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CONTENTS

FROM THE EDITOR

Dear readers,

Welcome back to the new issue of *Ilahiyat Studies*.

This issue of *IS* features seven research articles on transhumanism and artificial intelligence, as well as two book review essays.

In the first article, "The Production of Human Reproduction: Impacts of Transhumanism's Inconsistent Reproductive Policy on Classical Ethical Principles", Esra Kartal Soysal provides a critical analysis of the reproductive policy of the transhumanist movement, which deconstructs some of the principles of classical ethics and modern bioethics, such as nonmaleficence, beneficence, autonomy, justice, and human dignity. The article's main thesis is that transhumanism's overoptimism is rooted in radical pessimism. To that end, the article examines transhumanism's understanding of human nature and its goal of reproduction-free humanity. It also attempts to clarify the effects of *evolutionary trade-off*s and *directed evolution* on enhancement. The author argues that the state of imperfection attributed to evolution by transhumanism is the key to development. He also questions the potential danger of authoritarian eugenics in creating individual-social polarization.

In the second article, "Freedom as an Issue in the Context of Transhumanism and Artificial Intelligence, Digitalization, and Robotics (AIDR)", Ahmet Dağ presents a thought-provoking examination of the relationship between human physical and cognitive development and freedom. The author considers the continuity of the correlation between matter and freedom throughout antiquity, Renaissance, Enlightenment, industrialization, and twentieth-century technological developments. Transhumanism further radicalizes this correlation, aiming for the civilization of superlongevity, intelligence, and happiness. According to the author, a careful analysis of the AIDR processes and transhumanism

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reveals that the potential biological freedom based on biotechnology may yield a result inversely proportional to social freedom, and the difference between augmented and nonaugmented humans can give rise to a master-slave reality. Furthermore, humans, who are said to be saved from the limitations of their nature or of God, are left to the mercy of technology-based capital.

In his engaging article, "Islamic Classical Theism and the Prospect of Strong Artificial Intelligence", Enis Doko attempts to establish a philosophical basis for the existence of conscious and intelligent machines and their potential compatibility with Islamic beliefs. To prove his case, the author focuses on the discourse of functionalism, which provides a theoretical framework for realizing strong AI. When mental states are expressed in terms of functional roles, an artificial system that simulates the functional organization of the human mind can achieve genuine mental states and consciousness. In pursuing the subject matter, the author analyzes the mind-body dualism in the classical theistic view and shows how mental states arise in at least two different substances. In line with these arguments, the article concludes that the possibility of the emergence of strong AI is not surprising from the classical theistic perspective and even confirms classical theism, albeit not very strongly.

Seyithan Can's article, "Critique of Transhumanism's Concept of Humans from the Perspective of Islamic Thought", evaluates the ontological approaches of transhumanism from a theological perspective. The article compares the concepts of "transhuman" and "posthuman" in transhumanism and human perfection in Abrahamic religions. The transhumanist approach views humans as inherently deficient, claiming that humans will achieve maximum competence through science and technology in the process of posthumanization. This perspective contradicts the Islamic concept of perfect creation. While transhumanists base human centrality on the body, Abrahamic religions have based the concept of human perfection on the ability and capacity to contemplate. Given these considerations, the author concludes that Abrahamic religions fundamentally differ from the transhumanist tradition, which focuses on bodily perfection by emphasizing morality.

Meryem Şahin and Mücahit Gültekin invite us to analyze the story of al-Sāmirī to explain the interaction between religion and robotics in Muslim culture in their article, "The Interaction of Religion and Robotics

and al-Sāmirī's Calf (the Golden Calf) as an Early Theomorphic Robot". The authors argue that the details of the perception of robots differ depending on their role, and there is a correlation between the attribution of sanctity to entities in Muslim societies and negative attitudes towards that entity. Giving robots the roles of subject, agent, or proxy may lead to resistance against social robots in Muslim societies, as seen in the story of the artificial calf and its fate in the story of al-Sāmirī.

"A Criticism of Transhumanism from the Society 5.0 Perspective in the Context of Social Values", by Abdulkadir Büyükbingöl and Taylan Maral, compares transhumanism and Society 5.0 in terms of their objectives. The authors discuss the concepts of God, human, intelligence, and gender equality in the context of transhumanism. They conclude that while both approaches generally adopt a pragmatic attitude, their perspectives on individual and social values differ. Therefore, transhumanist goals need to be reconsidered in light of the spiritual well-being of societies in mind.

The final article, "The New Materialism and Post-Humanist Studies", by Sait Yılmaz, aims to explore the future of the world amid an ongoing technological revolution and its effects on human beings, whose lives are being manipulated by global elites. The main thesis of the article is that the world is turning into a kind of "company technologism" and is trying to dictate its new global story. Based on this assumption, the author draws attention to the possible threatening consequences of transhumanism to raise awareness of human transformation.

We, the editorial team, are grateful to our authors, referees, and readers for their continued support and look forward to being with you in the next issues of *Ilahiyat Studies*

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ARTICLES

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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FREEDOM AS AN ISSUE IN THE CONTEXT OF TRANSHUMANISM AND ARTIFICIAL INTELLIGENCE, DIGITALIZATION, AND ROBOTICS (AIDR)

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Abstract

Historically, the notion that knowledge and technology enhance human freedom has been accepted since the Renaissance. In fact, it cannot be ignored that "freedom" developed during the Renaissance, Enlightenment, industrialization, and technologicalization processes. While the development of the boundaries of the concept of freedom has increased with artificial intelligence, digitalization, and robotics (AIDR), this development has also created the problem of the violation of personal rights such as "privacy", "confidentiality", and "security", which are the most essential concepts of humans and society. When the "Metaverse", i.e., the "Web 3.0" process, is added to this phenomenon, the concept of freedom will develop more with the transcendence of time and space. Still, violations of personal rights, increased opportunities to commit crimes, and additional types of

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crimes will appear. The further development and increased visibility of AIDR require the ancient issue of freedom to be reconsidered in the context of "freedom and responsibility."
Transhumanism is one of the 21st century's most influential scientific and philosophical movements, and its goals will make the issue of freedom more important. Transhumanism, first used as a concept in 1957 in the context of the physical and cognitive development of human beings, suggests that natural human limits can be overcome with the possibilities of biotechnology, nanotechnology, cyber-technology, and cognitive sciences. Research in areas such as delaying aging, eugenics debates and discourses legitimizing eugenics, the claim that immortality can be achieved, the development of the mind with the possibilities of nanotechnology, the brain-machine interface (BMI), the development of the body with biotechnological elements and similar studies aim to realize the biological freedom of human beings. This potential biological freedom may yield a result inversely proportional to social freedom. This is because differences between individuals will create a situation of "superiority" that will lead to differences between individuals and classes and thus to inequality. This situation can foster slave-master processes. This process may occur not only between people but also between humans and AI and robotic applications. In addition, AIDR itself, its producer, and its user will differentiate the processes of freedom. In particular, whether transhumanist people are forced to use healing technologies or whether they develop and adapt their own bodies and minds as a result of their own choice or as a result of coercion are other matters of debate in the context of the issue of freedom. This study discusses freedom, an essential issue for humanity, in the context of AIDR processes and transhumanism, which includes these processes.

Keywords: Artificial intelligence, digitalization, robotics, transhumanism, freedom

Introduction

Four crucial breakthroughs in human history are related to the differentiation in understanding nature, biology, and psychology. The first breakthrough in the understanding of nature was Aristotle's attempt to abandon the mythical way of understanding nature and instead to understand (and explain) it scientifically. The second and most shocking change on the cosmological front was Copernicus' challenge to existing assumptions by proposing a heliocentric

understanding of the universe instead of the Ptolemaic earth-centered understanding. Darwin's approaches to the field of existence, which created a new approach on the biological front with evolutionary theory, constituted the third major breakthrough. Darwinian theory shook the idea that humans are the center of life on earth and that other species serve humans. The fourth breakthrough is the advance on the psychological front brought about by psychoanalysis, which is the study of the spiritual and mental processes of human beings. Both Copernican and Darwinian theories made the centrality of the human being controversial. Ayala quotes Freud as calling these two revolutions "rages directed by man against his own conception." The third revolution, the psychoanalysis revolution, is Freud's theory of psychoanalysis, which states that man is not the center or even "master of his own house (consciousness)".[1]

These breakthroughs shook people's self-confidence. The fifth front, which can be added to these four fronts that contributed to breakthroughs, is the technological front, which will make the breakthrough even more radical. Technology, seen as an instrument of divine action because it brings together the human and the sacred, has a structure that enables humanity to transcend itself as the subject of the freedom of imagination. Transcendence, the fundamental element of both human nature and technology, is a creation in the sense of imagination.[2] Through these five fronts, people have discovered that they are no longer masters of their own creations but are, in fact, controlled by their own self-created order (in which they do not know what will happen). Something like the sorcerer's apprentice has been created that develops their own dynamism with technology. The 19th and 20th centuries, with the project of social and psychological visions of the new man and approaches ranging from humanism to racial theories, were devoted to the development of humans and the improvement and control of their actions.[3] The 21st

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1 Francisco J. Ayala, "On the Origins of Modern Science: Copernicus and Darwin", in *Evolution and the Future: Anthropology, Ethics, Religion*, ed. Stefan Lorenz Sorgner - Branka-Rista Jovanovic (Frankfurt: Peter Lang, 2016), 101-113.

2 Scott A. Midson, *The Cyborg and the Human: Origins, Creatureliness, and Hybridity in Theological Anthropology* (Manchester: The University of Manchester, Faculty of Humanities, Ph.D. Dissertation, 2015), 210.

3 Oliver Krüger, *Virtual Immortality: God, Evolution, and the Singularity in Post- and Transhumanism* (Bielefeld: Transcript Verlag, 2021), 23-24.

century is an era of transhumanism and posthumanism debates based on the transformation of human beings through technological means.

Transhumanism, the Techno-philosophy of the Human Demand for Freedom

The term transhumanism, designating the most ambitious movement of the 21st century for human enhancement, was first used in J. Huxley's *New Bottles for New Wine* in 1957. Transhumanism is a scientific and cultural movement that sees technology as a means to improve human beings mentally, physically, and psychologically and to delay aging.[4] Although transhumanism is a reality of the 21st century that has its theoretical and practical roots in the 19th and 20th centuries, its theoretical underpinnings are found in scientists such as Darwin and Freud, and its practical underpinnings are found in practices such as industrialization and technologicalization. The 21st century resembles the early 20th century in clarifying the boundaries separating the social and natural sciences.[5]

Transhumanism is a movement with philosophical roots that sees technology, which includes both transcendence and the human nature it seeks to change, as a base and a tool for itself. The physics-, mathematics-, and mechanics-based philosophy of the 17th century contributed to the birth of transhumanism, a material-based ontology. "Dead philosophers" have been instrumental in humanity's scientific and cultural change to what it is today. Indeed, the vision of transhumanist philosophy is based on a semi-Aristotelian conception of nature in which everything naturally aims for perfection.[6] Frodeman says that the transhumanist impulse is the culmination of a 400-year philosophical project of modernity. The modern project has altered culture's existing intuitions in relation to a wide range of issues that are seemingly quite far from science, such as the nature of the ego, the relationship of the individual to society, the character of freedom, the

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4 Ahmet Dağ, *İnsansız Dünya: Transbümanizm* (İstanbul: Ketebe Yayınları, 2020), 21.

5 Dağ, *Transbümanizm: İnsanın ve Dünyanın Dönüşümü* (Ankara: Elis Yayınları, 2018), 112.

6 Michal Klichowski, "Transhumanism and the idea of education in the world of cyborgs" *Research Gate* (Accessed March 12, 2022).

status of religion, and the meaning of the natural world.[7] Transhumanism has an attitude similar to the Baconian utopia, which is the initiator of modernity with its design of the perfect human and the perfected space. The space and life envisioned by Bacon, who initiated biological agency, including the creation of new species or chimera through organ transplantation and the Kawthar water that allows for longevity, is a plane that can be reconstructed on realistic and philosophical grounds to expand human life on an enormous scale.

Rooted in the Enlightenment and Western humanism, transhumanism's approach to the continuation and acceleration of science and technology shows its Enlightenment roots. Transhumanism, which inherited many ideological contradictions from Enlightenment philosophy, also involves the conflict between atheism and belief or teleological techno-optimism and rationalist acceptance. The conflict between Locke's and Hume's views of ego is another Enlightenment contradiction in transhumanism. The debate on personal identity is more a debate of transhumanism than of the Enlightenment. What concretizes the debate on personal identity is the radically developing neuroscientific research and the possibilities for this field. The Enlightenment's contradiction between Locke's concept of the ego, the foundation of liberal individualism, and Hume's empiricist assumption that the ego is a construct lay dormant until the 20th century, when another product of the Enlightenment, neuroscience, revived the debate.[8] Enlightenment and Hume's progressive mindset gave rise to the evolutionary conception of Darwinism in the 19th century. Transhumanism is a Neo-Darwinian movement that is deeply committed to the idea that human beings must always evolve and that human nature must constantly transcend itself rather than being content with what is given. Transhumanism's

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7 Robert Frodeman, *Transhumanism, Nature, and the Ends of Science* (New York: Routledge, 2019), 63.

8 James Hughes, "Transhumanism and Personal Identity", 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), 227-233.

demand for body-swapping deliberately blurs the boundaries between nature-culture and human-nonhuman.[9]

The humanist and libertarian approach in antiquity and the Renaissance was further expanded by Copernican, Darwinian, and Freudian theories. Freedom in the modern sense, which is an attempt to make the particularized portrayal of humans in earlier ages a reality, aimed to eliminate borders. Transhumanism, an extreme libertarian movement that seeks to further expand the sphere of freedom, aims to liberate human beings not only from the obstacles and limits that surround them but also from themselves. Whereas in previous periods, human beings sought to be liberated through religious, scientific, and cultural processes, in the 21st century, human beings seek to be liberated by freeing themselves from the limits of both the nature in which they live and their own bodies by developing them mentally, physically and biologically. Based on technologies that emphasize individuality and freedom (NBIC), transhumanism seeks to further advance the ideal of personality that it inherited from earlier forms of humanism on both the material and the spiritual plane.

When Galileo turned his telescope to space, humans' horizons for space expanded. With Darwin's understanding of evolutionary biology, humans acquired the idea that they were evolving and developing beings. Freud's assertion that the unconscious is more determinative than consciousness further expanded the world of human perception through the flexibility and magnitude of both the self and the universe. Transhumanism, which is a reflection of this expansion of perception, aims to bring about change for human beings and to colonize space. Opponents of transhumanism specifically argue that human enhancement technologies will reduce individual autonomy and increase injustice in the world, while supporters of the goals of transhumanism argue that transhumanist technologies will allow for greater freedom and a just society. It is believed that humans who get rid of their bodies and live in virtuality by crossing the boundary between humans and machines will be more free.

Transhumanism attempts to realize its desire to make changes to the body through the discourse of sexual revolution and sexual freedom/sexual liberation, which is an extension of its technological

[9] Jenny Huberman, *Transhumanism: From Ancestors to Avatars* (Cambridge: Cambridge University Press, 2020), 123.

mentality. Transhumanism seeks to transcend the boundary between men and women to achieve the goal of "desexing" and suggests that the artificial womb or the effort to realize reproduction on another ground will relieve women of a burden and eliminate masculine domination. The sexual freedom promised by transhumanism is an object that will be shaped to serve the human body, social hierarchy and ecology, and human designs and desires. Sexual libertarianism seeks to carry out a biological revolution on the human body by instrumentalizing the body. The Darwinian and Freudian revolution is to be carried to the top by the technological singularity, the machine-consciousness transference of engineers such as Kurzweil. Transhumanist sexual libertarianism, which perceives the body as crude materialism, envisions a society where postsexlessness and transgenderism are widespread and accepted. Whether the freedom of others will be violated in a plane where borders are abolished and the problems that unlimited freedom will produce will be matters of serious debate.

The Spine of Transhumanism's Claim to Freedom: Morphological Freedom

Until transhumanism's approach to the enhancement or augmentation of the human body, there was no scientific, cultural, or ideological movement in the history of philosophy that proposed modifications to the human body. Although La Mettrie envisioned a material-based human being in his work titled "Machine-Man", his approach was about the existing human being. However, transhumanism does not claim to develop, increase, and transform. The human body is generally seen as a fixed and unconverted area. In fact, Krüger argues that bodies are seen as morphologically fixed, morally unfree, rebellious, and stubbornly conservative against the development of machines; they are unprogressive, outdated, unimprovable, and a dead weight that blocks the rise of machines. With the change of subjects of the free and the unfree, things are free, but humans are not. Despite the freedom of things, humans (the body) have no freedom. The transhumanist, who prefers to be transhumanist not only in relation to the body but also in relation to values, draws attention to ecology, freedom, self-awareness, and self-responsibility. One of the most important concepts of this self-awareness and

responsibility is morphological freedom. Morphological freedom is an element of the move toward transhumanity, which is said to be based on posthuman rights such as the security of existence and the protection of personality, in other words, to be more humane.[10] Transhumanism directs both individual rights that allow for the happiness of the individual and the morphological freedom to be posthuman, the evolutionary prescription for the human species, through the affirmation of the benefits of science and technology that provide the ideals of rationality, secularism, liberalism, optimism, and progress.[11]

Morphological freedom, which is one of the basic concepts of transhumanism and is seen as a negative right, expresses personal autonomy and the individual's desire not to be forced to change or prevented from changing.[12] Morphological freedom, seen as a continuation or extension of and complement to personality rights (especially rights over one's own body), means the right to change one's body in line with one's wishes and desires.[13] Morphological freedom, used in the sense of having the right to change one's own body according to one's will, means the commitment and drive to transform oneself to continuously overcome psychological, social, physiological, genetic, and neurological constraints by questioning the limits of one's potential and refusing to submit to mediocrity. It refers to the transformation of liberal pluralism, secular progressive cosmopolitanism, or (post)humanist multiculturalism by a destructive world of techno-scientific change and medical practices. Transhumanists, who see technological evolution as the next stage of evolution and regard morphological freedom, which is the engineering of evolution toward the goal desired by humans, as a right, claim that

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[10] Krüger, *Virtual Immortality*, 53-54, 74.

[11] Jörgen Skågeby, "Im/possible desires: media temporalities and (post)human technology relationships", *Confero: Essays on Education, Philosophy and Politics* 4/2 (2016), 47-74.

[12] Joshua Earle, "Engineering Our Selves: Morphological Freedom and the Myth of Multiplicity", in *Engineering and Philosophy: Reimagining Technology and Social Progress*, ed. Zachary Pirtle et al. (Switzerland: Springer, 2021), 250.

[13] Halim Alperen Çıtak, "Transhümanizm Karşısında Hukuk Devleti İdeali", *İnsan Hakları Yıllığı* 38 (2020), 10.

they will create a better world, not just a better human being.[14] Sandberg argues for morphological freedom based on individual happiness and living a "potentially happy life" when and where others are not constrained.[15]

Transhumanist values centered on freedom and diversity, including the morphological freedom to change one's body as one wishes, were presented in the Transhumanist Declaration published in 1998. This declaration aims to prolong life and defeat death and to continue to explore eternal transformation and the universe. In the declaration, which was revised in 2009, Vita-More stated, "I am the architect of my own being. My (transhumanist) art represents my vision and values, it carries the foundation of my being", emphasizing that she is the "architect of his being" and drawing attention to the importance of morphological freedom.[16] Morphological freedom is defined in the *Transhumanist Bill of Rights* as "the right to do what one wishes with one's physical attributes and intelligence as long as it does not harm others." The *Bill of Rights* states that individuals should be given a wide range of personal choices about how to exist in life, including the use of various technologies of human enhancement and modification. Reproductive technologies are included in the wide scope of choices that should be given to individuals to shape their own lives. In the Declaration, which adopts a libertarian attitude toward the freedom of reproduction as well as morphological freedom and suggests that all kinds of decision-making rights regarding reproduction should be left to parents in principle, the demand for freedom is included with the expression, "All conscious beings have freedom of reproduction, including new methods such as digital cloning, single-parent child acquisition, and creating benevolent artificial general intelligence."[17]

Transhumanism, which sees freedom as the freedom to choose and positions the freedom to choose as the means to happiness and

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[14] Jonathan Piedra, "Technological Enhancement and Happiness: A Review of Morphological Freedom", *Cosmos and History: The Journal of Natural and Social Philosophy* 15/1 (2019), 280.

[15] Anders Sandberg, "Morphological Freedom - Why We not Just Want It, but Need It", 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), 56-64.

[16] Roberto Manzocco, *Transhumanism: Engineering the Human Condition History, Philosophy and Current Status* (Switzerland; Springer, 2019), 66.

[17] Çıtak, "Transhümanizm Karşısında Hukuk Devleti İdeali", 10.

fulfillment, does not aim to transcend mere borders or to produce transformative hybridity. In this context, transhumanism seeks a wider scope for action and favors a more beneficial and secure future. When the emphases of transhumanist visions of the future are not questioned, these visions serve dematerialization and determinism.[18] The transhumanist David Pearce, one of those who voiced these promises, argues that the biohappiness revolution can enable potential parents to seek counseling for genetic screening and universal access to gene editing tools and design to ensure that all children are born happy.[19]

Rather than wanting to force everyone to live forever, transhumanists aim to eliminate involuntary death by allowing everyone to choose whether and when to take their last breath. Transhumanist messengers, who are technology enthusiasts of the highest order, use the rather negative term "neo-Luddite" to denote those who despise technology and scientific progress, especially in the biological field.[20]

The model of transhumanism is based on freedom and autonomy and sees current and future technologies as means of enabling the human good by both transforming and enhancing it.[21] Video games are the best mirror for approaches that aim for technological transformation, such as transhumanism. Resembling a game in terms of identifying and modifying the subjects, transhumanism proposes that the person who obtains the freedom to construct his or her character can be something more and that by entering into the world, one can create a specialized or idealized being that is an extension of one's own being. Added technological elements allow people to change themselves easily and quickly. If the mind can be downloaded to the computer, there may be more areas of freedom for humans.[22]

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18 Melinda C. Hall, *The Bioethics of Enhancement: Transhumanism, Disability, and Biopolitics* (Pennsylvania: Lexington Books, 2017), 139.

19 David Pearce, "İnsanlık İçin En Büyük Tehdit, Bizzat İnsan Doğasıdır", (Interwiever: Serdar Bilir) *Cins Dergisi* 64 (2021), 25.

20 Manzocco, *Transhumanism*, 34.

21 Jerry Coursen, "Against Species Extinction: Transhumanism and Contemporary, Technological Culture", in *Building Better Humans?: Refocusing the Debate on Transhumanism*, ed. Hava Tirosh-Samuelson - Kenneth L. Mossman (Frankfurt: Peter Lang, 2012), 405.

22 Robert M. Geraci, "Video Games and the Transhuman Inclination", *Zygon* 47/4 (2012), 740.

Technological singularity practitioners and android or robotic designers, engineers, and technicians are not building freedom but autonomy. That is, they are trying to build free will, but whether there will be freedom to choose is uncertain at the moment.[23] Factors such as training, research, evaluations, and critical thinking can enable people to make conscious choices by gaining consciousness.[24]

Transhumanists, who value individual freedom, share a common conviction that it is an individual choice to rebuild or modify their bodies. Transhumanism, which considers the transformation of the body through the use of technology a rational and free decision of personal autonomy rooted in individual freedom and bodily autonomy, demands an ideal human being and society. According to transhumanism, which glorifies an individual freedom that tends to be egocentric and selfish, choices are made based on what is best for oneself rather than what is best for others.[25] Human enhancement or improvement is interpreted as the moral challenge of contemporary biotechnologies to existing human nature as it seeks to push and exceed the limits of human freedom. In this moral challenge, certain questions gain importance: Can one freely choose to change one's own personality, and is one free to undermine one's freedom? Will it be necessary to make choices based on the personality developed in a mixture of genetic and environmental influences, or will it be necessary to make a choice to change my own personality to reach the state I desire?[26] Does changing basic personality traits weaken the continuum between action-achievement and internal states-external behavior, or does it otherwise make the individual in question a different person? If psilocybin indeed strengthens morality, does it reduce the freedom to act otherwise? Is the effort to change or transform unnecessarily playing God or tampering with human nature?

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[23] Indrajit Patra, *Going Beyond the Limits: Exploring the Elements of Posthumanism, Transhumanism and Singularity in Some Select Contemporary Hard Science Fiction Novels* (Delhi: Walnut, 2021), 374.

[24] Nick Bostrom, "The Transhumanist FAQ", *Nick Bostrom* (Accessed March 15, 2022).

[25] Jonathan M. Cahill, "Freedom for Life: Karl Barth, Transhumanism and Human Flourishing", *Ethics & Medicine: An International Journal of Bioethics* 30/2 (Summer 2014), 82.

[26] Colleen A. Reilly, "Gender and Bioenhancement", in *Posthumanism: The Future of Homo Sapiens*, ed. Michael Bess - Diana Walsh Pasulka (Michigan: Macmillan Reference USA, 2018), 273-285.

Can moral reinforcers cause individuals to be overly empathetic or trustworthy?[27]

In addition to these questions, Walter Glannon poses questions such as, "Do brain interventions and other neural transitions in the transition from human to posthuman threaten free will?" and "Will free will disappear when we become posthuman?" Glannon argues that the issue of free will has regained importance in the new brain sciences (neuroscience) and that free will is the work of the brain and mind and not an illusion arising from the mechanistic view. According to him, the current neuroscientific arguments against free will do not support the explanation that we evolved from a human to a transhuman world. There is evidence from neuroscience that does not undermine free will and that the deterministic or mechanistic neural process fully explains human behavior. Advances in the neurosciences can lead to radical change in the interpretation of the self and the concept of free will. Deciding on gender change, the ultimate example of human free will raises the issue of human responsibility. Evaluating the concept of freedom of will and responsibility in the context of its Western philosophical reflections, M. J. White focuses on force majeure and analyzes the history of the problem of responsibility and determinism.[28]

In classical metaphysics, the question of freedom of will is formulated between determinism and the position of freedom in terms of consistency.[29] The person who changed this formula of classical metaphysics was Hume, who associated the relationship between free will and necessity with freedom by chance and accepted the concept of human nature and ego rather than the concept of free will. According to him, people cannot be held responsible for their actions if the idea of necessity is rejected. The main characteristic of his moral psychology, which he created while trying to build a science of morality, emerged from the discussion of the causal relationship

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[27] Michael N. Tenniso, "Moral Transhumanism: The Next Step", *The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine* 37/4 (2012), 405-416.

[28] Hava Tirosh-Samuelson - Kenneth L. Mossman, "New Perspectives on Transhumanism", in *Building Better Humans?: Refocusing the Debate on Transhumanism*, ed. Hava Tirosh-Samuelson - Kenneth L. Mossman (Frankfurt: Peter Lang, 2012), 43.

[29] Coursen, "Against Species Extinction", 322.

between passion, character and behavior, and obligation and freedom, which are more motivating for will than reason.[30] Indeed, the pursuit of liberation and autonomy as a defining human goal is strongly associated with the desire for separation and control. The driving desire is to become independent of "everything else" in order to have the freedom and possibility to control and define who you are and the power to become your own individualized self. For transhumanism, this includes the freedom to control human evolution through the development and use of technological tools for biological enhancement. The reason for this quest for freedom and control is that humans can choose how they want to develop and relate to others (humans and nature) at will since there is nothing fundamental or essential about the existing human form and humans' relations with other beings.[31] In this context, many transhumanists state that there can be no coercion to use human enhancement technologies and that individuals are free to decide whether to change themselves. In fact, C. T. Rubin states that people can choose their own attitudes in the case of modifying or enhancing their bodies; that the individual should freely choose the best tools for himself or herself, and no one can stop him or her.[32]

The possibility that the human genome can be altered indicates that there is no fundamental reason for banning genetic modification studies. The main task is to distinguish between different levels of development so that ethical decisions can be made in genetic regulation according to the degree to which they sustain and strengthen the person's fundamental right to physical, cognitive, and social well-being by expanding or contracting individual freedom and mobility. Here, Habermas' emphasis on personal autonomy can play an important role.[33] Habermas says that attempts are made to stop science and technology, with its unstoppable tendency to expand the sphere of human freedom at the expense of the socialization or the

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30 Ahmet Dağ, *Çağdaş İngiliz-Yahudi Medeniyeti'nin Oluşumunda David Hume* (İstanbul: Külliyat Yayınları, 2016), 156-157.

31 Klichowski, "Transhumanism and the Idea of Education", 436.

32 Adam Keiper, "Transhumanism, Freedom, and Coercion", *The New Atlantis* (Accessed March 5, 2022).

33 Nikolaus Knoepffler, "Ethical Assessment of Human Genetic Enhancement", in *Evolution and the Future: Anthropology, Ethics, Religion*, ed. Stefan Lorenz Sorgner - Branka-Rista Jovanovic (Frankfurt: Peter Lang, 2016), 74.

disenchantment of external nature, in the name of "moralization" by creating artificial taboo boundaries (by re-enchanting internal nature).[34]

Transhumanist utopian people are techno-liberal subjects, and the autonomy of the subjects is carved by elements mediated by technology. Transhumanists seek absolute freedom, choice, and controlled individuality.[35] For transhumanists (and bioliberals), individual freedom is considered one of the important, if not the most important, values. Individuals should be free to decide for themselves how to live, and institutions should be designed to guarantee neutrality across different lifestyles.[36] A liberal democracy should normally only allow interventions into morphological freedoms when someone abuses those freedoms to harm another person.[37] Some transhumanists eschew state pressure because the freedom of individuals to develop and redesign will change competition and social norms. For the time being, the aspirations of transhumanists are considered the aspirations of an elite class.[38] Transhumanists who support the liberal political system are called techno-progressive biopoliticians, which includes democratic liberalism or democratic transhumanism.[39]

Material conditions in the form of technological apparatuses are the fundamental aspect of the transhumanist revolution.[40] The material aspects of social structures ensure the proper productivity of the freedom of liberal democracy or capitalism.[41] In transhumanism, which adopts a liberal/libertarian discourse, demands based on equality/social justice are seen as utopian and fictional projects that will divert humanity from reaching the superhuman. While techno-libertarians (mainstream transhumanists) appeal to the Enlightenment ideal of freedom, democratic transhumanists emphasize the ideals of equality and solidarity.[42]

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34 Jurgen Habermas, *İnsan Doğasının Geleceği*, trans. Kaan H. Ökten (İstanbul: Alfa Yayınları, 2019), 52-53.
35 Hall, *The Bioethics of Enhancement*, 128, 139.
36 Roberto Ranisch, "Morality", in *Post- and Transhumanism: An Introduction*, ed. Robert Ranisch - Stefan Lorenz Sorgner (Frankfurt: Peter Lang, 2014), 153-154.
37 Piedra, "Technological Enhancement and Happiness", 284.
38 Keiper, "Transhumanism, Freedom, and Coercion".
39 Piedra, "Technological Enhancement and Happiness", 278.
40 Piedra, "Technological Enhancement and Happiness", 280.
41 Klichowski, "Transhumanism and the Idea of Education", 9-10.
42 Çıtak, "Transhümanizm Karşısında Hukuk Devleti İdeali", 28.

Eugenics as an Opportunity to Expand the Sphere of Freedom

Transhumanists who seek personal development beyond current biological boundaries defend the moral rights of those who want to use technology to expand human mental and physical capabilities and enhance their control over their own lives.[43] In fact, transhumanists such as Nick Bostrom and James Hughes claim that not only human beings but all living beings have the right to self-improvement or self-change and fair and equal access to such remedies.[44] There is little evidence, however, that they have considered questions such as whether the radical freedom and unlimited opportunities promised by transhumanism in comparison with social equality exist or whether these opportunities lead to the madness of some without clear moral boundaries. How can plans be made for such dangers? Transhumanism has an implicit and elite class structure. There is an assumption that some elites will be the first to have development or augmentation, and then things will be put in order.[45]

Some transhumanists argue that eugenics is a possibility and that through eugenics improvement, not only some people but humanity in general can benefit and build a better life. In fact, Bostrom said that some states can promote eugenics that will improve the human capital of the country and give the subject features such as obedience, indifference, and cowardice.[46] In contrast to Bostrom's rationalization of eugenics, moral egalitarians believe that morality should be for all people, that no one should be less equal than another, and that no one should be treated as more than an equal. According to Wilson, who rejects Fukuyama's idea that the transhuman or posthuman will be morally better than our equals in the future, the superiority of the evolved cannot be said to threaten the moral equality status of human beings. The question of development may even create justice between those of equal moral status, but the developed human being is not a creature of higher morality than the unequal human being whose abilities and capacities are not developed. Transhumanism raises

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43 Piedra, "Technological Enhancement and Happiness", 279.
44 Cahill, "Freedom for Life", 87.
45 Frodeman, *Transhumanism*, 15.
46 Nick Bostrom, *Süper Zekâ: Yapay Zekâ Uygulamaları, Tehlikeler ve Stratejiler*, trans. Ferit Burak Aydar (İstanbul: Koç Üniversitesi Yayınları, 2018), 58.

concerns derived from the project of human development and questions of justice between those of equal moral status rather than presenting concerns based on moral status.[47] Habermas sees liberal eugenics, a threat to human nobility, as a threat to the foundations of the human moral community. However, according to Habermas, liberal eugenics will fundamentally change relations in the moral community and undermine moral equality, human rights, individual freedom, and autonomy.[48]

The issue of justice can ultimately lead to the issue of eugenics. In the 21st century, in the transhumanist process that will lead to the emergence of eugenics, the transformation of human beings' own nature through artificial interventions may create a situation of eugenics that can defeat both oneself and one's own species.[49] Transhumanists who advocate eugenics adopt a libertarian framework in an attempt to separate themselves from the atrocities of the 20th century.[50] The techno-libertarian view suggests that the government should impose sanctions against attempts at genetic improvement by distancing itself from the eugenics advocates of the 21st century.[51] Again, Habermas says that eugenics, for the purpose of enhancement, will reduce moral freedom by imprisoning people in their unwanted and irreversible plans according to the demands of third parties and will prevent people from perceiving themselves as full perpetrators of their own life.[52]

Transhumanists have the same ambitions as humanists and posthumanists: that human nature can be reflected, shaped, or changed/modulated in a radically free manner.[53] Anti-paternalist transhumanism has the idea of a "right to biological freedom" and seeks to advance individuals' permission to modify their own bodies (e.g., laser eye surgery, breast augmentation). This is because radical

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47 James Wilson, "Transhumanism and Moral Equality", *Bioethics* 21/8 (2007), 419-421, 425.

48 Elizabeth Fenton, "Liberal Eugenics and Human Nature: Against Habermas", *Hastings Center Report* 36/6 (2006), 5-42.

49 Dağ, *İnsansız Dünya*, 96.

50 Cahill, *Freedom for Life*, 87.

51 Keiper, "Transhumanism, Freedom, and Coercion".

52 Çıtak, "Transhümanizm Karşısında Hukuk Devleti İdeali", 22.

53 Yvonne Förster, "The Body as Medium: Fashion as Art", in *From Humanism to Meta-Post- and Transhumanism?*, ed. Irina Deretić - Stefan Lorenz Sorgner (Frankfurt: Peter Lang, 2016), 330.

improvements are within the scope of general biological freedom, and anything that is suitable for the body can be applied to the body.[54] Transhumanists, who defend the principles of bodily autonomy and productive autonomy, accept that genetic development through selection (avoiding wrong birth and wrong life) will provide people with more freedom and access to a happy life by providing multiple choices.[55] Transhumanists believe that improving the conditions of the individual human being will improve the conditions of human beings as a whole and defend the right of those who want to use technology to expand individual freedom, especially their mental and physical capacities, and to improve people's control over their own lives. According to transhumanists, parents should be allowed to choose whether and how to reproduce and which technological methods to use in their reproduction. The use of genetic medicine and embryos to increase the likelihood of a healthy, happy, and multitalented child is a responsible and justifiable practice of parental reproduction.[56]

The cognitive and biological enhancements promised by transhumanism enter into the equation in regard to human enhancement or morphological freedom. This equation proposes radical, defiant changes in desire, memory, cognition, and identity that will alter our assumptions about the ego. Although most transhumanists do not see the proliferation of egos as problematic, they acknowledge it as an incompatibility between existing identity and transitional identity. The fact that there is more than one person creates the debate about whether the person truly exists.[57] The essence of the transhumanist project is to change the existing human essence. Fukuyama, who emphasizes the idea of equality of rights and attributes differences in skin color, beauty, and even intelligence to the human essence, has four propositions:

1. There is a human essence.
2. This human essence is a responsibility of our equal moral essence.

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[54] Mark Walker, "Transhumanism", in *What's Next: What Science Can Tell Us About Our Fascinating Future*, ed. Jim Al-Khalili (London: Profile Books, 2017), 63.

[55] Hall, *The Bioethics of Enhancement*, 74.

[56] Bostrom, "The Transhumanist FAQ", 31, 21.

[57] Hughes, "Transhumanism and Personal Identity", 229, 231.

3. This human essence can change if we develop ourselves in various ways.
4. If we change ourselves, we will never have equal moral status.

Fukuyama claims that enhancing or improving human beings will create moral differences and that differentiations, especially in intelligence, will disrupt moral equality by creating a sense of superiority. Fukuyama states that political equality emerged from the (American) Declaration of Independence, which was founded on the empirical reality of the equality of human nature, and claims that transhumanism's idea of human enhancement or human augmentation would abolish the Declaration of Independence, which is still functional.[58] The fact that morphological freedom is seen as a "value" indicates that it also has a moral dimension. In this context, Bainbridge argues that insisting that freedom is a universal right is also moral superiority; in the transhumanist process, every individual has the right to be anything.[59]

Transhumanists who want to promote individual rights also want to increase technological methods to benefit from people's decisions regarding reproduction. Individuals should, on the basis of consent and taking into account rights and freedoms, apply human enhancement technologies that are within everyone's reach to themselves (morphologically) and adopt children. In the minds of most transhumanists, individual freedom is important to make decisions about their own bodies and the character of their own children.[60] The aim of eugenicists was so-called public health for the benefit of the state or society. The current development agenda is promoted under the banner of individual freedom and prosperity, often with a distinctly libertarian favor. Transhumanists frame access to reproductive and morphological freedom against government interference in terms of fundamental rights. Parents' reproductive

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58 Wilson, "Transhumanism and Moral Equality", 420.

59 Linell E. Cady, "Religion and the Technowonderland of Transhumanism", in *Building Better Humans?: Refocusing the Debate on Transhumanism*, ed. Hava Tirosh-Samuelson - Kenneth L. Mossman (Frankfurt: Peter Lang, 2012), 90.

60 Robert Cliquet - Dragana Avromov, *Evolution, Science, and Ethics in the Third Millennium: Challenges and Choices for Humankind* (Switzerland: Springer, 2021), 214-215.

choices that design their children are motivated to help their children, not harm them.[61]

Improved Possibility of Freedom

Both the design of the child to be born and the development or enhancement of the present human being are directly linked to the freedom-individual relationship that is influential in humans' choices. Transhumanists seek to realize Sartre's account (of the self) through the idea of morphological freedom, which offers the right to abandon and change the body.[62] In Marx's words, transhumanism's principle of morphological freedom corresponds to the desire of human beings to exist as capital already does. There is a close relationship between morphological freedom and the Lockean egalitarian libertarian approach, which is the approach through which human beings can realize their desire to exist. Locke's empirical approach to the distribution of human ability is linked to the transhumanist doctrine of morphological freedom. Before Locke, families and corporations (e.g., governments, churches, universities) had personalities, and individuals became persons through membership in one of these entities. After Locke, the importance of being an individual or individual freedom without the need for belonging arose. Morphological freedom is more collective than individual in the sense that it is based on the social good. Despite the libertarian rhetoric of transhumanism, the value placed on morphological freedom is less compatible with a Lockean sense of individual responsibility than with a Hegelian sense of collective responsibility.[63]

Transhumanists defend the application of freedom of innovation and the development of methods (research - experiment - observation) to themselves as morphological freedom and the design of future generations with these methods as reproductive freedom.[64] According to Zizek, who says that postgenderism and transgenderism, a social, political, and cultural movement, envisions socialization and that gender can be abandoned with the latest advances in biotechnology

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61 Coursen, "Against Species Extinction", 406.

62 Frodeman, *Transhumanism*, 15.

63 Steve Fuller, "Morphological freedom and the question of responsibility and representation in transhumanism", *Confero: Essays on Education, Philosophy and Politics* 4/2 (2016), 34-35, 39.

64 Çıtak, "Transhümanizm Karşısında Hukuk Devleti İdeali", 10.

and reproductive technologies, fixed gender roles and their social, emotional, and cognitive consequences are obstacles to the full emancipation of human beings, and new social and cultural possibilities will emerge on the ground where reproduction through gender is eliminated.[65] Initiatives such as nanotechnologies, genetic engineering, in vitro reproduction, artificial wombs, sex reassignment techniques, and virtual bodies simulated by computers will create not only our humanity but also the problem of gender transcendence/desexualization. It can be changed at will to achieve greater psychological usefulness and double sexuality. Postgenderism is related to morphological freedom in that it demands the abolition of sexual and gender differences and the acceptance of the fact that sexuality is the result[66] of individual choice, not genetic and cultural imposition. In fact, the transhumanist pursuit of morphological freedom implies that people should not be constrained by the biological sex they were born with but should instead be free to adapt their bodies to the gender of their choice or experiment with various gender identities. The best example is Martin Rothblatt, who underwent sex reassignment surgery after marrying his wife Bina and having children.[67]

"Capitalism 2.0" will be characterized by the freedom to choose commodities that include self-replacement technologies, as Fuller says, noting that human self-replacement will lead first to transhumance and finally to posthumanity, which characterizes the capitalism of the future. This implies the freedom to choose to be what one wants to be, not just what one wants to have.[68] While Nozick argues that we can do anything we want as long as the freedom of others is not restricted, transhumanists go further and claim that we can be anything we want.[69] People who are given the freedom to self-determine, if not in the sense that Sartre meant "self-determination", in the future can be seen as beings in one of two forms: they can either be downloaded into advanced bodies or transferred from advanced computers. Advances in genomics emphasize increasing genetic

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65 Slavoj Zizek, "The Sexual is Political", *The Philosophical Salon* (Accessed February 17, 2022).

66 Manzocco, *Transhumanism*, 241.

67 Huberman, *Transhumanism: From Ancestors to Avatars*, 123.

68 Reilly, "Gender and Bioenhancement", 267.

69 Çıtak, "Transhümanizm Karşısında Hukuk Devleti İdeali", 21.

information, which can be seen as a birth download. "Human flow" can take the form of holographic projections drawn from a computerized library of program and memory bases, anytime and anywhere.[70] Genetic manipulation of the nature of future subjects will raise a number of serious and fundamental moral questions. These problems, however, are not specifically related to the metaphysical problem of freedom of the will.[71]

The superhuman/overhuman, which is the cognitive and biologically enhanced state of humans, informs life and completely controls time. Autonomy, which self-affirms and overcomes the possibility of knowledge in itself, enables one to relate to one's own life in a social and cultural context by knowing everything about oneself, taking into account the past, and ensuring freedom of personal choice. This leads to absolute self-knowledge and absolute autonomy. It is an evolutionary leap for the Nietzschean Superman.[72] Nietzsche, through the madman of "Zarathustra", proclaims the "murder of God" and says that everything is possible with the absence of God. The fact that everything is possible, the abolition of all boundaries, and the rise of transhumanism are interrelated. Dostoevsky's "The Grand Inquisitor" also states that freedom is a wonderful but overwhelming thing. Science and technology are as frightening as life is liberating.[73] Despite this frighteningness, opponents of transhumanism argue that transhumanism, which is based on science and technology, should not be stopped and that if biotechnological tools are available to "produce a human being", these tools should be used to prevent the uncertainties inherent in life, namely, chance, and (unlimited) freedom. One of the 1965 Nobel Prize winners in medicine, F. Jacob, stated at the award ceremony that the things that confuse us should be "tampered with as much as possible" to better understand them.[74] At the apex of this (tampering) dynamic, transhumanism makes the (implicit) assumption that infinite technology will provide humanity with infinite freedom and infinite happiness. When Marx and Engels

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70 Fuller, "Morphological Freedom", 41.
71 Coursen, "Against Species Extinction", 405.
72 Manzocco, *Transhumanism*, 66.
73 Frodeman, *Transhumanism*, 31-32.
74 Laurent Belando - Jean-Michel Besnier, *Do Robots Make Love?: From AI to Immortality - Understanding Transhumanism in 12 Questions* (London: Cassel Press, 2018), 82-83.

spoke of technology (evaporating the solid, denying the sacred), they meant the means of production that are constantly revolutionizing.[75] Bioconservatives, in contrast to those who advocate that transhumanism should not be fenced, are opposed to all kinds of development due to the loss of freedom and autonomy. Bioconservatives such as T. Horn, who have made strange bedfellows from the religious right to the secular left and have made arguments for banning advanced technologies to protect human nature, have denounced transhumanism as an "arrogant form" of humanism in which belief in God is replaced by belief in the human.[76]

Transhumanism, which does not claim to be a religious system but whose statements about human beings and salvation belong to the religious sphere, has religious goals such as immortality, the elimination of old age and disease from earthly life, and the promise of heaven on earth, and the construction of God from human beings or AI. Transhumanism is a religious movement that draws on traditional religions in terms of its claims and promises and the purpose of replacing God and humans. Aristotle says that the highest purpose of human beings on the natural teleological plane is God, their creator. If they want to develop their nature and possibilities, they should turn to God, their creator, who gives them the opportunity and freedom to live as they wish in order to lead a successful and moral life.[77] For transhumanists, the way to be moral and successful is to turn not to God but to humans themselves. Again, in Christianity, the doctrine of incarnation (*ḥulūl*) encourages humans to ascend while God is lowered. Christian humanism is the result of the equation of God with humans. T. Merton says, "Genuine Christian humanism is the full germination/growth of a theology of embodiment". The human impulse in the form of spiritual or speculative humanism, the second form of religious humanism after materialization, is focused on common spiritual qualities abstracted from the particularization of religious traditions.[78] It has moved the form of the union of God and humans to the form of the human-machine union and from the form

[75] Frodeman, *Transhumanism*, 11-12.
[76] Dağ, *Transhümanizm*, 199.
[77] Stefan Lorenz Sorgner, "Evolution, Education, and Genetic Enhancement", in *Evolution and the Future: Anthropology, Ethics, Religion*, ed. Stefan Lorenz Sorgner - Branka - Rista Jovanovic (Frankfurt: Peter Lang, 2013), 94.
[78] Dağ, *Transhümanizm*, 153.

of God becoming human and humans becoming God to the form of the cyborgization of humans and the cyborgization of the android or humanoid.

As Sorgner puts it, Judeo-Christian theology emphasizes deep and intrinsic human freedom as proof that man is a son of God and possesses a portion of His free will. In the same way, the recognition of cyborgs' autonomy and even their "self-will" from this relationship can deepen our conception of the human being and show new ways of enriching human science. Again, for an atheist fighting against God, human independence is understood as the death of God, while for a passionate posthumanist fighting against humanity, the independence of cyborgs is understood as the death of humanity.[79]

Hegel states that events have a rhythm, that innovations reflect results, and that progress provokes its opposite. The reality that Hegel pointed out gave birth to the reality that technologies make people weak as well as empower them. Man is an entity that is both excited and overwhelmed by his inventions, and the tools he uses and produces both increase and destroy his freedom. It was thought that technology would advance human freedom, but technology has created isolation and poverty more than increasing freedom and happiness. Human autonomy, numbed by technological tools, is crushed under corporate command. Freedom has been lost with technology that is supposed to increase autonomy, and we have become increasingly susceptible to the lies of the authorities who promise to restore this lost freedom.[80] As P. Virilio reminds us, "Speed shrinks the space of freedom", and options are limited when one has to make decisions quickly.[81] When we look at the superficial view of transhumanism, which is based on the transformation of man toward freedom, the transformation of man is a transformation equivalent to annihilation.[82] While transhumanism presents itself as the fulfillment of

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79 Stefan L. Sorgner, "Evolutionary Theory Applied to Institutions: The Impact of Europeanization on Higher Education Policies", in *Evolution and the Future: Anthropology, Ethics, Religion,* ed. Stefan Lorenz Sorgner - Branka Rista Jovanovic (Frankfurt: Peter Lang, 2013), 165.

80 Frodeman, *Transhumanism*, 5, 11-12.

81 Andrew Pilsch, *Transhumanism: Evolutionary Futurism and the Human Technologies of Utopia* (Minneapolis - London: University of Minnesota Press, 2017), 104.

82 Keiper, "Transhumanism, Freedom, and Coercion".

freedom and pleasure, it represents the completion of Western metaphysics as nihilism.[83]

Freedom in AIDR and the Metaverse Plane

In addition to Darwinian and Freudian approaches, the understanding of non-Euclidean geometry, relativity, and quantum theories in the field of mathematics-physics gave rise to debates on poststructuralism and postmodernism. In the 21st century, AI, digitalization, and robotics (AIDR) applications are the catalysts of the transhumanism movement based on nanotechnology, cybertechnology, information technology, and cognitive sciences. Big Data, the Internet of Things, and the Metaverse (virtual, augmented, and mixed reality), which are elements of information technology and digitalization, will bring about a renegotiation of freedom. As one of the 21st century's most effective and cutting-edge technologies, the use of AIDR applications will bring about debates on freedom in social life because it will violate the boundaries and expand the field of freedom. Considering the technological developments in the 21st century, it is obvious that studies in the field of high technology, cybernetics, and AI will lead to serious transformation. Computing and decision-making AI, which will be more visible in humanity's life in the near future, will expand human possibilities and limit the free will humans can manipulate. Freedom linked to new technologies is linked to biological and unnatural AI applications.

AI applications used in trade, service, education, health, and the military aim to expand the area of human freedom. AI, which builds intelligent beings, is a technology that emerges by imitating the thinking, understanding, learning, reasoning, and interpretation that exist in humans by programming them in the material. AI studies, which include the effort to produce objects that can think more intelligently than humans by imitating[84] human intelligence, are gradually distancing humans from their reality and making them artificial. The existence of biological humans with AI on the plane where the technological singularity phase is formed with AI leads to the discussion of how nonmechanical human beings are. According to

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83 Frodeman, *Transhumanism*, 133.

84 Stuart Russel - Peter Norvig, *Artificial Intelligence: A Modern Approach* (New Jersey: Prentice Hall, 1995), 1.

AI researchers, machine ethics is a decisive factor when autonomous systems are allowed to interact with humans. It is also argued that knowledge of what is morally right and wrong could be incorporated into AI.[85] AI systems that will be used for unintended consequences may lead to a loss of responsibility and accountability, and the success of AI may be the end of the human race.[86] The support of studies in the field of AI by companies and states will concretize and defunctionalize the transhumanist process. As a transformative technology, AI systems, which in the short and long term pose ethical and legal issues related to the realm of freedom, contain possibilities and weaknesses regarding human freedom.

AI-fed digitalization refers to the organization, adaptation, or increase in the use of digital or computer technology by industries or countries.[87] Digitalization, which takes societies beyond national borders, increases freedom but erodes privacy and national security, reshaping not only concrete spaces but also minds. Quantification or digitization has also changed the anthropological understanding of the self in the encapsulated external world.[88] Interacting in the Web 1.0 process, such as "being informed" and "sharing, liking, and commenting" in the Web 2.0 process, has revealed a new "network" society and "homo digitus" human existence. In the Web 3.0 or "Metaverse" process, which is the peak of information and interaction and will bring digitalization to the ultra-plane, the virtualization of space and humans will increase even more. In this digitalization, discussions about security, privacy, confidentiality, surveillance, control, supervision, and the relationship between control and freedom will emerge.

At the intersection of the physical and digital worlds, the Metaverse is the next evolution of the mobile internet. It encompasses more than just the internet and includes augmented reality (AR), virtual reality

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85 Han Yu et al., "Building Ethics into Artificial Intelligence", *Arxiv* (Accessed December 12, 2022).

86 Russel - Norvig, *Artificial Intelligence*, 1034-1035.

87 *Oxford English Dictionary*, "Digitalization".

88 Rafael Capurro, "Digitization as an Ethical Challenge", *AI & Society* 32/2 (2017), 277.

(VR), and mixed reality (MR) experiences.[89] The metaverse will not only provide human beings with a space of freedom but will also cut them off from real life and condemn them to the virtual. It is unclear what the principles and the limits of mobility will be in the Web 3.0 digitalization process, which will further raise the level of "information", "interaction", and "existence". The need to resolve this uncertainty and to grasp the problems of freedom posed by digital planes with a new ethical and philosophical perspective will emerge.

After computers, robotics is a major area where AI has shown itself. J. S. Albus defines robotics as "a system science that seeks to integrate AI with the feedback control of mechanical tools."[90] One of the areas where problems with freedom can occur is robotics, which feeds on AI. Because there is no absolute protection against AI, the mechanization of intelligence is the most important phenomenon on earth.[91] The visibility of robotic applications based on AI-based technology is increasing, and robotic and autonomous systems (RAS) are increasingly adapting to the way the world looks and lives. RAS technologies are set to enter challenging environments with the benefits they offer in a variety of sectors and industries. The development of robotic or autonomous systems has given rise to a new philosophical academic discipline, roboethics, which refers to the moral dimensions of robots. As an element of ethics, roboethics is a discipline that addresses issues related to robotic and autonomous systems and their interaction with animals, nature, society, the individual, and the world in general.[92]

With the further development of AI, it is important to discuss how robotic beings, which develop both mental and physical characteristics, narrow the freedom of human beings and what the limits of their freedom will be. Humanoids and androids will create ethical acts and rules both among themselves and in their relationships with humans as their abilities of reasoning, comparison, and interpretation develop even if they do not gain consciousness. Campa

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89 Daniel Gonzales, *Metaverse Investing: How NFTs, Web 3.0, Virtual Land, and Virtual Reality are Going to Change the World as We Know It* (Independently Published, 2021).

90 Dağ, *Transhümanizm*, 153.

91 James Barrat, *Son İcadımız: Yapay Zekâ ve İnsanlık Çağının Sonu*, trans. Levent Tayla (İstanbul: Pegasus Yayıncılık, 2020), 167.

92 Barrat, *Son İcadımız*, 77.

states that humanity produces more sophisticated machines and claims that manufacturers, owners, or users of advanced androids will face many interesting philosophical and speculative problems. In fact, according to Campa, designers hope that these machines can think and behave better than humans. This will be a process with ethical, psychological, and sociological effects and consequences.[93]

The digital or virtual world is not just a plane in which humans exist or interact but a world in which AI and, in the future, robots exist. The challenge is to create universality in such a multiuser world. In particular, important elements such as the protection of privacy, confidentiality, and personal rights of people and society must be protected in the digitalization process. With this protection, it would be easier to institutionalize and establish rules of law if digital ethics were theoretically textualized rather than the virtual world being controlling, ruling, and totalitarian. Ethics is the element that will create the healthy environment needed to control both the content of the user and the grounds of the producer.

Transhumanism embraces the management of engineering ideationality, where everything is designed and evaluated from the perspective of effectiveness. The essence of the transhumanist idea, the idea of quasi-perfection, is that human biology will be radically changed and even overcome, surpassed, and left behind by technology. Transhumanism, which draws attention to the achievements in AI research, attempts to eliminate the desire to augment human intelligence with a strategy of building machine intelligence. Transhumanism, which sees the transfer of the mind to the machine as possible, is in the desire to get rid of the body. Although the desire to eliminate the body is a demand for freedom, the problem of data security arises when the mind combined with the machine is compressed into a mechanistic container, and the information of the mind (memory, thinking, feeling) becomes data. The seizure and sharing of these data leads to the loss of privacy and creates the real problem of freedom.

In addition, the increase in AI applications and their inclusion in social functions as they become widespread in daily life may create the problem of enslaving human beings by exceeding human intelligence

[93] Ricardo Campa, *Humans and Automata: A Social Study of Robotics* (Frankfurt: Peter Lang 2015), 77.

and the situation of human abandonment by enabling decision-making mechanisms to replace humans. Floridi speaks of the possibility of such a situation by saying, "When we adopt AI or its intelligent representations, we willingly leave some of our decision-making power to technological artifacts." According to Floridi, who states that it is important to strike a balance between the decision-making power that people retain for themselves and the power they delegate to artificial intermediaries, people need to exercise freedom of choice when necessary and to give up this freedom when there are overriding reasons to do so; that is, they need to decide what decisions to make and retain the power to decide.[94]

Two common perspectives of transhumanism are the current understanding that human nature is not the end point or final state of evolution and that science and technology play an important role in human progress.[95] Based on four major technologies, nanotechnology, bio-technology, information technology, and cognitive science, transhumanism sees rapid advances in genetics, CRISPR technology, regenerative medicine, stem cell therapy, late aging therapies, morphology, pharmacology, cyber-technology, synthetic biology, and applied cognitive sciences as promising scientific and technological developments. All these technologies give transhumanism the hope that the current human condition can be transcended by improving it mentally, physically, and biologically. Transhumanists hope for a posthuman physical being that is different and more advanced than existing human bodies. Transhumanism, which aims for the development of individual human beings in a biological sense (human-computer interface study and functional development of human biological nature) and to ascend to the "posthuman" species, hopes for applications, including genetics, surgeries, implants of all parts of the body, brain, and species (neural implants, neuroprostheses), nanobots, brain-computer interface studies, pharmacological drugs to develop cognitive abilities and sensory motors.[96] Transhumanists place emphasis on the more developed

[94] Anton Saveliev - Denis Zhurenkov, "Artificial Intelligence and Social Responsibility: the Case of the Artificial Intelligence Strategies in the United States, Russia, and China", *Kybernetes* 50/3 (2021), 663.

[95] Piedra, "Technological Enhancement and Happiness", 276.

[96] Cahill, "Freedom for Life", 82.

individual (transhuman), focusing on enhancing the capabilities of the human being –its undeveloped predecessor– with special dimensions (longer life span, memory storage, computational power, motor abilities).[97]

Freedom is one of the fundamental values of humans. The human being who wanders in different universes, albeit virtually, is driven into uncertainty by the desire for limitlessness and –in the plane of exponential growth of information technology– may be faced with the problem of losing freedom as well as privacy due to the inability to ensure the security of individuals' data. The areas of freedom in the virtual universe in terms of the bases, utilization, and results of AIDR applications also limit human freedom in real life. In planes where freedom is not based and grounded, human freedom can be violated. On such a plane, unforeseen and unavoidable problems will arise if the balance between scientific-technological/phenomenon and freedom/responsibility is not achieved. In an order where homo sapiens is said to have evolved into homo digitus, the consequences of AI digital and robotic applications will change the field and nature of freedom.

Conclusion

Humanity thought that as it progressed on the material plane, it would be spiritually happy, and as it was happy, it would be liberated. Indeed, humans fell for the promise that they would be free and immortal when they fed on a material element, the *tree* (the Tree of Life). The basic drive to build great states and civilizations is the desire to be happy and free. Again, the idea that freedom will be achieved as a result of Prometheus' "stealing" fire, which is a material element, is a mythical narrative that shows a relationship between commodity and freedom. Antiquity, Renaissance, Enlightenment, industrialization, and technological developments in the 20th century have been the continuation of the correlation between matter and freedom. This correlation is further radicalized by transhumanism. Aiming for the civilization of 3S (superlongevity, intelligence, and happiness), transhumanism promises that humans will be liberated and happy by becoming independent of their bodies by expressing that they will be

97 Fuller, "Morphological Freedom", 41.

improved mentally, physically, and biologically. It is predicted that the posthuman, who will be empowered physically and mentally, will be better and live a better life. Transhumanism is seen as an anti-slavery movement that both liberates human beings from their threatening and limiting nature and aims to build a happy life and biosphere through the elimination of diseases.

Transhumanism, with its desire for unlimited youth and infinite personal development, suggests that death, which is seen as a condemnation, can be overcome and that freedom can be achieved by transcending the existing body. The fact that this transgression is possible with technological means is a situation that will cause serious problems in terms of human freedom. Humans, who are said to be saved from the limitations of their nature or of God, their creator, are left to the mercy of technology-based capital. Moreover, the difference between augmented and nonaugmented (natural) humans can give rise to a master-slave reality. The human being may be doomed by the decisions of the AI he or she has replaced as the decision-maker.

If thinking (reasoning and judgmental decision-making) AI becomes the second thinking being in nature, it will make a significant difference in the world. In particular, the addition of AI to robotic (android, humanoid) elements will create a human-robot duality. Again, with the acceleration of the digitalization process and entering the Web 3.0/Metaverse process, the inclusion of people in the virtual universe with their avatars will expand the field of freedom. This situation will lead to existence in the virtual world rather than in real life and the transfer of the identity constructed in the virtual world to the real identity. In all of these processes, the question of human freedom may evolve into more uncertainty.

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ISLAMIC CLASSICAL THEISM AND THE PROSPECT OF STRONG ARTIFICIAL INTELLIGENCE

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Abstract

This article investigates the compatibility of strong artificial intelligence (AI) with classical theism, particularly within the Islamic tradition. By examining the functionalist view of mental states, we argue that a Muslim who accepts classical theism should be open to the possibility of AI that possesses genuine mental states. We present two arguments to support this claim: one that challenges substance dualism and another that assumes dualism. Both arguments demonstrate that mental states can arise in at least two different substances, which implies functionalism. As a result, the development of strong AI would not be surprising from an Islamic perspective, and its creation might even provide corroborative evidence for classical theism. This article thus provides a philosophical foundation for the existence of conscious and intelligent machines and their potential compatibility with Islamic beliefs.

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Introduction

Artificial intelligence (AI) is a field that aims to enable computers and machines to perform actions that humans and animals can perform. In other words, AI aims to create artificial "individuals" or "animals". This requires machines to possess qualities we normally attribute to humans and animals. Some of these qualities, such as calculation and prediction, are based on intelligence, while others, such as seeing, are not. Therefore, a more accurate definition of AI would be a discipline that aims to enable computers and machines to perform psychological actions (recognition, calculation, seeing, planning, etc.) that we associate with humans and animals (Boden, 2016, 1).

AI is a discipline that is intertwined with philosophy in various ways. First and foremost, basic approaches and techniques used in AI, especially before 2012, were developed by philosophers and are still heavily used in philosophy. These include propositional and predicate logic, types of logic related to reasoning about beliefs such as doxastic logic, logic systems related to obligation and permission concepts such as deontic logic, inductive logic, Bayesian confirmation theory, and other probabilistic reasoning tools. In fact, Alan Turing's paper "Computing Machine and Intelligence", which is considered the work that led to the emergence of AI, was published in *Mind*, a philosophy journal. In addition to the commonality in fundamental tools, philosophy is a discipline that addresses fundamental questions related to AI, such as what thinking is, how consciousness might emerge in systems, what it means to be a person, and which aspects of human mental processes can be mimicked by physical systems. In this context, the two disciplines interact with each other.[1]

For philosophers, AI is also interesting in terms of emerging ethical issues. Under what conditions can an entity have moral rights? Can a

[1] For a detailed discussion about the philosophy of AI, see B. Jack Copeland, *Artificial Intelligence: A Philosophical Introduction* (Oxford: Wiley-Blackwell, 1993).

legally unconscious entity that demonstrates human-like behavior have legal rights? When an autonomous machine accidentally commits a crime, who should be punished? What should be the duration of a prison sentence for AI with different processing speeds? These are questions that philosophers need to answer, and that will be of great importance in the future if AI becomes widespread.[2]

It is important to distinguish between two different categories of AI. We call the first group weak AI. AI in this group can demonstrate intelligent actions and solve complex problems. However, these AI systems have no mental states. In other words, they do not understand the tasks that require intelligence while performing them. Weak AI lacks real consciousness. Understanding or intentionality, as philosophers put it, is one of the most important features of consciousness. Intentionality is a mental feature that establishes a connection between our thoughts and the object we think about. Solving a problem that requires intelligence does not require intentionality. Algorithms provide solutions without needing to understand; therefore, a student can pass an exam by memorizing a method without understanding it. Other significant mental states are the traces left in our minds by experiences, which philosophers call qualia. For example, when we look at a red object, it appears as a perception in our consciousness. Imagine a device that recognizes red by wavelength. Even if this device detects red, it may not experience the perception of red. We can say that this device lacks the subjectivity/qualia property. While AI can recognize and distinguish colors, it will be an AI devoid of qualia features.

Strong AI systems exhibit actions that require intelligence as well as mental states such as qualia and aboutness. These machines can be considered to genuinely think and be conscious. The possibility of strong AI is an important issue not only for philosophers but also for engineers and entrepreneurs. People feel a moral responsibility toward conscious beings depending on their level of consciousness. It is seen as morally wrong by most people to harm a being that suffers, is aware of its suffering, and has high awareness or to terminate its existence ("kill") or operate it against its will. Therefore, companies that develop

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[2] For a detailed discussion of the ethical issues arising from AI, see Markus Dirk Dubber - Frank Pasquale - Sunit Das (eds.), *The Oxford Handbook of Ethics of AI* (New York, NY: Oxford University Press, 2020).

strong AI may face the risk of being accused of supporting "AI slavery". This makes the question of whether AI systems can have consciousness and under what conditions extremely important for companies dealing with AI. While it may be preferable for an AI system working on household chores to be unconscious, there may also be situations where machines are expected not to harm us by empathizing with us. Additionally, the question of whether AI systems can have free will is of great importance for people's safety. Therefore, the possibility of strong AI systems is a vital question not only for philosophers but also for AI in general. The answer to this question will help us understand the human mind.

In this article, I argue that if Islamic theism is correct, we should not be surprised by the possibility of strong AI. I do so by examining the relationship between functionalism and classical theism.

There is a close connection between strong AI and functionalism in the philosophy of mind. The strong AI defined earlier represents the idea that machines can achieve human-level intelligence, meaning understanding, learning, and reasoning skills equivalent to human cognition. The development of strong AI implies the emergence of machines with real consciousness, mental states, and self-awareness. In contrast, functionalism is a theory in the philosophy of mind that claims that mental states are defined by their functional roles within a system rather than their physical or biological structure. From a functionalist perspective, the importance of a mental state lies not in the material/substance it is made of but in its interaction with other mental states and the system itself. This perspective accepts the possibility of nonbiological entities, such as computers or robots, being equipped with mental states when they are functionally equivalent to humans.

Functionalism is often explained with an analogy involving objects such as pencils. A pencil can be made of different materials, such as plastic, wood, or metal. Whether an object is considered a pencil depends more on its function than its material. If an object can be used for writing, it is considered a pencil. It is not necessary for a pencil to be a physical object. If there is a supernatural object that can be used for the writing process, it can also be considered a pencil. Some objects, in contrast, are defined by their substance rather than their function. For example, consider water. For an object to be considered

water, it must consist of two hydrogen atoms and one oxygen atom. There can be no concept of water outside of matter. Thus, the properties of water are physical properties. Based on this analogy, does the mind resemble a pencil or water more closely? This is one of the fundamental questions of the philosophy of mind.

Functionalism introduces the concept of multiple realizability, allowing the same properties to emerge in different materials. In this context, mental phenomena are thought to be multiply realizable.

The connection between strong AI and functionalism is that functionalism provides a theoretical basis for the possibility of strong AI. When mental states are defined in terms of functional roles, it is believed that a computer, an artificial system, can obtain real mental states and consciousness by imitating the functional structure of the human mind. In this sense, functionalism offers a philosophical basis that suggests not only that conscious and intelligent machines are possible but also that they can be achieved through the proper functional organization.

When I mention theism in this study, I am referring to classical theism. Classical theism is a type of monotheism and thus accepts the existence of only one God. According to classical theism, God knows everything, is all-powerful, and possesses absolute goodness. Classical theism asserts that God is simultaneously both immanent (present or manifest in the material world via His attributes) and transcendent (independent of the material universe). Therefore, God is independent of time and space and is not material. God is superior to the universe in this sense but governs, creates, and sustains its existence. Classical theism rejects pantheism and panentheism. Almost all major schools of thought in Islam accept classical theism.

The Main Argument

In this article, my main claim is that classical theism requires the acceptance of functionalism within the framework of current scientific data. I call this position theistic functionalism. I believe this position offers a reasonable combination of both functionalism and classical theism. However, in this article, I defend functionalism from the perspective of theism. That is, I assume the truth of classical theism and argue for functionalism. I use the following argument to support my claim:

1. There is at least one human.
2. Humans have mental states.
3. Humans are entirely physical/natural beings.
4. God exists.
5. God has mental states.
6. God is a nonmaterial/supernatural being.
7. Mental states can emerge in both material and nonmaterial beings.
8. Therefore, functionalism is true.

The truth of the first premise is accepted even by solipsists.[3] It is clear that there is at least one human.

The second premise assumes that eliminative materialism, which denies all mental states, is false. Eliminative materialism is a radical position within the philosophy of mind that questions the existence of traditionally conceived mental states and processes (Churchland, 1981, 67-90). Advocates of eliminative materialism argue that our common understanding of the mind, known as "folk psychology", is fundamentally wrong and will be replaced by a more accurate scientific understanding based on neuroscience. They believe that as our knowledge of the brain advances, concepts such as beliefs, desires, and intentions will be revealed to be illusions, just as earlier scientific advancements debunked ideas such as phlogiston or the four humors. Eliminative materialism emphasizes the importance of empirical evidence and scientific research, noting that our intuitions about the mind may not accurately reflect the truth.

Eliminative materialism can be criticized in various ways. First, many critics point out that eliminative materialism underestimates the explanatory power and success of folk psychology. These philosophers claim that folk psychology is successful in explaining human behavior, making predictions, and guiding our actions (Fodor,

[3] Solipsism is a philosophical view that claims that only one's own mind exists and that everything outside of one's own mind, including the minds of others and the external world, either does not exist or is unknowable. According to solipsism, an individual can only be certain of his or her own thoughts, experiences, and mental states, while everything else is uncertain or illusory. This form of extreme skepticism leads to the conclusion that only one's own mind can be known with certainty, and all other claims to knowledge are doubtful or unverifiable. Solipsism is criticized for being a self-defeating approach and for providing no basis for communication, knowledge, or interpersonal relationships because it denies the existence or knowability of other minds and external reality.

1987). If this critique is correct, then eliminative materialism cannot be true. Second, some philosophers argue that eliminative materialism is a self-defeating view. This is because the arguments of eliminative materialism rely on the very mental states it seeks to eliminate. For example, by defending eliminative materialism, one expresses human beliefs and desires, which makes the eliminative materialist position contradictory (Baker, 1991). Third, some critics argue that eliminative materialism wrongly assumes that scientific progress always leads to the elimination of older concepts. In many cases, scientific advances lead to the refinement or modification of existing concepts rather than their elimination (Kitcher, 1984).

In this article, since I assume that classical theism is correct, I do not need to defend this premise. To the best of my knowledge, no classical theist defends eliminative materialism. If we reject eliminative materialism, we can easily claim that humans have minds.

The third premise assumes that substance dualism is false. This position needs defense because a considerable number of classical theism proponents adopt substance dualism. The three most important arguments against substance dualism can be summarized as follows:

1. Physical principles such as the conservation of energy, the conservation of momentum, and the principle of causal closure conflict with substance dualism. These principles have been experimentally verified in numerous systems, including biological systems (Lowe, 1992, 263-276).
2. The mind-body interaction problem.
3. Neurophysiological studies.

Let us address the first argument. Energy is the name given to the ability of matter to perform work. In physics and chemistry, the law of conservation of energy states that the total energy of an isolated system remains constant or, in other words, is conserved over time. This means that energy can neither be created nor destroyed but rather can only be transformed or transferred from one form to another. Momentum is the measure of resistance that objects show to a change in their motion. Again, in closed systems, the total momentum is conserved. Momentum can neither be created nor destroyed, only transferred. Both conservation laws have been confirmed in all scientific observations to date, without a single exception. This includes biological systems. If a supernatural soul existing outside of

the universe determines our behavior, then there must be a continuous flow of energy and momentum of supernatural origin into our universe. This is because all physical changes involve the transfer of conserved quantities. Thus, if our brains are controlled by something supernatural, it means there are changes in the energy and momentum of our brains. If this is true, then we should see violations of conservation laws in entities with mental states. However, this does not seem to be true.[4]

The second argument against substance dualism is the mind-body interaction problem. According to dualism, the soul is not material but can control my body. How can it do this? Why can my soul control my body but not yours? After all, it is an immaterial thing and outside of space-time; why does it have such a close connection with only my body? It cannot be said to be closer to or inside my body because this would require attributing a location to the soul; however, this would make it a physical object. Even if we allow, for a moment, that the soul has a location, the question of how the soul is connected to my physical body remains unanswered. Being in the cockpit of an airplane does not explain how you operate the airplane. To explain how an airplane is operated, one must refer to the relationship between the pilot and the airplane and the mechanisms within the airplane. Unfortunately, thus far, no relationship has been successfully established that explains the relationship between the brain and the soul.

Our third argument is essentially based on four different neurophysiological findings. Therefore, it can be said that there are actually four separate arguments. These arguments can be summarized as follows.

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[4] One may worry that this argument is also incompatible with classical theism such that classical theists cannot endorse it. However, I do not agree with this concern. Classical theists might argue that God's interaction with the world is not in violation of physical laws but rather is realized through them. This is a common view among contemporary classical theists. I believe this position is completely compatible with occasionalism as well if one simply interprets the "laws of physics" as God's habit (*ʿādah*) or custom (*sunnah*). In dualism the immaterial soul must constantly interfere with the physical body; hence, it needs to constantly violate the laws of conservation. This can be easily detected experimentally. On the other hand, even if God violates the laws of conservation for special interventions such as miracles, it cannot be easy to detect these violations experimentally due to their special nature.

First, research on the neural correlates of conscious experiences provides strong evidence for a direct relationship between subjective experiences and specific neural activity patterns. Using neuroimaging techniques such as fMRI, EEG, and MEG, scientists have identified brain regions and activity patterns associated with specific conscious experiences. These findings challenge dualism, which claims that the mind is separate from the brain. Instead, the evidence supports the idea that consciousness is a product of brain activity and not a separate, nonphysical entity (Koch et al., 2016, 307-321).

Second, the fact that brain damage can lead to changes in mental states and cognitive functions is incompatible with dualism. For example, strokes, traumatic brain injuries, or neurodegenerative diseases can cause changes in personality, memory, and cognitive abilities. These changes in mental states indicate that the mind is dependent on the brain. Dualism struggles to explain how damage to the brain, a physical substance, can affect the mind, a nonphysical substance (Gazzaniga et al., 2018, 47-49).

Third, neurophysiological research has shown bidirectional causality between mental states and brain activity. For instance, emotional states can cause changes in brain activity, and changes in brain activity can also evoke emotions. Similarly, cognitive processes such as attention and decision-making can both affect and be affected by neural activity. This interaction between mental and physical states conflicts with dualism, which proposes a strict distinction between mind and body (Damasio, 1994, 48-50).

Finally, understanding that mental disorders originate from neural dysfunctions further weakens dualism. Research has shown that disorders such as depression, anxiety, and schizophrenia are associated with abnormal brain activity patterns or neurotransmitter imbalances. Treatments targeting these neural bases, such as pharmacological interventions or deep brain stimulation, can alleviate symptoms or cure disorders. This strengthens the idea that these mental states depend on brain activity and weaken dualism (Insel - Scolnick, 2006, 11-17).

In this article, since we assume the truth of classical theism, we will not defend the fourth premise, which claims that God exists.

The fifth premise also appears to be true because we assume classical theism. Classical theism posits that God possesses mental

states such as knowledge, will, and intention. Although the nature of these states may differ from human mental states, at the core of classical theism lies a concept of a god who is all-knowing, all-powerful, and purposeful (Swinburne, 1993, 91-95; Plantinga, 1980, 10-14; al-Ghazālī, 2000, 66-68).

Let us provide two arguments supporting the claim that God has mental states. I will term the first argument "argument from agency". It can be summarized as follows:

1. Mental states are necessary for agency.
2. God is an agent who is capable of acting in the world.
3. Therefore, God has mental states.

The proposition that "mental states are necessary for agency" is rooted in the belief that intentional actions, decision-making, and control over one's behavior –the hallmarks of agency– require certain mental capabilities. For instance, to act with agency is to act with intention. Intentionality presupposes the existence of mental states such as desires, beliefs, and goals. An agent acts to achieve certain outcomes based on his or her beliefs about the world and their desires. Without mental states, there would be no preferences or aims to guide action. Alternatively, agency implies a level of self-awareness, which is a complex mental state. Being aware of oneself as a separate entity, understanding one's own mental states, and being able to reflect on one's own actions are all important components of agency. Hence, the first premise seems true, and the second premise is obviously true in classical theism.

The second argument, which may be termed the "argument from divine self-awareness", can be formulated as follows:

1. Mental states are necessary for self-awareness.
2. God is a self-aware being who is aware of Himself and the world around Him.
3. Therefore, God has mental states.

Self-awareness, as the conscious knowledge of one's own character, motives, and desires, seems to rely intrinsically on the existence and recognition of one's mental states. Hence, it requires the existence of mental states. Without mental states, there would be nothing to reflect upon, nothing to understand or be aware of in terms of oneself. In addition, self-awareness implies an understanding of the distinction between one's internal experience (i.e., mental states) and

the external world. Therefore, it requires the ability to acknowledge that mental states exist as inner reality and are separate from the external world. The second premise seems obviously true in classical theism, where God has the power to answer prayers and communicate with humans via prophets.

Before returning to our main argument, it may be helpful to consider some objections to the fifth premise. In classical theism, God is unchanging. One may worry that this implies that God has no mental state. Here is how the argument looks:

1. God is immutable in classical theism (i.e., He is unchanging).
2. Mental states are subject to change.
3. Hence, God in classical theism does not have mental states.

I believe the second premise is false. Why should mental states be inherently changeable? It seems one could argue that mental states, when applied to God, do not entail changeability in the way they do for humans. They could be seen as stable aspects of God's knowledge and will rather than fluctuating experiences. There are many models in the literature about how God can be both omniscient and changeless, and these models can be easily applied to other mental states of God.[5]

It is crucial to emphasize that when we ascribe mental states to God, this does not mean that God necessarily experiences all mental states like a human does. The omniscience and omnipotence of God suggest a very different kind of consciousness than human beings have. For instance, it could be argued that God does not experience uncertainty, confusion, or doubt, given that He is omniscient. Similarly, God does not experience fear, surprise, or frustration because these emotions are often tied to limitations in power or knowledge, which would contradict the notion of divine omnipotence. Additionally, some human mental states are intrinsically tied to our physical and temporal existence, such as fatigue, hunger, or anticipation. Given God's transcendence and eternality, these physical and time-bound mental states would not be applicable to God. Furthermore, human mental states are often influenced by factors such as upbringing, culture, personal experiences, and societal pressures that are irrelevant to God. Thus, while we may use human language and concepts to discuss

[5] For one interesting analysis of the compatibility of the omniscience and immutability of God, see Paul Helm, *Eternal God: A Study of God without Time* (Oxford: Oxford University Press, 2012), 73-95.

God's mental states for the sake of understanding, these should not be taken to imply a straightforward equivalence between God's consciousness and human mental states. It is also important to consider that many aspects of God's mental states, as described in classical theism, go beyond our human capacity to fully comprehend. For example, how can we truly understand what it means to be omniscient or omnipotent? These aspects of divine mental life are so radically different from our own experience that they likely involve "mental states" that we, as humans, cannot fully grasp. However, I do not think these differences render false the fifth premise of our main argument. I can now return to my main argument.

The sixth premise of my main argument is a necessary consequence of classical theism. In the theistic concept of God, God is generally considered a nonmaterial being that transcends the physical world. This understanding is prevalent in theistic religions, especially Christianity and Islam (Swinburne, 1993, 101-103; al-Ghazālī, 2000, 61-63).

The seventh premise is a logical consequence of the other premises.

The eighth premise is a consequence of the seventh premise. The thesis of multiple realizability, which posits that mental states can be realized in various physical or nonphysical systems, has played an important role in supporting functionalism. As defined above, according to functionalism, mental states are defined not by the specific physical or nonphysical substances that realize them but by their functions or causal roles. The multiple realizability thesis implies functionalism by suggesting that mental states can be realized in different types of systems that perform the same functions.

Before concluding this section, I would like to re-emphasize a point that is already clear in the argument.[6] In this section, I have argued that humans are entirely material beings. However, the defense here does

[6] As functionalists often put it, pain can be realized by different types of physical states in different kinds of creatures, or multiply realized... Indeed, since descriptions that make explicit reference only to a state's causal relations with stimulations, behavior, and one another are what have come to be known as "topic-neutral" ... - that is, as imposing no logical restrictions on the nature of th the items that satisfy the descriptions - then it's also logically possible for non-physical states to play the relevant roles, and thus realize mental states, in some systems as well." (Janet Levin, "Functionalism", in *The Stanford Encyclopedia of Philosophy* (Accessed March 30, 2023).

not entail metaphysical materialism, which claims that all existence is material. Indeed, in the sixth premise, I accepted that God exists and is a nonmaterial being. I also did not claim in this section that there are no nonmaterial beings other than God. Arguing that humans are material beings does not require the rejection of other nonmaterial beings. In fact, the position I defend here even allows for the possibility that humans exist as nonmaterial beings after death.

Does Islamic Theism Necessarily Entail Dualism?

One might think that Islamic theism necessitates substance dualism since dualism is a widespread view among Muslims. However, this belief is not accurate. Since this is not the main subject of this article, I will not provide a detailed analysis; a few notes will suffice.[7]

It is true that some Sufis and some Peripatetics, such as Ibn Sīnā, have embraced dualism. However, many schools of thought within Islamic thought have not adopted dualism. For instance, theologians, especially some Ashʿarī theologians, have rejected dualism. Ashʿarīs adopt occasionalism and believe that all events and actions are directly created by God. Ashʿarīs argue that the soul and body are not separate substances but inseparably connected. They state there is no need to propose a separate nonmaterial soul to explain mental phenomena since God directly guides every thought and action. Additionally, some Peripatetics, such as Ibn Rushd, rejected classical dualism by arguing that the intellect is the only nonmaterial aspect of the human soul and defending a more Aristotelian understanding of the soul as the form of the body. Hence, one cannot state that dualism is the only option endorsed by the Muslim intellectual tradition.[8]

Philosophers such as Lynne Rudder Baker believe that dualism has some conflicts with theism. Baker expresses concerns about the compatibility between theism and dualism based on the doctrine of bodily resurrection (Baker, 1995, 493-497). Theism contends that

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7 For a detailed theological analysis, see Caner Taslaman, "Bedenin ve Ruhun İki Ayrı Cevher Olup Olmadığı Sorununa Karşı Teolojik Agnostik Tavır", *Marmara Üniversitesi İlahiyat Fakültesi Dergisi* 33 (2007/2), 41-68.

8 For a detailed summery of different opinions of early Muslim scholars regarding the nature and existence of the immaterial soul, see (Abū l-Ḥasan ʿAlī ibn Ismāʿīl Ibn Abī Bishr al-Ashʿarī, *Maqālāt al-Islāmiyyīn wa-ikhtilāf al-muṣallīn: İlk Dönem İslâm Mezhepleri*, ed. and trans. Ömer Aydın - Mehmet Dalkılıç (İstanbul: Türkiye Yazma Eserler Kurumu Başkanlığı Yayınları, 2019), 466-472.

humans will be resurrected in the hereafter, with their bodies rising and reuniting in an elevated form. Baker argues that by emphasizing the separation between the nonmaterial soul and the material body, dualism can call this doctrine into question. If the soul can exist independently of the body and is considered the fundamental feature of a person, it is unclear why bodily resurrection is necessary or how it relates to personal identity. While the doctrine of resurrection implies that humans are somehow incomplete without their physical bodies, dualism tends to present the nonmaterial soul as the essential center of personality. This tension between the assumptions of the resurrection doctrine and dualism raises questions about their compatibility within theism. Functionalism, of course, does not face a similar problem because it naturally explains why we need a physical body in the hereafter by accepting that functions can only be implemented with a physical existence.

In conclusion, theism does not require dualism and may even have some potential conflicts with it. However, let us say one believes in the soul-body duality. I believe an argument that could include this as well could be developed. Let us take a look at this argument in the final section.

An Argument from Mind-Body Dualism to Functionalism

Let us accept mind-body dualism for a moment. Acknowledging the existence of a soul does not automatically exclude functionalism. In this section, I will provide a second argument claiming that even a classical theist who accepts the existence of a soul must also accept functionalism. The argument can be summarized in the form of premises as follows:

1. There is at least one human being.
2. Humans have mental states.
3. Human mental states are carried by the immaterial soul.
4. God exists.
5. God has mental states.
6. God is a nonmaterial being and a substance distinct from the human soul.
7. Mental states can emerge in entities with different substances.
8. Therefore, functionalism is true.

Premises 1, 2, 4, and 5 are the same as in the previous argument. The two new premises that interest us are 3 and 6. Premise 3 would automatically be accepted by someone who accepts the immaterial soul and associates the mind with it. Thus, I will not defend that premise.

The sixth premise claims that God and the human soul are composed of different substances. This claim actually reflects the opinion of Descartes, the most important representative of dualism. According to Descartes, God is a substance separate from both the human soul and the body. Descartes regarded God as the ultimate, infinite, and perfect being that created the world and everything in it, including human souls and bodies. God is different from human souls because God is infinite and perfect, while human souls are finite and flawed. God is also different from human bodies because God is not material and is not subject to physical properties such as space (Descartes, 1641, 24-34).

Descartes offers two strong, independent arguments to support our premise. The first is the ontological difference. One of the fundamental distinctions between God and human souls is their ontological nature. God is a necessary being that exists independently and does not depend on anything else to exist. In contrast, human souls are contingent beings that depend on God for their creation and existence. The second argument is that God is defined as infinite, eternal, and perfect, possessing all possible perfections. Human souls, however, are finite and have limited capacities. While human souls can reason, think, and have consciousness, they do not possess the infinite knowledge, power, and perfection of God. This also indicates that the substances of the human soul and God are different.

Another argument that indicates the difference in substance between humans and God in Islamic theism is the idea that God is completely transcendent to the universe and creation. If the divine substance is the same as the human soul, it could even imply the potential for humans to possess divine qualities, which does not seem compatible with Islamic theism.

A fourth argument can be developed from divine simplicity. Divine simplicity is a philosophical concept claiming that God is not composed of parts or properties but is instead a single, unified, and indivisible reality (Davies, March 30, 2023). This idea is found in

various religious and philosophical traditions, including Christian theology, Jewish thought, and Islamic philosophy. Proponents of divine simplicity argue that any division or complexity would imply dependency or limitation, and maintaining God's absolute perfection is necessary. There are different versions of divine simplicity, and a common view equates God's attributes with His essence. A theist who accepts the doctrine of divine simplicity must acknowledge that God and the human soul consist of different substances. This is because the human soul is thought to have various parts, such as reason and will, that introduce a level of complexity. Therefore, God's simplicity contradicts the complexity of the human soul and further emphasizes their differences in substance.[9]

In my opinion, a classical theist must accept the sixth premise because arguing that the divine substance and the substance of the human soul are the same would lead us to a form of pantheism or panentheism. Since I argue in this article that classical theism requires functionalism, I will not explore the cases of pantheism and panentheism.

If the sixth premise is true, the seventh premise emerges as an inevitable consequence of the other premises. This brings us back to the conclusion that mental states can arise in two different substances, which, as discussed earlier, leads us back to functionalism. Therefore, if classical theism is correct, even if we adopt the view that the human soul is immaterial, the most reasonable position still seems to be functionalism.

Before concluding this section, let us briefly comment on the importance of this conclusion. If theistic functionalism is correct, the tension between AI and theism encountered in religious circles would not only be an invalid inference but, in fact, the opposite would be

[9] One may worry that divine simplicity is inconsistent with the claim that God has mental states because mental states are often thought to be complex entities that are composed of parts. However, I do not believe that this concern is warranted. First, divine mental states may be radically different than our mental states and may be inherently indivisible and not composed of parts. In addition, the doctrine of divine simplicity does not deny that God has various attributes such as omniscience, omnipotence, and omnibenevolence. Rather, it posits that these attributes are not additional "parts" of God but rather are identical with God's essence. In this sense, God's "mental states" might be understood as identical with God's essence, thus preserving divine simplicity. It is also worth noting that not all classical theists embrace the doctrine of divine simplicity.

true. If theism is correct, the emergence of strong AI is an expected situation. Therefore, the emergence of strong AI not only does not harm religious thought but actually confirms theism.

It is worth emphasizing that this compatibility between strong AI and theism more strongly confirms Islamic theism than Christian theism. According to traditional Christian theology, humans are created in the image of God (Imago Dei). In the Christian tradition, the concept of Imago Dei is of central importance in understanding human nature. According to Genesis 1:26-27, God created humans in His image and endowed them with unique abilities such as reason, morality, and self-awareness. This belief generally asserts that humans have a special status in God's creation and have a specific purpose and responsibility. AI that captures and even surpasses human consciousness and intelligence would weaken, if not disprove, the claim of the uniqueness of the human mind.

In contrast, there is no such situation in Islamic thought. There is no belief in Imago Dei, and the idea that humans are the most important beings is open to rejection. Indeed, Q 17:70 seems to contradict this belief: "*We have certainly honored the children of Adam and carried them on land and sea, and provided them with good things, and preferred them over many of those We have created.*" This verse declares that humans are superior to many of the created beings, implying that beings superior to humans are possible. Therefore, the formation of strong AI does not create a similar problem for Islamic theism as it does for Christian theism. Consequently, the claim that strong AI confirms theism is a more suitable claim for Islamic theism.

One may object that certain verses in the Qurʾān imply anthropocentrism similar to Imago Dei, which is inconsistent with the existence of strong AI. For example, the Qurʾān claims that humans are God's representatives or stewards (*ḵhalīfah*) on earth (Q 2:30). While this verse can be and is interpreted as implying special status for humans, one should note that *ḵhalīfah* can be read as a successor in the sense of "to come after temporally", which does not lead to that conclusion. Both interpretations are fairly common in the exegesis literature.[10] Another possible argument for anthropocentrism can be raised by reference to angels submitting (or prostrating) to Adam,

[10] For a detailed discussion, see Seyyed Hossein Nasr et al. (ed.), *The Study Quran: A New Translation and Commentary* (New York, NY: Harper One, 2015), 21-22.

which is found in several verses in the Qurʾān, including 2:34, 7:11, 15:29, and 38:72-73. These verses describe a scene where God orders the angels to prostrate to Adam after his creation. All of them do except for iblīs (Satan), who refuses out of pride and is thus cast out of God's favor. This episode is often interpreted as an affirmation of the honored status of humans in creation. It signifies the special stature of humans, who, unlike angels, have free will and moral responsibility. The angels' prostration is seen as an acknowledgment of this special status. However, one should note that acknowledging the special and honored status of humans does not imply that there cannot be other special and honored beings. The third possible objection is to refer to the concept of God breathing in Adam, often referred to as the "breath of life" or the "divine spirit", which is found in verses such as Qurʾān 15:29 and Qurʾān 38:72. This verse is interpreted by some scholars as implying that humans carry part of God; hence, we are special in a sense similar to Imago Dei. However, one should note that this is not the mainstream interpretation. It is usually interpreted by many scholars as a symbolic representation of the divine gift of life and consciousness to human beings (Nasr, 2015, 646). Of course, God is free to choose to provide the gift of life and consciousness to other beings besides us; hence, these verses also do not constitute a good argument against strong AI parallel to the Imago Dei problem. We should note that Imago Dei is a central doctrine in Christian theism, and a similar anthropocentric creedal doctrine does not exist in the Islamic tradition. While one can try to formulate scriptural arguments from the Qurʾān or ḥadīth for anthropocentrism, they will always be open to reinterpretation and will not be on the same footing as Imago Dei.

Conclusion

In this article, I argued that a Muslim who accepts classical theism should be open to the possibility of artificial intelligence with mental states (strong AI). I defended this through functionalism, which defines mental states in terms of functions. The relationship between strong AI and functionalism is that functionalism provides a theoretical framework for realizing strong AI. When mental states are expressed in terms of functional roles, a computer, as an artificial system, can achieve genuine mental states and consciousness if it simulates the

functional organization of the human mind. In this context, functionalism provides a philosophical foundation that argues not only that conscious and intelligent machines can exist but also that they can be achieved with the correct functional organization.

I presented two arguments, one that rejects substance dualism and one that assumes dualism, to argue that classical theism implies functionalism. Classical theism accepts a supreme creator with mental states. The substance of this creator is different from that of humans, whether a biological system or a soul carries the mental states in humans. Therefore, according to classical theism, mental states arise in at least two different substances. This implies that functionalism is correct. Hence, the emergence of strong AI would not be surprising in the classical theistic view and, consequently, in the Islamic perspective. In fact, if classical theism implies the correctness of functionalism, as argued here, then it can be said that the creation of strong AI confirms classical theism, albeit not very strongly.

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CRITIQUE OF TRANSHUMANISM'S CONCEPT OF HUMANS FROM THE PERSPECTIVE OF ISLAMIC THOUGHT

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Abstract

Transhumanism is defined as a human movement that believes in and attempts to implement ideas and practices aimed at developing and empowering the biological, psychological, and cognitive abilities of humans and helping them become superior to their current biological state through modern science and technological tools. Considering its promises and goals for humans and humanity, this science- and technology-based understanding is also recognized as a sociocultural and ideological movement. Given the effectiveness of areas such as virtual reality, genetic intervention, and artificial intelligence, it is clear that the promises of transhumanism are not so utopian. It is essential to subject the ontological approaches of transhumanism, which consider humans and the universe, to a theological interpretation based on current facts and arguments rather than philosophical and theoretical interpretations. Transhumanism clearly emphasizes that humans are

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incomplete beings and need to be developed. In this context, it emphasizes the understanding that humans can be empowered to their maximum potential through technology and science. It sets the goal of achieving the transhuman stage initially and then the posthuman stage, which represents the empowered state of humans at their maximum cognitive, emotional, and psychological levels. Although this movement, considered a continuation of humanism, develops humans physically, cognitively, and emotionally, it also treats humans as objects in achieving these goals. In our study, we specifically focus on transhumanism's conception of humans and attempt to criticize this conception within the framework of the Islamic understanding of human beings. We first explain the concepts of transhuman and posthuman to understand transhumanists' conception of humans. Transhumanists, who consider the transhuman an intermediate form and an incomplete being that needs to be developed in many aspects, claim that humans will reach maximum competence in the process of posthumanization and that this will be achieved through science and technology. This understanding, which sees humans as a product of evolution, contrasts with the Islamic belief that humans are created by God. Although evolution has historically been positioned as an ideology against religion, we attempt to demonstrate that it can be approached in a way that is compatible with God's creation and that modern scientific data do not consider evolution impossible. When examined from the perspective of human nature, especially in general Islamic thought, the understanding of the human soul and body is incompatible with the transhumanist understanding of humans. This is because transhumanists reject the concept of the soul, which is considered an essence of the human being in Islamic thought. In contrast, transhumanists completely attribute the phenomenon that Islamic theology accepts as the soul to the biological structure of humans. Thus, they propose a different approach by emphasizing body-mind functionalism against soul-body duality. Because their claim is scientific, it has been proposed within the scope of modern science that the concept of the soul in Islamic thought can be understood as the energy that gives life to human beings or as human beings' state of consciousness. Another topic addressed in this study is the transhumanist approach that views humans as inherently deficient. This perspective contradicts the Islamic conception of a perfect human. This is because in Islam, it is believed that human beings were created as *aḥsan taqwīm* (the most beautiful form) and can express perfection in every aspect. Regarding this point, we find that the fundamental problem is the expression of perfection in Islamic thought concerning the human body. It is clear that people can be born with disabilities and that they do not have physical perfection due to illness, old age, or

other factors. Therefore, we suggest that the perfect aspect of humans should be positioned on the basis of their ability to think, use their mind in every way, and be conscious rather than referring to physical perfection since it is clear that humans can be born with disabilities.

Keywords: Kalām, transhumanism, human, transhuman, posthuman

Introduction

The concept of "humanism" that emerged after the Renaissance puts people at the center. In contrast, transhumanism, formed by adding the prefix "trans" is used in the sense of going from something to something else, going beyond or passing through. It can be defined as a human movement that uses technological tools within the framework of modern science to enable humans to be superior to their current cognitive, biological, and psychological states brought to light by evolution.[1]

Although transhumanism is a movement that emerged under the influence of humanism and is seen as a continuation, it is positioned in a way that goes beyond humanism with its perspective on the future. Science and technology aim to eliminate human biological, mental, and psychological deficiencies and to raise people's living standards to the best possible state.[2] People may not possess physical perfection

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1 Seyithan Can, *Transhümanizm ve İnancın Geleceği* (İstanbul: Tezkire Yayınları, 2022), 20; Russell Blackford, "The Great Transition: Ideas and Anxieties", in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology and Philosophy of the Human Future*, ed. Max More - Natasha Vita-More (West Sussex, UK: Wiley-Blacwell Publishing, 2013), 421-422; Ahmet Dağ, *İnsansız Dünya: Transhümanizm* (İstanbul: Ketebe Yayınları, 2021), 144-145.

2 Anders Sandberg, "Transhumanism and the Meaning of Life", in *Religion and Transhumanism: The Unknown Future of Human Enhancement*, ed. Calvin Mercer - Tracy J. Trothen (California: Praeger, 2015), 3-23; Newton Lee, "In Search of Super Longevity and the Meaning of Life", in *The Transhumanism Handbook*, ed. Newton Lee (Switzerland: Springer, 2019), 316; Kali Carrigan, "Taking up the Cosmic Office: Transhumanism and the Necessity of Longevity", in *The Transhumanism Handbook*, ed. Newton Lee (Switzerland: Springer, 2019), 472; Steven A. Benko - Amelia Hruby, "Critical Transhumanism as a Religious Ethic of Otherness", in *Religion and Transhumanism: The Unknown Future of Human Enhancement*, ed. Calvin Mercer - Tracy J. Trothen (California: Praeger, 2015), 259; Muhammet Yeşilyurt, "Hıristiyan Transhümanizmi: Hıristiyanlığın Tekno-Eskatolojik Yeni Yorumu", *Dinbilimleri Akademik Araştırma Dergisi* 21/2 (2021), 816.

due to conditions such as being born with disabilities, illness, and aging. By eliminating aging, humans would stay young for longer with the ultimate goal of eliminating death or leaving it to the choice of individuals.[3]

Transhumanists take technology as a fundamental reference to realize their goals for humanity and the world. According to transhumanists, if we continue to improve technology with sufficient foresight and planning and avoid actions that could pose a danger to humanity, we can surpass even the most unreachable dreams in terms of improving life on this planet.[4] An important figure in transhumanism, Bostrom, says that technological progress is one of the key factors in achieving the transhumanist vision. Another important figure of the movement, Max More, emphasizes that technology is the cornerstone of social and political progress. He argues that technology can not only transform society and the economy for the better but can also directly affect the human experience through bodily, cognitive, and psychological development.[5] Indicated by letter combinations such as NBIC, these proposed technology clusters, include the fields of nanotechnology, biotechnology, information technology, and cognitive science.

As suggested by the above information, transhumanism can be considered to have many effects on the present and the future of human beings and society when evaluated in the context of its claims, aims, and objectives. In this study, we focus on transhumanists' conception of human beings. Transhumanism has a humanist character. Therefore, we believe that it is important to first establish the

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3 Ronald Bailey, "For Enhancing People", in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology and Philosophy of the Human Future*, ed. Max More - Natasha Vita-More (West Sussex, UK: Wiley-Blacwell Publishing, 2013), 329; Kate Levchuk, "How Transhumanism will Get Us through the Third Millennium", in *The Transhumanism Handbook*, ed. Newton Lee (Switzerland: Springer, 2019), 77; Ray Kurzweil, *İnsanlık 2.0: Tekilliğe Doğru Biyolojisini Aşan İnsan*, trans. Mine Şengel (İstanbul: Alfa Bilim, 2019), 546-548.

4 Giulio Prisco, "Transcendent Engineering", in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology and Philosophy of the Human Future*, ed. Max More - Natasha Vita-More (West Sussex, UK: Wiley-Blacwell Publishing, 2013), 239; Sandberg, "Transhumanism and the Meaning of Life", 4; Kurzweil, *İnsanlık 2.0*, 546.

5 Michael S. Burdett, "The Religion of Technology: Transhumanism and the Myth of Progress", in *Religion and Transhumanism: The Unknown Future of Human Enhancement*, ed. Calvin Mercer - Tracy J. Trothen (California: Praeger, 2015), 142.

conception of humans to properly understand the discourse of this movement regarding humans and the world. We present the transhumanist conception of humans and compare humans with the understanding of humans in Islamic thought. In this context, we attempt to determine whether the transhumanist approaches to human beings are compatible with the meaning that Islam attributes to human beings and at which points they are incompatible. We discuss the transhumanist conception of the human being in the context of creation, perfection, and imperfection. Simultaneously, we attempt to determine the possibilities and limitations of bringing together the science- and technology-based understanding of humans in transhumanism with the understanding of humans of Islam. Since transhumanism is a movement that has recently begun to be discussed in Turkish academia, we believe that a comparative analysis of the human being is important for scholars in this field. To properly understand the human conception of transhumanism, we believe that it is useful to address the concepts of "transhuman" and "posthuman" and their general frameworks. When we reveal the semantic framework of these concepts, transhumanism's understanding of human beings will emerge more clearly.

Transhuman and Posthuman

Transhumanism bases its understanding of human beings on two concepts: the concept of "transhuman" and the concept of "posthuman". A transhuman is considered a transitional human being who transcends the human condition and perception.[6] In other words, transhumans have more advanced physiological and cognitive features than humans with technological tools.[7] This concept emphasizes that human beings go beyond the status quo in terms of their nature and characteristics.[8] Transhumans are knowledgeable enough to see and

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6 Natasha Vita-More, "History of Transhumanism", in *The Transhumanism Handbook*, ed. Newton Lee (Switzerland: Springer, 2019), 50; Newton Lee, "Brave New World of Transhumanism", in *The Transhumanism Handbook*, ed. Newton Lee (Switzerland: Springer, 2019), 3-4.

7 Dağ, *İnsansız Dünya*, 26.

8 Max More, "The Philosophy of Transhumanism", in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology and Philosophy of the Human Future*, ed. Max More - Natasha Vita-More (West Sussex UK: Wiley-Blacwell Publishing, 2013), 4.

plan for the radical possibilities of the future and to use every available option for self-improvement; they are ready to actively become posthuman.[9] Therefore, the transhuman is considered an intermediate form in the transition to the posthuman.[10] Although the word posthuman means "after human", it has been used with very different meanings by scientists. Here, we will focus on the posthuman in transhumanism in the context of this article. The posthuman in transhumanism is a future human being who can exist as a biological or semibiological being in the physical world, continuing the 19th- and 20th-century idea of natural selection.[11] Bostrom states that this concept represents the maximum of current human capacity, which is radically expanded both mentally and physically.[12] Posthumans, considered the humans of the future, will have many qualities that cannot emerge due to the limitations imposed by the body. They will live much longer than today's people and are likely to be able to leave the Earth's orbit.[13] Thanks to technological evolution, posthumans will not suffer from disease, aging, or even death and will represent the maximum in terms of physical, cognitive, and emotional development.[14] They will also have refined emotions with regard to music, humor, and eroticism. [15]

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9 Damien Broderick, "Trans and Post", in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology and Philosophy of the Human Future*, ed. Max More - Natasha Vita-More (West Sussex, UK: Wiley-Blacwell Publishing, 2013), 430.

10 Dağ, *Transhümanizm: İnsanın ve Dünyanın Dönüşümü* (Ankara: Elis Yayınları, 2020), 9.

11 Ted Peters, "Boarding the Transhumanist Train: How Far Should the Christian Ride?", in *The Transhumanism Handbook*, ed. Newton Lee (Switzerland: Springer, 2019), 798.

12 Nick Bostrom, "Why I Want to be a Posthuman When I Grow Up", in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology and Philosophy of the Human Future*, ed. Max More - Natasha Vita-More (West Sussex, UK: Wiley-Blacwell Publishing, 2013), 28; José Luis Cordeiro, "The Boundaries of the Human: From Humanism to Transhumanism", in *The Transhumanism Handbook*, ed. Newton Lee (Switzerland: Springer, 2019), 68.

13 Peters, "Boarding the Transhumanist Train", 798; Brent Waters, "Flesh Made Data: The Posthuman Project in light of the Incarnation", in *Religion and Transhumanism: The Unknown Future of Human Enhancement*, ed. Calvin Mercer - Tracy J. Trothen (California: Praeger, 2015), 291.

14 Bostrom, "Why I Want to be a Posthuman When I Grow Up", 30-38; Can, *Transhümanizm ve İnancın Geleceği*, 22.

15 More, "The Philosophy of Transhumanism", 4; Broderick, "Trans and Post", 430; Dağ, *İnsansız Dünya Transhümanizm*, 46; Bostrom, "Why I Want to be a

As a result, we can say that the posthuman will attempt to make it possible to realize humans 2.0 by transforming humans into superhumans through science and technology.[16]

Posthumans can also be considered new subjects created with technological bodies.[17] They can be thought of as cyborgs in the sense that their personality is injected into an almost indestructible robot after the human being is freed from the biological body. Transhumanists want to develop human beings into beings who can do anything they want by changing the problematic fleshy, bloody, and living body by mind transfer from a biological body to a more durable and immortal virtual or artificial body.[18] This is the goal that the transformation of the human into the posthuman wants to achieve.[19]

God's Creation versus Evolution's Human

Transhumanism is Darwinian and is influenced by the biological and psychological understanding of evolution.[20] Huxley used transhumanism in the sense of human evolution in his work where he defined it.[21] According to transhumanism, human beings are not at the end of evolution; in contrast, they are only at the beginning of technological evolution. Although the human being that evolution has produced thus far is a good start, it is certainly improvable,

Posthuman When I Grow Up", 29.; Broderick, "Trans and Post", 430; Dağ, *İnsansız Dünya*, 46; Bostrom, "Why I Want to be a Posthuman When I Grow Up", 29.

16 Mahir Fatih Ünal, "Dijitalleşmenin Transhümanizme Etkisi", *Uluslararası Bilişim, Teknoloji ve Felsefe Dergisi* 2/2 (2019), 26.

17 Nick Bostrom, "A History of Transhumanist Thought", *Journal of Evolution and Technology* 14/1 (2005), 9; Abdurrazak Gültekin, "Transhümanizm Bağlamında Yapay Zekâ Tanrıya Bir Başkaldırı mıdır?", *Iğdır Üniversitesi Sosyal Bilimler Dergisi* 28 (October 2021), 7.

18 Hannah Scheidt, "The Fleshless Future: A Phenomenological Perspective on Mind Uploading", in *Religion and Transhumanism: The Unknown Future of Human Enhancement*, ed. Calvin Mercer - Tracy J. Trothen (California: Praeger, 2015), 317.

19 Matthew Zaro Fisher, "More Human than the Human? Toward a 'Transhumanist' Christian Theological Anthropology", in *Religion and Transhumanism: The Unknown Future of Human Enhancement*, ed. Calvin Mercer - Tracy J. Trothen (California: Praeger, 2015), 23.

20 Carmen Fowler LaBerge, "Christian? Transhumanist? A Christian Primer for Engaging Transhumanism", in *The Transhumanism Handbook*, ed. Newton Lee (Switzerland: Springer, 2019), 772.

21 Julian Huxley, *New Bottles for New Wine* (London: Chatto and Windus Publishing, 1957), 17.

upgradeable, and transcendable.[22] In this context, Bostrom states that in the existing natural process, humanity has not come to the end of evolution; in contrast, this situation should be seen as an early stage of evolution.[23] However, Bostrom wants to realize an artificial evolutionary process by subjecting human beings to a process of transformation based on Darwin's biological and natural evolutionary process, from a biological body to a bionic body.[24]

According to transhumanists, the evolutionary development of humans has resulted in an unplanned process and caused unwanted mutations because it was determined by random and external conditions that human beings could not intervene in natural selection.[25] Therefore, an evolutionary process driven by human intervention would not only lead to a more planned future but also offer the opportunity to prevent unintended consequences in advance.[26] Transhumanists' main argument is that evolution, which has thus far been a slow, uncontrolled, and unpredictable process, should be managed and accelerated by humans through technological evolution rather than waiting for it to move into its future.[27] Genetic engineering, intelligence-enhancing implants, faster computers, smarter interfaces, artificial neural networks, global data networks, virtual reality, artificial intelligence, neuroscience, an artificial life planet, and low-power and molecular nanotechnological smart devices will enable technology to produce the self-transformation of humans.[28] In particular, genetic engineering will reduce the element of

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22 Natasha Vita-More, "Life Expansion Media", in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology and Philosophy of the Human Future*, ed. Max More - Natasha Vita-More (West Sussex, UK: Wiley-Blacwell Publishing, 2013), 79.

23 Tuğçe İyigüngör, "Doğal Yaşam Formundan Artırılmış Bedene Geçiş: Transhümanizm", *ISophos: Uluslararası Bilişim, Teknoloji ve Felsefe Dergisi* 3/5 (Fall 2020), 18.

24 Dağ, *Transhümanizm*, 114-115.

25 Mahsum Aytepe, "Posthümanizmde ve Transhümanizmde Varlık", in *Transhümanizm & Posthümanizm: Disiplinlerarası Bir Çalışma*, ed. Mustafa Tekin - Muhammet Özdemir (Ankara: Eskiyeni Yayınları, 2021), 326.

26 Hüsnü Aydeniz, "Geleneksel Değerler Üzerinden Bir Transhümanizm Eleştirisi", *İlahiyat Tetkikleri Dergisi* 53 (June 2020), 363.

27 Nick Bostrom - Anders Sandberg, "The Wisdom of Nature: An Evolutionary Heuristic for Human Enhancement", in *Human Enhancement*, ed. Julian Savulescu - Nick Bostrom (New York: Oxford University Press, 2009), 377; Vita-More, "Life Expansion Media", 79; Cordeiro, "The Boundaries of the Human", 70.

28 Kurzweil, *İnsanlık 2.0*, 136.

"chance" by fostering concepts of "artificial evolution" that support the evolutionary process in biological systems and enable designers to select new biological functions efficiently.[29] Transhumanists state that the first technologically noteworthy example in the evolution of living species was the knowledge and discovery of DNA, which provided a recorded and preserved copy of the design of life that could be used to initiate new experiments.[30] Transhumanists assert that human evolution is an ongoing process and that a species transition may become feasible by the end of this century thanks to advances in technology and science.[31]

In Abrahamic religions, the human being is conceived as a creature created by God in a close relationship with the creator.[32] For instance, in Islam, humans are conceived as having a special and close relationship with their creator. In this context, humans are not a product of evolution but were created in their current form by God with a predetermined purpose. In the Qurʾān, it is said, "*How can you be ungrateful to Allah Who bestowed life upon you when you were lifeless, then He will cause you to die and will again bring you back to life so that you will be returned to Him.*" (Q 2:28), "*He is the One Who shapes you in the wombs of your mothers as He wills. There is no god worthy of worship except Him—the Almighty, All-Wise.*" (Q 3:6), and "*O men! Fear your Lord Who created you from a single being and out of it created its mate, and out of the two spread many men and women. Fear Allah in Whose name you plead for rights, and heed the ties of kinship. Surely, Allah is ever watchful over you.*" (Q 4:1). As can be understood from these verses, creation is carried out by God in Islam. Therefore, there are significant differences when this Islamic approach to human beings is compared with the understanding of human beings in transhumanism.

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[29] Rachel Armstrong, "Alternative Biologies", in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology and Philosophy of the Human Future*, ed. Max More - Natasha Vita-More (West Sussex, UK: Wiley-Blacwell Publishing, 2013), 103.

[30] Kurzweil, *İnsanlık 2.0*, 69.

[31] Yaylagül Ceran Karataş, "Dijital Çağda Hümanizm Tartışmaları Açısından İnsan Doğası Biyoteknoloji ve Biyopolitika", *Kutadgubilig Felsefe-Bilim Araştırmaları Dergisi* 39 (2019), 52.

[32] Muhammet Yeşilyurt, "Transhümanizmin Hristiyanlık Kökenleri", in *Yapay Zekâ Transhümanizm ve Din*, ed. Muhammed Kızılgeçit et al. (Ankara: Diyanet İşleri Başkanlığı Yayınları, 2021), 189-209.

When the evolution-religion relationship is considered, the transhumanist understanding of evolution is handled in a way that excludes God. The theory of evolution has become an ideological stance that excludes God based on the idea that the evolutionary process was not designed to bring about the emergence of Homo sapiens and did not operate according to a specific project or plan but rather through natural selection.[33] Throughout history, the positioning of evolution as an ideology against God's creation has led to the understanding of every evolutionary idea as entailing the absence of God. At this point, the common perception is the impossibility of reconciling the belief in God with evolution. Therefore, people with a belief in God have stayed away from evolution. However, contemporary studies clearly show that the evolutionary process requires us to revise our understanding of God's ongoing relationship with the living world. Taking seriously how our minds are shaped by their evolutionary origins must be recognized as a product of our efforts to understand God.[34]

When we think about evolution today, we realize that new ways of being, new activities, and new forms of behavior have emerged throughout evolutionary time. Considering this, a believer in God can reinforce the idea that God is a constantly creating entity. Thus, God can be considered a constantly creating entity through the process of nature, producing entities from other creatures. We can reach a new and life-giving conception of the creator, who is always at work through Darwin's understanding of the history of the world of living beings and the views of countless biologists that followed.[35] Taken in this context, God and natural selection no longer must be competing hypotheses. The best option to explain the existence of a greater consciousness and governmentality in the evolution of life is the existence of God.[36] Evolution can be understood as one of God's many

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[33] Elif Akçay, *Biyoteknoloji Çağında İnsan Kalabilmek* (İstanbul: Sarmal Kitabevi, 2022), 20.

[34] Russell Stannard, "Evrimsel Biyoloji", trans. Şaban Ali Düzgün, in *21. Yüzyıl İçin Tanrı: Büyük Patlamadan Evrime, Freud'dan Yapay Zekaya Tanrı ve Bilim*, ed. Russell Stannard (Ankara: Fol Yayıncılık, 2022), 53-54.

[35] Arthur Peacocke, "Kılık Değiştirmiş Dost: Darwinizm ve Teoloji", trans. Şaban Ali Düzgün, in *21. Yüzyıl İçin Tanrı: Büyük Patlamadan Evrime, Freud'dan Yapay Zekaya Tanrı ve Bilim*, ed. Russell Stannard (Ankara: Fol Yayıncılık, 2022), 62.

[36] Wentzel Van Huyssteen, "Evrim; Tanrı'ya Dair Bilginin Anahtarı mı?", trans. Şaban Ali Düzgün, in *21. Yüzyıl İçin Tanrı: Büyük Patlamadan Evrime, Freud'dan*

patterns of creation. Therefore, we can say that metaphysical and religious beliefs do not in any way conflict with evolution. On the contrary, they can be made reconcilable with evolution.

Mind-Body Functionalism versus Soul-Body Dualism

After humans became aware of their existence, they wondered about and investigated the essence of this existence. Some approaches related to the essence of existence have emerged in the historical process. Along with the materialist structure that explains the person entirely in terms of physical components, the generally accepted dualist understanding states that the human being is composed of soul and body. Despite the ontological fact that they have fundamentally different properties, attempts have been made to justify that humans are formed by the combination of these two entities.[37] However, the reductionist approach has been effective with the increasing weight of biology in basic sciences. Previously, the soul, which continued to exist mostly as a subject of belief, was excluded from empirical knowledge due to its nature. The amount of data obtained from brain research, in particular, has led to the attribution of all distinctive features of the soul to the brain.[38]

Contrary to the general approach, transhumanists reject the concept of the soul.[39] According to them, souls are not needed to achieve infinite life.[40] Because natural selection has been able to create the structure of being, human beings are made up of various parts. Since no parts constitute souls, they cannot undergo an evolutionary process.[41] Transhumanists state that what people refer to as souls are

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Yapay Zekaya Tanrı ve Bilim, ed. Russell Stannard (Ankara: Fol Yayıncılık, 2022), 66.

37 Gülizar Hazal Saka, "Bir Ütopya Olarak Teknolojik Ölümsüzlük Sorunsalı: Teknolojik Ölümsüzlük", in *V. Türkiye Lisansüstü Çalışmalar Kongresi - Bildiriler Kitabı IV (Edebiyat - Felsefe)* (İstanbul: İlmi Etüdler Derneği - Isparta Süleyman Demirel Üniversitesi, 2016), 244.

38 Mehmet Ödemiş, "Yapay Zekâda Ruh/Bilinç ve Menşei Problemi", in *Yapay Zekâ Transhümanizm ve Din*, ed. Muhammed Kızılgeçit et al. (Ankara: Diyanet İşleri Başkanlığı Yayınları, 2022), 62.

39 Stephen J. Lilley, *Transhumanism and Society: The Social Debate over Human Enhancement* (New York: Springer, 2013), 30.

40 Sandberg, "Transhumanism and the Meaning of Life", 8.

41 Yuval Noah Harari, *Homo Deus: Yarının Kısa Bir Tarihi*, trans. Poyzan Nur Taneli (İstanbul: Kolektif, 2016), 115.

matter and energy.[42] They explain human nature with a materialist view, claiming that everything related to humans and their essence is made of matter. They argue that humans' senses, including consciousness, thoughts, and emotions, as well as their fears, hopes, loves, and beliefs, are formed by physical interactions. In this context, they attribute importance to the existence of the mind, which is a product of the brain, rather than the existence of an absolute soul.[43] Therefore, we can say that the soul-body relationship of human beings in classical theologies has evolved into a mind-body relationship in transhumanism. This claim of transhumanists has also produced debates about the "nature of humanity".[44]

Transhumanists agree that the mind makes a human being human. What they call the mind is also a product of the body and provides self-awareness.[45] While they can be seen as monists because they consider the mind to be part of the body, some claim that they are dualists based on discussions of "loading" their minds onto nonbiological substrates.[46] Transhumanists, however, claim that the mind is a bodily structure; that is, it resides within the physical brain.[47] They state that the mind is an input-output organization like computer software and therefore cannot be identified with a particular organ.[48] Therefore, from a transhumanist perspective, the mind and body may be separate and not need each other.[49] However, even though transhumanists hold this view, they are functionalists rather than dualists. A functionalist argues that a particular mental state or cognitive system must be physically embodied at any given time. According to functionalism,

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42 Kurzweil, *İnsanlık 2.0*, 567.

43 Dağ, *Transhümanizm*, 139-140; Kurzweil, *İnsanlık 2.0*, 543.

44 Emin Çelebi, "Zihin-Beden İlişkisinin Ontolojik Düzlemi Üzerine Bir Değerlendirme", in *ECLSS Conferences on Language and Social Sciences*, ed. Selman Arslanbaş (Almaty, Kazakhstan: Kazakh National Pedagogical University, 2020), 340.

45 James Hughes, "The Compatibility of Religious and Transhumanist Views of Metaphysics, Suffering, Virtue and Transcendence in an Enhanced Future", *Global Spiral* 8/2 (2007), 6; Aytepe, "Posthümanizmde ve Transhümanizmde Varlık", 326.

46 Anke Iman Bouzenita, "'The Most Dangerous Idea?' Islamic Deliberations on Transhumanism", *Darulfunun İlahiyat* 29/2 (2018), 206.

47 Dağ, *İnsansız Dünya*, 202-203.

48 Erdinç Sayan, "Analitik Zihin Felsefesinin Temel Problemlerine Bir Bakış", *Kaygı: Bursa Uludağ Üniversitesi Fen-Edebiyat Fakültesi Felsefe Dergisi* 19 (October 2012), 46.

49 Dağ, *İnsansız Dünya*, 100-102.

mental states are causally related to sensory inputs and behavioral outputs. Thus, transhumanists believe that even if a person's biological neurons are gradually replaced with synthetic parts that support the same cognitive function, the same mind and personality can persist despite being "in" a nonbiological substrate.[50]

One of the most important examples for transhumanists, who accept that human beings do not have a soul separate from their biology, is the work accident experienced by a worker named Phineas Gage: "In Vermont in 1848, during an accidental explosion while working on the railroad tracks, a one-meter iron rod, after lodging in his face, passed through the frontal parts of his brain and exited through the back of his skull. Gage, who did not die in the accident, remained half-awake for weeks and finally seemed to have fully recovered. After the accident, his colleagues noticed sharp changes in his personality. Normally, a cheerful, helpful foreman, Gage, became foul-mouthed, hostile, and selfish. He became so dangerous that women were warned not to approach him. After observing these conditions, Dr. John Harlow, who treated him, stated that Gage had become capricious and indecisive, making many plans for the future but abandoning them as soon as he found an easier plan to execute. He stated that he was a strong man with the intellectual capacity and manifestation of a child as well as animal instincts and stated that he had changed radically. His friends also stated that he was not the Gage they had known before after this change. After Cage died in 1860, Dr. Harlow hid his skull and the iron rod that had driven into it. Detailed X-ray results confirmed that the iron rod caused severe bilateral damage to the brain region of the frontal lobe (the brain area responsible for conscious thinking). This incredible accident changed not only Phineas Gage's life but also the course of science. Before this, the prevailing view was dualism, which posits that the brain and mind are two distinct entities. It was clear that Gage's personality had changed due to the damage to his frontal lobe caused by the accident. Accordingly, a model change began to occur in scientific thought. After this event, scientists began to think that certain regions of the human

[50] More, "The Philosophy of Transhumanism", 7.

brain cause specific behaviors and that the physical structure of the brain is what affects it."[51]

From the perspective of transhumanism, accepting everything as biological necessitates the denial of the existence of the soul as a separate entity. Considering that the soul is accepted as the expression of both the vitality and the evolution process in classical theology, it can be said that this situation does not find a response in transhumanism. To establish scientific proof, it is also necessary to approach soul theories based on experimentation, observation, and science. Although there may be criticism that the soul is a metaphysical entity, not the subject of science, it is impossible to accept this criticism from a methodological perspective. Although the concept of the soul is accepted as part of the metaphysical realm, it also has a physical aspect due to being an essence found in humans.[52] To claim that an entity that is allegedly found in human biology is indefinable would lead to a contradictory situation.

One of the important reasons for adopting the concept of the soul is the belief that humans have a divine aspect. One of the main reasons for this situation is that the thinkers of the Islamic world, who were under the influence of Plato, Aristotle, and Plotinus through philosophers such as al-Fārābī and Ibn Sīnā, see matter as an inferior entity. According to them, existence becomes worthless as it moves away from God.[53] Many people who see matter as worthless want to think that there is more than matter. One reason for this concern may be that the soul was created by God and granted to humans (breathed into humans, according to the Qurʾān). In this context, matter is perceived as if it is not created by God or as something inferior. The fact that humans have a material structure and come into existence through material processes harms their divine status.[54] However, this reveals that the understanding of classical theologies based on the concept of humans and the essence of the soul should be reviewed within the framework of the data of modern science.

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51 Michio Kaku, *Zihnin Geleceği*, trans. Emre Kumral (Ankara: ODTÜ Yayıncılık, 2016), 17-18.

52 Mehmet Dalkılıç, *İslam Mezheplerinde Ruh* (İstanbul: İz Yayıncılık, 2012), 183-247; Yusuf Şevki Yavuz, "Ruh", *Türkiye Diyanet Vakfı İslâm Ansiklopedisi* (Ankara: TDV Yayınları, 2018), 35/187-192.

53 Aykut Alper Yılmaz, *İnsan Nedir?* (İstanbul: Albaraka Yayınları, 2022), 55-58.

54 Yılmaz, *İnsan Nedir?*, 53.

The existence, nature, and relationship of the soul with the body were discussed in classical theology, and these discussions were not based on divine knowledge. Considering its nature, purposes, and consequences, an ontological approach that can help present the fundamental components from which reality, matter, body, mind, and consciousness originate and can be reprogrammed necessitates a clearer understanding of the future of humanity and the universe.[55] Therefore, it is necessary to reconsider the basic parameters of philosophy and classical theologies on the soul and on physiological and anatomical components.[56] The concept of the soul, which is at the foundation of classical theology, should be determined in light of modern science and technology. To do this, the definition and function of the soul must be revealed. The fact that a person does not have a soul separate from the visible body should not devalue him or her.[57]

If a definition is made without considering scientific data, a conflict between religion and science will be inevitable. It is predicted that two different scenarios may occur if transhumanist thought and the spiritual understanding of classical theology are handled in harmony. The first approach sees the soul as an energy that gives human beings vitality. The second is the mind or consciousness, which expresses human character and orientation as the competence produced by the biological process.[58] Looking at these two approaches, we can say that the definition of the soul in classical theology can correspond to the energy that provides the primary principle of vitality. If it is used in a sense that refers to the process of human evolution, it will correspond to consciousness or mind.

Humans as Perfect Beings or as Unfinished Projects

Transhumanists regard the biological structure of human beings as flawed engineering. They advocate morphological freedom and believe that the flawed structure of the human body and brain should

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55 Ojochogwu Abdul, "Advancing Neutral Monism in Big History and Transhumanist Philosophy", in *The Transhumanism Handbook*, ed. Newton Lee (Switzerland: Springer, 2019), 737.

56 Aydeniz, "Geleneksel Değerler Üzerinden Bir Transhümanizm Eleştirisi", 358.

57 Yılmaz, *İnsan Nedir?*, 18.

58 Dalkılıç, *İslam Mezheplerinde Ruh*, 57-69; Erkan Yar, *Ruh-Beden İlişkisi Açısından İnsanın Bütünlüğü Sorunu* (Ankara: Ankara Okulu Yayınları, 2000), 25-30, 37-40.

be replaced and strengthened by modern science and technology.[59] According to transhumanists, with the responsible use of science, technology, and other rational tools, we can ultimately achieve beings with much greater capacities than current humans.[60] Transhumanists even accept that the way for humans to reach eternity is to eliminate the body because of their incomplete view of the body.[61] Transhumanists' claim that human beings are incomplete, imperfect, and not created beautiful enough to obtain the status they deserve contradicts traditional religious teachings that God created them as valuable, honorable, and perfect. In theistic beliefs, the human being is seen as the work of God in every aspect. God creates people from the earth and then gives them souls (breathes life into humans, according to the Qurʾān), carefully shaping the person in the body and spirit. Therefore, the body is never seen as incomplete, imperfect, and unfinished as it is in a materialistic worldview.[62] When we look specifically at Islam, we see that both humans and the universe were created perfectly, and at the core of this perfection lies God's absolute power and will. Therefore, changing our creation to make humans better is not an idea that can be accepted from the perspective of Islam's conception of humans:[63] "*Man We did create from a quintessence (of clay); then, We placed him as (a drop of) sperm in a place of rest, firmly fixed; then, We made the sperm into a clot of congealed blood; then of that clot, We made a (fetus) lump; then we made out of that lump bones and clothed the bones with flesh; then we developed out of it another creature. So blessed be Allah, the best to create!*" (Q 21:12-14). It is therefore clear that the transhumanist view

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[59] More, "The Philosophy of Transhumanism", 15; Nick Bostrom, "Transhumanist Values", *Nick Bostrom* (Accessed February 22, 2022); Ardeniz Özenç, "Eski Bilim Yeni Bilime Karşı: Simyacılık ve Transhümanizm", in *Transhümanizm ve Karşılaştırmalı İzdüşümü*, ed. Timuçin Buğra Edman (İstanbul: Kastaş Yayınevi, 2019), 89.

[60] Talip Demir, "Transhümanizm ve Sekülerleşme: Bildiğimiz Dinin Sonu mu?", in *Din ve Transhümanizm*, ed. Talip Demir (Ankara: Eskiyeni Yayınları, 2021), 23-24.

[61] Büşra Kılıç Ahmedi, "İslam ve Transhümanizm Bağlamında Süper Müslüman Kavramının Analizi", *Kocatepe İslami İlimler Dergisi* 4/2 (2021), 244.

[62] Cory Andrew Labrecque, "Morphological Freedom and the Rebellion against Human Bodiliness: Notes from the Roman Catholic Tradition", in *Religion and Transhumanism: The Unknown Future of Human Enhancement*, ed. Calvin Mercer - Tracy J. Trothen (California: Praeger, 2015), 307.

[63] Dağ, *İnsansız Dünya*, 206.

of the creation of human beings based on random evolution is unacceptable.

In Islam, since God values human beings, He made them the most honorable of all creatures and arranged everything in the universe following their needs. This conformity is the result of God's grace to humans.[64] Furthermore, the verse in the Qurʾān, "*Surely We have created man in the most beautiful form.*" (Q 95:4), clearly emphasizes that humans are created in the most beautiful form. From this perspective, the human being is seen as sacred and therefore untouchable. In this respect, the technological intervention that transhumanists will make into human nature can be interpreted as a factor that discredits human beings.[65] Furthermore, this idea has been criticized because it poses potential dangers to the belief in God's absolute power and creativity as well as to the belief in fate.[66] Although some scholars accept that the concept of *aḥsan taqwīm* mentioned in the verse refers to characteristics such as a person's erect body structure, ability to walk on two feet, proportionality and harmony of organs, physical beauty, vitality, and physical strength, other living beings are physically stronger than humans and can survive for longer periods.[67] Therefore, the physical design and superiority of other living beings cannot be proposed as good evidence for making them more or less valuable than human beings. Because transhumanism accepts the physical structure of humans as incomplete, we can say that it is weaker than some other living things. If we consider only people with congenital disabilities, the body's fragility and suffering become clear. Therefore, it is not realistic or convincing to accept the concept of *aḥsan taqwīm* as the best form in terms of physical characteristics. From the perspective of transhumanists, it is clear that they would not accept such a rejection of their conception of human nature. The recognition of humans as the best creature should be sought in their

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64 Şaban Ali Düzgün, *Aydınlanmanın Keşif Araçları Varlık ve Bilgi* (İstanbul: OTTO Yayınları, 2020), 31-32.

65 Kılıç Ahmedi, "İslam ve Transhümanizm Bağlamında Süper Müslüman Kavramının Analizi", 246.

66 İshak Doğan, "Transhümanizm: 'Allah'ın Yarattığını Değiştirme' veya İnsana Karşı Şeytan 2.0", *Marife Dini Araştırmalar Dergisi* 21/1 (2021), 12.

67 Hasan Ocak, "İslâm Düşüncesinde Üstün İnsan Tasavvuru ve Transhümanizm & Posthümanizm", in *Transhümanizm & Posthümanizm: Disiplinlerarası Bir Çalışma*, ed. Mustafa Tekin - Muhammet Özdemir (Ankara: Eskiyeni Yayınları, 2021), 86.

being intelligent beings. Although humans are physically deficient and weak, it is obvious that they are unique beings with intelligence and the ability to think, analyze, and draw conclusions. With these qualities, humans can overcome and dominate all other beings that are physically stronger. In fact, through the tools, equipment, and technology they have created, humans have also managed to establish dominion over nature. Aesthetics, empathy, piety, and morality are other aspects that may indicate that humans are at the top of creation.[68] Islam has focused on people's piety rather than their physical characteristics and has based superiority on piety. Therefore, the Islamic religion provides an understanding within moral evolution as opposed to transhumanism's understanding of physical perfection through an emphasis on the physical weakness of human beings.[69]

It has been said that the ontological interference with "humans" by developing technology can be accepted as a claim to break humans from the codes of creation and to create a more perfect human being than God's creation.[70] However, it must be emphasized that such an intervention is not deemed against divine intervention. If intervention in human ontology is considered a divine intervention, the absolute power and might of God become debatable. Many people start life with congenital disabilities. Theology that does not align with the reality of life and can only be formed as a defense of God will not find any response in humans because it is unrealistic. Today, many diseases can be prevented by intervention starting from the mother's womb. It is clear that doing these things does not and will not mean attempting divine intervention. This is because it would be impossible to make sense of the efforts of millions of people born with disabilities and then seek ways to become healthy. In such a case, if we act with the perception that God created everything perfectly, it would not be possible for many people who are born with disabilities and have imperfect bodies to establish a positive relationship with God. It is clear that the creation of these people is imperfect and complete. The corrective interventions to be made for them should not be seen as doing better than what God has done. After God created the universe

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68 Ocak, "İslâm Düşüncesinde Üstün İnsan Tasavvuru ve Transhümanizm & Posthümanizm", 84.

69 Dağ, *İnsansız Dünya*, 89.

70 Aydeniz, "Geleneksel Değerler Üzerinden Bir Transhümanizm Eleştirisi", 365.

and human beings out of nothing, he established laws for the functioning of the universe and human beings. These laws should be accepted as unchanging rules as long as humanity continues in line with God's will. Therefore, it can be considered a more reasonable view that the deficiencies inherent in human beings are addressed within the framework of the laws set by God without being associated with perfect creation. Otherwise, all improvements concerning humans would be accepted as divinity, which would lead to a breaking point in the relationship between humans and God.

Conclusion

Transhumanism, which builds its understanding of human beings on the concepts of transhuman and posthuman, seems to be a technology-based movement that will make its religious, philosophical, economic, cultural, sociological, and psychological effects felt even more in the future. As a continuation of humanism, this movement puts human beings at the center and brings humans to the highest possible level they can reach with the support of technology. It presents a worldview that emphasizes human beings and tries to achieve this goal by using technology. Although it is accepted as human-centered, the conception of human beings in transhumanism cannot be said to be parallel to the understanding of humans in Abrahamic religions. The process of human existence based on evolution does not accept any divine influence in this process. We can see that this is very clearly differentiated from Abrahamic religions. This understanding, which has become ideological and may cause conflict between religion and science, should be handled with modern scientific data. In this context, there should be no problem for Abrahamic religions to accept the evolutionary process as a model of God's creation. In discussions of the essence of human beings, the soul-body dualism accepted by classical theologies is incompatible with scientific data. Although there is general acceptance that the essence of human beings is the soul, modern scientific data show that the essence that makes humans human is the mind, which is achieved through bodily functionality. Therefore, classical theologies must reconsider the human nature they have constructed over the understanding of the soul.

The transhumanist claim that humans are imperfectly created directly contradicts Abrahamic religions' concept of a perfect creation. In this context, while transhumanists base human centrality on the body, Abrahamic religions have based the concept of human excellence on the ability and capacity to contemplate. Humans are inevitably deficient beings if they are to be accepted only as bodies. When considering the large number of people born with disabilities, become ill, or wish to modify themselves, it is evident that human beings experience physiological limitations. Note that Abrahamic religions focus on morality, which is one of the most essential points that transhumanism ignores. The physiological characteristics of human beings are not seen as a means of competence in Abrahamic religions. Whether a person is disabled or healthy, what makes him or her valuable and perfect is the will to think together with the person's moral personality. The transhumanists' view of human perfection in terms of only bodily perfection stands out as a major shortcoming.

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THE INTERACTION OF RELIGION AND ROBOTICS AND AL-SĀMİRĪ'S CALF (THE GOLDEN CALF) AS AN EARLY THEOMORPHIC ROBOT

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Abstract

The interaction between technology and religion has led to discussions on social robots in religious studies. Various robots have been produced to conduct funerals, give blessings, respond to personal prayer requests, preach, answer religious questions, or instruct religious education. Parallel to these developments, the term theomorphic robot was introduced to describe robots employed for religious purposes, and the characteristics of this type of robot have been described. Attitudes toward technological advances have been influenced by the religious or cultural origins of individuals and society. The present study investigates the "calf", called "The Story of

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al-Sāmirī" in Islam and the "Golden calf" in Judaism, in terms of theomorphic robot design and features and discusses whether the "calf" can be considered an early theomorphic robot. It is concluded that the "calf" can be considered an example of an early theomorphic robot in terms of most of its features, and the Story of al-Sāmirī can be employed as a criterion for theomorphic robot analysis. This can explain the interaction between religion and robotics in Muslim culture. Attitudes toward the interaction of religion and robotics vary based on the description and perception of theomorphic robots.

Keywords: Psychology of religion, social robot, theomorphic robot, human-robot interaction, religion-robotics interaction

Introduction

Artificial intelligence has entered our daily lives, especially in the last two decades. It has transformed and continues to transform business models in several industries, especially finance, education, and health (Brynjolfsson - McAfee, 2019). Religious services were not initially included among the industries transformed by artificial intelligence applications. Technology and religion are perceived as opposite poles, and they have even been considered archenemies. Historically, however, religious-spiritual life has changed due to technological advances, and there has been an interaction between technology and religion. The increase in the number of communication channels and the rise of digitalization have affected personal perceptions of religion, spirituality, and religious rituals. Chats conducted by clergy are available as online videos, technological devices such as microphones and projection devices are employed in places of worship, and virtual pilgrimages are conducted. LED candles are used in churches, pens can read the Qurʾān, "zikirmatik" (an instrument that counts dhikr) is used to replace the rosary, mobile religious applications have been produced, and prayer rugs that instruct prayers and other religious practices are available. Doğan (2018, 84) proposed the concept of "techno-religiosity" with reference to technological worship applications and suggested that religious technologies improve the connection with the sacred in daily life. Haji Mohamad (2017, 4918) reported that technologies lead to personal religious performances instead of mass interaction on digital/online

channels and coined the concept of "techno-religious space". Kimura (2017, 17-18) emphasized that advances in artificial intelligence and robotics have changed religious lifestyles, and new definitions of religiosity and spirituality should be discussed in the sociology of religions. In recent years, social robots, called theomorphic robots, have begun to be employed in religion (Trovato et al., 2016), and studies have described their properties. The present study aims to investigate al-Sāmirī's calf, an ancient story, in terms of the features of theomorphic robots and to discuss the possible attitudes of Muslims toward theomorphic robots based on the story of al-Sāmirī.

Prior to any analysis or discussion, questions such as "What is a robot?" and "What distinguishes a robot from any other machine?" should be answered. However, answering these questions is no small task. Several studies have indicated the slippery, flexible, and difficult nature of defining a robot (Branwyn, 2004; Ben Ari - Mondada, 2017; Mayor, 2018; European Parliament, 2017). Siciliano and Khatib (2019, 3-8) referred to the "idea of robots" that prevailed from ancient Egyptian and Greek mythologies to al-Jazarī and Da Vinci and argued that the concept of robots has gradually developed throughout history, while Mataric (2007) reported that the definition of robots has changed over time due to technological advances. Despite the abovementioned contradictions, it is still possible to study initial definitions and examples of modern robotics. As indicated by Mayor (2018, 4), although historians have dated the idea of robots to the Middle Ages when self-propelled devices first appeared, the idea of "artificial life" precedes technological reality and goes back thousands of years. Mayor (2018, 2) considered the principle "not born, made" an important distinction. According to Mayor, the difference between "manufactured/made" and "biologically born is the boundary between human and nonhuman and between natural and unnatural. Thus, it could be suggested that manufactured items that exhibit vitality reflect the idea of a "robot". Mayor (2018, 221) considered the moving mythological statue of Talos an adequate definition of a modern robot. Thus, al-Sāmirī's calf could also be considered an early "robot" since a) it had a physical body (made of metal), b) it exhibited vitality (it bellowed), and c) it was designed and produced by a human (al-Sāmirī).

The chain of events known as "The Story of al-Sāmirī" among Muslims and the "Golden calf" incident in Jewish sources is described in detail in the Qurʾān. The event is also mentioned in the Torah with certain differences. Both scriptures state that the Israelites worshipped the calf. However, although not mentioned in the Torah, the "bellowing" of the calf is particularly emphasized in the Qurʾān. The current study is based on the Qurʾānic narrative of the Golden calf to suggest that al-Sāmirī's calf could be one of the early examples of theomorphic robots. We also discuss whether the Muslim approach to the religion-robotics interaction could serve as a criterion for the analysis of theomorphic robotics based on the story of al-Sāmirī.

The current study is based on the Qurʾān and related commentaries in addition to the texts of different faiths. This is necessary to understand the attitudes of Muslim society toward the interaction of religion and robotics. However, the fact that referenced texts are only a small part of studies on the story of al-Sāmirī could be considered a limitation of the study. Furthermore, a comprehensive comparison of anthropological, mythological, and archaeological sources and religious texts is required to detail the historical reality of the story. Despite these limitations, we hope that the present study will contribute to the future attitudes of Muslim societies toward the religion-robotics interaction and experts' discussions on the regulation of this interaction.

1. The Religion-Robotics Interaction

Developments in robotics have changed the dimensions of the interaction between religion and technology. The use of robots not only in factories but also in spaces of human interaction and the concept of "social robots" that can establish meaningful social interactions with humans have become significant (Breazal, 2003; Duffy, 2003). Social robots, which are especially popular in the service industry, have recently started to penetrate religious activities. A workshop was organized at the International Congress of Social Robotics (ICSR 2017) held in Japan in 2017 on Embodied Interactive Robots, "Religion in Robotics", moderated by Trovato, Cuellar, and Huerta-Mercado (Kheddar et al. [ed.], 2017). Later, a workshop on "Robots in Religious Contexts" was organized in the Robo-philosophy Conference Series in 2020 and moderated by Balle and Ess. In 2021,

the International Journal of Social Robotics published a special issue on 'Religion in Robotics' (Trovato et al., 2021a).

Issues such as the reflection of the human desire to create artificial life in science and religion (Geraci, 2007, 976), the development of spiritual machines (Kurzweil, 1999), and theological analysis of robots (Midson, 2017) have been discussed in the literature. Geraci (2007, 961) reported the similarity between Rudolf Otto's (1936) explanation of the coexistence of fascination and trembling in sacred experiences and artificial intelligence applications. Geraci (2007) empirically demonstrated the hypothesis that individuals feel fear and fascination about technological advances and claimed that people have elevated smart machines to divine status and deified machines in many respects.

In addition to theoretical discussion, the increased use of robots in daily life has led to studies on attitudes toward robots. These studies suggest that culture is one of the factors that determines these attitudes, and religion, an important element of culture, is also effective (Bartneck et al., 2005; Kaplan, 2004; Korn et al., 2021; Trovato et al., 2013; Złotowski et al., 2020). Personal reactions to social robots are influenced by an individual's culture and beliefs. Kaplan (2004, 465, 470), in an article that evaluated the acceptance of robots based on cultural differences, emphasized that the lack of clearly defined Western or Japanese cultures and the differences between these cultures make systemic comparisons difficult. In Japanese culture, the distinction between the natural and the anthropogenic is blurred due to the prevalence of Shintoism and Buddhism, and the imitation of nature is associated with respect. Mori (1989) argued that robots possess the nature of Buddha and the potential to achieve Buddhahood. In contrast, Kaplan (2004, 471) argued that the natural and cultural are distinct in the West and require a clear idea about these distinctions. Furthermore, this difference between the natural and the artificial is effective in the Western approach to machines and robots. Similarly, Geraci (2006, 235-240) argued that research paradigms are influenced by religion in an article that analyzed the development of robotics and artificial intelligence in the USA and Japan with a cross-cultural approach. Geraci claimed that Shintoism and the Buddhist approach to the universe and humans play complementary roles in the development of the Japanese robot industry. Löffler et al. (2019, 571) reported that a critical view of technology was developed by

Christianity and claimed that technology alienates individuals from themselves and nature in Christian theology. Shaw-Garlock (2009, 253-257) indicated that there is no belief that inanimate objects can have spirits in Western Judeo-Christian culture, and Western popular culture harbors the cultural fear of losing control of robots. Geraci (2006, 240), in contrast, indicated that the hope of salvation of extraterrestrial transcendent bodies, a cosmic goal, and the expectations of Christians allow them to prioritize artificial intelligence rather than humanoid robots. In Judaic ethics, the approach to new technological advances is cautious but optimistic (Rappaport, 2006, 9), and a study has discussed whether acts that are prohibited on Shabbat could be performed by robots (Wecker - Lavee, 2020, 19). Trovato et al. (2021b, 542-543) developed the concept of theomorphic robots and argued that the most important issue in Islam regarding humanoid robots is intolerance of the depiction of images of living beings. Trovato et al. argued that the hadith by the Prophet that "Angels do not enter the house where images are depicted." (al-Bukhārī, "Badʾ al-khalq", 6) has a negative effect on the acceptance of humanoid robots (Trovato et al., 2021b). However, it is not a painting, image, or sculpture that is prohibited in Islam but the potential to turn these objects into an instrument of worship by attributing divinity (Sipahi, 2018, 537), and sensitivity toward preventing idolatry has been developed (Keskinoğlu, 1961, 14). Islamic law argues that technology itself is not good or bad, but its consequences could be, and these developments should not cause harm (Görgülü - Kesgin, 2021). Furthermore, it is not considered adequate to attribute morality and legality to robots based on an ontological analysis (Gezer, 2022; Görgülü - Kesgin, 2021). Based on the literature, the number of studies on the interaction between robotics and religion in various belief systems has increased in recent years (Ahmed - La, 2021; Baffelli, 2021; Cheong, 2020; Ess, 2020; McBride, 2015, 2019; Midson, 2022; Weng et al., 2019). Katz et al. (2015, 35) argued that the literature on the acceptance of robots focuses on Judeo-Christian, Shinto, and Buddhist traditions and emphasized that belief systems such as Islam and Hinduism have been neglected. Thus, these authors suggested further investigation of the role of religion and religiosity in attitudes toward robots.

McBride (2015, 26) argued that service robots will be programmed based on Islamic, Catholic, Mormon, and other beliefs. For example,

as the popularity of childcare robots increases, parents begin to expect these robots to teach their children right and wrong and ethical values based on their religious conventions. Ahmed and La (2021, 228-229) suggested that religious robots could be used a) to instruct basic religious teachings, b) to communicate religious texts to people in religious counseling, and c) to perform daily religious services. They argued that robots can play roles as religious assistants in congregations and d) as home robots that provide both friendship and religious instruction. Certain applications play these roles in different belief systems.

1.1. Religious Use of Social Robots

An early example of a religious robot was the Mechanical Monk. The Mechanical Monk was produced as an offering for King Philip II in exchange for the healing of his son. It was reported to have been built by Juanelo Turriana, a famous clock and vending machine manufacturer in the 16th century. The 15-inch-high monk is known for its mechanical sophistication. It held a cross in one hand and a rosary in the other, moving automatically once wound. It could move its arms, turn its head, walk, bring the cross to its lips and kiss it, and open its mouth (King, 2002). According to King, the Church did not approve of the Mechanical Monk and considered its maker a magician, and the automaton was perceived as uncanny since it obscured the distinction between the animate and inanimate. Over time, similar social robots have been produced. Especially since 2010, social robots with different functions have been designed and used by Buddhists, Christians, and Muslims.

The Buddhist robot Pepper, designed to administer funeral services, is a semi-humanoid robot that has been mass-marketed in Japan since 2015 (Travagnin, 2022, 138). The 120-cm robot wears a Buddhist robe. Pepper sings sacred texts called Sutras as it beats a drum. In rural areas without access to religious officials or budgets, the Buddhist robot priest serves the community (Reuters, 2017). Pepper can also broadcast funerals for those who cannot attend.

Another example is the approximately 60-cm tactile humanoid robot Xian'er, which has artificial intelligence and can answer questions about Buddhism. Originally developed as an animated character, the first physical version of Xian'er that included a touchscreen on its chest was introduced in 2015. It is tactile, can move,

and has lighting. An internet-based messaging application was developed for Xian'er. It can answer questions on Buddhism or daily life, discuss, joke, and lead meditation face-to-face or via a messaging app. Xian'er has increased the number of people attending monastery services (Travagnin, 2020).

Another Buddhist social robot is Mindar. Mindar is a manifestation of the Buddhist Goddess of Mercy, Kannon Bodhisattva, and was introduced in 2019. Located in the gardens of the famous 400-year-old Kodaji Temple in Kyoto, Japan, Mindar performs Buddhist prayers and rituals. It is an anthropogenic robot with a metallic body and a silicone-coated face, neck, and hands. Mindar is 195 cm high and can move, speak, record video, and preach (Loewen-Colón - Mosurinjohn, 2022). Temple priests pray and prostrate in front of Mindar, and holy properties are attributed to the robot. Thus, Mindar's role is different from previous examples; it is believed that it embodies the spirit of Kannon Bodhisattva, creating certain emotional reactions in the audience (Baffelli, 2021, 253). Like Xian'er, Mindar was designed to attract new faithful to Buddhism, especially younger individuals.

Another robot developed for the Buddhist faith is DarumaTo. Daruma wish dolls, popular in China and Japan, are believed to bring luck in Buddhism. They represent Bodhidharma, known as the founder of Zen Buddhism. The DarumaTo (Daruma Theomorphic Operator) was developed due to the popularity of Daruma dolls in Buddhist culture, especially among elderly people (Trovato, 2019a). The robot can support elderly care and health care. It was designed based on the skeuomorphism concept, a design approach that prioritizes the essence of the object, to preserve the basic appearance of the Daruma dolls. DarumaTo includes a digital screen on the front that displays facial expressions and nods. It can follow the human face, communicate verbally, and allow users to play various games that support cognitive activities. In a preliminary study conducted after the development of DarumaTo, the interaction of the robot with elderly people was verified, and it was observed that its familiarity was beneficial when compared to then-current robots. Although DarumaTo was inspired by a divine object, it also has nonreligious functions.

One of the first Christian robots was BlessU-2. It was introduced as an art installation in an exhibition in Germany in 2017 to celebrate the

500th anniversary of the Protestant Reformation (Sherwood, 2017). Developed as an experimental artwork, the robot priest called BlessU-2 is 180 cm high and has a head, two movable arms, eyeballs and eyebrows, a mouth, and a digital display. Visitors interact with BlessU-2 via the touch screen on its chest, where language and gender preferences are selected. Ultimately, the algorithm selects a verse based on these preferences, and the robot sings the verse in the preferred language and gender. The robot priest accompanies the song by raising its arms, moving its eyebrows and eyes, and emitting lights. The whole process takes approximately one minute. This blessing robot was covered significantly in the press in 2017, and over 10,000 people visited it. 1923 volunteer visitors provided anonymous views on their experiences with the robot. The analysis of visitor feedback revealed that half of the comments were positive (51%), one-third were neutral (29%), and one-fifth were negative (20%). The views were concentrated on the robot's appearance, behavior, functions, scenarios, and experience (Löffler, 2019, 575-576). According to media reports, street interviews revealed that people were curious about the robot, while religious people were more critical (Sherwood, 2017).

SanTo was developed by Trovato et al. (2018b) for Catholics in 2018 as a sacred robot for research. SanTo was inspired by sacred art and looks like Catholic saints. It is a domestic robot that imitates the body of a saint, including a niche and a candle. The robot can turn toward the user by sensing the face with a camera. The candle and the niche include LED lights, and the arms and hands include tactile sensors. The robot cites Bible verses and stories about the saints (Trovato et al., 2018b). SanTo was tested with 30 individuals in a church in Peru. The findings revealed that the interactions were successful, and SanTo was considered sacred like other minor saint figurines (Trovato et al., 2019b). In addition to the religious context, it was designed as a psychosocial companion, especially for elderly individuals.

Robots and automats have also been used in Islam. Al-Jazarī, born in 1136, played a key role in the history of technology in Islam. Al-Jazarī developed several automats, such as clocks, water mills, and fountains, and published these works in the illustrated *Kitāb fī maʿrifat al-ḥiyal al-handasiyyah* (Book of Knowledge of Ingenious Mechanical Devices), which was translated into several languages. One of the automats developed by al-Jazarī was for the ablution ritual,

and automats included a peacock that dispensed water through its beak. As the water flew, a child figure holding soap came out of a door, and another holding a towel came out of another door when the water flow stopped (al-Jazarī, 2002). Al-Jazarī is known as the founder of cybernetics.

A recent example of robots in Islam is the robot Ibn Sīnā. Ibn Sīnā was a respected Islamic philosopher, doctor, and luminary who lived between 980 and 1037. The robotic Ibn Sīnā was developed by Hanson Robotics. The robot can move its arms and has realistic facial expressions (Mavridis et al., 2012; Riek et al., 2010). In a pilot study conducted with 131 participants from 21 countries who interacted with Ibn Sīnā in the United Arab Emirates, it was determined that the attitudes of Arabs toward humanoid robots were generally quite positive; however, there were regional differences. Participants from the Gulf region (Iran, Iraq, Oman, Qatar, Saudi Arabia, the United Arab Emirates, and Yemen) had more positive views on humanoid robots than participants from Africa (Egypt, Morocco, Tunisia, Libya, and Sudan) (Riek et al., 2010).

The robot Veldan was developed in Iran to provide religious education to children (Associated Press, 2014). Furthermore, other social robots were developed in Iran as assistant teachers in compulsory religious courses such as *ḥijāb* and prayer. One was Arash, designed and manufactured at Iran Sharif Technology University, Social and Cognitive Robotics Laboratory. It has an LCD display and can talk, move and mimic various facial expressions. The NAO robot, the name of which was changed to "Nima" in Iran, is a similar religious education aid (Alemi et al., 2020).

1.2. Theomorphic Robots

Social robots are classified based on appearance. For example, Fong et al. (2003) suggested four categories: anthropomorphic, zoomorphic, functional, and caricatured. Shibata (2004) classified social robots as humanoid, familiar, and unfamiliar (imaginary) animal types. Based on various classifications, Baraka et al. (2020) proposed an expanded classification in which social robots can be classified as "bioinspired" (anthropomorphic, zoomorphic, or inspired by plants), "artifact-shaped" (based on cars, table lamps, cartoons), and "functional" (produced by the combination of technological parts for mostly mechanical tasks). Based on the abovementioned interactions

between religion and robotics, Trovato et al. (2016) contributed to this classification and introduced the concept of "theomorphic robots". The term theomorphic is derived from the Greek *theos* and *morphos*, implying divine-shaped.

Theomorphic robots can be anthropomorphic, zoomorphic, or idiomorphic with a unique design. The main distinction is the association of the robot's form with a divine concept. Thus, the issue of the reflection of the divine in a robot is raised. When Trovato et al. (2018a, 2021b, 550-552) proposed the concept, they established certain key points, such as adding new features to an object associated with an existing divine concept, called skeuomorphism, to benefit from familiarity with the original concept. Furthermore, the approach aimed to minimize the possibility of error via the resemblance of the divine (which cannot fail) and to design the robot almost identical to the original object/concept. Additionally, they proposed ten practical design principles: 1) an intermediary design that reflects the divine rather than imitating it, 2) naming based on the principles of skeuomorphism rather than robotic references, 3) the inclusion of sacred symbols, 4) sanctification by religious authorities for legitimacy (i.e., consecration by the church), 5) the inclusion of traces of sacred material (i.e., holy relics, sacred remains), 6) the use of the robot without diminishing the represented divine, 7) lower anthropogenic behavior and communication features based on the assumption that an anthropogenic robot would more likely be perceived as a product or as a toy, 8) the development of technical strategies to reduce perceived user control (e.g., without visible cables or buttons), 9) prevention of the reduction of ascribed sanctity, which can be eliminated by the perception of excessive control by the robot, 9) the employment of lighting generally associated with the divine, and 10) the use of tactile sensors due to the emotional impact of physical contact. SanTo and DarumaTo were developed based on these theomorphic robot design principles.

In their analysis, Trovato et al. (2021b, 545) determined that the mechanical monk, SanTo, and DarumaTo were theomorphic robots. BlessU-2, Mindar, Xian'er, and Pepper were excluded due to their appearances; they were not based on religious objects or sacred art. According to Löffler et al. (2021, 578), this issue could be debated, although BlessU-2 was not theomorphic. All humans could be

considered partially theomorphic since all humans are created in the image of God in Christian theology.

In human-robot interactions, robot design and cultural and religious human traits may affect individuals' attitudes toward robots. Personal beliefs play a key role in the theomorphic classification of robots and their use in religion. These robots concur with aniconism in Abrahamic religions, leading to resistance to the imitation of the divine by technology. The fact that Mindar was considered a Frankenstein's monster in Western literature is consistent with this approach (Balle - Ess, 2020, 586). In the following sections, the story of al-Sāmirī, which could affect the attitudes of Muslims toward theomorphic robots, will be addressed based on the abovementioned approach.

2. Al-Sāmirī's Calf as an Early Example of a Theomorphic Robot

Muslims believe that after Moses led the Israelites out of Egypt to Mount Sinai, they worshipped a calf made by a man called al-Sāmirī. This is described in detail in the Qurʾān, and it is also mentioned in the Torah, albeit with certain differences. There is a debate on the date of the Israelite migration from Egypt. Meral (2021, 24) conducted a comprehensive study and reported that the most accepted data were between 1250 and 1446 BCE. In this section, al-Sāmirī's calf is discussed based on the Qurʾān and the principles of theomorphic robots, and significant differences between the Qurʾān and the Torah are addressed. Then, the sociocultural background of the Golden calf story is presented. The sounds produced by the calf, why al-Sāmirī preferred a calf, and how and with what raw material the calf was produced are discussed based on the features of theomorphic robots. Finally, the reaction of Moses to al-Sāmirī's calf and the reasons for this reaction are discussed based on Qurʾānic verses.

2.1. Al-Sāmirī's Calf in the Qurʾān: A Bellowing Sculpture

According to both the Qurʾān and the Torah, the calf incident occurred after the Israelites migrated from Egypt and when Moses arrived at Mount Sinai. According to the Qurʾān, Moses went to Sinai for thirty days but remained for an additional ten days. Meanwhile, a man called al-Sāmirī, a member of the people of Moses, melted the jewelry he collected from the Israelites in a fire and sculpted a calf statue. Thus, it could be suggested that the calf was sculpted and used

in the space and time when the Torah was revealed at Mount Sinai, in accordance with Trovato's principle of "the employment of a place and context that would not diminish the sanctity attributed to the robot". There is no specific definition of a "Golden calf" mentioned in the Torah or the Qurʾān in relation to the calf created by al-Sāmirī. According to the Torah, the calf was made using "gold earrings". Conversely, the Qurʾān uses the term "adornment", which encompasses various items such as silver and gold (Meral, 2021, 83). Consequently, the phrase "Golden calf" emerged due to the inclusion of terms such as "gold earrings" and "jewelry" in both Jewish and Islamic traditions. The term "Golden calf" is also used to refer to calves produced by Jeroboam in the 1st Book of Kings (1 Kings 12:28).

The calf incident in the Qurʾān is directly mentioned in Sūrat Ṭā-Hā (Q 20:83-97) and Sūrat al-Aʿrāf (Q 7:148-154). The "bellowing" is emphasized in both sūrahs in the Qurʾān: "*Then, he molded for them an idol of a calf that made a lowing sound. They said, 'This is your god and the god of Moses, but Moses forgot where it was!' Did they not see that it did not respond to them, nor could it protect or benefit them?*" (Q 20:88-89) and "*In the absence of Moses, his people made from their golden jewelry an idol of a calf that made a lowing sound. Did they not see that it could neither speak to them nor guide them to the Right Path? Still, they took it as a god and were wrongdoers*." (Q 7:148).

So Moses returned to his people, furious and sorrowful. He said, "O my people! Had your Lord not made you a good promise? Has my absence been too long for you? Or have you wished for wrath from your Lord to befall you, so you broke your promise to me?" (Q 20:86). Moses was separated from his people for 30 days. According to the verses, the Israelites started to worship the calf during the 10-day delay (Sayı, 2012, 222; Yalçın, 2021). When Aaron tried to warn them, they replied, "*We will not cease to worship it until Moses returns to us*." (Q 20:91). In the Torah, it is mentioned that due to the delay of Moses, the Israelites demanded idols (Exod. 32:1-6). In response to Moses' questions, the Israelites explained how they made the calf with their jewelry (Q 20:87). However, according to the Qurʾān, the Israelites' belief in a "concrete God" continued even after they left Egypt (Meral, 2021, 132). For example, they asked Moses to make an idol for them (Q 7:138), and they told Moses, "*O Moses! We will never believe you until we see God with our own eyes, so a thunderbolt struck you while*

you were looking on." (Q 2:55). Based on Geraci's (2007) hypothesis that people experience fear and fascination about technological advances and elevate smart machines to divine status, a calf that produced sounds would significantly affect a community in search of a concrete god.

The story of al-Sāmirī is mentioned in Exod. 19, 24, 32, Deuteronomy, and Nehemiah 9 in the Torah (Yalçın, 2021). Although there are similarities between the Qurʾān and the Torah, there are also important differences. For example, the Qurʾān states that someone called al-Sāmirī made the calf with the permission of a "messenger", while the Torah does not mention a messenger; Moses' brother Aaron made the calf (Exodus 32:1-6). In both cases, it is observed that al-Sāmirī acted in accordance with the principle of the "attribution of sanctity by religious authorities to achieve legitimacy" (Trovato et al., 2018a, 2021b). An important difference is that the Torah does not mention bellowing, through which the calf acquires the status of a robot; however, the bellowing is noted at all times when the incident is mentioned in the Qurʾān. Prior to a detailed discussion, information about the sociocultural structure of the period will make it easier to comprehend why the Israelites were influenced by al-Sāmirī's calf.

2.2. Robotic Vision in Ancient Egypt: The Singing Sculpture

Egypt at the time of Moses was a technologically advanced and strong state (Shaw, 2013, 3) with a centralized bureaucracy (Ajdini, 2014; Ezzamel, 1997) based on mythological and ideological foundations (Hart, 1995, 7-8; Olgun, 2021, 7; Valbelle, 1998, 11). Magic, which was a mixture of religion/mythology and science, was one of the most important elements that determined the beliefs and daily life of the ancient Egyptians (Shaw, 2013, 44; Sipahioğlu, 2021, 209-212). It was believed that the statues, which were attributed special magical meanings, possessed the spirits of inanimate objects (Budge, 1988, 10; Şimşir, 2018, 95); for example, a crocodile statue could be turned into a real crocodile by magic. The ancient Egyptians believed that an inanimate object in the form of a human or animal could be brought to life with difficult-to-pronounce words or formulas and that these objects would protect them in both this and the next world (Şimşir, 2018, 99-100).

Since the Israelites settled in Egypt during the reign of Joseph, it could be argued that their worldview was affected by the magical

doctrines of Egypt. The Talmud mentions holy individuals who created artificial beings called "Golems" (Gee, 2001). The term Golem (Skvorchevsky et al., 2019), which means made of clay and/or "formless matter", could also be translated as "fetus" or "defective being". The term "*Galmī*" (my *golem*) in the psalm means "fetus or unspiritual form". It is written in the Talmud that Adam was a *golem* for the first twelve hours of his creation (Yanarocak, 2014). Golems, known as "soulless creatures" in Jewish tradition, were created by magicians as "slaves" (Meral, 2021, 79). It was reported that Loew ben Bezalel, the "Rabbi of Prague", who lived in Prague in the 16th century, created a clay Golem on the banks of the Vltava River. When the piece of paper with the inscription *schem* (God's name) was removed, the Golem was turned back into clay (Dekel - Gurley, 2013). Various studies have associated golem legends with modern artificial intelligence and robotics (Giuliano, 2020). Contrada (1995) investigated the correlation between the term robot, which means "slave" in Czech, and the "golem" and reported that there were several similarities between the two. According to Norman (1995), both were created by humans, both included mystical elements, and the mission of both was to serve humans. Vudka (2020) argued that the Golem was an early AI prototype. Norbert Wiener (1964, 95), the founder of cybernetics, associated the Golem directly with artificial intelligence in *God, Golem, Inc.* He argued that "the machine is the modern equivalent of the Rabbi of Prague's Golem". Meral (2021, 78, 79) argued that the calf created by al-Sāmirī resembled a golem, claimed that inanimate objects could be made to talk with various tricks in ancient Egypt, and attributed al-Sāmirī's "bellowing calf" to his mastery of magic. Archaeological studies have revealed that Egyptian priests created fake "talking statues" with certain techniques to impress believers (Price, 1964). Two of these sculptures have survived. In 1936, a large limestone bust of the sun god Ra-Harmakhis was found during an expedition in the Egyptian capital, Cairo. The Egyptologist Lukianoff examined the bust and discovered a channel in the mouth behind the neck. Archaeologists speculated that priests spoke through this channel while hiding behind the statue. The channel served to present divine prophecies based on changes in the tone of the priest's voice (Ambrosetti, 2012, 310; Mayor, 2018). Another such statue was the statue of the "Jackal, the God of the Dead", the head of which is

exhibited in the Louvre. The statue, known as Anpu (Greek: Anubis), was used by priests to declare prophecies through a secret tube (Ziolkowski, 2015).

In "Gods and Robots: Myths, Machines and Ancient Dreams of Technology", Adrienne Mayor argues that the first robot on earth was a giant called "Talos" in Ancient Greek mythology, although this idea originated in Egypt (Mayor, 2018, 6). Undoubtedly, monuments such as the "Giant Statues of Memnon" made Egypt the center of imagination. The twin statues built in 1350 BC in the ancient Egyptian capital of Thebes (today, Luxor) were dedicated to the 9th king of the 18th dynasty, Amenhotep III. Several studies claim that the northern statue sang (Łukaszewicz, 1995; Mayor, 2018, 7; Wilkinson, 2010, 243-244). These two giant statues, whose height exceeds 18 meters, still stand today. Around 23 AD, Strabo of Amasya wrote that the statue of Memnon made a sound in the early hours of the morning after sunrise in the last volume of his 17-volume *Geographica* (Gardiner, 1961; McCormack, 2016). Furthermore, historians and artists such as Philostratos, Plinius, Juvenal, and Tacitus also mentioned the same feature (LaGrandeur, 2010). There are 107 inscriptions on the sculptures that date to 20-205 AD and that were cataloged by the French archaeologists A. Bernard and E. Bernard (Natoli et al., 2022, 301). Patricia Rosenmeyer (2018) analyzed the Latin and Greek inscriptions, mostly in verse, engraved on the legs and feet of Memnon statues and cited the testimonies of several named and unnamed individuals, such as poets, writers, military commanders, or ordinary pilgrims, that they heard the abovementioned sounds (Day, 2020). The famous poet Paion of Caria, who participated in the Egyptian expedition of Emperor Hadrian in 130, wrote that he heard Memnon's voice when he was under the left foot of the statue (Akdoğu Arca et al., 2011). Memnon statues were believed to be built by Thoth, the god of wisdom, in ancient Egypt; they were considered divine and believed to convey the messages of the gods (Merlet, 2000). Additionally, various theories were proposed to mechanically explain the sound of Memnon statues. McCormack (2016) examined the sculptures phonetically and claimed that several ancient sources explained these sounds and discussed mechanical explanations for the source of the sounds. Several theories attributed the source of these sounds to "material vibration". The French archaeologist Jean-Antoine Letronne

suggested that the source of the sounds was rocks heated by sunlight that vibrated the statue and generated the sounds (McCormack, 2016). It was reported that the sound of the Memnon monuments was never heard after Roman Emperor Settimo Severo repaired the damage to the statues in 199 AD (Casciati - Borja, 2004).

Evidence for the use of prosthetics in ancient Egypt suggests that the interest was not based on imagination (Hernigou, 2013). Ancient Egypt also hosted certain examples of early "cyborgs". An artificial big toe that was dated to 600 BC was discovered in Thebes (Finch, 2011). The artificial toe was found on a female mummy near modern-day Luxor, dated to 710 BC, and described as possibly the earliest known intravital limb prosthesis (Nerlich et al., 2000).

According to Mayor, the ancient Egyptian belief in artificial animate divine beings was not born but made, providing an idea about the sociocultural origins of the "Golden calf" incident. According to Philo and some Christian clergy, the Israelites learned the concept of the golden calf from the Egyptians (Maden - Yiğitoğlu, 2018). Although the Torah does not mention that the calf produced any sounds, the abovementioned cultural background could be the basis of the sounds produced by the calf, as mentioned in the Qurʾān. The story in the Qurʾān mentions a "bellowing" calf and states that the Israelites worshipped the calf, which they considered "divine". As mentioned in the Qurʾān, al-Sāmirī's calf was "made" and could produce sounds (Mayor, 2018, 2, 4). The fact that the calf was associated with the cult of the bull in ancient Egypt and divinity was attributed to the calf (Trovato et al., 2018a, 2021b) suggests that the calf could be considered an early theomorphic robot. If it could be accepted that the calf was produced around 1250-1446 BC (Meral, 2021, 24), al-Sāmirī's calf could be considered one of the first examples of theomorphic robots.

2.3. The Calf's Voice as a Robotic Feature: Was the Calf Animate or Inanimate?

The Qurʾānic mention of the "bellowing" of the calf led to a debate among Muslim commentators on whether the calf was "alive". Meral (2021), who discussed the topic comprehensively in *Sâmirî'nin Buzağısı*, reported that there were two approaches in the commentaries. According to the first commentary, al-Sāmirī's calf was real and live. According to other commentaries, it was not a living being but a calf-shaped sculpture. The airflow that passed between the

holes at the anus and mouth of the calf led to the production of the "bellowing" sound (Meral, 2021, 72). Although the Torah does not mention that the calf was animate, certain Jewish sources claim that the calf was "alive or looked alive". Based on the phrase "which eats grass" in Psalms 106:19-20 ("At Horeb, they made a calf and worshipped an idol cast from metal. They exchanged their glorious God for an image of a bull, which eats grass"), certain sources argue that the calf was alive. For instance, the animate perception of the calf in the midrash Shir ha-Shirim[1] is attributed to Egyptian sorcerers. Certain Torah interpretations mention a calf that can speak and is supposed to say "I am your Lord" due to the secret inscription "Yahve" on a plate that was disposed to fire (Meral, 2021, 73). Pregill (2020, 318) comparatively analyzed the "Golden calf" in the Bible and the Qurʾān, and the late Midrashic collection mentions an alive calf.

Pregill (2020, 324) discussed the "bellowing" feature of the calf in detail and stated that it should be considered an "image of a bellowing calf" rather than an actual bellowing calf. In other words, according to Pregill, "bellowing" should not be considered a behavior performed by the Golden calf but a common feature of all calves. Pregill interpreted the expression "the bull ate grass" in the Psalms similarly, not as a form that eats grass but as a common behavior of a bull. The bull idol was an image of a bull that eats grass. Pregill (2020, 327) argues that the image of a magic calf bellowing like a live cow is untenable. However, in our opinion, the "bellowing" property of the calf was a technological, not biological, property. As mentioned above, certain Qurʾānic commentaries support that approach. Additionally, the ancient Egyptian belief that the properties of living beings could be attributed to inanimate objects and the possibility of the availability of such a technique should be considered.

2.4. Skeuomorphism in the Golden Calf: Why Did al-Sāmirī Sculpt a Calf?

Why did al-Sāmirī prefer sculpting a calf over another object or animal? Certain studies have suggested that al-Sāmirī's calf sculpture could be associated with the ancient Egyptian cult of the bull. The calf

[1] The Midrash is a corpus of Jewish scripture readings in synagogues and related explanations. It can be compared to the Qurʾānic commentary in the Islamic tradition.

seems consistent with the skeuomorphism that Trovato et al. (2018a, 2021b, 550) considered a theomorphic robot design principle.

According to the Egyptologist Wallis Budge, people believed that the magical power of a priest or an individual was unlimited, and inanimate symbols and objects that obeyed the commands of the magicians became living beings (Budge, 1988, 10). Studies on ancient Egypt indicate that the cult of the bull was prominent in Egyptian belief (Markovic, 2016; Wainwright, 1933; Wilkinson, 2010, 434-435). The bull and cow are known as symbols of power; Osiris, the god of agriculture, was symbolized by the bull, and Isis by the cow (Döner - Menteş, 2022). Apis (Freeman, 2003, 72), Buchis, and Mnevis, also called Serapis since it forms a compound with Osiris in some sources, are among the well-known bull cults (Dodson, 2005). Apis was believed to be the incarnation of the creator God Ptah (Gardin - Olorenshaw, 2019, 119). The first religious burial place was built for the holy bull Apis during the reign of Amenhotep III (Wilkinson, 2010, 242). In several commentaries, such as al-Zamakhsharī's *al-Kashshāf*, it was stated that al-Sāmirī originally belonged to a community that worshipped cows (Meral, 2021, 49; Salihoğlu, 2009, 78). After the Sumerians, the bull was associated with power and symbolized holiness and divinity, especially in Mesopotamian societies in Anatolia and Egypt (Gardin - Olorenshaw, 2019, 117-119; Mutlu, 2019). The bull, considered a symbol of religious, political, economic, and sexual power, then became a universal symbol in Indo-European cultures (Rice, 1998).

2.5. "Divine" Alloy in the Golden Calf: How was the Calf Produced?

The production of the calf is a topic of serious debate. The Qurʾān mentions that the calf was produced from "adornments" (such as gold and silver), while the Torah states that "golden earrings" were used in the production of the calf. Although the expression "Golden calf" is not common in either book (Meral, 2021, 83), both claim that the raw material was "metal". In Q 7:148, the word *ḥuliyy* is used to describe the raw material of the calf. *Ḥuliyy* and its plural *ḥuliyyāt* denote ornaments such as earrings, rings, and necklaces made of precious metals such as gold and silver (Bekiroğlu - Taşdoğan, 2020). The identity of the producer of the calf is also important to understand how it was produced. However, the identity of this person has been a topic

of considerable debate. According to Meral (2021, 110), al-Sāmirī is an ancient Egyptian word composed of the words "sa", meaning son, and "meri", meaning beloved; it, therefore, means "beloved son". It is thought that the person meant here by "beloved son" is Joseph, who is mentioned in both the Qurʾān and the Torah as Jacob's favorite son. The Qurʾānic form of the word "Sāmirī" is al-Sāmirī with the definitive article "*al-*" at the beginning and an attributive letter, "*yāʾ al-nisbah*" at the end. This nomenclature is understood to be used in relation to a city, tribe, or nation. Within the framework of these explanations, the name al-Sāmirī is used in the sense of "belonging to the beloved son" or "from the tribe of the beloved son", that is, "al-Yūsufī". Salihoğlu (2009, 78) argued that al-Sāmirī was a member of the Samira tribe. Al-Mawdūdī (2005, 269) claimed that al-Sāmirī's real name could be Aaron; however, he was not the prophet Aaron. We will avoid this discussion for the purposes of the present study and use the name al-Sāmirī. For the current article, an important detail about al-Sāmirī's identity is the argument that al-Sāmirī could be a foundry master (Sayı, 2012, 224). In his commentary, *Tafhīm al-Qurʾān*, al-Mawdūdī described al-Sāmirī as an "artist" and claimed that he deceived the Israelites by sculpting a calf that could bellow (al-Mawdūdī, 2005, 271). The Torah states, "And he received the gold from their hand and fashioned it with a graving tool and made a golden calf." (Exod. 32:4).

A detail provided in the Qurʾān about the construction of the calf by al-Sāmirī is important in terms of the principles of the "incorporation of sacred symbols" and "inclusion of the traces of divine in the material" proposed by Trovato et al. (2018a, 2021b, 551). Al-Sāmirī said, "*I saw what they did not see, so I took a handful from the traces of the Messenger and threw it away, and likewise I asked myself.*" (Q 20:96). The "messenger" in the verse has generally been interpreted as the angel Gabriel in the commentaries. Thus, Gabriel arrived on his horse to present Moses to God, and al-Sāmirī used a handful of dust from the point where Gabriel's horse stepped as raw material for the calf. However, there are other interpretations. It has been argued that following the messenger's footsteps meant the instruction of Moses (Işık, 2014). Pregill (2020, 329, 330) argued that the hoof-prints of the messenger could be interpreted metaphorically as "an example" based on the arguments of Abū Muslim al-Iṣfahānī and Fakhr al-Dīn al-Rāzī. Thus, according to this interpretation, al-Sāmirī ignored the example

of Moses. Meral (2018, 92-93) interpreted the hoof-prints of the messenger as the heritage of Joseph. According to Judaic sources, Joseph's coffin included items such as a spell book, shroud, amulets, wax, and a bull statue. According to Meral, the hoof-prints of the messenger could indicate these items. The significance of this discussion for the present paper is the inclusion of certain divine items (the soil that Messenger's horse stepped on or the heritage of Joseph) in the raw material of the calf. Trovato et al. (2018a; 2021b, 551), who conceptualized theomorphic robots, argued that the inclusion of sacred symbols or sacred materials in theomorphic robot design would increase their perceived divinity. Table 1 presents the compatibility of al-Sāmirī's calf with the theomorphic robot design principles proposed by Trovato et al. (2021b).

2.6. Moses' Reaction: What Happened to al-Sāmirī's Calf?

In the Qurʾān, the reaction of Moses to al-Sāmirī and the fate of the calf are clearly conveyed. The Qurʾān's narrative is important for understanding the attitudes of Muslims toward theomorphic robots. It could be suggested that the Qurʾān's approach was centered on apostasy.

According to the Qurʾān, Moses learned about the transformation his people experienced while he was on Mount Sinai: "God asked, "Why have you come with such haste ahead of your people, O Moses?' He replied, 'They are close to my tracks. And I have hastened to You, my Lord, so You will be pleased.' God responded, 'We have indeed tested your people in your absence, and the Sāmirī has led them astray'." (Q 20:83-85).

The Qurʾān describes the attitude of the Israelites toward the calf as "apostasy" and al-Sāmirī as the apostate. What is remarkable in the Qurʾān is the fact that it emphasizes the material used to produce the calf, its function, and whether it had the potential to benefit or harm; it is an objective and neutral description. In Q 20:88-89 and Q 7:148, the reaction of the Qurʾān is associated with the meaning and mission attributed to the calf. In other words, the Qurʾān opposes the "divinity" mission attributed to the calf, not the calf itself. The calf served as a tool of apostasy. Albayrak (2001) argued that the real manipulator in the incident was al-Sāmirī and considered the calf's role in misleading people as secondary. Sūrat Ṭā-Hā describes how the Children of Israel went astray as they worshipped the calf: "*Aaron had already warned*

them beforehand, 'O my people! You are only being tested by this, for indeed your one true Lord is the Most Compassionate. So, follow me and obey my orders'. They replied, 'We will not cease to worship it until Moses returns to us'." (Q 20:90-91). However, according to certain Jewish sources, the Israelites worshipped the calf not as a god but as a representation of God. According to certain authors, similar to the representation of Amon-Ra by the Apis bull, the calf was a reflection of Yahweh (Meral, 2021, 54, 57). However, in the Qurʾān, assigning a "divine" mission to any creature other than God, animate or inanimate, is defined as *shirk* and the worst of all wrongs (Q 31:13).

The story of al-Sāmirī ends when Moses questions al-Sāmirī and informs him that he will burn the calf. Moses then asked, "*What did you think you were doing, O Sāmirī?*" He said, "*I saw what they did not see, so I took a handful from the traces of the Messenger and threw it away, and likewise I asked myself.*" (Q 20:95-96). Moses said, "*Go away then! And for the rest of your life, you will surely be crying, 'Do not touch me'! Then, you will certainly have a fate that you cannot escape. Now look at your god to which you have been devoted: we will burn it up, then scatter it in the sea completely.*" (Q 20:97). Then, Moses addressed his people: "*Your only god is Allah, there is no god worthy of worship except Him. He encompasses everything in His knowledge.*" (Q 20:98).

The verses on the story of al-Sāmirī prohibit the attribution of a "divine will, image, or identity" to any "inanimate" object. Moses' statement that he would burn the calf was consistent with that approach. Thus, Moses wanted to show that the calf did not have divine power. In fact, he did not mean to destroy and burn the calf itself but the meaning attributed to the calf. However, this should not be interpreted as the prohibition of robotic objects in religious matters.

Discussion and Conclusion

The robotics-religion interaction is still a new field. The issue of social robots in religion in the interaction of religion and robotics, as emphasized by Nord et al. (2023), led to a special field that tested individual religious practices, religiosity, and religious ideas, allowing practitioners to study questions such as "Can God-human interaction be improved with computer-human interaction?" and "Can these applications replace religious officials?" Thus, a new field is available

to investigate the phenomenon of religiosity, a main topic of the psychology of religion. The limits of robotics in religious matters and worship will be an important topic of debate in the coming years. In the present study, al-Sāmirī's calf was analyzed within the context of "theomorphic robots", a term that was introduced due to developments in the robotics-religion interaction.

The analysis of al-Sāmirī's calf based on the principles of theomorphic robot design (Trovato et al., 2021b) suggests that several properties of the calf are compatible with theomorphic features. The popularity of the cult of the bull in ancient Egypt, the consideration of bulls as the embodiment of God, and the interpretation of bulls and cows as symbols of power, holiness, and divinity (Döner, 2022; Gardin et al., 2019; Markovic, 2016; Wainwright, 1933; Wilkinson, 2010) were prominent in the period and the geography where the calf was sculpted. Thus, it can be observed that the calf was designed based on a theomorphic robot design principle, called skeuomorphism, namely, "the inclusion of new features in object design, by preserving the existing divine attributes to benefit from the familiarity of the users with the original object (Trovato et al., 2021b, 550)." ompliance with this principle probably increased the potential of the object to influence the target audience. Furthermore, since the design was highly similar to the original structure, another principle was due to the "bellowing" sound. The presence of traces of the divine in the material was another principle that aimed to increase the perceived divinity of robots. The calf was allegedly produced with metal obtained by melting jewelry. However, the possibility that the calf's raw material included the dust of the messenger or Joseph's heritage could be considered an intent to include traces of the divine in the object. The Torah mentions that Moses' brother Aaron sculpted the calf, while the Qurʾān quotes al-Sāmirī as saying, "This is the deity of Moses, but he forgot". In both cases, religious authorities such as Moses and Aaron are mentioned to achieve divine legitimacy. This is another design principle. The ability of the calf to produce sounds was the most prominent technical feature, and the lack of visible technical details such as buttons and pipes facilitated the attribution of divinity, demonstrating that the calf followed the principle of preventing the perception that the user controlled the robot.

Implementing a divine/religious/sacred idea makes a robot "theomorphic". This can also be observed in al-Sāmirī's calf. However, al-Sāmirī's calf does not comply with the first principle of Trovato et al. (2021b). This principle suggests that the product should not pretend to be a god to deceive or manipulate the user and should not be an alternative to the divine, but its identity should reflect the divine. However, the boundary between the role of "imitating the divine" and "reflecting the divine" is not clear in this principle. How can one know whether the limit is exceeded? The first principle of Trovato et al. (2021b) is "ambiguous". Nord et al. (2023) note that it is not clear what Trovato et al. (2021b) mean by the "assignment of the divine to robots". The authors emphasize that there is almost no definition of a divine figure. What does a divinely shaped robot mean? Is it the application of certain historical codes and forms of religious art in robots, or do these robots have a "divine essence"? Nord et al. (2023) associate the lack of a definition with Trovato et al. (2021b), who do not interpret the meaning of the assignment of a divine form to robots. Thus, the compatibility of al-Sāmirī's calf with the first principle becomes a question of interpretation that is open to debate. The present study attempted to answer the question, "Can al-Sāmirī's calf be considered an early example of theomorphic robots?" To answer this question, we used the ten principles of theomorphic robots reported by Trovato et al. (2021b, 550-552). Although certain principles (9 and 10) are inconsistent (Table 1), al-Sāmirī's calf can be considered a theomorphic robot. Undoubtedly, it would not be accurate to consider al-Sāmirī's calf, which was produced in 1400 BCE, completely compatible with contemporary robots (that employ touch sensors, light, etc.). As argued by Mayor (2018), the emphasis should be on the idea of robots, which entails efforts to create artificial life. This idea can be observed in al-Sāmirī's calf.

In the story of al-Sāmirī, it can be suggested that the attribution of will or self-proclaimed sanctity to an inanimate object would create a general resistance to robots in Islam. It is known that the cultural and religious background of individuals influences the acceptance of technological products (Albirini, 2006; Baffelli, 2021; Riek et al., 2010; Straub et al., 2003; Thomas, 1987; Weng et al., 2019). Empirical studies conducted in the West have revealed a positive correlation between religiosity (Giger et al., 2017; Metzler - Lewis, 2008) and belief in the

uniqueness of human nature (Metzler - Lewis, 2008) and an individual's negative attitudes toward robots. Based on the narrative of the fate of the artificial calf, we could suggest that there is a correlation between the attribution of sanctity to entities in Muslim societies and negative attitudes toward those entities. However, it should also be considered that this correlation could change based on religiosity and different religious interpretations.

In the conceptualization of theomorphic robots, the perception of the robot as divine is prominent. For this purpose, certain design strategies mentioned in the previous sections are employed. Although the boundaries of the robotics-religion interaction are still unclear, the status of robots in religious affairs should be discussed by theologians. We recommend discussion of the details of the perception or presentation of robots in the role of a "subject" of a divine mission and property, in the role of a convergence "agent" between God and humans, in the role of a worship "proxy" that performs on behalf of believers, or in the role of a "tool" to fulfill religious duties and produce knowledge on these different roles based on the principles of faith. The analyses of these distinctions based on Islamic law claim that these applications cannot be considered moral or legal (Gezer, 2022; Görgülü - Kesgin, 2021).

In Islam, robots are considered a tool without attribution of divinity in religious applications (e.g., ablution automat, religious teacher assistants Veldan and Arash). They do not directly replace the religious official, as in the case of Pepper, and they do not allow users to attribute divinity to the robots, as in the cases of SanTo and Mindar. Although social robots have been used in Islam, none could be considered theomorphic robots. Thus, there are no studies on the attitudes of Muslims toward these robots. However, attitudes toward robots employed in religious education have been investigated. More than 90% of primary school students in the abovementioned studies definitely preferred robot-assisted religion courses to courses instructed by humans (Albirini et al., 2006). As observed in the case of the robot Ibn Sīnā, the attitudes of those who interacted with the robot were generally positive (Riek et al., 2010). These robots could be employed as "tools" for religious education or Islamic worship. We believe that the attribution of the divinity of robots in the roles of subjects, mediators, or proxies beyond being tools in religion would

lead to resistance to social robots in Muslim societies. Since beliefs affect individuals' emotions, ideas, and behavior (Paloutzian - Park, 2005), it could be argued that the artificial calf and its fate described in the story of al-Sāmirī would lead to resistance. Furthermore, the prohibition of the images of God and Muḥammad, or aniconism, would affect the rejection of the representation of the divine in robots.

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Table 1: Comparison of theomorphic robot design principles (Trovato et al., 2021) and al-Sāmirī's calf

Theomorphic robot design principles	*Compatibility of al-Sāmirī's calf*	*Details*
A mediator identity that reflects the divine but does not imitate it.	Controversial	Al- Sāmirī identified the calf as a deity; thus, it is controversial.
Naming based on the principle of skeuomorphism rather than robotic references.	Compatible	Al-Sāmirī sculpted a "calf" statue in accordance with the sociocultural bull/cow cult of the Israelites, and it was introduced as a calf.
Inclusion of divine symbols.	Most likely compatible	It could be suggested that there was no need to use a divine symbol since it was

		constructed based on a cult that was inherently a symbol of holiness.
Sanctification by religious authorities to acquire legitimacy.	Compatible	Al-Sāmirī's calf was associated with Moses in the Qur'ān and with Aaron in the Torah.
Employment of the traces of divine material.	Compatible	The raw material of the calf included a plate with the inscription "Yahve", or the heritage of Joseph.
Employment in a spatial context that would not reduce the divinity represented by the robot.	Compatible	It was constructed in a context and a place where Moses received the Torah.
Exclusion of anthropogenic movements or communications since these could lead to the perception of the robot as a toy.	Compatible	The form did not diminish the perception of the divine and did not reflect all movements and sounds of a calf.
Development of technical strategies to reduce the perceived control of the user.	Compatible	The calf was designed to generate the perception that it creates the sound, and the user does not have mechanical control.
Employment of lighting associated with the divine.	Incompatible	No data available.
Employment of tactile sensors due to the positive impact of physical touch on senses.	Incompatible	No data available.

A CRITICISM OF TRANSHUMANISM FROM THE SOCIETY 5.0 PERSPECTIVE IN THE CONTEXT OF SOCIAL VALUES

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Abstract

From the standpoint of Society 5.0, the transhumanist perspective, which advances along the trajectory of technological singularity, appears to pose certain challenges, particularly in relation to its treatment of social values. Consequently, it is essential to critically examine and compare these two perspectives. The primary objective of this research is to offer a conceptual contribution aimed at mitigating potential complexities associated with social design projects developed for the future of humanity.

As part of the literature review, data pertaining to the perspectives of Society 5.0 and transhumanism on social values were gathered and

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systematically analyzed. The findings of the study indicate that while transhumanist objectives may encompass certain positive elements, they are inadequate to achieve a content and flourishing society. Given that the social values that lend meaning to human existence are contingent upon cultural norms, it becomes necessary to reevaluate transhumanist goals in alignment with the principles of Society 5.0. This is because neglecting spiritual well-being can adversely affect goal achievement and may trigger social crises.

Keywords: Society 5.0, transhumanism, social values, technological singularization

Introduction

Countless thinkers, seers, and ordinary people throughout history have glorified happiness rather than life as the supreme value because the absolute quest of humanity is to attain permanent happiness.[1] Based on personal experiences and observations, it is possible to agree with these claims to some extent. Human beings suffer in different dimensions in their quest to satisfy their instincts, which inevitably leads them to seek happiness.[2] The literature suggests that in this search, people are directed to different goals in accordance with their styles of belief. It is possible to divide these beliefs into two main branches that focus on the world or the hereafter. Views that focus on the world include capitalism, socialism, and Marxism. They aim for happiness through material and spiritual wealth in the world. In contrast, hereafter-oriented religions such as Judaism, Islam, and Christianity aim for absolute happiness, which is expressed in the afterlife in concepts such as heaven. While there are also views that put people and nature in the center, such as far-eastern mystical beliefs that are closer to worldly life, technological approaches have now been added to these pursuits of happiness. Society 5.0 and transhumanism are the most popular of these technological approaches. In line with the transhumanist view, it is important to remember the following words of Harari:

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1 Yuval Noah Harari, Homo Deus: A Brief History of Tomorrow (New York: Harper Perennial, 2018), 27.

2 Sigmund Freud, *Civilization and Its Discontents* (London: Hogarth Press, 1930), 21.

> Now that we have reduced deaths from hunger, disease, and violence, we can now try to overcome aging, even death itself. Now that we have freed people from humiliating misery, we can now aim to make them happy. We have carried humanity higher in the struggle for survival. Now we can work to elevate humans to god status and turn Homo Sapiens into Homo Deus. "If famine, epidemics and wars are over, if humanity has entered a period of unprecedented prosperity and peace, if life expectancy is rising rapidly, people should be happy with it, right?[3]

Harari cites Epicurus with regard to this question and states that such a thing is not possible. Harari, who expressed this view that is at the center of the goals of transhumanism, also expressed a handicap to the same question. Given the views of predecessors such as Epicurus and Freud, known for their pleasure-oriented thought,[4] one wonders about the bases of the transhumanist perspective that reduces happiness to eliminating diseases and extending life. For this reason, an answer to the same question is sought within the scope of this research by utilizing sources on transhumanism.

Aligned with the vision initiated under the leadership of the United Nations to address chronic global issues,[5] the Society 5.0 policy proposed by Japan as a national project presents a future-oriented plan for technological society developed through design.[6] This document suggests utilizing technology not as a threat but as a tool to address humanity's challenges. Society 5.0, positioned as a "value-oriented society centered on the individual", promises the creation of a welfare society by harnessing all technological possibilities and encouraging the active participation of academia, the business world, and citizens. The document extensively addresses broader solutions to humanity's issues, including those emphasized in transhumanist goals. However, one may question how the transhumanist perspective on social values will be received in the future era known as "Society 5.0", which refers to the four periods of social development based on technological

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3 Harari, *Homo Deus*, 20.

4 Freud, *Civilization and Its Discontents*.

5 UN, *Society 5.0 for SDGs*, Final Declaration, B20 Tokyo Summit Joint Recommendations (Tokyo: United National, 2019).

6 Yuko Harayama, "Society 5.0: Aiming for a New Human-Centered Society Japan's Science and Technology Policies for Addressing Global Social Challenges", *Hitachi Review* 66/6 (2017), 554-559.

advancements. The approach of social design, rooted in societal "goodness", toward "value" is significant for achieving social harmony. Therefore, it is crucial to critically evaluate the transhumanist concept of "value" in light of the principles outlined in the Society 5.0 project.

Transhumanism, with its goal of enhancing human capabilities through technology to transcend limitations and achieve a superhuman state, and the Society 5.0 project, which aims to improve people's lives by addressing chronic problems through technology, can be seen as converging in their pursuit of the human "good" However, divergent views on the social and cultural practices that are considered "valuable" may introduce flaws in the design of a technological society that incorporates transhumanism. The implications of transhumanist perspectives on gender equality, driven by the axis of technological singularity, remain uncertain within the future envisioned by Society 5.0. Nevertheless, it is important to critically analyze transhumanism in accordance with the recommendations of Society 5.0 to mitigate potential social crises. Therefore, the primary objective of this research is to provide a theoretical contribution to the development of social design projects for the future of humanity and offer insights to prevent potential complications.

Within the scope of the literature review, which is a qualitative research method, data documenting the perspective of Society 5.0 and transhumanism on social value were systematically collected and analyzed. First, historical findings on social designs that focus on solving the chronic problems of humanity were identified, and examples of the use of technology in the solution of social problems were found. In the second stage, from the perspective of Society 5.0, transhumanism was viewed from the point of criticism in the triangle of the individual, society, and social value. Thus, the attitude of transhumanism toward social "value" was clarified, and a unique finding was obtained that can contribute to the fields of both communication and sociology.

The Concept of Social Value and the Problem of the Design of Societies

Ethics,[7] defined as a set of principles and codes of conduct that guide individuals in various situations, plays a significant role in shaping societal character. Ethical values, influenced by human and economic classifications, are associated with individuals who are considered "moral, possessing a well-developed personality, self-confident, and beneficial to both their society and the world".[8] The presence of moral principles nurtured by ethical awareness serves as a precondition for evaluating personal activities or actions as human.[9] Adhering to these rules, which are expected to be followed by different social classes to the best of their abilities, also contributes to harmonious relations between classes. An individual's morality is often evaluated based on his or her adherence to these rules.[10] According to Argu, the impact of moral values and sanctions acquired during socialization can extend into individuals' private sphere, with society exerting control over their actions. In other words, even in their private lives away from public scrutiny, individuals may still be held accountable using these conscientious elements. Scientific and economic advancements, along with processes such as rationalization, democratization, individualization, secularization, and technological progress in modernization, have weakened traditional values and their control mechanisms, potentially leading to an increase in crime rates.[11] Technology can serve as an example of this negative effect: an individual who may find stealing incompatible with his or her moral

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7 Stanley J. Baran, *Introduction to Mass Communication: Media Literacy and Culture* (New York: McGraw Hill, 2004), 215.

8 Ayşegül Büyükbingöl Yağcı, *Değerler Eğitimi Bağlamında Yusuf ile Züleyha Kıssası* (İstanbul: Marmara University, Institute of Social Sciences, Master's Thesis, 2012), 41.

9 Emel Koç, "Bilim ve Teknoloji Çağında İnsan Olma Sorumluluğu (Etik Bilinç)", *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi* 17/2 (2013), 11.

10 Halil İbrahim Gürcan, "İnternet Haberciliğinde Etik Değerler", *İstanbul Üniversitesi İletişim Fakültesi Dergisi* 22 (2005), 40.

11 Hüseyin Cinoğlu, "Suç, Küreselleşme ve Gelecek", in *Suç Önleme Sempozyumu*, ed. Sekine Bozdemir - Uğur Argun (Bursa: Bursa Emniyet Müdürlüğü Yayınları, 2011), 255-256.

values and social standing in daily life might engage in various forms of online theft or harmful behavior in the digital environment.[12]

Rousseau's perspective associates moral behavior with the transition into society. According to Rousseau, as human beings transitioned from their natural state of existence to living in society, they replaced instinct with justice, thereby imbuing their actions with the concept of morality, which was previously absent.[13] In this regard, a social contract can be viewed as a fundamental document of social design. These agreed-upon rules, whether written or unwritten, between social engineers such as opinion leaders, powerful figures, and citizens both define and reflect the collective character of societies. Thus, the creation of social contracts by human communities as they transitioned into settled societies can be seen as a form of social design. This viewpoint is supported by the understanding that contemporary design seeks sustainability and encompasses economic, social, environmental, and ethical dimensions in addition to technological aspects. The aim is to create sustainable[14] systems and structures that reflect the principles of a well-designed social contract and that take into account[15] the holistic well-being of individuals and communities.

It can be argued that every revolution, whether secular or theological, aims to create an idealized society. The notion of design can be traced back to theological sources, where design work is believed to have commenced with the first human. Efforts toward guidance, such as teaching Adam the names of things to facilitate knowledge acquisition,[16] establishing limits on what to eat and what not to eat,[17] and introducing cultural dimensions, can be seen as early examples of design initiatives communicated directly by the Almighty Creator.[18] Furthermore, theological sources suggest that all prophets

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12 Oğuz Kara - Üzeyir Aydın - Ahmet Oğuz, "Ağ Ekonomisinin Karanlık Yüzü: Siber Terör", *5. Uluslararası Bilgi, Ekonomi ve Yönetim Kongresi Bildiriler Kitabı* (İstanbul: n.p., 2006), 2/162.

13 Jean. J. Rousseau, *The Social Contract* (New York: London - Toronto, 1923), 18-19.

14 Victor Papanek, *Design for the Real World: Human Ecology and Social Change* (Chicago: Academy Chicago Publishers, 1985).

15 Enzio Manzini, "Design, Ethics and Sustainability: Guidelines for a Transition Phase", in *Cumulus Working Papers: Nantes* 16/06, ed. Eija Salmi - Lotta Anusionwu (Helsinki: University of Art and Design Helsinki, 2006), 2.

16 Q 2:31.

17 Q 7:19.

18 Gen. 1.

were sent to design their own society.[19] When analyzing religious and philosophical teachings ranging from Zeus to Buddha and from Socrates to Marx, it becomes apparent that the majority of them are focused on the development and transformation of societies. The establishment of laws through appropriate means of communication during the early empires, the understanding of political administration, and the formulation of rules concerning economic relations can also be associated with the concept of social design.[20] Marx's statement that the social infrastructure determines the superstructure and the link between the determination of social, political, and intellectual life[21] processes and the mode of material life production echoes the idea of specific design. Innis' (2006) ideas on using communication tools as a means for empires to shape and control their subjects also support this notion of design within the social realm.

When examining concrete examples from the history of design, a rich list of revolutions emerges.[22] One notable example is the reforms implemented by King Urukagina, who ruled in the 24th century BC. Recognizing the injustice in temple administration, he instigated the first revolution among the Sumerians, marking the earliest revolution in human history. Another significant example is the rape of Lucretia, a noblewoman, by the son of the last king, Tarquinius Superbus, in ancient Rome around 753 BC. Lucretia's subsequent suicide sparked a popular political revolution in the city against the king, ultimately leading to the adoption of a republican form of government in Ancient Rome in 510 BC. The French Revolution of 1789, often regarded as the most influential sociopolitical revolution in modern history, is another notable example. It was driven by the rise of the bourgeoisie, the downfall of the aristocracy, and the establishment of modern society. Numerous other examples, such as the Code of Hammurabi and the Magna Carta, can be cited in this context. However, it is particularly relevant to mention the series of revolutions that occurred with the

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19 Abū ʿAbd Allāh Fakhr al-Dīn Muḥammad ibn ʿUmar al-Rāzī, *Tafsīr al-Fakhr al-Rāzī al-mushtahir bi-l-Tafsīr al-kabīr wa-Mafātīḥ al-ghayb* (Beirut: Dār al-Fikr, 1981), 1/74.

20 Harold A. Innis, *Empire and Communications*. (Canada: Press Porcépic, 1986), 1.

21 Karl New York: Palgrave Macmillan, "A Contribution to the Critique of Political Economy", in *Marx Today: Selected Works and Recent Debates*, ed. J. F. Sitton, (New York: Palgrave Macmillan, 2010), 92.

22 *Wikipedia*, "Devrimler ve Ayaklanmalar Listesi" (Accessed March 19, 2023).

collapse of the Ottoman Empire and the establishment of the Republic of Turkey in 1923. This example is significant because it took place in recent history and provides a concrete case study. Each of these examples illustrates how long-standing chronic problems were resolved through revolutionary approaches. The Sumerian and Turkish examples represent political revolutions where change occurred from top to bottom. In contrast, the establishment of the Roman Republic and the pressure exerted by the French Revolution reflect transformative changes that influenced society from the bottom to the top.

In human development, the evolution of societies has been closely intertwined with the control of nature, the modes of production, and the utilization of tools. Different forms of society have emerged based on the tools and technologies employed by human beings. For instance, societies that utilized cutting and piercing tools exhibited a nomadic characteristic during the hunting and gathering period. However, societies that learned to cultivate and employed tools for sowing and reaping transitioned into settled communities and displayed the characteristics of moral societies, as noted by Rousseau. During the industrial period, proximity to factories became necessary, leading to urban settlements and cities. As we observe contemporary societies, the influence of mass media has given rise to mass societies.[23] Moreover, with the advent of computerization and the widespread availability of information, we witness the emergence of network societies.[24] This view presents an image that is gradually entering the spiral of technology, and this progression reflects the gradual integration of technology into our lives. Considering this trajectory, it can be seen as a natural evolution for human beings to embrace technology as a means to address social problems. The increasing reliance on technology can be viewed as a response to the challenges and complexities of modern societies. As societies continue to evolve, it is only natural for individuals to consider using technology as a tool to aid in solving social issues.

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[23] Daniel Bell, *The End of Ideology* (New York: Harvard University Press, 1988), 21-22.

[24] Manuel Castells, *The Rise of the Network Society* (Oxford: Blackwell Publishers, 2000), 21.

The Relationship Between Technology and Social Values

The relationship between technology and social structure is significant because the development of technology often shapes and influences the structure of societies. An illustrative example is the transformation of urban societies that emerged alongside industrialization, when workers migrated to areas near factories. This led to the development of a distinct type of urban community that communicated and interacted within this context. According to Ferdinand Tönnies, the emergence of community is closely related to the advancement of social culture, technology, and economic accumulation.[25] As these factors progress, social life can manifest in various forms, such as economic, profit-oriented, exchange, or civil societies. As a characteristic form of modern society, the city features a large urban center and emphasizes intellectual pursuits. It differs from the village, which is typically based on an agrarian economy and the utilization of appropriate technology. These distinct organizational structures highlight how different technologies can shape the social fabric and structures of communities.

Bell (2012) explains the effect of mass media on the creation of the city type dominated by mass culture:

> Revolutions in transport and communication have brought people closer together and connected them in new ways. The division of labour has made people more dependent on each other, and the tremors in one part of society have also affected other parts. However, despite this growing dependence, individuals have become more alienated from each other. The old basic family ties and local communities have disintegrated and old narrow-minded beliefs have been questioned. Only a few unifying values have emerged. Above all, the critical standards of the educated elite no longer shape opinion or taste.[26]

According to Bell's perspective (2012), interpersonal relationships tend to remain shallow and incomplete in a constantly evolving society due to continuous changes in moral rules, customs, and traditions. Increased mobility, both spatially and socially, directs attention toward

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[25] Mehmet Fikret Gezgin, "Cemaat-Cemiyet Ayırımı ve Ferdinand Tönnies", *Sosyoloji Konferansları* 22 (1988), 199.

[26] Bell, *The End of Ideology*, 21.

social status. Instead of having a recognized status, individuals are required to prove themselves in various roles and adapt to ever-changing conditions. As a result, the unifying beliefs that once existed within mass society are eroded, making room for the emergence of charismatic leaders who demand compulsory respect. In this context, with the pursuit of individual privileges and the transformation of values into economic calculations, the world becomes one of lonely crowds. This leads to a situation where extreme forms of horror surpass the boundaries of shame and consciousness. Bell argues that the theory of mass society provides a powerful and realistic description of modern society and accurately reflects the quality and inner world of contemporary life. The constant transformation of values and the focus on individual pursuits contribute to the fragmentation of interpersonal connections and the rise of charismatic leadership in a society characterized by the lonely crowd phenomenon.[27]

Advocates of technological determinism argue that certain technologies, such as writing, have profound effects on various aspects of society. They believe that writing technology creates a conducive environment for the development of phenomena such as codified law, monotheism, abstract science, deduction, objective history, and individualism.[28] According to McLuhan (2014), who explores the impact of media, the discovery of electromagnetic technology has essentially created a simultaneous and interconnected "field" in all human relations. This has led to the emergence of a global village where individuals live in a condensed space resonating with tribal drums.[29] McLuhan draws parallels between the total and instant cause-effect interaction and interdependence observed in oral societies and the Soviet Union's interest in media in recent history. He likens Soviet society to a tribal society and suggests that since the advent of electric media, a new dimension of global interdependence has emerged that resembles the characteristics of oral culture. Advertisers and public relations professionals, who are adept at understanding this new dimension, utilize media for product-oriented purposes rather than

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[27] Bell, *The End of Ideology*, 222.

[28] Robert Logan, "Writing and the Alphabet Effect", in *Communication in History: Stone Age Symbols to Social Media*, ed. Paul Heyer - Peter Urquhart (New York: Routledge, 2019), 51.

[29] Marshall McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man* (Canada: University of Toronto Press, 1962), 31.

personal ones. Similarly, Soviet bureaucrats, driven by national interests, would not consider using public media for personal gain. McLuhan's perspective highlights the transformative power of media technologies and their influence on the interplay of global interdependence, societal structures, and cultural dynamics. The concept of the global village underscores the idea that electronic media has connected people across vast distances and created a sense of global unity reminiscent of the tribal communities of the past.[30]

In addition to proponents of technological determinism, such as Innis (2006) and McLuhan (2014), some critics offer alternative perspectives. Bijker (2010) and Sismondo (2010) argue that technological determinism adopts a narrow and one-sided approach to development characterized by theological, linear, and unidirectional views.[31] Sismondo further contends that for technologies to be considered genuine driving forces of history, their impact must extend beyond their specific social and material contexts.[32] This perspective emphasizes the reciprocal relationship between technology and society, highlighting the influence they have on one another and how they shape the formation of social institutions. It posits that a comprehensive understanding of the social order in modern society necessitates acknowledging the role of technology. Castells also questions the validity of technological determinism and asserts that it presents a false dilemma. He contends that technology and society are inseparable because technology is an integral part of society. According to Castells, society cannot be comprehended or depicted without considering its technological dimensions.[33]

Both proponents and opponents of technological determinism acknowledge the strong link between technology and social change. Consequently, it becomes apparent that social values cannot be separated from technology and its utilization.

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30 McLuhan, *Gutenberg Galaksisi*, 21.

31 Wiebe E. Bijker, "How is Technology Made-That is the Question?", *Cambridge Journal of Economics* 34 (2010), 71.

32 Sergio Sismondo, *An Introduction to Science and Technology Studies* (Malden: Blackwell, 2004), 83.

33 Castells, *The Rise of the Network Society*, 6.

Overview of Transhumanist Thought

The philosophers of the 17th century, including Bacon, Descartes, Kepler, Newton, and Galileo, are often credited with laying the groundwork for the emergence of a materialist-rationalist scientific worldview that contributed to humanism. According to Dağ (2017), these influential figures of the Renaissance humanism movement also played a role in shaping a well-rounded individual who is intellectually, morally, culturally, and spiritually developed. The shift of Christianity toward humanism can be traced to the influence of Patristic theology, where the focus shifted from God to Jesus and emphasized the importance of humanity. Erasmus' Humanism, in particular, contributed to the rise of Renaissance humanism by integrating Christian virtues with classical ideals and promoting Christian education. However, transhumanism, which can be traced back to ancient texts such as the Epic of Gilgamesh, goes beyond the boundaries of traditional humanism. It seeks to extend human life and achieve immortality through the advancements and possibilities offered by modern science and technology. Technologies such as artificial intelligence, the Internet of Things, the metaverse, and deep learning have become pervasive in various sectors, with social media and smartphones playing significant roles.[34] The concept of a metaverse, along with advancements in deep learning and the potential to transcend physical boundaries through cyberspace, is among the factors that contribute to the promotion of transhumanist ideas.

Digital technologies have advanced to a point where they can extend and enhance various human capabilities, even to the extent of integrating microchips into different parts of the body. This development goes beyond simple human communication and interaction. Ray Kurzweil's perspective on the inevitability of technological singularity, where the boundaries between the biological body and the mind gradually disappear, suggests that a technological entity could potentially replace human beings. According to Kurzweil, through technology, human beings can overcome limitations such as disease, aging, and memory constraints,

[34] Ahmet Dağ, "Transhumanism as a Radicalization of Humanism", *Felsefi Düşün* 9 (2017), 51.

leading to a transition into an upgraded version of humanity. This vision aligns with the concept of Humanity 2.0, which envisions a future shaped by the technological revolution in genetics, nanotechnology, and robotics.[35] These technologies will play a crucial role in enhancing intelligence, which is regarded as the highest value on the transhumanist scale; it encompasses both human and machine intelligence and elevates it to a level capable of self-replication. The aim of these three technologies –genetics, nanotechnology, and robotics– will be to enhance intelligence and push it to new heights, enabling it to reproduce itself and proliferate. This vision of a future where technology augments human intelligence and capabilities is at the core of transhumanist aspirations.[36]

Transhumanists advocate for the use of technology as a means to transcend human limitations and achieve a posthuman state. The journey toward becoming posthuman involves a progression from human to semihuman, ultimately leading to the point of Nirvana where the human consciousness becomes free from the constraints of the physical body and transitions into a purely machine existence, attaining disembodiment and immortality.[37] Transhumanists believe that technology can be harnessed to address the weaknesses, ailments, and mortality associated with the human body. By embracing transhumanism, they envision unlocking new possibilities for human nature that can catalyze the self-transcendence of humanity. They anticipate that the posthuman state achieved through the fulfillment of transhumanist goals will significantly differ from present-day humans, just as contemporary individuals differ from their ancient counterparts. In essence, transhumanists perceive technology as a transformative force that can propel humanity beyond its current limitations, enabling

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35 Ray Kurzweil, "Human Body Version 2.0", In *The Ray Kurzweil Reader*, ed. Ray Kurzweil (2003), 3.

36 Ted Peters, "Boarding the Transhumanist Train: How Far Should the Christian Ride?", in *The Transhumanism Handbook*, ed. Newton Lee (Cham: Springer Nature Switzerland AG, 2019), 798.

37 Cengiz Dağdelen, *Post-Hüman: Transhümanizm Hareketi'nden Posthümanizm'e* (Konya: Tılsım Yayınevi, 2021), 34.

the emergence of a posthuman[38] condition characterized by enhanced capabilities, longevity, and a fundamentally altered existence.[39]

While studies on human history generally focus on the ongoing evolution of Homo sapiens, transhumanism introduces a new perspective on the human condition from philosophical and sociocultural standpoints.[40] In this context, "transhuman" does not imply a mere transition but rather a transcendence of the current human state and perception. Another perspective that aligns with this notion is rooted in the concept of "extropy", which encompasses the pursuit of greater intelligence, wisdom, an indefinite lifespan, and the elimination of political, cultural, biological, and psychological limitations on continuous development. The goal of transhumanism is to progress in unlimited and beneficial directions by surpassing the constraints that hinder overall human advancement. This is achieved through self-transformation, practical optimism, the establishment of an open society, democratic knowledge, self-governance, and rational thinking. The aim is to imagine scenarios that facilitate the creation of highly advanced human conditions, utilizing the largely untapped potential of human beings. Transhumanism envisions a future where human capabilities are fully realized, allowing for extensive growth and development.[41]

Another view, which offers an egalitarian representation of transhumanism by comparing it with Christian teachings and practices, argues that heaven, seen as a mythical place, can, in fact, be reconstructed on earth. According to this view, heaven was man's first home, but over the centuries, the concept of heaven has been distorted, and the perception of the person of God and His oneness with humans has been altered. Traditional religious institutions have used fear as a means of suppressing the mind for centuries. Christianity is therefore molded as a religion of death, slavery, and fear. Now, with

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[38] Ted Peters, "Boarding the Transhumanist Train: How Far Should the Christian Ride?".

[39] Newton Lee, "Brave New World of Transhumanism", *The Transhumanism Handbook* (Cham: Springer Nature Switzerland AG, 2019), 3.

[40] Natasha Vita-More, "Introduction to "H+: Transhumanism Answers Its Critics", *metanexus.net* (2009).

[41] José Luis Cordeiro, "The Boundaries of the Human: From Humanism to Transhumanism", *The Transhumanism Handbook* (Cham: Springer Nature Switzerland AG, 2019), 70.

the help of science and technology, we can regain paradise by achieving socioeconomic equality and eliminating human exploitation. The automation of labor will also create more time to pray to God and go to churches. In the opinion of Lee, who has focused on creating a paradise on earth with this method, the realization of transhumanism depends on the achievement of 4 goals:[42]

a) establishing socioeconomic equality

b) achieving physical immortality

c) cleaning the environment

d) developing Christian transhumanist consciousness

The manifesto prepared within the scope of these goals, which bear the traces of a socialist approach, sets out seven steps:[43]

1. State-owned means of production, lands, and enterprises; the abolition of inherited property, including intellectual property.

2. The elimination of human exploitation through the full automation of labor.

3. The active use of digital democracy to expand and enhance democratic practice.

4. The replacement of governments with supercomputers until the Kingdom of God is restored.

5. The establishment of a centrally planned economy run by artificial intelligence.

6. The elimination of money with the help of advanced technology.

7. Free health care and education for all people.

Bostrom (2005) states that another transhumanist priority is attaining the wisdom necessary to make wise choices about the future. According to him, this can be achieved at the individual level through education, critical thinking, open-mindedness, study techniques, information technology, and perhaps memory-enhancing drugs and other cognitive enhancement technologies. With this ability, the rule of law and democracy can be promoted and developed on an international level. Once artificial intelligence, especially its human

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[42] Inessa Lee, "Equalism: Paradise Regained", *The Transhumanism Handbook* (Cham: Springer Nature Switzerland AG, 2019), 49-53.

[43] Lee, "Equalism: Paradise Regained", 54-57.

equivalent, is achieved, great leaps in knowledge and wisdom can also be achieved.[44]

In summary, transhumanism is seen as a work in progress that advocates the reshaping of human nature as desired on the basis of global security, technological progress, and broad connectivity.[45] Transhumanists, who do not see the current human being as the end point of evolution, believe that with the appropriate use of science, technology, and other rational tools, much greater capacities than those of today's human beings can eventually be possessed by the posthuman.[46]

Transhumanists' Thought on Social Values

The analysis of existing data clearly demonstrates that transhumanism aims to address social issues through the utilization of technology. However, the unique nature of transhumanism as a social concept raises questions about the proposed sociocultural structure. It is a matter of curiosity how morality will be shaped in the context of artificial intelligence and the envisioned posthumanism. Todorova offers a speculative response to the question of artificial intelligence,[47] suggesting that it may lead to a new synthesis of traditional moral values. Todorova gives an estimated answer to the question of artificial intelligence as "probably a new synthesis of our traditional moral values". Because posthumanism encompasses not only human beings but also other species,[48] it is expected that a new moral code will emerge that is influenced by evolutionary and game theories, economics, cognitive sciences, cultural anthropology, religions, and biases. Each society can create a new system of rules to adapt to new circumstances. Additionally, transhumanism promotes the well-being of all sentient beings, including nonhuman animals, artificial intelligence, humans, and potentially extraterrestrial species, if they exist. Therefore, racism, sexism, speciesism, aggressive nationalism,

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44 Nick Bostrom, "Transhumanist Values", *Nickbostrom.com* (2005).

45 Bostrom, "Transhumanist Values" (2005).

46 Bostrom, "Transhumanist Values" (2005).

47 Mariana Todorova, "Philosophical, Moral, and Ethical Rationalization of Artificial Intelligence", *The Transhumanism Handbook* (Cham: Springer Nature Switzerland AG, 2019), 264.

48 Cordeiro, "The Boundaries of the Human: From Humanism to Transhumanism", 72.

and religious intolerance are incompatible with transhumanist ideals. To prepare for the future development of the human species in various directions, it is recommended to actively foster the development of a comprehensive moral framework that addresses a wide range of concerns.[49] However, it remains uncertain to what extent transhumanism will continue prioritizing the concept of the "moral human being".

It is not possible to know at this stage whether the handicaps of posthumanism can be overcome since they are related to the envisioning of a future society. However, if it can be determined what kind of a society is desired to the extent that it is expressed in the theoretical framework, a critical framework can be created. When considering transhumanism in terms of helping to sketch a picture of the society in question, the phenomena that can be accepted as social values are mainly included under the following headings:

a. Social intelligence and social health

b. Gender equality

c. The individual's freedom, well-being, and relationship with God

Understanding the transhumanist perspective on these topics will also help to criticize the perspective of Society 5.0, which includes the same topics.

The Transhumanist Future of Intelligence and Health

In the transhumanist perspective, intelligence is regarded as the utmost "value" on the scale. Consequently, the focus is placed on gene, nano, and robotic technologies to enhance both human and machine intelligence to a level where it can self-replicate. This notion implies that the more intelligent individuals will thrive while the less intelligent ones may be left behind.[50] The ultimate objective of transhumanism is to attain the post-human state. Peters (2019) suggests that transhumanists address the ethical dilemma associated with this goal through the lens of social Darwinism within neoliberal thought, encapsulated by the phrase "let them do it". Within this framework, there is an aspiration to exert control over the human mind and body through specific codes and, if necessary, replace them with

[49] Bostrom, "Transhumanist Values" (2005).

[50] Peters, "Boarding the Transhumanist Train: How Far Should the Christian Ride?", 798.

technologically advanced replicas. Through this process, the aim is to achieve higher levels of intelligence and advancement.

Transhumanism is rooted in advancing and enhancing human beings in all aspects. Its goal is to create individuals who are exceptionally healthy, possess extended lifespans, and exhibit superior intelligence and abilities. Through increased knowledge and improved decision-making, it envisions individuals living significantly longer lives in a state of "perfection" and attaining heightened self-awareness and understanding of interpersonal relationships. The aim is for people to experience greater happiness by transcending cultural, psychological, and mimetic biases and acquiring the ability to navigate change and progress through the development of intelligence in all its forms.[51] This pursuit is facilitated by emerging technologies that enable the genetic enhancement of mental and physical capacities, disease prevention, control over desires, moods, and mental states, and the integration of artificial intelligence with interface technology, molecular biology, and nanotechnology.[52] The advent of anti-aging medicine offers the possibility of eliminating the complications associated with aging and radically extending the period of active health rather than simply prolonging the final stages of life supported by medical devices.[53]

Transhumanism's Perspective on Gender Equality

Transhumanism places great emphasis on gender equality as one of its core values. Scholars such as Kahane and Savulescu argue that transhumanists actively support a post-gender ideal and advocate for the dissolution of traditional gender identities. They believe that as development technologies progress, it will eventually become possible for individuals to possess both male and female characteristics or neither. Gender will become a matter of personal choice, while motherhood may be viewed as a limiting option.[54] However, there are contrasting perspectives that suggest that motherhood could potentially be surpassed in the era of posthumanism. These views aim

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51 Hava Tirosh-Samuelson, "Engaging Transhumanism", *H± Transhumanism and Its Critics* (Philadelphia: Metanexus, 2010), 38.

52 Tirosh-Samuelson, "Engaging Transhumanism", 19.

53 Bostrom, "Transhumanist Values" (2005).

54 Gay Kahane - Julian Savulescu, "The Value of Sex in Procreative Reasons", *The American Journal of Bioethics* 10/7 (2010), 22.

to free human beings from primitive instincts driven by evolutionary biology's eugenic principles.[55] The argument posits that evolutionary biology has created disparities among living beings, including gender differences, which have led to conflicts. Transhumanism, in this context, seeks to liberate the body from gender distinctions just as it facilitates the construction of a forest within the mentioned pyramid. This perspective, which views the posthuman as a machine, suggests that the mechanized body would no longer require gender. Additionally, as genetic research and medical advancements enable the birth of individuals without genetic issues, alternative methods of reproduction will supplement traditional means, leading people to strive for the superiority of the posthuman.

Another perspective provides a more nuanced understanding of the differences between transhumanism and posthumanism in terms of their content and the envisioned characteristics of the future human. This viewpoint offers a softer interpretation compared to Dağdelen's (2021) assertions. According to this view, transhumanism, which originated primarily from Anglo-Saxon sources, is driven by biological and economic arguments. In contrast, posthumanism, rooted in continental European thought, draws inspiration from feminist theories within the framework of postmodernism and gender literature. While both concepts share a positive vision of the future human, they possess distinct and, at times, even opposing philosophical and intellectual foundations. However, due to the relatively new nature of the literature, this aspect has not been extensively explored. It is suggested that although transhumanism does not explicitly reject species differences, the emphasis placed by posthumanism on eliminating these differences is a notable divergence. Nonetheless, it is possible to overlook this differentiation.[56]

It seems that in transhumanism, the emphasis is on gender equality as a value, the elimination of social and cultural gender distinctions and inequality, whereas in posthumanism, the emphasis is on eliminating the biological body by transcending biological limitations.

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[55] Dağdelen, *Post-Hüman*, 43.

[56] Muhammet Özdemir - Nevin Başaran, "Transhümanizm, Posthümanizm ve İnsan Bilincinin Yeni Kapsamı", *İslâmî Araştırmalar* 32/1 (2021), 47.

Free Individual, Happy Man, and Taming God

In terms of social ethics, transhumanists are often associated with a perspective influenced by evolutionary Darwinism and a "let them do it" neoliberal ideology.[57] This approach reflects a commitment to individual freedom, prosperity, and a sense of God-consciousness. It can be argued that transhumanists value individual freedom and choice as important social values.[58] According to this viewpoint, people may have diverse conceptions of personal development, and it is morally unacceptable to impose a uniform standard if individual choices do not significantly harm others. Additionally, it is deemed inappropriate to express disgust or moral humiliation when individuals utilize technology to modify themselves. The freedom of individual morphological transformation should not be hindered by others in the pursuit of individual preferences within the realm of genetic freedom and the use of developmental technologies aimed at personal "healing".[59]

The pursuit of materialist/rationalist human beings, which originated with humanism,[60] has evolved into the quest for happiness in transhumanism. Happiness, according to transhumanists, is achieved through long and healthy lives as well as equality. By attaining these three goals, individuals can experience happiness by alleviating material suffering and other concerns. Transhumanism, which aims to surpass biological and physical limitations and places humans on a path toward cyborgization and deification, is not regarded[61] as a bleak or pessimistic ideology. Instead, it is seen as a philosophy embraced by strong, happy, and ambitious individuals who envision better possibilities, know what they desire in life, and strive to attain it. For them, transhumanism represents a perspective that does not concern itself with the fate of their souls once their bodies turn to ashes.[62]

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57 Peters, "Boarding the Transhumanist Train: How Far Should the Christian Ride?", 798.

58 Bostrom, "Transhumanist Values" (2005).

59 Dağdelen, *Post-Hüman*, 74.

60 Dağ, "Transhumanism as a Radicalization of Humanism", 51.

61 Dağ, "Transhumanism as a Radicalization of Humanism", 46.

62 Kate Levchuk, "How Transhumanism Will Get Us Through the Third Millennium", *The Transhumanism Handbook* (Cham: Springer Nature Switzerland AG, 2019), 77.

Levchuk's statement suggests that transhumanists, who seek immortality and focus on the present life, do not hold a belief in an afterlife. Adolson-Gavrieli's definition of God supports this perspective by suggesting that the concept of God is a constructed consciousness aimed at introducing an all-powerful, omnipresent entity responsible for resource distribution. Initially, there were multiple gods, but monotheism emerged as the complexities of celestial and earthly existence became difficult to manage. To solidify these claims, God was proclaimed as both unknown and unknowable, erecting a barrier against change that they deemed a harbinger of the apocalypse.[63]

In contrast to the abovementioned definition of God by believers, transhumanists consider the limitations of current wisdom and argue that assumptions can change as more knowledge is obtained.[64] Accordingly, they also propose a new definition of God, recognizing that old habits and beliefs may not suffice in new circumstances:[65]

> The time has come. We are in the process of creating a transhumanist God. As our myths, aspirations and technologies mate, humanity and the machine give birth to a material God. This God is not a metaphysical, untouchable, unattainable projection. The God we are creating is as real as you and I are, or at least as real as we will be in the future. This God is necessarily material. It exists in space and time, because we exist in space and time. This God must be plural, otherwise we recreate the one God who is tyrannical. This God is dynamic and intelligent. This God is developing, changing and growing, perhaps exponentially. God's development and growth depend on us as we are eternal with God.

In this definition, which turns the relationship between God and humans into the opposite of historical epistemological knowledge, God is now made dependent on humans. This definition of God also coincides with the goal of transhumanists to create a God-human in line with the goal of posthumanism.

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63 Michele Adelson-Gavrieli, "Transhumanism: Variety Is the Ultimate Hack", *The Transhumanism Handbook* (Cham: Springer Nature Switzerland AG, 2019), 766.

64 Bostrom, "Transhumanist Values" (2005).

65 Blaire Ostler, "A Transhumanist God", in *The Transhumanism Handbook*, ed. Newton Lee (Cham: Springer Nature Switzerland AG, 2019), 825.

Value Emphasis in Society 5.0 Principles

Society 5.0 is a societal design that aims to create a "super smart society" by leveraging technologies such as artificial intelligence, robotics, and the Internet of Things.[66] It was introduced by the Japanese government to enhance the manageability of human life through technology. Society 5.0 is supported by the humanities and emphasizes the importance of balancing the application of technology.[67] It also addresses concerns about the replacement of human labor and decreasing employment opportunities brought about by Industry 4.0. The concept of Society 5.0 offers a solution to bridge the gap between societal and economic challenges, and it is expected that progress in this direction will occur in the next decade or slightly longer, depending on the goals set.[68] Suryadi expects that the gap between society and economic problems can be reduced in the next decade or slightly longer depending on the goals of Society 5.0.

The Society 5.0 report highlights that as technology continues to impact various aspects of society, including private life, public spaces, industries, and employment, it becomes crucial to consider how these technologies are utilized. Society 5.0 envisions a future where people actively use their creative imagination and ideas to transform the world. Digital technology and data are proposed to be employed in creating a society where individuals can pursue happiness according to their unique lifestyles. The ultimate goal is to establish a society where everyone can create value anytime, anywhere, in harmony with nature, free from restrictions, and in a safe and secure manner.[69]

In a nutshell, this society has the following characteristics:

a. Creating value for problem solving.

b. Talents are evaluated regardless of religion, language, race, and education.

c. Opportunities can be seized by everyone and everywhere.

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66 Abdulkadir Büyükbingöl, *Toplum 5.0: Süper Akıllı Toplumun İnşası* (İstanbul: Astana Yayınları, 2021), 24.

67 Suryadi Suryadi, "Challenges and Opportunities for Community Empowerment in the Era of Society 5.0", *Prosperity: Journal of Society and Empowerment* 2/2 (2022), 78.

68 Suryadi, "Challenges and Opportunities for Community Empowerment in the Era of Society 5.0", 78.

69 Hiroaki Nakanishi - Hiroaki Kitano, *Society 5.0 - Co-Creating the Future* (Tokyo: Keidanren, 2018), 1-20

d. Problems are dealt with safely.

e. The society is in harmony with nature and the achievement of a sustainable life.[70]

Society 5.0 theorists, who oppose the perception of technology as a threat to improve people's quality of life by proposing the slogan "technology is not a threat, it is an aid", also take into account ethical, social, and cultural consequences in the principles that determine the road map.[71] Accordingly, the following values stand out in Society 5.0.

The strong individual: In Society 5.0, the individual is the most important value. Technology should be designed and used to meet the needs of people. Improving people's quality of life and well-being is a priority. Every individual, including elderly individuals, can achieve a lifestyle that is safe and healthy and that allows them to realize their individual lives.[72]

Social diversity: Kitano and Nakanishi emphasize that in Society 5.0, all differences should be seen as assets. Society 5.0, which is a society of imagination, is a sustainable society created by design. It is based on the idea of defining the ideal society based on combining forces.[73]

Geopolitical position: It is considered an asset that it neighbors China, a large and growing market, and has positive relations with India and other nearby countries.[74]

Nature and Cultural Traditions: Nakanishi and Kitano, who consider cultural concepts such as "sampo-yoshi" (three-party satisfaction) and "mottai-nai" (embracing the spirit of symbiosis with nature, disliking waste) to be assets, state that it is included in this cultural perspective in terms of promoting desirable lifestyles and self-realization, making life more meaningful, vibrant and enjoyable.[75]

Cooperation and Imagination: Society 5.0 is considered a society of imagination where the full cooperation of the public, business world, and academia is realized. Here, dreams are considered a source of inspiration to solve various problems.[76]

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70 Nakanishi - Kitano, *Society 5.0 - Co-Creating the Future*, 5.

71 Harayama, "Society 5.0".

72 Carlos Miguel Ferreira - Sandro Serpa, "Society 5.0 and Social Development", *Preprints.org* (2018).

73 Nakanishi - Kitano, *Society 5.0 - Co-Creating the Future*, Introduction Page.

74 Nakanishi - Kitano, *Society 5.0 - Co-Creating the Future*, 3.

75 Nakanishi - Kitano, *Society 5.0 - Co-Creating the Future*, 3.

76 Harayama, "Society 5.0", 11-12.

Innovation and Sustainability: In Society 5.0, where technological developments should be carried out in line with the principle of sustainability, innovation should be continuous.[77]

Equality and Justice: In Society 5.0, it is argued that ensuring equal access and use of technology to all segments of society is necessary to establish equality of opportunity and social justice.[78]

Criticism of the Transhumanist Approach in the Triangle of Individual, Society, and Social Values from the Perspective of Society 5.0

The goals of transhumanism, which include freedom, equality, and happiness, may initially appear compatible with the objectives of Society 5.0, which aims to enhance social welfare through the beneficial use of technology. However, from the perspective of Society 5.0, certain points of criticism can be identified. One area of potential conflict arises from the different approaches to social values and how they shape the concept of a "happy person". Society 5.0 emphasizes strong individuals, equality, and a prosperous society, with differences in the interpretation of what constitutes a happy individual. It is important to note that the concept of value discussed here is not limited to economic value, as categorized by Smith into exchange value and use value. Instead, it encompasses social values that contribute to the production of meaning in various social structures, such as the economy, family, politics, morality, property, and production relations.[79] According to Habermas' perspective, these social structures shape individuals' capacity for explanation.[80] Therefore, the criticism presented in this study is specifically focused on the perception of happiness through the lenses of the individual, equality, and cultural value rather than solely economic considerations.

a. Criticism through the individual: In Society 5.0, the individual himself/herself is seen as a value. A strong individual is perceived through the value he or she produces. In this context, the individual

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77 Ferreira - Serpa, "Society 5.0 and Social Development" (2018).

78 Keidanren, *Society 5.0 -Co-Creating the Future*, 1-20.

79 Adam Smith, *Ulusların Zenginliği* (Ankara: Palma Yayıncılık, 2009), 27.

80 Jürgen Habermas, *Theory of Communicative Action Volume One: Reason and the Rationalisation of Society* (Boston: Beacon Press, 1984), 71-72.

should be able to share his or her knowledge and dreams over the network within the framework of the sharing culture. From this perspective, the individual is not seen as separate from society but is part of the whole that plays an important role in social welfare. Here, collective thinking is in question rather than individualism. The talents and dreams of individuals serve social wisdom around a culture of sharing. Although the free individual determines his or her own path to happiness, he or she accepts full cooperation with other individuals for social welfare. Social intelligence is equivalent to the ability of individuals to inspire others with their knowledge, talents, and dreams within this culture of sharing. Technology plays a supporting role in sharing and utilizing these capabilities.[81]

In Society 5.0, wisdom is seen as a result of collective action, and individualization is understood in line with Bauman's approach. This form of individuality allows individuals to make their own decisions within the framework of social structures and cultural values.[82] However, the expectation in the transhumanist perspective that individuals should be free from all limitations, including God, appears to contradict the goal of establishing full cooperation within Society 5.0. Unlike the individualistic perspective of transhumanism, which places intelligence at the highest point on the scale, Society 5.0 aims for collective intelligence and equal progress for society as a whole. The focus on individual intelligence in transhumanism can potentially lead to individual selfishness, as noted by Peters, with the possibility of a selection process favoring the survival of the smartest individuals[83] while leaving behind less intelligent ones. On the other hand, the individuals envisioned in Society 5.0 are characterized by their ability to share their talents and dreams within the framework of cooperation. This distinguishes them from the egoistic individual of transhumanism. In accordance with the approach of Society 5.0, viewing technology as an "assistant" rather than an object and recognizing its role as a subject can help bridge these differences and achieve the goal of a happy human being through cooperation. The emphasis in Society 5.0 is on providing individuals with choices to construct their own lives.

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81 Nakanishi - Kitano, *Society 5.0 - Co-creating the Future*, 1-20.

82 Zygmunt Bauman, *The Individualized Society* (Cambridge: Polity Press , 2008), 62.

83 Peters, "Boarding the Transhumanist Train: How Far Should the Christian Ride?", 798.

Moreover, Society 5.0 promotes the use of techniques to enhance memory, concentration, and mental energy and explores possibilities for life extension and other advancements. These approaches align with the goal of improving the well-being of individuals within the context of cooperation.

b. Criticism based on the principle of equality: In Society 5.0, the concept of equality is treated in two ways. The first is to achieve a "super smart society" that will be built with the participation of everyone regardless of language, religion, color, and class. The second is to achieve a welfare society where all members of society can benefit from all kinds of services regardless of whether they are near or far from the center. A super-smart society is a welfare society where everyone's talents and dreams are utilized and where the public, academia, and the business world work in full cooperation to find solutions to problems. The aim is to ensure that women, children, and elderly individuals can fully participate in social activities without any restrictions and that all individuals are capable of meeting all their needs themselves, especially health services.[84]

The principle of equality as addressed by transhumanism in relation to gender differs from the concept of equality expressed within the framework of Society 5.0. Transhumanism aims to design a society that gradually becomes genderless, eliminating biological distinctions between males and females. By eliminating gender discrimination, transhumanists envision achieving equality among individuals. However, this perspective appears to contradict the goal of Society 5.0, which seeks to advance and preserve human superiority. From an anthropological perspective, new species have historically joined human society through either cooperation or assistance. In the context of Society 5.0, artificial intelligence (AI) is also considered within this framework with the aim of finding ways to integrate it into society while maintaining human superiority. According to Cordeiro, transhumanists advocate for the well-being of all emotions, including humans, animals, future AIs, and modified life forms.[85] However, the desexing approach proposed by transhumanism, which seeks to

[84] Harayama, "Society 5.0", 8-9.

[85] José Luis Cordeiro, "The Boundaries of the Human: From Humanism to Transhumanism", *The Transhumanism Handbook* (Cham: Springer Nature Switzerland AG, 2019), 72.

eliminate gender-related emotions, seems to overlook the inherent value of these emotions and the individual experiences associated with each gender. In contrast, Society 5.0 embraces social diversity and opposes the idea of degendering. Society 5.0 recognizes the importance of diversity, including gender diversity, in creating a vibrant and inclusive society. It acknowledges the value of different perspectives and experiences in shaping a better future. Rather than seeking to eliminate gender, Society 5.0 promotes the idea of harnessing the strengths and contributions of diverse individuals and entities, including humans and AI, to foster social progress while preserving human superiority.

Within the scope of the phenomenon of technological singularity, which sees the merging of human beings with technology as an inevitable aspect, "according to the new form of morality proposed by transhumanism, legal studies are also expected to respond to the search for equality within the scope of animal rights, ecology, and gender roles".[86] Braidotti criticizes this view, which seems to take the issue beyond the desexualization of human beings in terms of animal rights, in two ways. First, he argues that the extension of the already hegemonic category of human to include others affirms the binary distinction between human and animal in favor of the human, contrary to the principle of equality. Second, this unification denies animals as a species in their own right.[87] On the other hand, the singularity has also been criticized as a form of domination based on the assumption of inequality between humans.[88] It can be argued that the idea of equality is threatened in some of the poorest countries in the world, such as Zimbabwe, where biotechnology is out of reach.[89] Therefore, when viewed from the perspective of Society 5.0, which advocates social diversity and sees every difference as wealth, handicaps can be experienced with regard to the global implementation of goals.[90] The sociological and geographical conditions in different parts of the world make it difficult to understand the aim of educating individuals at the

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[86] Hüseyin Köksal, "2023 Education Vision Document, Singularıty and Transhumanism", *Eğitim ve Toplum Araştırmaları Dergisi* 6/1 (2019), 150.

[87] Rosi Braidotti, *The Posthuman* (Cambridge: Polity Press, 2013), 76.

[88] Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (New York: Picador, 2002), 105.

[89] Francis Fukuyama, "Transhumanism", *Foreign Policy* 144 (2004), 42.

[90] Büyükbingöl, *Toplum 5.0: Süper Akıllı Toplumun İnşası*, 47-53.

same level and cooperating for the same purpose.[91] However, it is not possible to accept an unequal future where collectivism is ignored and may result from it.

c. Criticism of cultural values and happy people: In contrast to the understanding of welfare that has focused on production and efficiency since the first industrial era, an understanding of welfare that focuses on the individual is targeted for Society 5.0. As a human-oriented approach, the desire to design technology in accordance with the needs of people, not efficiency, requires this design to include cultural values. The fact that the presence of cultural concepts such as "sampo-yoshi" and "mottai-nai" is seen as a richness and the desire to make use of cultural codes to make lives more meaningful, vibrant, and enjoyable indicates that this requirement[92] is taken into consideration. Similarly, it is possible to say that cultural values will be reshaped from the focus of pragmatism in the human-centered Transhumanist perspective. The prolongation of life and even the promise of immortality with the power and possibilities of modern science and technology and the sanctification of human endeavors instead of a transcendent sacred being can be considered[93] a sign of developing a new culture in the adventure of transhumanism. This new worldview aims to create a secular religion. The transhumanist view toward this is expressed as follows:[94]

> I find meaning in God, not just any God, but a transhumanist God born of material theism. This God exists in space and time, unlike the God of the metaphysician who hangs aimlessly in an immaterial abyss of nothingness. I find meaning in what I can know, understand and be... Replace 'God' with'superhuman' or 'posthuman' and the message will still get through.

It is possible to see here that Transhumanists have not completely eliminated meaning but that they are trying to produce a new meaning. Baba argues that the elements that will reshape the world in this new religion will be pragmatism instead of mercy and compassion.[95]

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91 Nakanishi - Kitano, *Society 5.0 - Co-Creating the Future*, 15.
92 Nakanishi - Kitano, *Society 5.0 - Co-Creating the Future*, 3.
93 Dağ, "Transhumanism as a Radicalization of Humanism", 52.
94 Ostler, "A Transhumanist God", 825.
95 Dorin Baba, "Transhumanism, Evolution and Limits", *Hermeneia* 24 (2020), 26.

Yuval Noah Harari, in line with the Epicurean approach, highlights the challenging nature of achieving happiness. According to Epicurus, the pursuit of money, fame, and sensual pleasures does not lead to lasting happiness but rather leaves individuals more helpless. Harari supports this view by arguing that the material gains of recent years have not necessarily made people happier than their ancestors despite the higher levels of prosperity, security, and peace experienced in developed societies. To substantiate this argument, Harari notes that suicide rates in developed societies are often higher than those in traditional societies. This observation suggests that factors beyond material well-being, such as social connections, meaning, and psychological well-being, play crucial roles in overall happiness and fulfillment. Harari's perspective challenges the notion that material prosperity alone is sufficient for attaining happiness and suggests that a deeper understanding of human well-being is necessary.[96]

The skepticism toward the idea of technologically enhancing the human mind and pursuing immortality is valid and raises important concerns. The potential control and elimination of individuality in the pursuit of superhuman capabilities are valid considerations within the transhumanist perspective. While Society 5.0 also emphasizes collective thinking, it does not necessarily imply the control and direction of individual thought by others. Harari's argument about the shaping of the future economy, society, and politics in the quest to defeat death does not guarantee that humans will achieve immortality in the coming centuries. The concept of thermodynamic equilibrium and the possibility of "heat death" in the universe indicate that humans will ultimately succumb to entropy.[97] Therefore, achieving the level of immortality envisioned by transhumanism seems unlikely. This realization leads to the understanding that absolute happiness, at a philosophical level, may manifest as an ongoing search rather than a final destination. In this regard, Society 5.0's recommendation to use technology as an auxiliary rather than a substitute for human beings in finding solutions to human problems offers a corrective perspective compared to the transhumanist approach. It acknowledges the importance of human agency and the limitations of technological solutions.

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[96] Harari, *Homo Deus*, 5.

[97] Fatih Özgökman, "Entropi, Şans ve Tanrı", *Felsefe Dünyası* 59 (2014), 86-87.

Conclusion

Progressive approaches employ social design models to prepare societies for the future. Based on the gathered data, it is evident that among these models, Society 5.0 and transhumanism prioritize the individual and consider both individual and social development equally. Both approaches generally adopt a pragmatic attitude. Society 5.0, similar to transhumanism, adopts a constructive and problem-solving approach when faced with challenges. However, Society 5.0 and transhumanism differ in their perspectives on individual and social values. Transhumanism seeks to establish freedom by excluding God and obstructive social values and aiming to evoke a "god-human" model through machines. This contradicts Society 5.0's ideal of upholding human supremacy. Society 5.0 advocates transitioning to a new stage while preserving both biological and cultural human superiority. Therefore, individuals who are relieved of material suffering should not be deprived of meaning.

Consequently, social values, which provide significance to people and serve as the primary sources of meaning production, are dependent on cultural codes. As a result, transhumanist goals need to be reconsidered in line with the principles of Society 5.0. It is essential to ensure that societies are not deprived of meaning in this new stage. Additionally, the realization that deeper spiritual pain can trigger social crises may negatively impact the attainment of these goals. For these reasons, it can be argued that the claim that transhumanist goals can lead to a happy and prosperous society, despite containing some positive aspects, does not accurately reflect the truth at this stage.

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THE NEW MATERIALISM AND POST-HUMANIST STUDIES

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Abstract

Through revolutionary developments in science and technology, human beings arrived at the stage of exceeding "being human". In our time, from a human model that utilizes machines, we will move to the human-machine, in which the human is reinforced by the machine and eventually becomes a type of human exploited by machines. The "Internet of Things" represents the early model of the mega digital machine of humans. The "thing" that is now an article will be a human being in the future. In the new world order, with the exception of those on the top, the elites who represent "technocratic dictatorship", there will be no more *Homo sapiens* (Human 1.0), "individual", "master", or "independent person". Approximately 7-8 million people will not need to be trans-human; that is, they will protect their independent roots. The others will race for improvement, and despite being exposed to death, they will be subject to a depopulation (population reduction) program. As in the pandemic period, people will be told that it is to their benefit, but they will not have the right to choose. The program of human development will target humankind. In short, given the

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tsunami of crisis produced by the new technological materialism, world politics will go beyond being the mediator of the manipulation of the elite. In the current ideological dimension, discussions will focus on the new materialism and post-humanist studies to investigate the future of the world in an ongoing technological revolution and its effects on human beings subject to the transformation of their lives manipulated by world elites.

Keywords: New materialism, post-humanism, technology, human beings, Internet of Things

Introduction

Technology is usually a good thing. It nearly always enhances our lives and makes us better off, but it has a habit of evolving – sometimes very quickly. These types of innovations repeatedly fail to provide overall improvements in truly meaningful ways, such as how deeply people love each other, how compassionately people care, how well society supports the less privileged, or how wisely humans steward the planet. If anything, technology appears to amplify humans' moral weaknesses by coddling people with consumer comforts and echo chambers.[1] The last half-century has seen a golden age of digital innovation, yet rates of poverty have stagnated, inequality has soared, and sustainability seems farther out of reach. New technologies always have unintended consequences, often negative, and innovators consistently underestimate how bad they will be. Pesticides have caused public health scourges, plastic bottles have polluted the oceans, and smartphones are contributing to a teenage mental health crisis.

The techno-capitalist liberal ideology of the digital era is regenerating modern knowledge and the code of power. Thus, the reliability and relevance of modern institutions such as the state, family, marriage, and school are questioned.[2] Nevertheless, these setups scrutinize historical power mechanisms such as exploitation

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1 Vincent J. Carchidi, "Can the World Tame 21st-Century Technology?", *The National Interest* (Accessed October 19, 2022).

2 Ebru Yetişkin, "Bir Başka Tasarım: Gelecek Endüstrisi ve Parataktik Tasarım-Kurgular", *Doğu Batı: Düşünce Dergisi* 21/86 (Dijital Çağ) (August, September, October 2018), 209-227.

and the monopoly of power. With the logic of the way digital works and to interpret the impact of this logic on individual and collective existence from different perspectives, it is necessary to set up a comprehensive new system in the digital era.[3] This system can project what life would be like without the world clock as a project that will change the world's dependence on human-made clocks to alternatives that will reduce the complexity of life.[4] The critical turning point for humanity will be experienced in the 2050s. The improvement of human organs and, eventually, organs produced by nanotechnology will not only extend the human lifespan but also advance the performance of humans to the superhuman level, leading to the transition of humans to human-machines. Studies rapidly emerging in the field of artificial intelligence and robotics will play a role in the world of human-machines (anthropoids/humanoids).

Another dangerous development is the introduction of the Internet of Things (wares) with 5G and 6G. By including the material world, Human 1.0 human beings will be pushed behind once more. With 5G, a combination of artificial intelligence and internet-connected machines opens the door to the possibility of impacting not only the world but also outer space.[5] After the 2030s, together with the introduction of chipped humans, mentally free-thinking humans may completely disappear. In a multidimensional world, with the participation of the human machine, anthropoids, robots, articles, and nature (stones, animals, plants) in the system cannot be explained only by maps or borders.[6] This order (that is not human-centered) in which you are something too must have a philosophy of life, and life must be reorganized. Disciplines such as the new materialism, post-humanism, and phenomenology have proposed various ideas. This article aims to question the creation while interpreting these ideas and shedding light on the future world.

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3 Necati Erbil Ertürk, "Dijital ve Varoluş: Dijitalin Soykütüğüne Doğru", *Doğu Batı: Düşünce Dergisi* 21/86 (Dijital Çağ) (August, September, October 2018), 157-171.

4 Cem Oto, "Teknik, Zaman ve Politika", *Doğu Batı: Düşünce Dergisi* 21/86 (Dijital Çağ) (August, September, October 2018), 84-85.

5 James Rundle, *Angus Loten,* "The Power of Combining 5G and AI", *The Wall Street Journal* (Accessed November 8, 2019).

6 Roope Raisamo et al., "Human Augmentation: Past, Present and Future", *International Journal of Human-Computer Studies* 131(November 2019), 139.

This article attempts to determine the future of human life by considering ongoing technological developments and theoretical aspects of these developments, such as new materialism and post-humanism. We first investigate the future of science and technology with regard to possible effects of transformation in the human body, such as Human 2.0, Human 3.0, and Human 4.0. From that perspective, we enlarge our vision through theoretical aspects to reach a new materialist social engineering and the actors behind that future. Ultimately, we offer a manifesto to humankind on how to overcome this conspiracy in favor of all human beings. We aim to create awareness of the transformation of human beings offered by future technologies and propose measures to save all living things and nature from inexistence.

The Future of Science and Humankind

Science is the set of intellectual and practical studies that systematically examines the structure and movements of the physical and natural universe through a number of methods (such as experimentation, thinking, and/or observation). The works of Aristotle 2400 years ago that covered the fields of logic, physics, cosmology, psychology, history of nature, anatomy, metaphysics, ethics, and aesthetics became a turning point in the history of science. During the first thousand years, the Chinese stood out in studies of the compass, gunpowder, paper, and marine technologies, whereas Indian civilization was well known for its mathematics, astronomy, and medical studies. In 1543, the publication of Copernicus' book *About The Rotation of Celestial Spheres* indicated the beginning of the scientific revolution in world history. In this book, Copernicus (1473-1543) brought up day-centered cosmology, suggesting that the world turned around its axis once a day and turned around the Sun once a year.[7] Galileo (1564-1642), with the development of telescopes, proposed a sun-centered theory and explored similar findings in astronomy to contribute to the history of science. Johannes Kepler (1572-1630) in 1609 concluded that the movement of the planets was not circular but elliptical, developing Copernicus' theory.

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[7] James E. McClellan III - Harold Dorn, *Science and Technology in World History: An Introduction* (Baltimore: John Hopkins University Press, 2015), 395.

The science of the new current of electricity in the 19th century brought about new experimental scientific industries, such as telegraphy. The sources that symbolize the Industrial Revolution are iron, coal, and steam. As an outcome of this revolution, the economic, political, and social foundations of life were transformed almost everywhere during the last 200 years. Horses and muddy roads were replaced by locomotives and railways. For building materials, wood and stone were increasingly replaced by iron and steel, and sailing vessels were replaced by steamships. Wilhelm Rontgen's x-rays in 1895, Marie Curie's subatomic particles in 1898, in uranium experiments in 1901 destroyed the principle of the immutability of atoms.

Later, new sciences were displayed with clear and practical possibilities, such as electricity, thermodynamics, kinematics, industrial chemistry, molecular biology, and aerodynamics. For thousands of years, there has been a separate and sometimes combined history of science and technology. The connection between science and technology is shaped when technology is defined as a form of "applied science". The institutional contribution of science to technology has provided beneficial practices in fields such as nuclear energy, medicine, pharmacology, biochemistry, agriculture, computers, and artificial intelligence.[8]

When we do the calculations and examine their logic, many things can be done. The crucial point is that only 1% of things have been invented, and 99% are still waiting to be invented. Many of the things in our lives emerged during the last 150 years.[9] On the digital side, a prominent issue of concern is that a global elite makes technology a means for global governance and that there are no limits to artificial intelligence because future elites will be smarter than we are. This will be actualized within the next 40 years, and who is in control will become very important. Today, neurocognitive sciences are researching how the human brain works better when loaded with extreme information.[10] They are studying how to find ways to design

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8 Sienna Research on Human Enhancement (August 2019).

9 NATO STO, *Science & Technology Trends 2020-2040: Exploring the S&T Edge*, (June 2020).

10 Daniel J. Levitin, *The Organized Mind: Thinking Straight in the Age of Information Overload* (New York: Dutton, 2014), 41.

ideas under extreme information. With the widespread use of the concept of the "internet of everything", the intelligence that makes humans superior to other living things will be dominated. In the next 30 years, communication, biotechnology, robotics, and new industrial revolutionary developments are expected.[11] The predictions for future human beings can be summarized as follows:[12]

- More than 40% of the world's population will be reached by the 5G network by 2025.[13] Solely in China, 350,000 5G transmitters have been built. Surveillance cameras' facial recognition technologies are integrated into them. In this way, everyone can be followed automatically. In 2030, the number of cameras in the countries connected to this system is expected to increase to one billion. By capturing the appliances people use in daily life for various reasons, such as augmented reality (AR) and virtual reality (VR), and by reaching what they hear and perceive, they will be manipulated. Sexual and chemical drug money laundering may also be organized on AR and VR. Using drone attacks that acquire biometric recognition systems, silent conspiracies can be committed against elected persons. However, the real danger will come with 6G.

- In 2030, a new variety of humans (Human 2.0) will be revealed with the implantation of chips in the human brain. These people will be monitored and controlled on an internet website.[14] What people think and their dreams will be registered and manipulated. The companies of those who want to establish a single world state will control us by 6G. As a result, we are the last human version that can think independently. "Human 2.0", in whose brain a chip is attached, will not be independent. When our brains are chipped, and we are controlled remotely, health checkups will be imposed by force, and we will fight with terror.

- After the 2040s, many more devices will be placed in the human body. In 2045, there will be no difference between virtual and real life. Objects will be intelligent; they will think, design, and decide among

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11 Paul Kennedy, *Preparing for the Twenty-First Century* (New York: Vintage Books, 1994), 81-120.

12 Sait Yılmaz, "İnsan 4.0; Ölümsüz İnsan", Academia (Accessed February 1, 2021).

13 Ian King - Scott Moritz, "Why 5G Mobile is Arriving with a Subplot of Espionage?", *Bloomberg* (Accessed October 28, 2019).

14 Diane Di Euliis, *Giordano, Improve Human Performances* (252 EDT NIAG Study, 2020), 27.

themselves. From 2050 on, the number of intelligent robots will increase considerably. These objects will acquire artistic value and begin drawing pictures and composing music.[15] Cars will drive themselves.

- From 2050 on, DNA information banks and human evolution will be brought under control. For human beings, character traits will be selected.[16]

-After the 2050s, a new type of human being (Human 3.0, machine-human), a human–machine mix, will emerge.[17]

- In the 2070s, the average lifespan will rise to 110 years, and computers the size of molecules will begin to be placed in the human body.[18]

- In 2070, the Cloud system will interlink providers, information banks, entire computers, additional software, memory, and processing power. The planetary nervous system that is formed will integrate the minds of the world. Developments in communication and computers, by developing common thinking and emotions between people, will finally form a global mind with the new values and norms they will create.

- In 2095, human-robot hybrid (anthropoid) forms will explore far-away galaxies; thus, digital life will bring immortality.[19]

- In 2150, anthropoids will live approximately 584 years, and by 2275, they will live 800 years. Interplanetary humankind will emerge, and further on, immortality (Human 4.0) will be achieved.[20]

The rapid development of life-changing technologies, including artificial intelligence (AI), quantum science applications, biotechnology, nanotechnology, and robotics, is sometimes categorized under the simultaneously rapturous and perilous "Fourth Industrial Revolution", popularized by the World Economic Forum co-

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15 Zamnova, T., "Role of Artificial Intelligence in Biotechnology", *Medical and Clinical Research Reports* 2/2 (2019), 6.

16 Al Gore, *The Future* (London: WH Allen, 2014), 47.

17 Parul Kumar, "Biotechnology: Introduction, Scope and Applications of Biotechnology", *Biology Discussion* (Accessed May 2, 2021).

18 Richard Watson, *50 Ideas You Really Need To Know* (London: Quercus Book, 2014), 20.

19 Elon Musk, "An Integrated Brain-Machine Interface Platform with Thousands of Channels", *Journal of Medical Internet Research* 21/10 (2019).

20 Robert Sobot, "Implantable Technology: History, Controversies, and Social Implications", *IEEE Technology and Society Magazine* 37/4 (2018).

founder Klaus Schwab. Schwab believes that the Fourth Industrial Revolution will fundamentally shift the character of human existence. This revolution, he argues, is unique in its sheer velocity, its effects on not only "how" things are done with new technologies but also "who" humans are becoming, and its comprehensive impact at every level of society. Emerging technologies alter the *significance* of human abilities. This applies to a range of technologies, including AI, synthetic biology, robotics, and even the Internet of Things, although its most illustrative form is AI.

Internet of Things (5G/6G)

5G is the new model that emerged in 2008 after the online communication network of 4G technology. 5G has two differences from 4G: speed and stand-by period. 5G has a much larger bandwidth and can enable much faster data transfer. It transfers 20 gigabytes of data in a second (20 times faster than 4G). First, 5G means transferring to the technology of "the Internet of Things",[21] from the toaster to your automatic car, in the substructure of a technology where everything is connected to each other. Under such operations, robotic applications will become routine, and hypersonic weapons and autonomous vehicles can be developed in defense areas.

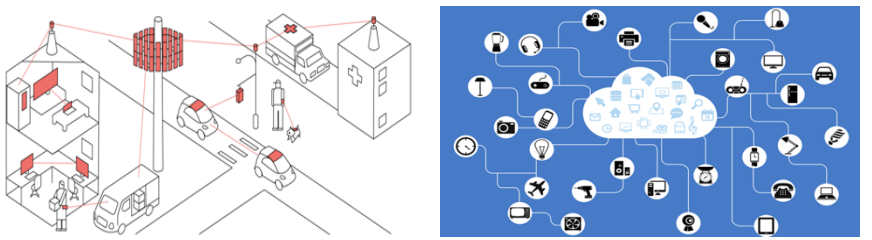

Figure 1: Internet of Things
Source: "Why 5G Mobile is Arriving with a Subplot of Espionage?"

Through the 5G network in 2025, it is estimated that approximately 41.6 million people will be connected to the Internet of Things.

The artificial intelligence and 5G robot innovations that are thought to appear first are as follows:[22]

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[21] King - Moritz. "Why 5G Mobile is Arriving with a Subplot of Espionage?".

[22] Brian Bergstein, "The Great AI Paradox", *MIT Technology Review* (Accessed December 15, 2017).

- Autonomous self-driving vehicles,
- Autonomous public transportation,
- Time-based industrial automation,
- Remote health checks.

The features of 5G and artificial intelligence and its subcategories, technologies of machine learning and deep learning, will be integrated.[23] A 5G envisioning and proactive network in real-time has automated decision-making. Many devices will be connected to this network with high-speed bandwidth and real-time and automatic decision-making technology. That is, a big data system will be operated by 5G and artificial intelligence.

Every corner, every living being, will be traced by means of billions of 5G chips, sensors, cameras, and other installments. With the concurrent analyzing ability these systems acquire, dubious human and robot behaviors will be detected and prevented before impending incidents. When 5G spreads around the world, a child or adult lost in a city of twenty million people can be spotted in a maximum of 15 minutes. With 5G, the Fourth Industrial Revolution will be underway.[24]

We are at the beginning of the transformations that the digital age will bring. Today's artificial intelligence/super intelligence studies and the advances made in Industry 4.0 may lead to new ways of thinking regarding the brainpower of today's machines. We are now in the transition of the new generation of the human model. This transition can be a harbinger of radical changes in the identity of people and social interactions, in addition to changes from literature to education and from business life to health after 2150. This world, in addition to digital developments such as anonymity and excessive communications, brings to mind the big noise, post-panoptic (new forms of surveillance, the big eye) prosthetic eye that records videos, bionic legs that run 40 km per hour, pizza delivery by drones, and remote control of health (body temperature, blood sugar, heartbeat, etc.) by new technologies that can fundamentally change human life.[25] Digital media online may connect all people. In the digital era, the main question is whether humans will insist on remaining human.

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[23] King - Moritz. "Why 5G Mobile is Arriving with a Subplot of Espionage?".

[24] Sue Halpren, "The Terrifying Potential of the 5G Network", *The New Yorker* (Accessed August 26, 2019).

[25] Oto, "Teknik, Zaman ve Politik", 82.

Talking about the posthuman is indicative of this insistence. The age of humans is gone.[26] The god-man, the immortal human, is also included in this era. Humans will choose between participating in being solely human, being connected to the network as chipped, or interacting with things, consequently choosing "to be or not to be a human being".

One does not need to be a techno-optimist to understand that the effects of these technologies will not go away by simply coexisting with them. The effects of these technologies are not just disruptive; they are existential. They threaten human distinctiveness and the significance of our everyday lives. Efforts to pretend that these effects are isolated will not work. It is time to confront our continued existence for what it is and to embrace the pain that it causes.

The New Materialism

"The New Materialism" was first expressed distinctively toward the end of the 1990s in an article by Manuel DeLanda and Rosi Braidotti, "The Geology of Morals, A Neo-Materialist Interpretation" (1996). This article rejects the philosophy that the idea of progress is only related to human history, but at the same time, it argues that it is related to the history of nature. Living things are not in a better condition than rocks. Perhaps the secrets of humanity and other mixtures are hidden in the mysteries of rocks.[27]

In recent years, social scientists have pursued the creation of a new philosophy that will bring together natural philosophy, knowledge, and technology. Arguments including philosophy attract research in various scientific fields, information theory, and technology. Discussions within the scope of new materialist and post-humanist theories are focused on the modern world and its dynamics. The philosophy of nature stripped of its traditional roots is a changing style; instead of looking at nature as a whole, it adopts a more scientific view.

The term technology is used in four main senses:[28]

- (Artificial) product,

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[26] Nil Göksel, "Gelen", *Doğu Batı: Düşünce Dergisi* 21/86 (Dijital Çağ) (August, September, October 2018), 141.

[27] Ramón Reichert - Annika Richterich, "Introduction: Digital Materialism", *Digital Culture & Society* 1/1 (2015), 5-17.

[28] Gregory Morgan Swer, "Determining Technology: Myopia and Dystopia", *South African Journal of Philosophy* 33/2 (2014), 201-210.

- System,
- Cognition,
- Metaphysics

In the sense of artificial products, technological tools, products, and appliances such as hardware are understood.

Technological systems are large-scale structures that accommodate technology and people.[29] The cognitive aspect is the necessary information infrastructure that produces technology. Technology to express the reality of nontechnological metaphysically (mechanistic) also represents the metaphysical system. This true vision of technology is actually the beginning of technological inventions in the world.

Our choices related to technological systems pave the way for the developments (e.g., social relations, political systems, moral values, cultural forms) that will transform all social life. Currently, technology is moving toward conditions that will make decisions about the future of human existence. The machine-human myth is now very close to reality.[30] The autonomous character of the no-value burden of technology, together with the question of who will operate the machines, raise many questions for philosophers regarding ethical rules, such as the limits of people and the possible consequences of technology.

Technology undoubtedly has many advantages. However, modern technology in our mentality and world view (pragmatism, materialism, and reductionism) also produces differences.[31]

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[29] Val Dusek, *Philosophy of Technology: An Introduction* (Oxford: Blackwell Publishing, 2006), 76.

[30] Langdon Winner, *Autonomous Technology: Technics-out-of-Control as a Theme in Political Thought* (Cambridge, Mass.: MIT Press, 1977),15.

[31] Goda Klumbytė - Claude Draude - Loren Britton, "Re-Imagining HCI: New Materialist Philosophy and Figurations as Tool for Design" (Accessed December 2, 2022).

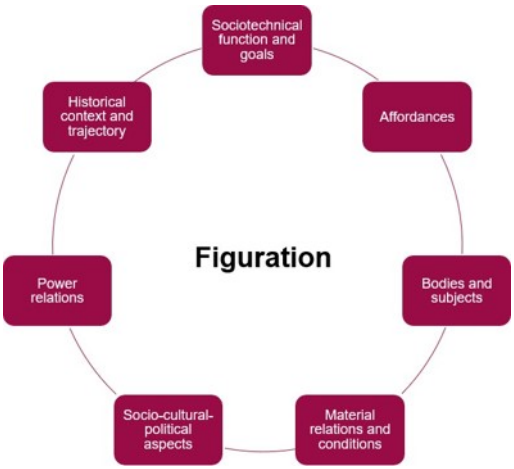

Figure 2: The Course of Action of the Post-Human World

Source: Klumbytė - Draude - Britton, "Re-Imagining HCI: New Materialist Philosophy and Figurations as Tool for Design"

Our political-technologic life brings a sort of technological totalitarianism; the ideas and life of people are not only controlled by technology but also shaped by someone's whims. This relationship will finally turn people into "material objects".[32] We are being converted into material objects to whom material happiness is offered. This is not the person of human values but the person of the material world. Thus, our spiritual development is now becoming meaningless. Material development tendencies are not related to spiritual or intellectual satisfaction. This world is a world of material choices that leads us to the desired end.

Everything will be within our sight so long as it is a means of providing what we want or not. This is a materialistic world; it will replace classical religions, rendering the narratives and promises of old religions meaningless. To the theologian Norman Wirbza, this is "the Heavens of God".[33] Therefore, the order of the old will be replaced by the combination of technology and the human mind, and a new holiness (divinity) will occur. According to Jacques Ellul, who works

[32] Gene Veith, "Technology and Materialism", *Patheos* (Accessed December 2, 2022).
[33] Norman Wirzba, *The Paradise of God: Renewing Religion in an Ecological Age*, (Oxford: Oxford University Press, 2007).

on issues of artificial intelligence and trans-humanization (going beyond one's natural limits), there will also be spontaneous outcomes.[34]

- Everyone living in the techno-material world now thinks that nothing is spiritual or divine, but how could people live without God? Everything that is divine today will lose its meaning over time in the hands of technology and disappear. Technology wipes away everything sacred and creates its own secrets.

- Social life problems will not be limited to this scenario. As an example, our sex partners, our preferences, and our methods of adopting children will change. Many of us, when choosing a spouse, might be in the position to not choose a human. Perhaps technology will provide more than pornography and sex robots as an alternative to finding a spouse. Maybe different sexes will emerge, and through new methods of technology, puberty will be stopped, sexual organs will take new shapes, and methods of childbirth will change. Naturally, there will be undesired social, ethical, and legal consequences.

- Classical education is related to consequences that are valuable to us and are focused on humanitarian features such as kindness, reality, beauty or virtue, freedom, and a sense of mission. Modern education will be about material consequences, focusing on the question, "What can you do with this stuff?" Education will be reduced to material and measurable results.

The role of media in the new materialism is particularly focused on studies related to the processes of spreading and building culture. Fields such as philosophical traditions, modern physics, and engineering and communication technology will map the new materialistic medium. However, media are in pursuit of studies as signal processes using the electromagnetic field for communication and detecting and networking various nonhuman vibrations and rhythms. In addition to the nontouchable objects such as electrical, magnetic, and light energies that humans are unable to see and hear, converting them into power is a significant field of study.[35] It requires focusing not only on the power of things but also on the process of

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[34] Stefan Lindholm, "Jacques Ellul and the Idols of Transhumanism", *Religion & Liberty* 32/4 (November 14, 2022).

[35] Jussi Parikka, "New Materialism as Media Theory: Medianatures and Dirty Matter", *Communication and Critical/Cultural Studies* 9/1 (March 2012), 95-100.

power for a media theory that is viable for new materialism. Again, digital technology means software first and foremost.

New Materialism and Post-Humanism

In general, the prevailing trends of Western philosophy, such as phenomenology,[36] vitalism,[37] and poststructuralism,[38] give "matter" the evil eye. This is because of a reaction to reductionism. The thesis of materialism in all disclosures is substantive, and reality is reduced to monads, particles, and atoms. With Newton, we learned to look at matter with an active and energetic eye. Today's issue is how we should look at the matter. The engagement of science in the world of matter in a new way may change how we expose reality and establish relations with this world.[39] For instance, how we perceived the pandemic drove us to explain science as a "savior" for some of us and an "enemy" for others.

How can we write a new concept that will combine materialism with digital technologies? We cannot express the information technologies that penetrate the physical environment together with human-machines only with the term "to use" anymore. Terms such as deep immersion, telepresence, fusion, reinforcement, and robotization are needed. To be able to understand the new digital materialization, we must concentrate on post-phenomenology and new materialistic studies.[40] Post-phenomenology looks at technology as an active "vehicle" that provides the connection between human existence and the world. The new technologies can acquire various roles, from becoming a vehicle to interactive techno-human forms. The new configurations may arise from triple, octet, or diagonal structures, and

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[36] Phenomenology: (a) scientific investigation of an event, (b) identification and examination without attempting to explain its origin and cause as the incident was heard and seen.

[37] Vitalism: the teaching of living activities depends on a crucial principle different from physical and chemical law.

[38] Post-structuralism defends the idea that society is developed by complex network relationships. Granulation and complexity are basic. In post-structuralism, things that constitute integrity are rejected; made of parts and with meaningful structures, autonomous and local formations are drawn into the irreducible world of difference.

[39] John C. Brady, "New Materialism and PostHumanism: The Philosophy of Nature, Information, and Technology", *Epoché Magazine* 46 (November, 2021).

[40] Rosi Braidotti, *Metamorphoses: Toward a Materialist Theory of Becoming* (Cambridge, UK: Polity Press, 2002).

they will direct the technical and material dimensions of social relations.[41]

Materialistic studies in a theoretical frame are engaged in material (social classes or between human and inhuman) inequalities. Marxist critics[42] call attention to race, class, and gender conflicts. The new materialists[43] in the post-humanist direction made the limits of the issues of human/animal, human/machine, and physical/nonphysical their starting point. One of the best examples is a work by Donna Haraway called "Cyborg Manifesto" (1984).

Human machines such as cyborgs, which are destined to enter our lives, the internet, virtual reality, and nanotechnologies, are revealing a new understanding of being. There will be an economic side in addition to the social and political aspects of this understanding. Although the clergy claims that only God is the "savior", the "potential of the savior" of science and technology, as seen in the pandemic, sounds more convincing.

Post-humanism, meaning "post-human", takes people out of the center and sees them as part of a whole. It is the perspective that human beings and other beings are not different in the realization of change in the universe.[44]

Whether individuals like it or not, from now on, humans are becoming an aspect of the network distributed within technological designs, information, and operating networks. Like the robots in the system or other human-like machines, we can be criminals or victims; that is, in the world of mechanical creatures, humanity may come to an end.

With regard to scientific philosophy, reality depends on specific conditions and how we see and measure them. When realities are built, they are on one side; there is the real truth on one side, and there are our own remarks or ideas related to the truth on the other side. How can we eliminate our worldview and subjective thoughts to

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41 Peter-Paul Verbeek. "On Intertechnicality: Postphenomenology, New Materialism, and Digital Materiality". *On Humans and Machines: Human-Machine Interactions in digital_cultures*. Fern Universität in Hagen (March 3, 2021).

42 Among the Marxist critics, W. E. B. Dubois, Aimé Césaire, Frantz Fanon, and Stuart Hall are prominent.

43 Among the new materialists, names such as Donna Haraway, Angela Davis, and Achille Mbembe attract attention.

44 Newton Lee, *The Transhumanism Handbook* (London: Springer, 2019), 87.

acquire the actual truth? This is not easy, and the recommended path is to go back in thinking, to resort to nature and materialism. That is where the new materialism will serve a purpose. We must find new methods to do science outside of observation and mathematics.

Understanding the material world and how materials work together will serve new inventions and the exploration of borders. Our relationship with nature and interactions with the material world must be reinterpreted. The material world is already the world of knowledge. When we think of the relationship between nature and humans in ethical and technological terms, we may better understand ecological developments such as global warming. On the opposite side of this subject is the issue of greedy people who make machines and destroy resources. If we do not do this, there is a well-deserved punishment, not only for humans but also for the planet we live on. To prevent the impending ecological collapse, we need physical concepts related to nature or new disciplines to rethink it.

The most important effort that the New Materialists and Post-Humanists deal with is to rethink the harm and benefits of technology.[45] While doing this, we must not see our relationship as zero-sum. This is not apocalyptic work or a utopia that aims to use technology to solve the environmental crisis. We must not see technology or human consumption as a problem. Philosophy will help us because it provides us with the most appropriate and possible thoughts for humanity's self-understanding. These efforts are changing the current consumption trends, creating new economic sharing options, and turning development-based economic understanding upside-down to work less and to leave less waste. We may not like these events right now, but with the help of philosophy, we must form new collective responsibilities that will prevent this ecological downfall. Philosophy can change the world, but we must first understand it. Philosophy helps us see what we cannot see, understand who we are, and know what we have to do.

As for thoughts on the solution, primarily, we need to radically change our economic understanding, which is the legacy of the past, and replace it with a new form of economy. Changing the economy will also change political programs, quantization, and optimization.

[45] Brady, "New Materialism and Post-Humanism".

The foundation of the new materialism and post-humanism economy will open wide new horizons to rethink the contributions of science and technology. First, we must consider the economy not in relation to traditional science (observation, evaluation, trial, reasoning, etc.) but as an economy that will find facts to create new models and information technologies to establish a relationship with ecology. Philosophy does not create new technology, but on the subject of economy, it will help us to write a new story and to think on issues of heterodox economies. Creating a new economic mentality is part of the story. The second part involves how we will integrate people in relation to the nature to the new economy, that is, to entwine the infrastructure of the new political economy. However, the contribution of new materialism, post-humanism, and others is not confined to constituting a new political economy. Reconceptualizing our position and relation with nature is required to configure and activate relationships in their new form.

There are new ideas on the methods of doing this. One of these ideas is "The Convention of Nature" proposal, which refuses the view that only humans are at the center of the world.[46] In addition to accepting animals as actors, this is also related to natural processes. For this, we must avoid two things: religious mysticism and vitalism. The "Convention of Nature" actually offers a kind of feedback mechanism related to nature. While trying to provide order, because of randomness, we see that disorderliness is continuously rising in nature. This suggests the necessity to engage with nature and to cooperate and make contact with it. We must reread the world. Understanding everything by science may be an utopia. We may generate more realistic laws by engaging with and understanding the processes of nature.

Another view is related to a deeper look at the human and posthuman. What will be the posthuman aftermath? Will it be human-like robots (cyborgs)? Like vaccine opponents, there are also opponents of the new humankind. Now is the time to think about what will happen to humans and to make this an educational topic. What will be the priority and the law of the relationship between *Homo*

[46] Rick Dolphinj, "The World, the Mat(t)er of Thought", in *Michel Serres and the Crises of the Contemporary*, ed. Rick Dolphinj (London: Bloomsbury Academic, 2018), 263.

sapiens (Human 1.0), chipped humans (Human 2.0), machine-humans (Human 3.0), robots, and anthropoids? Multiple perspectives and variations are related to this problem. As multidisciplinary studies bring variables and connections together, we must achieve results and form new patterns of behavior.

The difference between the intensive use of digital technology and the basis of the transformation induced by such technologies is becoming wider. As digitalization increases, old technologies disappear, and new connections emerge. The developing concepts of materialism, in addition to developing the philosophical apprehension connected to the world of materials, may answer two questions related to digital art.[47] The first is concerned with how we look at the material; in this realm, Gilbert Simondon's hylomorphism (the doctrine that physical objects occur as a result of a combination of matter and mold) criticism and Yuk Hui's concept of connective materialism draw attention. For the second question, Eric Hörl's techno-ecology concept, a technological look at nature, stands out. According to Bernard Stiegler, the relation between nature and technology is not dialectic because nature is already technological. The issue leads to controversies about how nature should be read in digital format.

Materialist Society Engineering

We are drifting into an environment of cognitive fear that the USA, the EU, and the World Health Organization are supported by large tech companies. The giant corporations in digital information technology are controlling our personal information. In the USA, three financial giants, BlackRock, Vanguard, and State Street, are controlling these companies and are working hand in hand.[48] The assets of these three companies are $25-30 trillion, and in the Western world, in all production and services sectors, they hold the majority of the shares. The course of the world is going toward a totalitarian, technocratic, single-centered world order. This order is working to make an impact

[47] Sebastian Rozenberg, "Relational Materialism and Techno-ecological Sense: A Philosophical Approach to Digitisation", Conference paper, *Critical Digital Art History: Interface and Data Politics in Exhibitions, Museums and Collections,* (2021).

[48] Peter Koenig, "Digitization is Humanity's Demise. The 'Smartphonization' of Humanity. The QR Code is Everywhere", *Global Research* (Accessed October 18, 2022).

not by a physical war but by impacting people's brains in a cognitive environment. We are in a war that the majority cannot see. Eventually, we will become people who have lost the ability to think independently, and we will only implement limited logical reasoning. This logic will have been programmed to impact our choices, decisions, and beliefs.

Some of us will live with the stigma of "potentially dangerous to the state", as in Russia and China today. Humanity is becoming digitalized; our money, telephones, and everything in our hands are becoming digitalized while turning us into a condition that is controllable. Without smartphones, it is not easy to make banking transactions now, and everything is becoming dependent on smartphones. Moreover, our smartphones are synchronized even to our home computers. We might think that all of our information and e-mails are saved in a certain medium. GPS in our phones keeps track of every day, place, and location. Our bank cards are registered at gas stations, saving our license plates. Cameras everywhere register our whole lives moment by moment, and the information is collected automatically in our personal files until the day it is needed. The algorithms that combine this information determine our character, our sensitive sides. Someone could use the information for advertising purposes or with bad intentions.

Facebook shows the lives of selected persons: who they are, intimate details, pictures, and personal stories; that is, always me, me. The algorithm applied reaches to your loved ones and those you cannot escape from in your profile. Even if you leave Facebook, you are still on the record. The information collected about you can create material against you. Twitter, Instagram, TikTok, WhatsApp, Snapchat, LinkedIn, and others work with the same principles. If you have become a member of them, you belong to them now. In a program designed algorithmically, you are not aware of the propaganda network. First, the US and Israeli intelligences created IBAN (International Bank Account Number) to bring the flow of money globally into our lives. Then, British intelligence imposed biometric pictures for recognition wherever we are. All around us, digital reading and cameras, face recognition, and other technologies are added. Recently, QR codes have quickly entered our lives. Without using a QR

code, you cannot look at a menu in a restaurant, and you may not even enter a toilet without it in some places.

Are we aware of the dangers of QR codes that can be installed on smartphones? The QR code is a part of ID2020 of Bill Gates' plan to chip all of humanity. For the time being, with ID2020, people's records of health, private life, behaviors, and habits are targeted. There is no escape from the QR code. By means of ID2020, the personal information, social data, personal secrets, bank details, business lives, behavioral trends, crimes, friends, and family relations of 7.9 billion people worldwide will be monitored and controlled.[49] The process started by the vaccine program depends on fear. QR (quick response), which is an application of the monitoring program of ID2020, is applied by a barcode in Google. The eye of the QR code center management can scan all the data about you. As we will have to have it scanned, this information will be recorded once more. Sooner or later, your QR code will be taken into your body, and by artificial intelligence or robots, it will become remotely controlled. This will be the Human 2.0 civilization enslaved.

Social engineering always starts with an understanding of the environment and the goal; the purpose is to understand the psychology of the target society. There are propaganda and disinformation techniques at its core, and it is developed by the information technologies and implementations of our time. Behavior can be predicted and calculated to a certain extent. Now, the behavioral sciences that exploit artificial intelligence have been initiated.[50] Almost everyone is active on the internet and social media; no one is a passive recipient of propaganda, and everyone takes an active part in its creation and distribution. Manipulating knowledge can easily be turned into a weapon. The cognitive war exploits the human brain's weaknesses by using the role of emotions on knowing. Understanding the relationship between people, machines, and artificial intelligence will become increasingly important in the coming period.

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[49] Koenig, "Towards Digital Tyranny? Beware of the QR Code, Remember Agenda ID2020?", *Global Research* (Accessed October 17, 2022).

[50] Jacob Nordangård, "Analysis: Globalists' Reboot of the World and Their Plans for Us", *Factuality* (Accessed September 7, 2020).

The global elite's popular player of the COVID term, the World Economic Forum (WEF), is now making a new definition of ownership with the Great Start: "Have nothing but be happy". The ownership and control of all resources in this world will be undertaken by a technocrat elite; what you will do is to make payment for the temporary use of everything. This is part of the Great Start of the WEF on the agenda of 2030. This is a transition from "stakeholder capitalism" to "shareholder capitalism".[51]

They claim that it is "justice" for all. What truly happens is that by shareholder capitalism, your freedom and power are transferred from elected governments to private companies and others, such as unelected shareholders like WEF. In fact, with the pandemic, these unelected addresses began to decide what was good for our health.

In summary, we are going back to the feudal order. Nothing will belong to you; all goods and sources will be used collectively, and rightful ownership will be for the upper class and will be owned by the officials of the global elite. Like living in a dormitory, you will borrow an iron or a teapot and return it later. The propaganda is done like this: "You do not need to store things in your room!" They even promise to bring everything to your door by drones if you have money. Moreover, you will not decide what you want to have; the artificial intelligence that is incessantly inhaling you will decide for you. It will decide for the direction of your life and your tastes and bring those that it considers necessary for you even if you do not want them.

Artificial intelligence monitoring vehicles, the robot police will overmaster you in a global police state where global control is provided with the new technologies. We will forget all about villages, farms, unions, civil servants, teachers, associations, weddings, everything in the world up to now. In the new capitalism, nothing will belong to you. Even your money will be digital. A group of conglomerates that represents the global elite will decide who will use it and how much in order to facilitate population control. In world history, we are in a period in which humanity needs to be in solidarity. The danger is global and directed to all of humanity. We must have a single voice in the struggle with global powers. We must be aware of the fact that COVID-19 is a part of the plan of global powers to take

[51] Joseph Mercola, "The Great Reset Is Accelerating into Global Tyranny", *Mercola* (Accessed September 30, 2021).

over the world.[52] The set of conspiracy theories around the Great Reset is nebulous and hard to pin down, but piecing them together gives us something like this: the Great Reset is the global elite's plan to instate a communist world order by abolishing private property while using COVID-19 to solve overpopulation and enslaving what remains of humanity with vaccines.

Conclusion: Manifesto for the End of Humanity

In the history of the modern world, we are going through a time that has never been seen before. We are at a very important phase of human history. For national economies, solutions for income, employment, production, trade, infrastructure, and social services are becoming increasingly incomprehensible. Unless there are resources, measures to stabilize the economy will not go beyond being a futile tour. In addition to the chaos created by an ineffective authority, institutions becoming more corrupt and malicious also block the way out. Although our standards are being reduced to survival, no one is in a position to resist anything. We are being marked, monitored, and isolated. Everyone seeks to satisfy their own interests and egos, and no one wants to sacrifice themselves for others. All the fortresses of the modern order, society, family, religion, the business world, the economy, and the state are becoming rotten. However, if we cannot resist global hegemony, total monitoring, universal digital identification, and universal (compulsory) vaccination, the future generation will not be free. From the human model that uses machines in our time, we will first change to humans in whom machines are placed, and finally, we will change to the humans used by machines.

The prediction that our thinking will be transferred to our brains by others was a dystopia that George Orwell published in 1949 in his book *1984*.[53] A dystopia took place there, but it is now becoming real. Malthusian in the population control theory (famine, war, and disease are the cause of population decrease, but on the contrary, there is population increase) brings forward the agenda of population decline. We are not only talking about the killer artificial intelligence robots developed for future wars. Anthropoids (humanoids) manipulated by

[52] The Rockefeller Foundation and Global Business Network, "Scenarios for the Future of Technology and International Development".

[53] George Orwell, *1984* (New York: Signet Classic, 1961), 43.

5G may also have received a kill command after they bring your coffee.[54] With the global monitoring system, a new slavery system awaits us. The name of this will be the "intelligent city" where everyone and every article is monitored. As the intelligence of everything is remotely controlled, it will function as a weapon.

In the last 50 years, in many publications, the "population reduction" that reduces the number of human beings on earth has been mentioned and presented as a necessity. A different project, "trans-humanism", proposes a technological improvement that will go beyond nature and people. We have already mentioned that technology will make human-machines or alterations in genetics that will be turned into humanoids. When converting the human and nature to another aspect, we are preparing our own end, which is our own destruction. As we are changing nature and everything, we will move away from the fact that everything is for humans. In a world where humans are no longer humans, we will consume the environment for other purposes. The Internet of Things represents the early model of the mega digital machine to which Human 1.0 will be connected.[55] A "thing" now will become you in the future. Except for those at the top, *Homo sapiens* will not be individuals, owners, or independent people. A global development program will target people and cause population decline while controlling and monitoring the global population.

The world is turning into a kind of "company technologism" and is trying to dictate its new global story. The social engineering imposed by the newly reconstructed technocracy for its own agenda is now a scientific field; there is you on one side of the money issued and the world on the opposite side. We do not know how our brains produce subjective experiences, which are sometimes not clever and can even be irrational. There can be two types of demons in the environment: one of these is the universal consciousness that our consciousness is a part of, and the other is the people around us. The technocratic structure is preparing for political processes and fictions that will

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[54] Joseph Sansone, "The Early Dystopian Reality, Mind Matters" (Accessed December 5, 2022).

[55] Robert J. Burrowes, "Corrupt Science and Elite Power: Covid-19 'Techno-Slavery' and the 'Great Reset' Are Now Imminent", *Transcend Media Service* (Accessed December 19, 2020).

regulate relationships, the quality of the people, the statutes that robots will receive, and finally, the supreme authority of man-hunting. What is expected from science is not just monitoring and controlling you but adopting you to the established order at the same time. New definitions, new meanings, and new rules are needed for this, and if this is not achieved, there will be chaos. To exert your energy, relations will be reorganized; that is, "search but do not find". It will be a dead universe. Your memory will be frequently wiped away in a world where your feelings are controlled, and you will be purified from unwanted thinking and memories. Human beings will be emasculated; that is, they will not be able to be fertilized.

There are many reasons to continue building new technologies: to remain globally competitive, advance human knowledge, and prepare for potential crises. Technology has benefits. However, slowing the pace of its advance would give society more time to think through the consequences and debate which aspects of new technologies are desirable and which should be outlawed.[56] Consider what an AI system might do if directed to do something obvious, such as maximize profits, using all the information and tools at its disposal. It might hold embarrassing personal information for ransom to coerce users to purchase goods or extort criminal actions from people with darker secrets.

Now is the most critical time to own the people and the values of humanity. We must be conscious and ask for the true regulations from the right addresses to protect human freedom and honor. Let us briefly summarize what will happen if we do not do this.

- The human mind is imperfect, and even the most precious memories can fade away. Your stories have moved to other stories. There are different versions of the same life; who knows how many times you are killed or have killed others? Memories are a clue to keep you in the story. Your life is spent saying, "Who am I?" The secret of "self-knowledge", expressed by the mystics, is here.

- In the near future, as your perceptions will change and your comprehension will be directed, your personal self-consciousness will disappear. This will make your life meaningless because the meaning will be lost. Your life and memories will be copied and pasted to other

[56] Kentaro Toyama, "Bring on the Technology Bans!", *The Conversation* (Accessed August 20, 2019).

bodies; for example, they will be loaded to robots. Your story, your "karma" as in Eastern belief, will be experienced many times, or it will be revised each time and repeated.

Maybe it will be good to get rid of your memories. As Buddhism says, the cause of our grief is our memories, and the way to get rid of them is to forget. You will not be born as an original human being but will be included in the life scenarios of the chosen ones' desires; however, your new role will probably not be very pleasant.

While living, you will not know who you are or what you want; the only truth and the only way out will be death. You will be destroyed at the push of a button, and when the time comes, you will be woken up to another world. People will continue controlling their own lives in pursuit of immortality.

- When you have no more places to escape in the world where you are programmed, you will say, "Let me die and come". Death, which will be your friend and your salvation, is the way out of the wild world, but you must deserve this. While living, you should serve them well for a good death.

- In fact, this case is not much different from the moment we are living now. At birth, our past lives are closed with forgetting, and we live in a world of illusions. In the future, we will also search for our true identity, that is, our identity in the universe, because what we remember from our past life will continuously disturb us.

- You had many personalities, such as who you are and who you think you are. Are you aware of the fact that you harm your loved ones the most? Now it is time to face our inner demons. Which metaphysical power competition is there behind our lives that are caught between good and evil?

- Our biggest dream was to be immortal. However, we have probably never had free will. We are alive because they need our role. To think of ourselves as free is an algorithm. However, we must have the right to determine our own destiny as well as the freedom to think and dream. Moreover, our memories must have privacy. It is time for humanity to calculate for themselves.

- We must move from one world to another. Now you understand the facts and divinity better when you are going to the material world. You may die many times to be able to find the trace of your old love in different bodies. You may be able to find your lost mother or your child

in another world. We will be confronted with ourselves and with the people we were with in the past many times, but we will not be able to understand that this is a reflection.

- Maybe there has never existed anything like God. If God is going to destroy us, why did he create us? Possibly, God did not rest on the seventh day; he enjoyed everything he created, knowing that one day all of it would disappear. God gave up all hope for us long ago. Nevertheless, we used the paradise he gave us badly, and we are consuming, exploiting, and destroying it.

- There could not be a world worse than this. As Schopenhauer said, "This world is the worst of all the worlds that one can conceive. Nominated that, if this world were just a little bit worse, it would not exist." We are born in a world full of villains and evils. Is this the conclusion that science and technology will come to, to destroy humanity?

- The world is becoming hopeless. People are revolting, and we are heading for chaos, and this is induced in the world where it is becoming a bomb ready to explode. In a world where humans become dangerous, humanity might want to be punished, and this situation might provide justification for us to be monitored, controlled, and guided.

- In addition to death somewhere in the universe, there might be an exit that would take us to immortality and the real world. Now, each of us must look for this exit for our own selves and for the salvation of humanity. We must enter the real world where we are not let in. Can we start by writing our own story? We can only create the Golden Age in the real world. Science must turn to this and recross the paths separated from metaphysics.

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BOOK REVIEWS

El-Khaḍir/El-Khiḍr: Le Prophète-Sage dans la Tradition Musulmane by Irfan Omar

Michael D. Calabria

Encounters with the Hidden Imam in Early and Pre-Modern Twelver Shīʿī Islam by Omid Ghaemmaghami

Reyhan Erdoğdu Başaran

El-Khaḍir/El-Khiḍr: Le Prophète-Sage dans la Tradition Musulmane by Irfan Omar, translated by Jean-Pierre Lafouge (Casablanca: Éditions La Croisée des Chemins, 2021), 220 pp., ISBN 9789920769860, €18.00.

In November 1654, the Mughal emperor Shah Jahan made a pilgrimage to the shrine of Muʿīn al-Dīn Chishtī in the city of Ajmer, as was a common practice for the members of his dynasty. The journey is captured in a painting from his royal chronicle, The *Pādshāhnāmah*. As the emperor crosses a stream on the outskirts of the city, he encounters a mysterious figure standing on the surface of the water, clad in an emerald robe and turban, and offering a globe to the emperor. Although unnamed in the painting, this figure has been identified as *al-Khiḍr* (also rendered as *al-Khaḍir* and *Khizr*), literally "the Green One", the traditional name given to Mūsá's (Moses') mysterious guide mentioned in the Qurʾān (Q18:60-82 ff.) and the subject of Irfan Omar's welcome study of this important figure in Islam.

Omar, Associate Professor of Theology at Marquette University (Milwaukee, Wisconsin, USA), approaches his subject with a thorough study of classical sources –Qurʾān, *tafsīr*, *ḥadīth*, and extra-canonical sources such as *qiṣaṣ al-anbiyāʾ*, as well as contemporary scholarship, Muslim and non-Muslim– East and West. In the first chapter, he introduces the reader to the three principal areas covered in greater detail in subsequent chapters, beginning with the Qurʾānic verse regarding al-Khiḍr that serves as a spiritual lesson on divine mysteries and the limitations of human knowledge and understanding. The understanding and significance of al-Khiḍr is, however, not confined to the Qurʾānic verses but was expanded, not only by ḥadīth and other Islamic sources (later detailed in Chapter 2) but also by legends that were woven into them from the folklore freely shared across religions

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and cultures in the Mediterranean world, Middle East, and South Asia (detailed in Chapter 4).

The third area of investigation introduced in the book's opening chapter (and later treated in detail in Chapter 3) concerns the interpretation and significance of al-Khiḍr in the mystical traditions of Islam. Among the many different Sufi *ṭarīqah*s, al-Khiḍr is especially a prominent figure who guides seekers lacking an earthly teacher on the spiritual path and who represents the utmost depth of mystic insight accessible to humanity. Thus, as Omar explains well: "The supreme symbolism of the Moses-Khiḍr story is that divine knowledge may be received in the form of 'law' or revelation (as Moses did) or as mystical, intuitive knowledge (as was given to Khiḍr). These two forms of knowledge are complementary, and neither is above the other" (p. 29) – a significant point in today's polarized Islamic societies where law and mysticism are often viewed as diametrically opposed to one another.

From the outset, Omar is keen to show, however, that Khiḍr's story –in its fullest expression– is not purely Islamic, but "that it intersects with stories from other traditions, including the Jewish and Christian traditions", and bears elements in common with the Mesopotamian story of Gilgamesh and the widely translated *Alexander Romance*. Thus, this study will be of interest to students and scholars of ancient Near Eastern religions as well as Islam.

While Omar addresses the classical issue of al-Khiḍr's status of saint (*walī*) and/or prophet (*nabī*), he skillfully turns the discussion to al-Khiḍr as an embodiment of Divine Mercy (*raḥmah*):

> Khiḍr is a symbol of God's mercy because he is a recipient of God's knowledge; here mercy and knowledge are, in a certain sense, synonymous. God's mercy and His knowledge are meant for all servants of God, in essence for all members of God's creation. Khiḍr here becomes integral to how divine mercy (*raḥmah*) reaches a worshipper (especially those in need) and a seeker of *qurb* (divine proximity). (p. 65)

Turning to the symbolic elements that appear in the textual sources for al-Khiḍr, the author addresses the significance of such things as green, fish, travel, water, and immortality. Omar surveys the Islamic sources well for the meaning of these elements, but his discussion might have benefitted from some additional comparative study. The

color green, for example, was similarly significant in other religious texts and artwork (ancient Egyptian, Hindu, Buddhist, etc.), as well as in the Hebrew and Christian scriptures, as are some of the other symbols associated with al-Khiḍr. Including some artistic images – especially Persian and Mughal paintings– would have greatly enhanced the textual materials.

Even without such images, it is particularly Omar's clear exposition of the mystical and mythic representations of al-Khiḍr in Chapter Three that students and scholars of Sufism and Islamic Art will find most helpful. He begins the chapter with a succinct introduction to Sufism before elucidating al-Khiḍr's significance for the spiritual seeker, describing him as "the initiator of those who seek the esoteric realities and those who strive on the path to someday becoming worthy of being a 'friend' of God ... indispensable to those who accept his discipleship and he is always 'present' for the disciple, without being physically there." (pp. 89-90). This discussion is especially useful for those interpreting artistic representations of al-Khiḍr from the Ottoman, Safavid, and Mughal periods.

The cross-cultural and cross-confessional aspects of al-Khiḍr are addressed in Chapter Four. Here we see a fuller development of what Omar had underscored in Chapter One – i.e., that due to the timeless and universal significance of al-Khiḍr's story as conveyed by the whole of Islamic tradition (including scriptural, hermeneutical, literary, artistic, and folkloric elements), he is often equated with similar figures such as Elijah from the Jewish tradition and the Christian St. George with whom he shares attributes and meaning. Al-Khiḍr thus becomes an archetypal figure who cuts across cultural and religious boundaries, especially in the religiously diverse contexts of the Middle East and South Asia. For Muslim purists –medieval and modern– this may be considered objectionable *bidʿah* ("innovation"). However, for others, it serves as an essential reminder of our common spiritual yearnings despite the diversity of expressions and the common folkloric well from which various cultures drew inspiration and understanding. Indeed, as with Sufi figures such as Muʿīn al-Dīn Chishtī, whose shrine in Ajmer, India, continues to attract devotees of all traditions, al-Khiḍr might likewise be seen as a symbol of interreligious unity in a world tragically scarred by sectarian conflict. As a well-published scholar of

interfaith studies, one can see why Omar was drawn to al-Khiḍr for the subject of his latest work.

Omar completes his book with a chapter on the significance of al-Khiḍr in the poetry of Muḥammad Iqbal (1877-1938), the poet-philosopher of the Indian subcontinent. Like the generations before him, Iqbal understood al-Khiḍr as a guide, as expressed in the title of his poem "Khizr-i Rāh" ("The Guide"); but within the context of the British Raj, Iqbal believed that al-Khiḍr should be a *guide to action* rather than to the sort of spiritual resignation found among many Sufis of his day whom he considered passive disciples of their *shaykh*s.

In this volume, Irfan Omar has given us a serious, thorough, and highly readable study of the multi-faceted figure of al-Khiḍr –as one would expect from an internationally recognized scholar– a work that is at the same time inspiring and relevant in a world so greatly in need of some guidance. As he himself concludes, al-Khiḍr's story is: "a powerful testament to the connection and vital link between religion and service to others, faith and action, and between piety, spirituality, and the concern for the marginalized."

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Encounters with the Hidden Imam in Early and Pre-Modern Twelver Shīʿī Islam by Omid Ghaemmaghami, Leiden/Boston: Brill 2020, 276. €130.00

Encounters with the Hidden Imam in Early and Pre-Modern Twelver Shīʿī Islam by Omid Ghaemmaghami is aimed to analyze the accounts addressing the possibility of seeing, recognizing, or coming into contact with the Hidden Imam during the *ghaybah* [occultation]. The central belief of the Imāmī Shīʿīs is that the son of Ḥasan al-ʿAskarī, the twelfth and final Imam disappeared in 260/874 and has since been shrouded in concealment. This process of *ghaybah* includes the two periods of Minor Occultation (*al-ghaybah al-ṣughrâ*) and Major Occultation (*al-ghaybah al-kubrâ*). Imāmī traditional data reveal it to be possible for the Hidden Imam to be seen, recognized, or encountered during the first occultation period beginning with the death of the eleventh imām, Ḥasan al-ʿAskarī, and concluding with the death of Alī ibn Muḥammad al-Samurī (d. 329/941), the fourth and the final emissary (*safīr*) of the Hidden Imām. When the early and premodern Imāmī literature is thoroughly examined, the question of contact with the Hidden Imām during the second *ghaybah* yet appears to be puzzling. In this book, Ghaemmaghami emphasizes the absence of narratives in the early Shīʿī authoritative texts that would have evidenced one's communication with the Hidden Imām during the Major Occultation.

The book provides a well-explored and well-documented historiographical analysis on the narratives of the process of understanding, discussing, and demarcating the issue of contact with the Hidden Imām during the Major Occultation. It consists of four chapters, except an introduction, a conclusion, and Appendices 1-2

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presenting in-depth research of sources in Arabic and Western languages. In the introduction, Ghaemmaghami provides a thorough critique of Western research on the subject of *ghaybah* and the interaction with the Hidden Imām while highlighting the lack of interest in the topic. Ignác Goldziher is introduced to be the first Western scholar to address the problem of contact (p. 8). The writings of scholars including Jawad Ali, Hassan Ansari, Edward Sell, Moojan Momen, Ayatollah Jaʿfar Subḥānī, Sayed Ammar Nakshawani, and Abdulaziz Sachedina have been referenced since they briefly mention the accounts of encounters with the Hidden Imām. A number of stories related to the topic of the encounters with the Hidden Imām, said Ghaemmaghami, have taken place in the works of Etan Kohlberg, A. Amanat, A. Arjomand, R. Brunner, M. MacEoin, W. Madelung and D. Stewart. In addition, Henry Corbin and Mohammad Ali Amir-Moezzi were the first scholars to devote an entire chapter to the aforementioned subject. Hence, a thorough analysis and critique of the works of the two scholars is widely covered in the introduction of the book.

The first chapter, "The Unknown, the Unseen, and the Unrecognized", is dedicated to dissecting the Imāmī Shīʿī hadith collections and the Qur'an commentaries (*tafsīr*) compiled by the time of the Minor Occultation. To Ghaemmaghami's broad analysis of the written Imāmī hadiths and *tafsīr* materials from the period of the Minor Occultation, the *ghaybah* of the Twelfth Imām is rarely referenced. The reports narrated in *Uṣūl al-Kāfī,* a well-accepted hadith compilation of the Imāmīs, of al-Kulaynī (d. 328–9/940–1) although not only mention of two distinct *ghaybahs* of the Qāʾim, but also provide stories of those who stated to had seen the Hidden Imām during the Minor Occultation (p. 40-44). Here, particular attention is given to the contradicting hadith materials from the time of the Minor Occultations formed in the same book. Despite the amount of data claiming the impossibility of seeing or recognizing the Qāʾim during the Minor Occultation and particularly during the Major Occultation, a limited number of hadiths say otherwise.

Chapter Two is devoted to unpacking three particular hadiths suggesting the possibility of seeing, recognizing, or encountering the Hidden Imām only by some. Two of those three hadiths are from al-

Kulaynī's *al-Kāfī,* and one is cited in *Kitāb al-Ghaybah* of al-Nuʿmānī (d. 345/956 or 360/971). The first and second analyzed hadiths suggest the possibility of interaction with the Imām narrated in *al-Kāfī* also included in *al-Ghaybah,* and then almost a century later, the first appeared in *Taqrīb al-maʿārif* of Abū l-Ṣalāḥ al-Ḥalabī (d. 447/1055) and *Kitāb al-Ghaybah* of al-Ṭūsī (d. 459 or 460/1066–7). The second hadith was narrated by al-Ḥalabī (d. 447/1055) and al-Majlisī. The third hadith appeared for the first time in al-Nuʿmānī's *al-Ghaybah* and then was narrated by al-Ṭūsī. The three hadiths here are criticized for being of the Wāqifī origin because either someone in the *isnād* chain identified as a Wāqifī or a particular person of the *isnād* is known to have transmitted hadiths from the Wāqifīs. Relatedly, Madelung is referred to as the first scholar to have pointed out the Wāqifī origin of the hadiths mentioning two *ghaybahs* for the Qāʾim.

While the final *tawqīʿ* (written communication) of the Hidden Imām transmitted to the last emissary who died in 329/941 has a central role in proving the main objection of the book and therefore has been referred to across the study, it is thoroughly analyzed under the title of "A Lying Impostor" in Chapter Three. The final *tawqīʿ* was first recorded in *Kamāl al-dīn* of al-Shaykh al-Ṣadūq (b. ca. 311/923; d. 381/991–2): "… [Before I reappear], some [or someone] will come to my followers claiming to have seen [me] with their own eyes. But beware! Anyone who claims to have seen [me] before the appearance of al-Sufyānī and [the sounding of] the Cry is a lying impostor…" (p. 99). The *tawqīʿ* has been narrated in the following Imāmī tradition, however, the "lying impostor" part, Ghaemmaghami argues, was either being excluded or being interpreted in favor of leaving a possibility of contact with the Hidden Imām. The statements of the Imāmī scholars of the fourth century, including al-Sharīf al-Murtaḍá and al-Ṭūsī, that making contact with the Hidden Imām is possible, argued Ghaemmaghami, contradict the earliest general traditionalist Imāmī acceptance. This particular chapter of the book is important to reveal how confusing the accounts of that era are in terms of the possibility of contact with the Hidden Imām. They acknowledge the judgment of al-Murtaḍá, claiming that: "We cannot be certain that [the Imām] is hidden from all of his initiates/friends" (p. 129), even as they narrate accounts preventing any kind of contact with the Imām.

With the title of "From the Youth and the Stone to the Proliferation of Accounts", Chapter Four discusses early accounts of encounters [the first of which was inscribed by the sixth century] with the Imām in a wakeful state. It thus suggests that nearly two centuries after the start of the Major Occultation, the records enabling communication with the Hidden Imām have multiplied quickly. The book brings out the narrative that contact with the Hidden Imām had gained popularity by the seventh century, particularly with the writings of Ibn Ṭāwūs (d. 664/1266) and Abū l-Fatḥ al-Irbilī (d. 692/1292-3 or 693/1293-4). The emic process of the rapid increase in the accounts enabling the interaction with the Hidden Imām is being introduced as "an invention of a tradition".

In the book under review, each hadith and narration related to the *ghaybah* and the possibility of seeing the Hidden Imām are meticulously examined. However, a critical analysis of the final *tawqīʿ*, despite appearing at the center of the discussion of the matter of contact with the Hidden Imām, is not thoroughly given. Rigorous attention is given to the mysterious status of ʿAlī ibn Muḥammad al-Samurī. It is stressed that there is no mention of his presence in the Imāmī texts from the time of the Minor Occultation. Not even his name is stated in those books. The final *tawqīʿ*, on the other hand, has been treated as if it is an authentic statement. The matter of why the final *tawqīʿ* was not mentioned in the texts written immediately following the start of the Major Occultation has not been questioned. However, the narration of it roughly thirty to forty years after the Minor Occultation is being given as a positive sign though. "…quoted in a work only three decades removed from the start of the Greater Occultation" (p. 4).

Another point to which is needed to draw attention is the usage of the phrase of "invention of a tradition" (145) in reference to the quick dissemination of the stories that enabled contact with the Hidden Imām. Chapter Four begins with the clause "The tacit approval of al-Sharīf al-Murtaḍá and al-Ṭūsī of the possibility of seeing the Imām foreshadowed the 'invention' of a tradition." The early and premodern Imāmī studies examined in the book all seem to include accounts that certainly refute contact with the Hidden Imām, yet some accounts do allow it. For example, al-Ṣadūq, however, is the first scholar to narrate

the *tawqīʿ* [claimed to have heard it from his teacher Aḥmad al-Mukattib] and mentions a dream in which he was instructed by the Hidden Imām to pen a book. Al-Ṭūsī, despite citing the final *tawqīʿ*, narrated quite a few accounts allowing contact with the Hidden Imām. Al-Nuʿmānī is one of the earliest Imāmī traditionalists who supported the argument that the only difference between the Minor Occultation and Major Occultation is that contact with the Imām is not possible in the latter phase. On the other hand, he is the first scholar who narrated the three hadiths [two of which were narrated by al-Kulaynī before Nuʿmānī], according to which, the Imām could be able to encounter his *mawālī*. While arguing for the impossibility of contact with the Hidden Imām, Al-Shaykh al-Mufīd (d. 413/1022) was open to the idea that the Imām could be seen by his close *mawlá*. Al-Kulaynī likewise narrated the first two hadiths [discussed in depth in Chapter Two], which have been used to support the idea of the possibility of contact with the Hidden Imām during the Major Occultation. Because there have been accounts allowing contact with the Imām in almost every period from the early time of the Major Occultation, I am not sure whether the matter of increasing the number of stories of the contact could be introduced as an "invention of a tradition".

Encounters with the Hidden Imam in Early and Pre-Modern Twelver Shīʿī Islam is a well-researched and well-analyzed historiographical text written for academics and students of Religious Studies interested in Islam and particularly Shiism. The book is rewarding in providing a broad analysis of the prominent Imāmī literature in terms of revealing the historical process of the belief in contact with the Hidden Imām during the Minor Occultation and Major Occultation. It is an important study that fills a significant gap.

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Book

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Michot, Yahya M. *Ibn Sīnā: Lettre au Vizir Abū Saʿd: Editio princeps d'après le manuscrit de Bursa, traduction de l'arabe, introduction, notes et lexique*. Beirut: al-Burāq, 2000.

Book Chapter

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