THE PRODUCTION OF HUMAN REPRODUCTION: IMPACTS OF TRANSHUMANISM'S INCONSISTENT REPRODUCTIVE POLICY ON CLASSICAL ETHICAL PRINCIPLES

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Abstract

The transhumanist movement is characterized by a shift from the traditional understanding of the "created" and "born" human to a "produced" and potentially "immortal" human. This article argues that the reproductive policy of transhumanism is inconsistent. Firstly, it underestimates the implications of reproduction, especially those related to women, such as pregnancy, childbirth, and childrearing, which is considered a source of pain at every stage. Additionally, it prioritizes adult enhancement in pursuit of immortality, which is why it discards producing a new life. On the other hand, the movement utilizes new reproductive technologies to enhance human beings, thereby promising and providing unlimited individual reproductive freedom in a wide range of contexts. Furthermore, this article argues that transhumanism, which moves away from the concept of sexual

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human nature, not only excludes femininity and its associated nature but also converges towards a sexless human nature biologically. It also discharges sexuality from the purpose of reproduction and reduces it to the purpose of pleasure substantially. The overall attitude of the transhumanist context raises significant ethical problems, undermining traditional medical ethics and bioethics principles such as nonmaleficence, beneficence, autonomy, justice, and human dignity. Moreover, it forces ethical principles to be redefined on a new basis with its indifferent attitude that ignores the threat of authoritarian eugenics, neglects reproductive responsibility while emphasizing reproductive freedom, and fails to consider the nature of the contrast-dependency of human values. As a result, new ethical principles must be developed to address the implications of this attitude.

Keywords: Transhumanism, human reproduction, biological sexes, ethical and bioethical principles, inconsistency

Introduction

Since the turn of the 21st century, humanity has faced numerous challenges against revolutionary developments in science and technology. The reproductive revolution,[1] one such development that emerged with the advent of IVF (*in vitro fertilization*) in the last quarter of the 20th century, necessitates an urgent analysis of the ethical issues it presents across various domains, including social, political, economic, legal, and ethical. The contemporary transhumanist movement, which advocates for the use of technology to transcend the current physical and cognitive limitations of humanity and improve the human condition, is one of the key drivers of this revolution. In response to the natural selection-based "human" who can reproduce, the transhumanist "transhuman" is a product of *directed (assisted) evolution* achieved through artificial selection. Although the "human who can reproduce" is regarded as natural while the "transhuman" is viewed as artificial, the philosophical distinction between natural and artificial is not easily justifiable.

This article posits that transhumanism's reproductive policy is inconsistent and that this inconsistency deconstructs some of the

[1] For conceptualization, see Esra Kartal Soysal, *Posthüman Dünyada Üreme: Felsefi Bir Giriş* (Ankara: Siyasal Kitabevi, 2023).

principles of classical ethics and bioethics. While these principles are not beyond reproach and must be open to critical thinking, transhumanism seeks to undermine them instead of proposing a new ethical foundation. This highly optimistic philosophical approach posits that humans have the right to both treatment and enhancement of their bodies, blurring the line between the two. Its ultimate goal is the creation of the "posthuman," who *can have everything*. One of the areas it seeks to enhance is human reproduction, favoring artificial selection over natural reproduction, which it views as uncontrollable because of randomness. However, transhumanism's pursuit of immortality paradoxically alienates it not only from death, but also from life and its inherent fragility, including pregnancy, childbirth, breastfeeding, and childrearing. The price of immortality, it seems, is a world in which new life is not created.

This article contends that transhumanist reproductive policy presents an inherent inconsistency. In addition to incorporating numerous enhancement applications, such as digital birth control and new reproductive technologies (e.g., IVF, PGD, IVG, surrogate motherhood, single or three-parent baby, designer baby, germline engineering, genome editing, reproductive cloning, creation of mind clones, and artificial womb), transhumanist reproduction essentially rejects the inherent constraints of being born and being mortal. However, the existence of humans is fundamentally natal. Transhumanist reproductive policy, therefore, suspends all the contents of reproduction that involve producing a new life while placing the enhancement of the already-existing adult at its core in pursuit of immortality. With each stage, it considers natural reproduction, a human condition, a source of pain, suffering, and trauma while postulating that evolution has performed poorly through random natural selection. Furthermore, this policy puts forth the concept of "morphological freedom," wherein individuals can entirely choose who they are, how they desire to live, and their will. This, combined with the human "proactive principle" rather than the "precautionary principle," promotes self-enhancement within the vast freedom package. The aim is to rectify the faulty engineering of natural selection and give evolution a new direction and determination. Finally, the transhumanist reproductive policy suggests that evolution is not wise and that there might be alternative ways, other than

childbearing, to produce an "*enhanced* human" (transhuman/posthuman).

The ideal reproductive scenario envisioned by transhumanism involves enhancing male bodies and masculine processes. On the other hand, femininity and motherhood, with their associated costs of bearing and raising children, are considered burdens that must be overcome. However, an essential driver of cultural development is the high care required by human offspring. Transhumanism rejects the pain of childbirth and childrearing in favor of pleasure without considering the balancing effects of *evolutionary trade-off*s. It posits an incompatibility between the evolutionary conditions of the past and those of contemporary life, arguing that reproductive forms such as pregnancy, birth, breastfeeding, and childrearing are no longer adaptive to modern living conditions. Instead, individuals should take charge of their reproduction and experience creativity and permanence (immortality) through self-enhancement. Despite the meaningful role of childbearing and childrearing in human evolution, transhumanism views these stages as cumbersome burdens that would not serve the development of humanity.

The traditional biological distinctions of sexes, sexuality, and natural reproduction, which were considered inherent to the human species, have been subject to irreversible transformations due to technological developments since the late twentieth century. The transhumanist paradigm posits that biological sex and sexuality can be completely redesigned, leading to the deconstruction of the notion of "sexual human nature," which has evolved over time. While transhumanism's concept of human nature is close to sexlessness, it does focus on masculinity in the context of biological sex. However, transhumanism appears to ignore experiences associated with femininity. Moreover, as it emphasizes the pleasure aspect of sexuality, the reproductive function may not survive in its world. At the same time, transhumanism favors dissolving differences between the sexes. Reconstructing the mortal biological body is not geared towards reproduction, considered a gateway to immortality in the classical world. Transhumanism's quest for immortality occurs due to individual enhancements created within their bodies, with the individual capturing permanence only through reconstructing their sexual body and not by extending their finite existence to the next generation.

Transhumanism aims to enhance the process of reproduction for all "sentient beings," not only humans. The underlying value attribution of reproduction in human evolution serves as a basis for understanding the promises and expanded boundaries of reproduction. However, the ethical implications of such enhancements are complex and demand a new ethical ground that goes beyond the traditional principles of medical ethics and bioethics, such as "non-maleficence", "beneficence", "autonomy", "justice", and "human dignity". Transhumanism's approach to reproduction, which involves decomposing the identities of the "genetic mother", "surrogate mother" (gestational carrier), and "raising mother", presents numerous ethical dilemmas. In addition, transhumanism's lack of sensitivity to the threat of authoritarian eugenics, reproductive responsibility, and the *contrast-dependency* of values demands the transformation of the existing ethical framework.

Transhumanist Inclination: Production of Reproduction

The concept of the "produced human" has emerged from the hand of the "created human" and has since flourished. The terms "created" and "produced" typically imply a distinction between natural and artificial, yet this distinction is not philosophically defensible. In our contemporary age, the natural-artificial boundary is becoming increasingly blurred, and this is further complicated by the fact that the ethical implications attributed to the concept of the natural are false. Furthermore, human perception is not a true reflection of objective reality, as the primary function of perception is to ensure survival and reproduction. The universe is an interface for concealing or shading objective reality.[2] Thus, in a universe where objective reality is not directly accessible, existence cannot be separated into natural and artificial components. The transhumanist movement, which seeks to enhance human conditions through technological means, further erodes this distinction. Although Julian Huxley, who first coined the term transhumanism in 1957, advocated for social, cultural, and

[2] Donald Hoffman, *The Case Against Reality: Why Evolution Hid the Truth from Our Eyes* (New York: W. W. Norton & Company, 2019).

educational means of human development,[3] the contemporary transhumanist movement emphasizes direct technological enhancements.

One of the early expansions of the contemporary transhumanist movement that emerged in the United States in the late 1980s was the Human Genome Project, which aimed to go beyond reading and regulating genes to re-designing them with synthetic biology. At the Exponential Medicine conference held at Singularity University, Jane Metcalfe asserted that "We can design embryos. We can edit genes in humans. We have synthetic biology. And so we really are looking at designing future humans".[4] The ultimate objective of transhumanism is usually framed by aspirations such as reducing or eliminating suffering, prolonging life, enhancing physical, intellectual, and emotional capacities, and enabling people to exert greater control over their destiny. Most transhumanists assert their right to both treat and enhance their bodies, contending that maximizing pleasure and minimizing pain in life can only be achieved through biotechnology.

The transhumanist movement asserts that the current human condition needs to be improved, developed, or overcome altogether. Max More, in his manifesto, demonstrates pragmatic optimism:

> We seek to sustain and quicken this evolutionary process of expanding extropy, transcending biological and psychological limits into posthumanity. In aspiring to posthumanity, we reject natural and traditional limitations on our possibilities. We champion the rational use of science and technology to eradicate constraints on lifespan, intelligence, personal vitality, freedom, and experience. We recognize the absurdity of meekly accepting "natural" limits to our lifespans. The future will bring a graduation from Earth the cradle of human and transhuman intelligence and the inhabitation of the cosmos.[5]

Although transhumanists come from different backgrounds, they share a philosophy rooted in Enlightenment principles. However, transhumanism has been criticized for rejecting the human condition,

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[3] Julian Huxley, "Transhumanism", *Journal of Humanistic Psychology* 8/1 (1968), 73-76.

[4] Jason Dorrier, "Why Designing Our Own Biology Will Be the Next Big Thing in Medicine", *Singularity Hub* (Accessed October 28, 2022).

[5] See Max More, "Manifesto of the Extropian Principles", *Alamut Bastion of Peace and Information* (1995) (Accessed October 28, 2022).

its godlike aspirations, and its failure to prioritize ethical considerations that may arise from the use of advanced technologies. While transhumanism is optimistic about technological progress, there is a possibility that technologies may be misused and cause immense harm, even resulting in the extinction of life. In addition, there is a concern that technological advancements could exacerbate social inequalities or gradually erode values, although these risks may be difficult to quantify.[6]

Human beings can undergo various enhancements during their lifetime, such as increased life expectancy, improved intelligence, better health, enhanced memory, and heightened emotional sensitivity. The proponents of transhumanism argue that such enhancements do not alter the continuity of a person's identity. Instead, they see them as a means to discover new values and experiences that were previously inaccessible. Unlike traditional tools such as education, philosophical contemplation, and moral self-control, which are deemed slow and inadequate, transhumanism seeks to achieve these enhancements through more rapid means. However, despite their reliance on Enlightenment principles, transhumanists have been criticized due to their disregard for ethical considerations that may arise from technological advancements. While transhumanists attempt to ground their philosophy in classical concepts, such as those found in ancient philosophy, Susan B. Levin argues that their understanding of these concepts is misguided. In her view, transhumanists misinterpret and distort these ancient sources to justify their claims, which, in reality, diverge from the philosophical outputs of ancient philosophy. Furthermore, she argues that the comparison between human-posthuman and human-god relationships, which transhumanists draw, only serves to obfuscate or even destroy the ontological gap between humans and gods. Thus, there is a fundamental discontinuity between the classical and transhumanist concepts, which are often opposed to each other.[7]

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6 K. Eric Drexler, *Engines of Creation: The Coming Era of Nanotechnology* (London: Fourth Estate, 1985).

7 Susan B. Levin, "Antiquity's Missive to Transhumanism", *The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine* 42/3 (2017), 278-303.

Transhumanism aims to use technology to enhance human capabilities drastically, leading to the posthuman state. The posthuman is envisioned as a being with infinite possibilities, possessing a broad range of thoughts, feelings, experiences, and activities that far exceed those of the current human organism.[8] The present human form is believed to cover only a small subspace of the universe, constrained by physical limitations. Transhumanism urges the development of new technologies to explore alternative ways of living, feeling, and thinking that are likely to exist in the vast universe. The limitations of human experience and imagination render daily intuitions about values inadequate, and the development of larger capacities can lead to the discovery of much higher values. Nick Bostrom, referring to David Lewis' theory of value, contends that there may be currently unrecognizable or even unimaginable values that the posthuman state can access. Conversely, posthuman values may be identical to human values that already exist.[9]

Transhumanism strongly emphasizes radical enhancements in human health, particularly in the reproductive domain. Proponents of this movement argue that biological evolution must be controlled and directed, and that birth should be avoided to deny the human fragility of being born. For transhumanists, death is not biologically necessary, as the only reality in life is the being that strives to reproduce, optimize, and spread itself – as described by Richard Dawkins' concept of the "selfish gene". Immortality, achieved through gene transfer, can become a reality with the control of cell replication. However, transhumanists do not settle for proxy immortality; they demand a real one. Immortality can create hesitation in the breakthrough to reveal the new, reflecting the desire to perpetuate what we are.[10]

Transhumanism regards the natural union of gametes as random and considers reproduction in living organisms largely uncontrollable and disruptive in determining the world's future. Instead, it advocates for artificial reproduction as opposed to sexual reproduction, which

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8 The use of the term "posthuman" in transhumanism differs from the use of the term in posthumanism. See to examine the difference: Yaylagül Ceran Karataş, *Posthüman: Şehir ve Beden* (Ankara: Siyasal Kitabevi, 2022).

9 Nick Bostrom, "Human Genetic Enhancements: A Transhumanist Perspective", *Journal of Value Inquiry* 37/4 (2003), 493-506.

10 Jean-Michel Besnier, "On a Deadly Desire for Immortality. Concerning Transhumanism", *Cités* 55/3 (2013), 13-23.

presents a wide range of risks and variations for the world of living beings.[11] As a result, while immortality is desirable, natural reproduction and life are negated. The desire for immortality exhibited by transhumanists such as Ray Kurzweil, Eric Drexler, Kevin Warwick, and Aubrey de Gray is viewed as a means of escaping the frailty and vulnerability of the human body. This preoccupation with immortality is based on a rejection of death that is indistinguishable from a rejection of life. This rejection poisons several concepts, such as reproduction, femininity, birth, and childrearing, which are intrinsic to life processes. However, some, such as Larry Temkin, deem the price of immortality too high if it means a world without babies, children, and renewal.[12] The new world's posthumans are envisioned as adults from the outset, resembling robots. Enhancement in an adult-only world is antithetical to humanistic values.

Demarcation Problem of Transhumanism and Its Ultimate Goal of a Reproduction-Free Humanity

The reproductive revolution progresses through IVF, IVG, and artificial womb phases.[13] Transhumanism places a deep trust in the human mind and freedom to become the best version of itself as a species. The premise posits that individuals can exercise autonomy in making choices that contribute to the betterment of humanity and effectively manage any adverse outcomes that may result from such enhancements. From this perspective, reproductive technologies become a means of production. The agenda of production includes digital birth control, rejection of restrictive childbirth, parenting license, and the use of new reproductive technologies such as IVF, PGD, IVG, surrogate motherhood, single or three-parent babies, designer babies, germline engineering, genome editing, reproductive cloning, creation of mind clones, and artificial wombs. Furthermore, it emphasizes the importance of nurturing parenting rather than genetic parenting and even entertains the possibility of birthless birth and a childless society. Zoltan Istvan predicts that traditional childbirth

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11 See for somatic cell division: Tommaso Marinetti, "The Futurist Manifesto", (1909) (Accessed October 28, 2022).

12 Larry Temkin, "Is Living Longer Living Better?", in *Enhancing Human Capacities*, ed. Julian Savulescu et al. (Oxford: Wiley-Blackwell, 2011), 365.

13 Kartal Soysal, *Posthüman Dünyada Üreme*, 29-40.

methods will become obsolete within 50 years, as genetic engineering allows for producing more talented children.[14] Kyle Munkittrick draws attention to the ability to make free decisions about one's body as a hallmark of the transhumanist phase: "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."[15]

In the realm of reproductive rights and freedom, transhumanism greatly emphasizes "morphological freedom". At its core, this concept holds that individuals should be able to freely decide fundamental matters such as their identity, desired lifestyle, and preferred physical and mental characteristics. The right to self-enhancement should be considered a fundamental human right.[16] More discusses the concept of morphological freedom, which encompasses the potential to manipulate the physical form using techniques like surgical interventions, genetic engineering, and nanotechnology, as well as the possibility of loading the mind.[17] Morphological freedom has evolved over time. According to Bostrom, it is currently defined as the "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".[18] *The Transhumanist Bill of Rights* outlines that individuals have the right to do as they please with their physical or intellectual abilities as long as they do not cause harm to others. In fact, not only individuals but also all sentient beings have the right –including the right not to use– to use all the facilities in this document to the extent they wish.[19]

Alex Hamilton highlights that morphological freedom has two main aspects: "freedom from coercion" and "freedom of privacy". The

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[14] See Zoltan Istvan, "The Jesus Singularity and the End of Sex As We Know It?", *The Medical Futurist* (2019) (Accessed October 28, 2022).

[15] Kyle Munkittrick, "When Will We Be Transhuman? Seven Conditions for Attaining Transhumanism", *Discover Magazine* (2011) (Accessed October 28, 2022).

[16] See Natasha Vita-More, "Transhumanist Manifesto", *Humanity+* (2020) (Accessed October 28, 2022).

[17] Max More, "Technological Self-Transformation: Expanding Personal Extropy", *Extropy* 10/4 (1993), 15-24.

[18] Nick Bostrom, "In Defense of the Posthuman Dignity", *Bioethics* 19/3 (2005), 202-214.

[19] See *Transhumanist Bill of Rights* (2018) (Accessed October 28, 2022).

former refers to the ability of individuals in a transhumanist society to make autonomous (free and informed) decisions regarding their own bodies and lifestyle without external pressures or coercion. The latter aspect implies that changes in physical appearance should be considered a private matter for individuals. This emphasis on individual autonomy makes it evident that medicine will be utilized not only for curing diseases but also as a means of fulfilling personal desires.[20] The concept of morphological freedom encourages individuals to create themselves using any means available, as long as it is consensual. Therefore, transhumanism places great value on the individual's desires, will, and decisions regarding their body and life.

This article posits that despite the discourse surrounding morphological freedom, the field of reproduction represents an area where transhumanism is inconsistent. On the one hand, as an extension of the desire for immortality, it lags in creating new lives, thus lagging in reproduction and birth. On the other hand, it promises infinite individual freedom regarding reproduction, such that an adult can individually choose what to do with his/her body and life, whether by having a genetic child or adopting one. More's concept of the "proactive principle" suggests considering the rewards of a technological action as well as the risks. This approach contrasts with the "precautionary principle", which is pessimistic about technological progress, assumes worst-case scenarios by focusing on the potential harms of technology, and ignores its potential benefits, rather than the available risks and threats to health. The proactive principle, which is based on the idea that every technological activity can provide beneficial gains for humanity, highlights that we can learn by taking action and experimenting, rather than predicting potential risks. This is because humans can remove the damages in the case of undesirable side effect s. In interpreting the human-nature relationship, while the precautionary principle considers humans as a part of nature, the proactive principle asserts that humans are transcendent beings from nature and give meaning to it.[21]

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[20] See Alex Hamilton, "Transhumanism: Morphological Freedom is Individual Liberty", *Medium* (2015). (Accessed October 28, 2022).

[21] Steve Fuller - Veronika Lipinska, *The Proactionary Imperative* (London: Palgrave Macmillan, 2014).

Based on a proactive principle, transhumanism aims to create an *enhanced* human (transhuman or posthuman) society by removing possible boundaries, diseases, or disorders from human nature. Natural reproduction as a human condition is intertwined with pain, suffering, and trauma. Various complex processes, such as lengthy and exhausting pregnancy, painful birth and postpartum ailments, difficulties of childrearing, prolonged high dependency of human infants, challenging months, and troublesome childhood after birth, unplanned or risky pregnancies, babies born with unwanted characteristics, and so on, demonstrate how naive, fragile, and limited the human condition is. Transhumanism seeks to improve the human condition within these intricate contexts.

The role of having and raising children has traditionally been central to human evolution. However, transhumanists argue that natural selection has been an inadequate means of engineering human development and that its processes could be improved.[22] Unlike an engineer, natural selection has acted more like an assembler,[23] leading to immense suffering in reproduction and childrearing. Artificial selection, in contrast, can overcome the natural barriers to human enhancement. In this way, transhumanism seeks to challenge the accidental nature of natural evolution and end the legacy of suffering that it has imposed on humanity. According to Simon Young, accepting the suffering that biology imposes on humans is untenable.[24]

The transhumanist perspective regards evolution as inadequate and identifies biological heritage as the source of imperfection. Max More argues in his "Letter to Mother Nature" that "With all due respect, we must say that you [Mother Nature] have in many ways done a poor job with the human constitution… We have decided that it is time to amend [it]."[25] The objective is to eliminate genetic and individual

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[22] Eduardo R. Cruz, "Giving Birth, Transhumanism and Human Nature", *Rev. Filos. Aurora, Curitiba* 33/59 (2021), 643.

[23] Russell Powell - Allen Buchanan, "Breaking Evolution's Chains: The Prospect of Deliberate Genetic Modification in Humans", *Journal of Medicine and Philosophy* 36 (2011), 6-27.

[24] Simon Young, *Designer Evolution: A Transhumanist Manifesto* (Amherst, NY: Prometheus Books, 2006), 9-26.

[25] Max More, "A Letter to Mother Nature", in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future*, ed. Max More - Natasha Vita-More (Oxford: Wiley-Blackwell, 2013), 449.

defects inherited from the evolutionary process through natural selection.[26] Julian Savulescu and Anders Sandberg suggest, "We need all the help we can get to liberate ourselves from evolution".[27] However, is it accurate to portray Mother Nature as ignorant, careless, or cruel? Bostrom and Sandberg partially accept the wisdom of evolution as long as it can be transcended, but ultimately their view of the natural process is pessimistic.[28] If evolution has fallen short with respect to humans, the goal should be to expand reproductive technologies to pave the way for posthumanity.[29] Pregnancy and childbirth could occur in non-uterine environments (*ectogenesis*), and non-natal means of producing the posthuman may one day become available.

The transhumanist perspective posits that imperfections, including birth and motherhood, are inherent in human evolution and essential to the evolutionary process. Transhumanists do not consider benefits in the process of birthing and rearing children. The discrepancy between the large brains of human infants and the difficult and dangerous process of childbirth is seen as evidence that Mother Nature is unkind to women. For women, the experience of bearing and raising children is marked by stages such as pregnancy, birth, and breastfeeding, which can be painful and challenging. The particularly difficult and risky phase of childbirth poses risks for both mother and child, which cannot be ignored. Additionally, human offspring are born prematurely and require extended periods of intensive care. Transhumanism's implicit disregard for phenomena associated with femininity and motherhood results in its normative acceptance of the male body and masculinity processes through the concept of enhancement. In this context, femininity and motherhood, with their associated burdens, are marginalized as restrictive choices.

From the transhumanist perspective, the body is regarded as an artificially constructed organic machine whose constituent parts can be assembled and disassembled at will. David Pearce argues, "If we see

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[26] More, "A Letter to Mother Nature", 449-450.

[27] Julian Savulescu - Anders Sandberg, "Engineering Love", *New Scientist* 5/12, 214/2864 (2012), 29.

[28] Nick Bostrom - Anders Sandberg, "The Wisdom of Nature: An Evolutionary Heuristic for Human Enhancement", in *Human Enhancement*, ed. Julian Savulescu - Nick Bostrom (Oxford: Oxford University Press, 2008), 374-416.

[29] Young, *Designer Evolution: A Transhumanist Manifesto*.

bodies as little more than parts, to be artificially generated, assembled and disassembled, we need not associate them with human rights, nor should any biological process be viewed as exclusive to any particular group".[30] Some transhumanists view being content with the natural functions of the body as a regressive attitude and, as a result, aim to free women from the burden of pregnancy and childbirth. The idealized image of transhumanism centers on the *enhanced* male experience, often disregarding female experiences and emotions. For instance, the pain of childbirth is ignored by the hedonistic and utilitarian ethics that transhumanism espouses. Accordingly, it shows indifference toward motherhood, childbearing, and childrearing processes.

Transhumanist literature does not thoroughly explore the evolutionary origins of human emotions but rather seeks to maximize emotional capacity for the greatest possible benefit.[31] However, it prioritizes pleasure over the principle of *contrast dependency*. Transhumanists regard a pain-free existence as the good life, disregarding the fact that childbirth and childrearing have historically been both pleasurable and painful. They argue that incentives for suffering are closely linked to reproduction, with birth being one of the most excruciating experiences faced by almost half of the human and animal populations. However, transhumanism overlooks the higher emotions, such as love, empathy, and self-sacrifice that are intertwined with the experience of bearing and rearing a child. The arduous process of caring for a human infant strengthens psychological and social bonds, and the evolution of extensive kinship networks in cooperation with others is fundamental to human evolution.[32] In transhumanism, less attention is paid to the mother, the mother-infant relationship, or the sacrifice made for the well-being of the infant, with a focus instead on individual enhancement.

Orli Dahan has argued that direct postnatal care is the most crucial investment made by relatives in ensuring the survival and reproduction

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30 See David Pearce, "Reproductive Rights in the Transhumanist Future", *Areo* (April, 2019) (Accessed October 28, 2022).

31 Nick Bostrom, "Why I Want to be a Posthuman When I Grow Up", in *Medical Enhancement and Posthumanity*, ed. Bert Gordijn - Ruth Chadwick (Dordrecht: Springer Netherlands, 2008), 119.

32 Sarah Blaffer Hrdy, *Mother Nature: A History of Mothers, Infants, and Natural Selection* (New York: Pantheon Books, 1999), 271.

of both the mother and the baby.[33] The innate helplessness and absolute dependence of human offspring on caregivers are the most critical factors in supporting socialization, which underpins cultural transfer.[34] Mother-infant interaction, storytelling, childrearing rituals, and rites of passage serve to strengthen the bond between parents and children, making childbirth and childrearing a social and cultural event. However, transhumanism neglects the positive contributions of *evolutionary trade-off*s to humanity. According to transhumanist views, there is a mismatch between the optimal evolutionary conditions of the ancestral environment and the contemporary world. While bearing and raising children may have been critical for survival and living well in the past, they may not be necessary in the modern world. Parenting, including its pleasurable and painful aspects, as well as the demanding care newborns require, can cause people to lose control over their plans and dreams in contemporary life. Additionally, the forms of birth from the past may not be suitable in the modern world. Therefore, humanity must strive to produce the perfection it has designed. Bostrom and Sandberg argue, "Even if evolution had managed to build the finest reproduction-and-survival machine imaginable, we may still have reason to change it because what we value is not primarily to be maximally effective inclusive-fitness optimizers."[35] Transhumanists believe that we need not be at the mercy of creation, nature, or evolution and that we are in control.

How will reproduction be shaped in the future world if the flawed processes of evolution characterize childbirth and childrearing? Natasha Vita-More posits that biology can surpass its own benchmarks through neuropharmaceuticals, internal and external enhancement devices, and appendages, even if not through evolution.[36] Creativity and permanence (immortality) can only be experienced by creating

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[33] Orli Dahan, "Birthing Consciousness: A Lacuna in Evolutionary Psychological Science", *New Ideas in Psychology* 60 (2021), 3.

[34] Wenda R. Trevathan - Karen R. Rosenberg, "Human Evolution and the Helpless Infant", in *Costly and Cute: Helpless Infants and Human Evolution*, ed. Wenda R. Trevathan - Karen R. Rosenberg (Santa Fe - Albuquerque: School for Advanced Research Press - University of New Mexico Press, 2016), 1.

[35] Bostrom - Sandberg, "The Wisdom of Nature", 379.

[36] Natasha Vita-More, "Design of Life Expansion and the Human Mind", in *Intelligence Unbound: The Future of Uploaded and Machine Minds*, ed. Russell Blackford - Damien Broderick (Oxford: Wiley-Blackwell, 2014), 246.

new generations.[37] However, for transhumanists, instead of relying on future generations, humans can enhance themselves to be creative, since the natural experience of childbirth and parenting is a source of anxiety.[38] Although meaningful in the evolutionary past, having and rearing children can hinder humanity's continued development. New generations will not be strictly necessary for human enhancement, and having children will be a matter of sheer whim.[39] Thus, rather than reproducing to inherit their genetic code, humans can outshine or overtake natural selection by hacking it.[40] The continuity and permanence mentioned in future scenarios occur not between the adult and the child but between the adult and their future form. Thus, adults will create a birthless world with synthetic biology.

Evolutionary Critiques of the Inconsistent Reproductive Policy in Transhumanism

In the transhumanist worldview, the imperfections of evolution are readily apparent. Nonetheless, it must be acknowledged that the challenges inherent in childbirth and childrearing have resulted in *evolutionary trade-off*s throughout human history. These *trade-off*s have brought about not only high costs, such as the extended period of dependency on human offspring but also considerable benefits, such as the development of social and cultural structures. The cooperative breeding that has emerged as a result has imbued humanity with a distinctive social character. Additionally, transhumanists' aspirations to enhance traits such as intelligence and creativity are inextricably linked to creating new generations and engaging with them. Across many cultures, happiness has been achieved not solely through the use of technologies that alleviate the burden of decision-making but through the pursuit of values, virtues,

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37 Nicholas W. Townsend, "Parenthood, Immortality, and the End of Childhood", in *The End of Children?: Changing Trends in Childbearing and Childhood*, ed. Nathanael Lauster - Graham Allan (Toronto: UBC Press, 2012), 92.

38 Eduardo R. Cruz, "The Evolution of Human Birth and Transhumanist Proposals of Enhancement", *Zygon: Journal of Religion and Science* 50/4 (2015), 840. [From: *Human Destiny is to Eliminate Death. Essays, Rants and Arguments about Immortalism*, ed. Hank Pellissier (2013), position 4108].

39 More, "A Letter to Mother Nature", 449-450.

40 Illah R. Nourbakhsh, "On Pearce's 'The Biointelligence Explosion'", in *Singularity Hypotheses: A Scientific and Philosophical Assessment*, ed. Amnon H. Eden et al. (Switzerland: Springer International Publishing, 2012), 237.

devotion, and sacrifice. It is worth noting that some of life's most important decisions carry significant costs that transhumanists are striving to overcome,[41] and these flaws that they seek to correct may also be sources of happiness.

Human identity is closely linked to the fact that we are brought into the world through birth. According to Christina Schües, the arrival of a new child fundamentally alters the lives of those responsible for their care. However, this childbirth experience also leads to the formation of a family, marking a significant transition from the intrauterine to the extrauterine stage of life. This process of giving birth allows for a rebalancing of existence cooperatively through what is known as "cooperative breeding". The relationships formed around a new birth are invaluable and irreplaceable.[42] Although individual decisions and cultural differences can impact the generalizations made about women, birth, and childrearing, it is nonetheless a vital component of human identity. It should not be viewed solely as a problem to be solved. Instead, the birth of a child brings with it new opportunities and configurations that enrich the lives of those involved.

In the discourse of transhumanism, the *evolutionary trade-off*s associated with childbirth and childrearing are often disregarded. According to Nicholas Baylis, the objective of enhancing human abilities should be not only to achieve happiness but also to achieve prosperity. Pleasure and pain are intertwined concepts that need to be balanced for overall prosperity, as there can be no pleasure without pain.[43] Natural selection operates not to bring about happiness but to enhance the fitness for reproduction. However, the evolutionary processes have also provided ways for humans to attain happiness, such as through the cooperative breeding that parenting involves. In the contemporary world, where professional success is highly valued, the costs and benefits of motherhood are being reassessed. Despite the challenges of motherhood, the biological drive to reproduce persists. Early childhood care, particularly for a child's health, is crucial for long-

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41 Cruz, "The Evolution of Human Birth and Transhumanist Proposals of Enhancement", 848.

42 Christina Schües, "Birth", in *The Routledge Companion to Philosophy of Medicine*, ed. M. Solomon et al. (New York: Routledge - Taylor & Francis, 2017), 105-107.

43 Nicholas Baylis, "What is Your Mission in Life? Why Being Happy should Not be Your Priority", in *Unnatural Selection: The Challenges of Engineering Tomorrow's People*, ed. Peter Healy - Steve Rayner (London: Earthscan, 2009), 167-174.

term intellectual development. While motherhood can be taxing, it is also a transformative experience.[44] There are undoubtedly many other paths to human development and fulfillment, but parenting remains one of the most direct ways. Moreover, while the birth experience may be viewed as meaningless from a hedonistic or utilitarian ethical perspective, it is also the source of the unique and profound love that is characteristic of human beings.

From the perspective of birth and childrearing, various natal philosophies of human nature (Fiona Wollard, Imogen Tyler, Christina Schües, Alison Stone, and Fanny Söderbäck) have been explored.[45] The early stages of pregnancy, birth, and parenting are marked by extraordinary physical feats, akin to those of a marathon runner. Such peak energy expenditure expands the limits of human endurance.[46] As Hannah Arendt has noted that "Since we all come into the world by virtue of birth, as newcomers and beginnings, we are able to start something new; without the fact of birth we would not even know what novelty is, all 'action' would be either mere behavior or preservation."[47] Sarah Buckley argues that the pain-pleasure combination during birth benefits both the mother and the baby.[48] This is why natural childbirth is preferable to cesarean section. Even though "natural childbirth" and "breast milk", which strengthens the baby's immune system, have lost ground to modern medicine over time, they have regained attention in recent years. However, a narrow birth canal still poses risks. While "cesarean section" and "infant formulas" cannot offer the same immune benefits to the baby, they do provide a safer standard. Neither natural selection nor artificial selection is without flaws.

*Evolutionary trade-off*s associated with birth result in both painful and pleasurable biological, psychological, and social processes. According to Wenda Trevathan, these *trade-off*s contribute to the

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44 Christine Overall, *Why have Children? The Ethical Debate* (Cambridge, MA: The MIT Press, 2012), 219.

45 Cruz, "Giving Birth", 639.

46 See Fiona Woollard, "Philosophy Can Explain What Kind of Achievement it is to Give Birth", *Aeon/Psyche* (2020) (Accessed October 28, 2022).

47 Hannah Arendt, *On Violence* (San Diego - New York - London: Harvest/Harcourt Brace Jovanovich Publishers, 1970), 82.

48 Sarah J. Buckley, "Undisturbed Birth: Nature's Blueprint for Ease and Ecstasy", *Journal of Prenatal and Perinatal Psychology and Health* 17/4 (Summer, 2003), 264-265.

resilience of human beings. Natural selection shapes a set of concessions to maximize reproduction, making humans vulnerable to many diseases and disorders while simultaneously increasing their resistance to adversity.[49] Furthermore, the pain and pleasure experienced during reproduction share common evolutionary origins and are processed by the same parts of the brain. Help during childbirth is critical for the mother, father, baby, and society, distinguishing humans from most other mammals. Dahan argues that although birth pain is commonly perceived as excessive, the experience itself is not wholly negative.[50] While human birth is undoubtedly painful and dangerous, it generates many positive effects and byproducts, especially when contextualized by cultural arrangements. It is, therefore, crucial to experience pain to develop the capacity for pleasure. Positive emotions in humans can also become harmful when the context changes. Evolution engineering, often characterized as sloppy, generates a complex interplay between positive and negative features.

Transhumanism posits that there is a significant disconnect between human adaptation to ancestral environments and contemporary life requirements. However, ancestral environments have instilled in humans the flexibility to adapt to new environments through gene-culture coevolution. Furthermore, *evolutionary trade-off*s that enhanced the well-being of our ancestors have resulted in the formation of a strong community focused primarily on cooperative breeding. In fact, ancestors developed culture to counterbalance genetic defects and contributed to genetic evolution. The ongoing tension between these *evolutionary trade-off*s has been integral to defining the human being. Ad Bergsma advocates not for re-designing brains but rather for modifying the environment to align with insights from evolutionary biology.[51] When gene-culture coevolution is considered, the behaviors associated with having and raising children can be viewed as a foundation for future evolution. However, the discourse of *directed evolution*, rather than gene-culture coevolution,

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[49] Wenda Trevathan, *Ancient Bodies, Modern Lives: How Evolution Has Shaped Women's Health* (Oxford: Oxford University Press, 2010), 7.

[50] Orli Dahan, "Birthing Consciousness", 4.

[51] Ad Bergsma, "Transhumanism and the Wisdom of Old Genes: Is Neurotechnology a Source of Future Happiness?", *Journal of Happiness Studies* 1 (2000), 401-417.

is central to transhumanist literature,[52] with synthetic biology as the leading artificial selection tool. Maarten Boudry and Massimo Pigliucci assert that the origin of organisms involves significantly intricate and historical processes that surpass the complexity level characteristic of man-made machines. However, this very complexity highlights the efficacy of natural selection. Despite this, humans will eventually assume a dominant position over their evolutionary destiny, making decisions that will impact human nature, the species, and future life.[53]

. Humans are intimately connected to their biological heritage in the context of creating and raising new generations. This connection emerges from the close interconnection of human evolutionary history with childbirth and childrearing. Indeed, a significant portion of human psychology is intertwined with reproduction and the societies that emerge from it. Therefore, the efficacy of attempts to enhance humanity disregarding the birthing and childrearing processes is questionable. It appears difficult to circumvent the innate birth instinct, which is deeply ingrained in our evolutionary past, through technological interventions.

The Transhumanist Transformation of Sexuality and Biological Sex

Sexual reproduction is a biological process that depends on the presence of two distinct sexes. The ability to reproduce sexually is a defining feature of the human species, which has relied on sexual intercourse for procreation throughout its evolutionary history. However, with the advent of IVF in the latter half of the 20th century, humans have gained the ability to reproduce without engaging in sexual activity. In biological terms, reproduction is based on two types of gametes, namely, eggs and sperm. These gametes are the foundation of the history of childhood, family, society, and humanity. The biological basis of sexes and sexuality has not been immune to technological intervention. The traditional notion of biological sexes, previously considered an inherent characteristic of species, is now

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[52] Cruz, "The Evolution of Human Birth and Transhumanist Proposals of Enhancement", 839.

[53] Maarten Boudry - Massimo Pigliucci, "The Mismeasure of Machine: Synthetic Biology and the Trouble with Engineering Metaphors", *Studies in History and Philosophy of Biological and Biomedical Sciences* 44/4 (2013), 666.

subject to irreversible transformation. Against this backdrop, one may inquire about the nature of the *sexual human nature*, how biological sexes and sexuality have shaped human evolution, and how transhumanism interprets these concepts. Furthermore, transforming reproduction, a natural phenomenon, into a technological product raises critical questions about the future of human nature and the ethics of technological intervention.

Transhumanism rejects the concept of a fixed *sexual human nature* that has persisted throughout evolution. According to this ideology, the ideal transhuman person is sexless or, if they must have a gender, an *enhanced* male. This viewpoint largely ignores women's experiences and feelings and focuses on completely eradicating human nature, which is deemed vulnerable to pain and death. In this view, birth and childhood are considered burdens to be avoided, since this perspective overlooks the value of *evolutionary trade-off*s that promote love, care, and cooperation among humans, especially in pregnancy, childbirth, and childrearing. Woollard argues that these aspects of human life are central to the concept of human nature, whether deemed essential or not, and should not be discredited due to their associated costs.[54] While feminist critiques of the notion that women without children are somehow less "womanly" are valid, the importance of these phenomena in the average woman's life experience cannot be dismissed.

Sexuality serves as a mechanism for both pleasure and reproduction among mammals. Despite sharing the goal of pleasure, transhumanism advocates for the erasure or at least the uncertainty of biological sexes. Enhancement technologies have the potential to transform biological sexes into matters of individual choice, thereby eliminating inherent dualities and erasing traditional forms of sexuality and reproduction.[55] The gradual integration of virtual reality into human life also presents a new perspective on the fluid concepts of biological sexes and sexuality. This new medium offers the opportunity to manipulate materials and transform the body, resulting in a shift in sexual perspectives. Although humans have developed sexual habits over

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[54] See Woollard, "Philosophy Can Explain What Kind of Achievement it is to Give Birth".

[55] Guy Kahane - Julian Savulescu, "The Value of Sex in Procreative Reasons", *The American Journal of Bioethics* 10/7 (July 2010), 22.

time and have enhanced sexuality through various tools in the last few centuries, the advent of a new sexual revolution appears imminent.

Transhumanism challenges the classical dualistic notion of sexuality that presupposes the genital organs as the exclusive site of sexual activity. The diversity resulting from technological enhancement will redefine the meaning of sexual satisfaction, giving rise to novel forms of sexuality. Sexuality can be reinvented by creating new biological sexes, which may entail freeing women from the biological burden of pregnancy and lactation. A utopian world in which sexuality is liberated from reproductive constraints and solely serves pleasure, such as the pursuit of multiple and continuous orgasms, is envisioned. The possibility of preserving the reproductive function of sexuality in the face of emerging technologies remains unclear. The advent of test-tube babies and artificial wombs may lead to the partial or complete abandonment of reproduction, thus eradicating the need for sexuality. This could potentially undermine conventional social norms, such as the practice of nurturing future generations, the cultivation of empathy, and the formation of long-term bonds.

In contrast to the evolutionary drive towards intersubjective sexuality and the desire for the other, transhumanism seeks to eliminate biological sexes and classical sexuality. Desire is often associated with concepts such as time, separation, and vulnerability, representing limits transhumanism aims to overcome. As Michael Hauskeller argues, transhumanist sexual experience is essentially convergent with masturbation.[56] While the body carries a natural drive to unite with others, transhumanism distances sexuality from being an *intersubjective* phenomenon. It directs it towards an experience in which self-satisfaction is the primary goal. Transhumanist ideas suggest that individuals are the safest sexual partners for themselves; however, the human species has the potential to experience sexuality through mutual discovery, which collapses the experience of sexuality in which partners go out of themselves and become one.[57]

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[56] Alec Andreas Arnold, *The Technologization of Sexual Desire and the Future of Ecstatic Embodiment: A Catholic Response to Transhumanist Sexuality* (Missouri: Saint Louis University, Ph.D. Dissertation, 2021).

[57] Karol Wojtyla, *Love and Responsibility*, trans. H. T. Willets (San Francisco: Ignatius, 1993), 125-126.

The transhumanist proposal to redesign biological sexes through technology requires contextualization. Chantal Delsol argues that contemporary humans base their biological lives on their limited existence and do not seek metaphysical knowledge, thus accepting their finiteness as an inescapable prison.[58] Transhumanists acknowledge only biological existence, but it is still uncertain whether they can find a way to satisfy the human need for spiritual transcendence through technology.[59] Re-designing biological sexes in this absolute finite existence seems inadequate for reproduction, the gateway to eternity. As the human body possesses unlimited potential, it can be reshaped as an object of self-creation. In the past, science won a victory against nature (F. Bacon), but now it seeks to conquer the body. To accomplish this, the body needs to be excluded from the realm of nature and instead seen as a product of human agency.[60] Unlike theistic religions that consider the body holy and privileged due to its creation by God, transhumanism views the body as flawed and even destructive, with the potential to be rebuilt from scratch through technology.

The Transhumanist Expansion of the Reproductive Revolution and Its Implications for Classical Ethics

The development of technology has brought about profound and irreversible changes in the relationship between humans and their bodies, actions, and reality. As a result, the ontological concept of humans has undergone significant transformations. Human beings, as a species, have always been hybrid beings that have been adapting to their cultural environments. The hybridization process permeates everything from the environment to the human body, blurring the boundaries between subject and object, nature and culture, and living beings and machines. However, the transhumanist ideology seeks to accelerate these hybridization processes without regard to balance. The experimentation space has expanded from the laboratory to the entire world and even to the human body itself. The transhuman is a

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[58] Chantal Delsol, *Icarus Fallen: The Search for Meaning in an Uncertain World*, trans. Robin Dick (Wilmington, DE: ISI Books, 1996), 176-177.

[59] David F. Noble, *The Religion of Technology: The Divinity of Man and the Spirit of Invention* (New York: Penguin Books, 1999).

[60] Hervé Juvin, *The Coming of the Body*, trans. John Howe (London: Verso, 2010), 57.

human who has eliminated seemingly defective evolutionary properties and enhanced them.

The field of human reproduction is among the many areas that transhumanism aims to advance. Although technologies like IVG (in vitro gametogenesis) and artificial wombs have not yet been fully developed, their potential ethical implications are being actively debated. While opponents of transhumanism argue that it violates ethical norms, the legitimacy of enhancing sensory, emotional, and cognitive capacities, as well as health and life expectancy, may be ethical in and of themselves. Thus, it is essential to examine the ethical implications of these enhancements in human reproduction and to determine where the boundaries of ethical experimentation should lie.

Throughout human history, various technological advancements, such as fire, the wheel, printing, electricity, the telephone, and the internet, have propelled human development beyond the primitive period, enabling humanity to transcend the limitations of its body, time, and space, and facilitating improved connections with others. In the contemporary era, technology has predominantly contributed to the enhancement and betterment of human health. The transhumanist movement, which is intrinsically linked to global technological progress, focuses on enhancing human nature, particularly in the realm of reproduction, and values human reproduction as a means of improving both the quality of life and humanity itself. The cornerstone of transhumanism is assisted reproduction, which offers services to individuals at each stage of the reproductive process, including those who are infertile, fertile, single, or homosexual. This process is predicated on the disintegration and division of the reproductive process, which may involve the removal of eggs from one woman and their transfer to another woman, and the responsibility of raising the newborn being handed off to another woman as if they were interchangeable parts. Human hands control each stage of the reproductive process, with fertilization becoming a technical process in a laboratory and reproduction becoming the production of a living being (beginning with the embryo), replete with all the instrumentalization processes this entails. Consequently, in such an artificial reproduction, all male/female individuals are reduced to egg/sperm donors who can be selected, changed, or manipulated. When motherhood is split into three - a genetic mother who provides

the eggs (seller?), a surrogate mother who provides the uterus (renter?), and a raising mother who provides the labor (buyer?) - its boundaries expand to become meaningless, and it needs redefinition. With the advent of the artificial womb especially, femininity and masculinity may be displaced or even eliminated from the entire system.

The phenomenon of artificial reproduction can be seen as a gateway to transhumanism, as it offers reproductive opportunities to all individuals, thereby ensuring the constant development of the "product". In the era of the technical production of human reproduction, individuals are transformed into commodities, subject to artificial selection and genetic engineering companies, which manipulate their genetic codes to redesign them as per their desires. Although the transhumanist movement ostensibly upholds principles such as freedom, self-determination, non-discrimination, and equal access to technology, the reality is that artificial reproduction is not egalitarian for many marginalized groups.

As previously mentioned, transhumanism emphasizes the concept of morphological freedom within the realm of reproduction, advocating for its implementation through the proactive principle to enhance the human condition. Morphological freedom, as a principle, supports the evolution of the human species into a higher form (posthuman). However, transhumanism neglects the social and technical issues surrounding the birthing and childraising processes, the value of the parent-child bond, the significance of familial relationships and kinship networks, the emotional aspects of parenting, and the manipulation or destruction of human embryos. New reproductive technologies, such as IVG, gene editing, designer babies, and artificial wombs, are expected to transform human reproduction fundamentally. Nonetheless, transhumanism goes even further by advocating for expanding reproductive freedom to all sentient beings, including the creation of mind clones. This article contends that in addition to concepts such as human nature and human being, which have been the subject of controversy and uncertainty throughout history, transhumanism undermines classical medical ethical and bioethical principles such as "nonmaleficence", "beneficence", "autonomy", "justice", and "human dignity". Furthermore, the proactive approach employed by transhumanism disregards the risks of authoritarian eugenics in the context of the

individual-society balance, overlooks reproductive responsibility in favor of reproductive freedom, and fails to acknowledge the *contrast-dependency* of values, thereby rendering classical ethics meaningless.

The principle of nonmaleficence, which entails preventing pain, suffering, incapacity, and death during medical treatment,[61] has been deconstructed by transhumanism. Although proponents of transhumanism, such as Bostrom, appear to uphold this principle, their interpretation of "maleficence" is unclear.[62] The potential consequences of small changes and unintended outcomes are not considered within the transhumanist perspective. Ethical practices such as the creation of three-parent embryos, pregnancy through artificial wombs, and the modification of the mother-child bond or classical human identity may not be considered harmful in transhumanist ethics.[63] Additionally, transhumanism tends to reduce maleficence to the physical level and overlooks psychological and existential harm, such as destroying human embryos. As transhumanism follows a proactive rather than precautionary principle and places trust in human potential to manage any arising risks, it provides a permissive framework for utilizing such technologies. However, the responsibilities of proactive agents remain ill-defined.

The principle of "beneficence," which pertains to the medical obligation to act in the patient's best interest, is another principle that transhumanism interprets in a manner that subverts its traditional meaning.[64] Savulescu and Guy Kahane propose the principle of "procreative beneficence" as an ethical rationale for parents to select embryos.[65] The principle of procreative beneficence is rooted in a kind of eugenic endorsement,[66] and the issue of choice can be transformed

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61 Warren T. Jahn, "The 4 Basic Ethical Principles that Apply to Forensic Activities are Respect for Autonomy, Beneficence, Nonmaleficence, and Justice", *Journal of Chiropractic Medicine* 10/3 (2011), 225-226.

62 See Nick Bostrom, "The Transhumanist FAQ: a General Introduction", (2003) (Accessed October 28, 2022).

63 Cruz, "The Evolution of Human Birth and Transhumanist Proposals of Enhancement", 830-853.

64 Basil Varkey, "Principles of Clinical Ethics and Their Application to Practice", *Medical Principles and Practice* 30 (2021), 17-28.

65 Julian Savulescu - Guy Kahane, "Understanding Procreative Beneficence", in *The Oxford Handbook of Reproductive Ethics*, ed. Leslie Francis (Oxford: Oxford University Press, 2016), 592-622.

66 See "Transhumanist FAQ", *Humanity+* (2016) (Accessed October 28, 2022).

into a coercive force, particularly in certain social contexts.[67] In other words, the concept of beneficence may lend support to coercive eugenic practices within transhumanism, leading to legal obligations to create human beings with specific qualities. The principle of "procreative beneficence" was later rebranded as "general procreative beneficence," which emphasizes that couples should choose their future children not only for their well-being but also to maximize their expected abilities on earth.[68] In this case, a parent must choose a healthy embryo in light of the public interest. Natural reproduction, which runs counter to the principles of "procreative freedom" and "non-coercion in enhancement" promoted by transhumanists, is unlikely to be covered by the principle of "general procreative beneficence".[69] Bostrom refutes the principle of general procreative beneficence, claiming that the duty to enhance a child should only be legal in exceptional circumstances.[70] However, defining legally extraordinary situations and simultaneously upholding the principle of respect for the religious beliefs and conscientious objection of parents and medical professionals will be challenging.[71]

Transhumanism champions the right to individual reproductive freedom, which allows individuals to make choices about their physical characteristics and intelligence, provided it does not harm others.[72] However, the question arises as to whether reproduction can be considered solely an individual matter since it involves the production of offspring through the reproductive selections of multiple individuals. While transhumanism is based on the "principle of autonomy" and emphasizes the interests of autonomous agents, this may require a necessary shift in meaning with the emergence of "cooperative breeding" models. One potential issue with autonomy is the possibility that the "informed consent" condition becomes unattainable or merely a formality. For example, it is technically impossible to obtain the consent of future generations. Additionally,

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67 Salomėja Fernandez Montojo, "Human Reproduction in the Transhuman Era: Main Challenges For Health Law", *Social Transformations in Contemporary Society* 9/13 (2021), 14.

68 Jakob Elster, "Procreative Beneficence: Cui Bono?", *Bioethics* 25/9 (2011), 482-488.

69 Fernandez Montojo, "Human Reproduction in the Transhuman Era", 14.

70 Bostrom, "In Defense of the Posthuman Dignity", 202-214.

71 Fernandez Montojo, "Human Reproduction in the Transhuman Era", 14.

72 See *Transhumanist Bill of Rights* (2018).

even healthcare professionals are often proactive in experimental techniques, and patients may not know enough about the potential consequences of the risks they are taking. The credibility of informed consent is further undermined because most of these methods are experimental and not wellknown even by professionals. Nonetheless, informed consent is a fundamental requirement that protects individuals from harm and coercion in research, elevating their moral status.[73] To ensure the best conditions for informed consent, many third-party representatives, such as ethics committees and professional associations, are encouraged to participate in ethical decisions. However, in cases where the individual concerned is a child who cannot provide informed consent,[74] issues such as rejection by parents or medical liability may arise due to a failure to uphold the principle of autonomy.

The inequality in access to and fair distribution of limited medical resources is a crucial justice problem, particularly given the high cost of many reproductive technologies. However, if the enhancement phase of the treatment-enhancement distinction is acknowledged as a human right, the state may be required to fund certain types of reproductive enhancement. This raises questions about how to ensure the fair distribution of available resources. If resources are allocated in a way that allows some individuals to enhance themselves to the point of becoming a super species while basic health needs of others remain unmet,[75] Francis Fukuyama argues that the "right to equal opportunity" would be violated.[76] Transhumanism, however, tends to avoid grappling with "distributive justice" issues, asserting that technologies will eventually become cheaper and more accessible. Yet until this happens, the hierarchical superiority of *enhanced* humans over *unenhanced* ones could create significant social tensions, exacerbating existing socioeconomic inequalities with new genetic

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[73] Lewis Coyne - Michael Hauskeller, "Hans Jonas, Transhumanism, and What It Means to Live a «Genuine Human Life»", *Revue Philosophique de Louvain* 117/2 (2019), 291-310.

[74] Erica C. Jonlin, "Informed Consent for Human Embryo Genome Editing", *Stem Cell Reports* 14/4 (2020), 530-537.

[75] Renée Mirkes, "Transhumanist Medicine: Can We Direct Its Power to the Service of Human Dignity?", *Linacre Quarterly* 86/1 (2019), 115-126.

[76] Francis Fukuyama, *İnsan Ötesi Geleceğimiz: Biyoteknoloji Devriminin Sonuçları*, trans. Çiğdem Aksoy Fromm (Ankara: ODTÜ Geliştirme Vakfı Yayıncılık, 2003).

ones. Moreover, ensuring justice for all may not be easy if a superspecies emerges and participates in social life. Bostrom dismisses such concerns, contending that legal arrangements alone can ensure social justice.[77] However, it may be unrealistic to expect a superior species to share the same values and laws with inferior humans,[78] leading to the latter's classification as second-class citizens or even their enslavement or genocide.[79] As the gap between *enhanced* and *unenhanced* humans widens, the challenge of devising legal frameworks to enable them to coexist becomes more fraught.

Human dignity is a fundamental principle that underpins not only social and legal institutions but also sets the overall direction for society.[80] It is enshrined in many critical human rights documents and modern national constitutions. Despite ongoing debates among ethicists and lawyers about its content, applicability, and utility, human dignity remains a supreme principle. Transhumanists argue that enhancement techniques do not undermine the principle of human dignity because it is not rooted in human nature. According to Bostrom, human dignity is more about what a human being is and what he/she has the potential to be rather than their lineage or origin.[81] Enhancement techniques strengthen human dignity because they increase a person's potential. Transhumanism rejects the humanist assumption that humans have a higher moral status than other beings.[82] *The Transhumanist Bill of Rights* recognizes sentient beings as representatives of moral status, including posthuman and non-human animals.[83] However, the increasing production of *enhanced* humans can change the foundations of human societies and, thus, the concept of humanity itself.[84] Human rights may need to include the rights of transhuman-posthuman and even other sentient beings in the

77 See Bostrom, "The Transhumanist FAQ".
78 Fernandez Montojo, "Human Reproduction in the Transhuman Era", 14.
79 George J. Annas - Lori B. Andrews - Rosario M Isasi, "Protecting the Endangered Human: Toward an International Treaty Prohibiting Cloning and Inheritable Alterations", *American Journal of Law & Medicine* 28/2-3 (2002), 151-178.
80 R. Andorno, "The Dual Role of Human Dignity in Bioethics", *Medicine, Health Care and Philosophy* 16 (2013), 967-973.
81 Bostrom, "In Defense of the Posthuman Dignity", 202-214.
82 See "Transhumanist FAQ", *Humanity+* (2016).
83 Bostrom, "In Defense of the Posthuman Dignity", 202-214.
84 Timothy F. Murphy, "The Ethics of Impossible and Possible Changes to Human Nature", *Bioethics* 26/4 (2012), 191-197.

future. In the context of reproductive technologies, the recognition of the dignity of human embryos is an essential issue of human dignity. For transhumanism, the selection, manipulation, or destruction of human embryos is not an issue, as human dignity is unrelated to human nature. Currently, many reproductive practices such as IVG, surrogacy, germline genetic engineering, reproductive cloning, and three-parent or designer babies are banned because they are perceived as threats to human dignity. However, existing laws that consent to the destruction of embryos in some cases are compatible with transhumanism.[85] With the expansion of transhumanist technologies into the artificial womb soon,[86] the legal framework of the principle of human dignity is likely to change radically.

Transhumanism has been criticized for neglecting the potential danger of authoritarian eugenics in the individual-society conflict and for challenging classical ethical principles, leading to a shift in the ethical landscape. With the advent of new reproductive technologies, children are viewed as a eugenic amalgam of egg and sperm and become a product that can be customized according to the preferences and desires of the buyer. Transhumanists argue that all eugenic measures, disguised under free choice, are well-intentioned. However, the hidden outcomes of commodifying human nature are concerning. For parents, the ability to select and engineer their children's genes can lead to the perception of children as a product, potentially devaluing their worth. The ethical ideal of accepting children unconditionally can be undermined by evaluating them based on quality control standards. The sacrifice of fundamental values inherent in traditional parent-child relationships in pursuing transhumanism is a subject of ongoing debate.

Enhancement can be both a panacea and a poison. The critical question is, who will determine the proper dosage? Transhumanist

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85 Francisco Güell Pelayo, "The Post-humanist Embryo: Genetic Manipulation, Assisted Reproductive Technologies and the Principle of Procreative Beneficence", *Cuadernos de Bioética* 25/3 (2014), 427-443.

86 Although all artificial uterus predictions pointed out a distant future, in December 2022, according to Hashem al-Ghaili, a *BioBag*-like form developed by scientists in 2017 for the offspring of the puppy, can also be used for human offspring. See Marcia Wendorf, "Exclusive: Concept Unveiled for the World's First Artificial Womb Facility", *Science and Stuff* (December 2022) (Accessed December 29, 2022).

studies concerning artificial evolution may fall into the hands of authoritarian eugenics, transforming human bodies into a pool of spare parts for the unenhanced. Despite concerns about eugenic policies, Bostrom argues that enhancements related to health, cognitive abilities, and emotional well-being, which benefit individuals and society, should be encouraged. In contrast, enhancements that provide positional advantages, such as height or charm, should be given less weight.[87] For example, in Western societies, being tall for men is statistically advantageous; taller men earn more money, have a more social impact, and are considered more attractive sexually. Parents seeking to give their children a head start in life might select a genetic enhancement that confers greater height. However, from a societal perspective, being tall is not an advantage, as the money spent on such a positional advantage has a minimal social impact. Consequently, such enhancements confer minor individual advantages but are socially pointless. Therefore, enhancements that offer clear benefits for both individuals and society, such as improvements to health and cognitive ability, should be encouraged, while enhancements providing only positional advantages to the individual should be discouraged.

Transhumanism advocates for technological interventions that aim to provide both treatment and enhancement for humans, which is, in principle, considered ethical. According to transhumanists, humanity should not be left at the mercy of nature. However, they recommend limiting the use of extreme enhancement applications that may lead to significant inequalities. Despite this, humans will remain at the mercy of other humans. Levin provides several examples of how transhumanists relate their thoughts to prior eugenics practices.[88] One important tool in eugenics is CRISPR, a gene-editing technique. Germline genetic engineering is currently prohibited, and those who criticize genetic editing are often considered reactionary or discriminatory in transhumanism. Transhumanists argue that if embryos can be selected based on biological sex or physical characteristics or if genes can be added to design and improve them, then these steps should be taken, and everyone should have access to

87 See Bostrom, "The Transhumanist FAQ: A General Introduction".

88 Susan B. Levin, *Posthuman Bliss? The Failed Promise of Transhumanism* (Oxford: Oxford University Press, 2021), 173-176.

them. Implementing exclusive access to gene editing solely for carriers of genetic pathologies would be inherently discriminatory. However, is it not a scientifically justified form of racism to allow authoritarian eugenics to determine the next generation through germline genetic engineering?

Transhumanism advocates improving and enriching the human species through technological means such as embryo selection, CRISPR, and even germline genetic engineering. The goal is to direct natural selection with the aid of artificial selection. However, Levin argues that despite transhumanists framing their projects as individual and voluntary, the success of such endeavors will require state intervention, which contradicts liberal eugenics. The references to utilitarian reasoning and public health achievements reveal that the underlying objective is to incentivize, subsidize, and eventually mandate these practices rather than leave them as a matter of individual choice.[89] The rise of gene editing technology, specifically CRISPR, poses the risk of authoritarian and coercive use, which could swiftly undermine democratic gains and individual liberties. Additionally, there is the possibility of exacerbating social prejudice against disabled people, which is a concern that requires careful consideration. However, these dystopian scenarios remain speculative at present.

The transhumanist reproductive project, in pursuit of individual "reproductive freedom" and "bodily autonomy", neglects the responsibilities that come with reproductive rights. Reproductive freedom is a crucial aspect of reproductive rights, which carry responsibilities, both individual and social. As a right and a responsibility, parenthood underscores the social and personal nature of reproductive freedom. While reproductive freedom is recognized under the broader umbrella of "sexual and reproductive rights",[90] *The Transhumanist Bill of Rights* promotes reproductive technologies that allow individuals to select their preferred reproductive paths. The bill asserts the right of all sentient beings to make decisions regarding their

[89] Susan B. Levin, "Creating a Higher Breed: Transhumanism and the Prophecy of Anglo-American Eugenics", in *Reproductive Ethics II: New Ideas and Innovations*, ed. Lisa Campo-Engelstein - Paul Burcher (Switzerland: Springer International Publishing, 2018), 37-58.

[90] Giulia Cavaliere, "The Problem With Reproductive Freedom. Procreation Beyond Procreators' Interests", *Medicine, Health Care and Philosophy* 23 (2020), 131-140.

reproductive and familial establishment situations.[91] Bostrom argues that parents should be free to choose their reproductive paths and technological methods to produce a high-level child. The emphasis of reproductive responsibility in transhumanism shifts from raising the child to producing a child with a high degree of perfection, which may include using safe and effective technologies such as gene editing to ensure the child's health and prosperity. Bostrom asserts that it is the responsible face of parents' reproductive freedom to use all available technologies to increase the possibility of having a healthy, happy, and talented child.[92] Transhumanism considers having an unhealthy child as parental negligence, and it ascribes the responsibility of enhancing children to parents,[93] which also serves the legitimate interests of society in the health of future generations.

Thirdly, transhumanism's failure to consider the nature of *contrast-dependent* values is a significant issue. For instance, in abortion, one view (view A) may prioritize the fetus's life over the mother's autonomy, while another view (view B) may prioritize the mother's autonomy over the fetus's life. View A values human life more than autonomy, while View B values autonomy more than human life. This conflict between values is external, as it arises due to the circumstances, rather than their nature. In contrast, there is an internal conflict between the values of beauty and equality. Simultaneously maximizing both beauty and equality is unattainable since they inherently exist in tension with one another. For example, in a space

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91 See *Transhumanist Bill of Rights* (2018). "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 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."

92 See Bostrom, "The Transhumanist FAQ".

93 Julian Savulescu - Guy Kahane, "The Moral Obligation to Create Children with the Best Chance of the Best Life", *Bioethics* 23/5 (2009), 274-290.

where everyone is equally beautiful, human beauty cannot exist since beauty requires a background inequality as a necessary condition. Thus, a balance between these values is the best possible scenario.[94] Different individuals and cultures prefer balances that emphasize one value over the other. However, transhumanism does not prioritize the internal balance of values since it aims to *have everything*. On the contrary, it promotes technology to make everyone equally beautiful with unbridled optimism. Additionally, transhumanism fails to give sufficient importance to the significant contribution of *evolutionary trade-off*s. The experience of pain with pleasure has been the driving force of evolution, and humanity has thrived in the field of gene-culture coevolution thanks to the *evolutionary trade-off*s experienced through challenging circumstances such as pregnancy, childbirth, breastfeeding, and childrearing.

Conclusion

Humanity has consistently embraced developments throughout history, and history is unlikely to flow backward. The transhumanism movement, which promotes the use of technologies to enhance human beings, is accelerating the process of human hybridization. As a result of nature-culture coevolution, this hybridization is moving from the "born and mortal human" to the "immortal human" through transhumanism. This article argues that transhumanism exhibits an inconsistent reproductive policy. On the one hand, it discredits many phenomena related to reproduction and femininity, such as pregnancy, birth, and child care. On the other hand, it offers a wide range of opportunities for all individuals, without exception, through new reproductive technologies, and in practice, it adopts a proactive approach to these technologies. Transhumanism now provides humanity with the ability to design its own future. For many transhumanists, it is now considered unethical not to correct or perfect an imperfect evolutionary software and not to prevent future generations from experiencing pain.

Transhumanism espouses a post-sex society that moves away from the traditional binary distinction of biological sexes and sexuality. This approach to sexuality regards it as an individual rather than an

[94] Ted Chiang, "Liking What You See: A Documentary", *Stories of Your Life and Others* (New York: Tor Books, 2002), 281-323.

intersubjective phenomenon, which undermines the reproductive purpose of sexuality. Transhumanism also questions the concept of *sexual human nature* although human biology includes sexual characteristics. The idea of sexual human nature acknowledges the equal role of women and the *evolutionary trade-off*s that balance negative experiences, such as pain during childbirth, with positive ones. Emphasizing reproduction, birth, femininity, and these *evolutionary trade-off*s requires a positive view of our evolutionary past, contrary to the transhumanist perspective.

The seemingly overoptimistic facade of transhumanism is rooted in radical pessimism. Transhumanism perceives the natural process of evolution as flawed and thus endeavors to rectify these flaws through technological advancements. However, the transhumanist perspective fails to acknowledge the ongoing *evolutionary trade-off*s and concessions culminating in developing culture and healthy human societies. In particular, the discourse on reproduction in transhumanism overlooks the evolutionary adaptations and waivers that have contributed to the continuation of the human race. Moreover, transhumanism fails to provide a clear vision of the lifestyle women are relegated to after being freed from pregnancy, childbirth, and childrearing burdens. Children are viewed as problems to be solved rather than the gifts they are. Cultural evolution has deeply engrained the inconveniences of childbirth and childrearing into human biology and brain, making it difficult to eradicate or remove them. Thus, the biological heritage of humans is a complex issue, and its infrastructure seems much more difficult to alter than transhumanism implies.

The transhumanist movement promotes free reproductive decisions through *directed evolution* rather than natural gene-culture coevolution. However, important decisions in life, including the painful costs that transhumanists seek to avoid, may entail potential developmental benefits. Being born marks the beginning of human life, enriched by its own limitations. Despite transhumanism's claim of an irreconcilable gap between ancestral life codes and contemporary life necessities, human survival is owed to its remarkable ability to adapt to new environments through nature-culture coevolution. Moreover, reproduction has never been a two-person event; *evolutionary trade-off*s that balance existing conditions and increase prosperity establish strong communities through cooperation in

raising children. Ultimately, cultural cooperation has compensated for genetic defects, and evolution has triumphed. Therefore, the state of imperfection attributed to evolution by transhumanism is, in fact, the key to development itself. Flawed evolution has led humans to develop through culture. In fact, flawed evolution is the true motivation for enhancement. Eliminating flaws in the system may result in a lack of enhancement. While *directed evolution* from the evolutionary past may succeed, the inconsistent reproductive policy of transhumanism renders the permanence of this success doubtful.

This article argues that transhumanism challenges key principles of the classical medical tradition and modern bioethics, such as nonmaleficence, beneficence, autonomy, justice, and human dignity, and reverses their established meanings. While transhumanism upholds the principle of "nonmaleficence" at the physical level, it questions the limits of the concept of "maleficence" and ignores the principle at ontological and psychological levels. Furthermore, though transhumanism defends the principle of "non-coercion in enhancement", it implicitly imposes an obligation on individuals to enhance their offspring, thereby expanding the boundaries of "beneficence". Despite supporting the principle of "autonomy", transhumanism weakens its applicability through forms of "cooperative breeding" and the difficulty of obtaining "informed consent". Additionally, the principle of "justice" becomes uncertain in solving the social inequality arising from the gap between *enhanced* and *unenhanced* humans, as the distribution of limited resources cannot be fairly achieved in practice. Lastly, transhumanism rejects the use of applications such as IVG, surrogacy, germline genetic engineering, reproductive cloning, and three-parent baby for the principle of "human dignity", claiming that human dignity can only be protected by enhancing human nature. It also invalidates the concept of human dignity by assuming that human beings have the same moral status as all sentient beings. Therefore, transhumanism undermines established ethical principles.

In this article, it is argued that in addition to deconstructing classical ethical principles, transhumanism disregards the potential danger of authoritarian eugenics in creating individual-social polarization, diminishes the importance of reproductive responsibility required by reproductive freedom, and ignores the *contrast-dependency* of values.

Despite presenting its goals as related to individual choice and consent, transhumanism's proactive approach means that these goals can only be realized with the support of higher authorities, such as society and the state, revealing the potential danger of authoritarian eugenics. Furthermore, while transhumanism advocates for reproductive freedom, it places reproductive responsibility in the background or even reverses responsibility limits by placing the onus on individuals to enhance their children. Additionally, it overlooks the hidden contribution of *evolutionary trade-off*s and the *contrast-dependency* of values, such as the notions of "beauty" and "equality". Consequently, transhumanism represents a significant shift in the current ethical framework.

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