

## Redefining the Boundaries of Humanity. Transhumanism and Posthumanism in the Perspective of Biotechnologies. Edited by Jana Tomašovičová and Bogumiła Suwara.

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Adam Škrovan 

Institute of World Literature, Slovak Academy of Sciences; Dúbravská cesta 9, 841 04 Bratislava, Slovakia; [adam.skrovan@savba.sk](mailto:adam.skrovan@savba.sk)

Recent advancements in biotechnology have led to improvement and innovation in two distinct directions: the therapeutic methods which are intended to heal, and the enhancement of human capabilities beyond their natural state. This development has been of interest not only to the natural sciences but also to multiple academic fields within the humanities. Philosophy, ethics, sociology, or the arts examine the impending transformation of the human subject and the subsequent effects arising from it. Furthermore, the necessity to reevaluate and potentially redefine humanistic concepts that—since the era of Enlightenment—have been held inviolate is becoming increasingly more acknowledged. Academic discourse adopts both a retrospective and a future-oriented approach. While the former approach involves redefining humanistic ideas in light of new technologies and shifts in cultural and philosophical paradigms, the latter focuses on the impact of biotechnological development on individual or societal levels. Within this context, the image of the future enhanced human being is analyzed by philosophical works, which may embrace a techno-optimistic view or a non-anthropocentric one, elaborating on postmodern and poststructuralist concepts. Genetically modified humans or entirely non-human beings portrayed in visual, literary, or performing arts are often set in contrast to the conventional human forms, identities, and relationships. The enhancement of cognitive or emotional capacities is explored by ethicists who may question whether such modifications are justified. Additionally, inequalities that emerge due to differences between the enhanced and the non-enhanced are examined within a sociological framework. These are only some of the many examples in which the academic disciplines of the humanities interact with advances in biotechnology.

In order to ensure that the scope is specialized rather than too wide, *Transhumanism and Posthumanism in the Perspective of Biotechnologies* (2023) selectively engages with specific fields related to biotechnological advances. The volume is divided into eight chapters, each written by a different author specializing in literary, philosophical, or ethical studies. Edited by Jana Tomašovičová and Bogumiła Suwara, the collection stands out as a novel examination of the ethical, philosophical, artistic, and cultural consequences of advancements in biotechnology, where the image of both human and non-human beings is constantly evolving and transforming. A product of an interdisciplinary effort to describe the changes caused by emerging technologies, the publication comes from the “Analysis of Multidimensional Forms of Transhumanism and Posthumanism” project funded by the Slovak Research and Development Agency.

In essentially every chapter, the authors grapple with the well-known challenge of categorizing the various concepts covered by the terms “transhumanism” and “posthumanism” (and defining the terms themselves), as suggested in the title as well. Transhumanism and posthumanism refer to philosophical movements that are concerned with separate but overlapping notions: transhumanism focuses on the technological augmentation of human capabilities, whereas posthumanism departs completely from the traditional perception of the human domain. Considering the two directions which the biotechnological development has taken—i.e., innovations in therapy and human enhancement—, we can generally assume that transhumanism comprises both domains. In a comparable manner, posthumanism may be described as an ideology that rejects the traditional human subject—enhanced or not—, and instead explores entities or states of being that exceed the human form and even the transhuman discourse. While these brief outlines of transhumanism and posthumanism remain valid, the ambiguities within the movements as well as their wide scopes of interest prove to cause difficulties. The ongoing discussion about whether an enhanced individual maintains their human nature or undergoes a transformation into a posthuman state highlights the ambiguity and the issue of categorization. For instance, prior to engaging in ethical and legal debates surrounding enhancements, it is essential to first address whether such modifications alter human nature. This inquiry in turn calls into question the necessity of establishing new ethical and legal norms. If techno-optimistic viewpoints that consider modified individuals to be still human prevail, then expanding the discourse with changes in ethical and legal standards may not be needed.

The first part of the publication covers philosophical discussions on several concepts within transhumanism and posthumanism. It examines key topics such as the growing risk of human self-extinction due to biotechnological advancements or the problem of defining “posthuman,” which calls for a reconsideration of what it

means to be human. The section also underlines the social implications of genetic enhancement and how certain specific cases of modifications had a profound effect on ethical concerns. The second part of the book expands on biotechnologies by focusing on their impact across various forms of art. This section examines how fictional narratives are utilized as a means to imagine the potential state of posthuman in the future. It also explores how works of literature and films have evolved in their portrayal of non-human beings, which allows for a broader analysis of cultural and artistic aspects as a consequence of biotechnological development.

In the first chapter, Pavlína Bakošová analyses the future of *homo sapiens*, a theme that is shared yet addressed differently by transhumanist and posthumanist ideologies. The chapter is dedicated to the existential challenge that threatens humanity, defined by the concept of “the precipice,” which was developed by Australian philosopher Toby Ord in his book *The Precipice: Existential Risk and the Future of Humanity* (2020). According to Ord, the precipice represents humanity’s vast capacity for destruction in comparison with its lack of knowledge and restraint. To show why preventing the self-extinction is even sensible (and thus to challenge anti-natalist arguments), Bakošová contends that since current generations suffer less than those in the past, it is legitimate to assume that future generations will suffer even less, and it is why humankind should work towards this goal. The chapter further describes solutions to the precipice problem proposed by both transhumanism and posthumanism, and it also outlines the justification for genetic modifications that are currently considered unethical but may be justified by higher utilitarian needs in the future.

In the chapters that follow, Peter Sýkora addresses a paradox within cultural posthumanism, and Kristián Valachovič discusses the need for self-regulation regarding genetic modification. Sýkora refers to the groundbreaking yet controversial 2018 announcement by Chinese scientist He Jiankui of the birth of the first genetically modified babies. This case generated much discussion over its ethical, medical, societal, and legal implications. The modification of the babies’ germline cells renders them immune to HIV infection, and it is permanent and heritable. This has escalated the debate and linked it directly to earlier theoretical publications about genetic enhancement. Instead of arguing about the sacredness of human nature, Sýkora introduces concerns about the impact of genetic modification on the environment and interspecies relationships that may disrupt the evolutionary balance and have unintended consequences. Valachovič chronologically presents scientific conferences and conventions and their impact on bioethical discourse, starting from the 1975 Asilomar Conference, which triggered the discussion about self-regulation in the scientific community, to the 2021 WHO report, which was a direct response to He’s experiments. Valachovič’s findings emphasize the importance of reporting any unregulated or unethical genome editing research.

In the next chapter, Tomáš Gašpar explores the topic of moral enhancement, specifically looking at the aspects of the human psyche that should be targeted for modification. Although at first sight emotional capacities appear as the obvious choice, Gašpar highlights viewpoints that do not omit cognitive capabilities. Enhanced moral judgement appears to depend not only on emotional intelligence but also on logical reasoning and empirical knowledge. Therefore, enhancing emotional capacities alone might be insufficient for moral improvement if one lacks the motivation to behave morally. The philosophical section of the book is concluded by Jana Tomašovičová's examination of autonomy in the context of neuroenhancement. Tomašovičová describes how such modification could affect an individual's decision-making, under the pressure of society demanding the adoption of enhancement norms. The chapter covers both the accessibility of neuroenhancement and individual autonomy, including the right to refuse such a modification.

The second part of the publication begins with exploring the convergence of transhumanist and posthumanist ideas with the arts, mainly in the form of gallery shows and exhibitions. Bogumiła Suwara examines gene-editing technologies as a new artistic medium and reflects on the ways in which traditional dichotomies such as nature/culture or human/non-human are being re-evaluated in the context of the art world. The chapter provides a historical overview of creative engagement with technological advancements, mentioning organizations such as the Experiments in Art and Technology (EAT) founded in 1966 or the Ars Electronica festival that began in 1979. Suwara makes the argument that transhumanist art, which draws on the thoughts of philosophers such as Nick Bostrom and N. Katherine Hayles, might inspire the development of new mediums that would allow for expressions of feelings and emotions previously unattainable for humans. Contemporary gallery exhibitions of transhumanist and posthumanist art offer insights into possible evolutionary trajectories by depicting the coexistence of *homo sapiens* with posthuman beings or animals and, thus, reinforce non-anthropocentric views.

In the next chapter, Mariusz Pisarski shifts focus to the imagined future by examining the fictional worlds of science and speculative fiction, where the human condition is already reshaped by the posthuman. In his retrospective approach, Pisarski links Western philosophical notions with visionary depictions of new species and states of being. The chapter covers a wide range of artistic forms—from literature (Margaret Atwood, Michael Crichton, and William Gibson) to tabletop role-playing games (*Eclipse Phase* [2009], *Interface Zero* series [2008-]) to video games (*Cyberpunk 2077* [2020]). Although philosophical inquiry into human nature remains inconclusive and the combined efforts of artistic expression are unlikely to provide further answers, these fictional narratives still hold value, as they outline possible futures that range from dystopian consequences of technological

recklessness to techno-optimistic scenarios where biotechnologies are carefully managed and provide humankind with a better future.

Although the last chapter by Ivan Lacko continues to be situated within science fiction, it focuses specifically on the process of posthumanization. Lacko tracks how literary and film portrayals of non-human beings have changed since such works as Mary Shelley's *Frankenstein* (1818) or Karel Čapek's *R.U.R.* (1920). There has been a noticeable shift in the appearance, behaviour, and goals of these beings, mainly due to advancements in medicine and technology. The chapter also includes examples of twentieth and twenty-first century works, where entities such as robots or humanoid AIs are depicted as either rebelling against their human creators or serving them. Examining these interactions from an ethical perspective, Lacko highlights the questionable human desire to act as a god, which is further problematized by non-human beings striving for autonomy, which in turn causes discussions about their right to free will and freedom.

The publication brings a variety of author perspectives, with each addressing a unique issue and providing a distinct understanding of various concepts of both transhumanism and posthumanism. This diversity of perspectives highlights the heterogeneity of philosophical movements and contributes to a more comprehensive understanding of their core philosophies, which are yet to be explored or fully characterized. *Transhumanism and Posthumanism in the Perspective of Biotechnologies* provides a contemporary overview that incorporates transhumanist and posthumanist ideas stemming from biotechnological development into discussions on the arts, ethics, and philosophy. The volume is more than simply an interdisciplinary collection of theoretical debates; while the authors do not converge on a single methodology or provide jointly defined stances, the publication effectively outlines the status of biotechnological advancements and their effects from multiple philosophical, ethical, and sociological viewpoints.

