, would the state promote and finance some types of enhancement through reproductive means? If so, can we be sure that the necessary resources would not be distributed in a way that allows some individuals (or societies) to achieve substantial perfection or even become a super species, while others struggle to cover their basic human health needs (Mirkes, 2019)? As Fukuyama (2002) notes, the right of equal opportunities would be violated in this case. Bostrom (2003), however, is not too concerned about problem of distributive justice, noting that technologies tend to become cheaper and more accessible. However, the wait for cheaper and accessible technologies, compounded by the inherent inequalities among some societies and individuals, may provoke intense conflicts. It's possible to speculate that transhumans may always need more expensive (but also vital) procedures than unenhanced people, which can create tensions in the medical sector and society in general.

Another big concern related to justice is about whether or not it is possible to maintain social justice and stability when a super species emerges and begins to participate in social life. Bostrom (2003) says that these predictions are doubtful, as the human society is already divided into groups of privileged and unprivileged, individuals both strong and weak, and it is precisely the legal order that helps to maintain social justice and peace. He calls for the building of a more just world by strengthening institutions that promote tolerance and human rights. However, it is hard to expect that a superior species would share the same values as human beings (Bellver Capella, 2012). Moreover, considering that it is difficult to expect everyone to obey social rules even within a human society, it's impossible to be sure if a superior species would agree to subscribe to a set of laws agreed upon with an intellectually and physically inferior species (i.e. humans). This could inevitably mean segregation of "traditional" (unenhanced) human beings. Some (Annas et al., 2002) argue that transhumanism could even lead to slavery and genocide between different groups.

### **Conclusions**

Transhumanism is a movement, study and philosophy that promotes a secular, radically instrumental and materialistic understanding of human nature. It emphasizes the autonomy of a self-transcending and rational human being that seeks overall control of his body, well-being and condition as part of the human species. The proposal to enhance and augment the human condition through technological means is based on the perception that human happiness depends widely on the elimination of physical and psychological limitations. The core principles of morphological freedom and proactionary approach support the rationalistic proposal of technological transformation of human race into a superior posthuman race.

Transhumanism targets human reproduction as a very important area where elimination of pain and suffering can substantially improve the quality of human life, as well as a tool of improving the "quality" of humankind itself (modern eugenics). Human reproduction in transhumanism is based on the principles of radical bodily autonomy and procreative freedom – notions that affirm an individual-centered view of reproduction. These two principles are interpreted in a way that does not take individual preferences into account, while the possible interests of future human offspring are evaluated mostly in a sense of "improved human condition". Emotional or spiritual dimension of parenting, or the benefits of

the natural child-parent bond are not taken into account seriously in transhumanism, and neither are the ethics of manipulation or destruction of human embryos.

There are many legal issues that can be identified within the transhumanist project for human reproduction. Some of them are related to the transhumanist understanding of human dignity, which challenges the concepts of humanity and a human being, and deepens the discussion on the meaning of protection of the vulnerable (i.e. human embryo). Non-maleficence in transhumanism is basically reduced to a physical or psychological level and leaves aside problems related to existential harm or destruction of human embryos. The concept of beneficence in transhumanism can support eugenic practices and can possibly create legal obligations to only reproduce human beings of a certain "quality". Being a radically individualistic philosophy, transhumanism promotes the widest autonomy of the patients (clients) and mostly defends the interests of autonomous agents. However, as a secular theory, it may disregard the objections of conscience of the medical personnel and parents. Free and informed consent can also prove to be a big issue, as many of the methods are experimental and not well-known even to the professionals. In regards to justice, the fair distribution of limited medical resources may also be an issue of the health law, as many of the techniques related to reproduction are expensive. The legal regulations and co-habitation of enhanced and unenhanced citizens may also be a challenge for laws that protect social justice, peace and democracy.

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