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Posthuman topics in literature and other arts

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Since its origins in the 19th century, science fiction has experimented with imagining the future transformation of humankind, whether a long-term transformation as a result of the ongoing process of human natural evolution in response to new living conditions, as in H.G. Wells's *The Time Machine* (1895) or a much faster transformation as a result of scientific and technological progress, as in Samuel Butler's *Erewhon, or Over the Range* (1872) and Auguste Villiers de l'Isle-Adam's *L'Ève future* (The Future Eve, 1886). But it was not until the end of the 20th century and the beginning of the 21st century that the theme of transforming man into posthuman forms of being transcended the boundaries of speculative literature and became the subject of the new intellectual movements and academic discourses known as transhumanism and posthumanism.

The very term "posthuman" is quite confusing. It has at least two main meanings, which on the one hand are contradictory and on the other hand intertwine and complement each other. Within the transhumanist discourse, the "posthuman" means the transformation of mankind through various state-of-the-art technologies into a new form that has crossed the biological boundary of Homo sapiens. Transhumanism is a techno-optimistic movement that advocates various forms of technological and biomedical enhancement of human capabilities. Transhuman means to be "more human than human"; it is a transitional stage in the development from the human to the posthuman. In contrast, the posthuman in posthumanist discourse refers rather, though not exclusively, to a conceptual construction based on a critical reflection on humanism, as in Michel Foucault's *Les mots et les choses: Une archéologie des sciences humains* (1966; *The Order of Things: An Archaeology of the Human Sciences*, 1970). Unlike transhumanism, posthumanism emerged from postmodernism, with Ihab Hassan's "Prometheus as Performer: Towards a Posthumanist Culture" (1977) heralding the end of five centuries of humanist tradition. Posthumanism has become an umbrella term for various projects of deconstruction of the humanistic paradigm, such as poststructuralism, critical theory, feminist epistemology, and postcolonial theory, whose criticism is focused primarily on anthropocentrism and the hierarchism of classical humanism. In this case, the posthuman already exists today, as suggested in Donna J. Haraway's "Cyborg Manifesto" (1985) and N. Katherine Hayles's *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (1999).

The concept of the posthuman has been used since the earliest science fiction in both transhumanist and posthumanist meanings. In various narratives describing the encounter of people with posthumans or aliens, human stereotypes, human nature and the humanistic paradigm itself are exposed to challenge and critical reflection.

This issue of WORLD LITERATURE STUDIES presents seven articles identifying transhuman and posthuman topics and motifs in works of science fiction in literature, film and television from a posthumanist perspective. This set of studies builds on previous research on the impact of emerging technologies on the human condition seen from the perspective of post-communist countries in Central and Eastern Europe (Peter Sýkora, ed.: *Promises and Perils of Emerging Technologies for Human Condition: Voices from Four Postcommunist Central and East European Countries*, 2019).

Human, super-human, anti-human: The posthuman deep future in evolutionary science fiction

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The subject of creative evolution[1] in recent science fiction is mostly presented in the near future with "cyberware" and "bioware" as basic tools for enhancing the body and the mind.* This individualistic and hedonistic rendition of transhumanist ideals, often accompanied by a dystopian take on the socio-economic consequences of techno-enhancements, contradicts the original transhumanist agenda set by Julian Huxley, the founder of the movement, for whom the main goal was "a betterment" of all humankind (1957). It also stands in contrast to current discussions about the possible future within posthumanist and Anthropocene studies. By questioning the central position of humans on a symbolic, biological, and planetary level, the very position of humans among other species, and in nature itself, is being redefined. Principal questions arise: "What does it mean to be human?", "What are special and truly unique human traits?", and "Which of them make Homo sapiens stronger and which make Homo sapiens weaker in the 'evolutionary race'?" The answers that can be found in near-future science fiction are not always satisfactory. The advance of posthumanism in critical theory and literary criticism has produced a strong anti-anthropocentric, reductionist, and materialistic perspective on humans, bringing us closer to animals (Agamben 2004, 75–77), machines (Hayles 2002, 141), or indeed any non-human other (Braidotti 2013, 2–5). Blurring the boundaries of humans is often made by emphasizing the relational rather than autonomous character of organisms, which promotes hybridity. The focus is on *sympoiesis* (Haraway 2016, 58–59) and co-evolution, rather than *autopoiesis*, as the evolutionary pattern and ultimate way of defining life (Ferrando 2019, 141). "Earthlings are never alone," asserts Haraway, and one cannot argue against such a statement. Nonetheless, the posthuman deconstructions, according to which a human equals an animal, machine, or any non-human, might not bring us closer to re-investigating the problem of humanity's uniqueness. N. Katherine Hayles rightly points out that Claude Shannon's probability function, which was used in the "AI [artificial intelligence] fantasy of Hans Moravec", has gone far beyond its original context and was inappropriately applied to a much more complex phenomena of consciousness (Hayles 2011, 296). As a result, popular fiction and pop culture embrace the oversim-

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plistic motifs of the posthumanist future. The dismantling of divisions between life and death, the organic and the synthetic, and the natural and the artificial – a strategy abundant in cyberpunk and discussed already in the postmodern context (McCaffery 1991), biopunk fiction (Schmeink 2017, 82–83), social science fiction (Mazis 2008, 130), and popular science-fiction movies (Micali 2019) – takes us even further from the re-investigation of humanity's own standing among other forms of life.

This essay attempts to look at selected literary examples from the tradition of far-future evolutionary science fiction (Clute et al. 2019) particularly in the works of the British authors J.B.S. Haldane, Olaf Stapledon, Stephen Baxter and Adrian Tchaikovsky. The genre's narrative focus is often set on the posthuman deep future (Stager 2011), where a global catastrophe has accelerated changes in human life, resulting in either a decline, a devolution, or a forced departure from Earth in search for alternative habitats. Because its main subject is the possible course of human development over millions of years, which is quite often riddled with numerous disasters, far-future science fiction does not shy away from general questions about the nature of humanity, its place among other species, and the chances of its evolutionary success and progress.

This argument will be supported by the reflections of Jean-François Lyotard on the possibility of intelligence after the heat death of the Sun, outside of the body and the Earth itself (1988), and Stanisław Lem's reflections on humans' odds in the "evolutionary race" (1996), ideal homeostasis, and the important distinction between evolutionary progress and success. Surprisingly, neither author has been extensively quoted in the transhumanist context. It is also no coincidence that several of the authors discussed below (Lem, Haldane, and Tchaikovsky) are biologists by education or profession. This gives them a unique position which favours a much more agnostic stance towards technology, the logic of evolution, and the place of humans within it.

The most striking result of viewing contemporary discourses on the possible near future from the standpoint of visionaries of the far future is, somewhat paradoxically, a theoretical reversal of positions between posthumanist and transhumanist agendas[2]. Today, transhumanist efforts to enhance human capabilities and push humanity's limitations through computer technologies, bioengineering, and any other available means might look retrograde in the context of the progressive dethronement of humans from their central position in the symbolic realm. Posthumanism tries to diminish the cultural, ecological, and psychological damage the Vitruvian Man of the Enlightenment brought in his wake (Braidotti 2013, 13). However, the more one goes into the future, the less relevant the socio-economic considerations of posthumanism become. When humankind faces an existential threat, there is simply "no space left for deconstructionist practices" – the latter being a common reproach towards overly progressivist and techno-reductionist assimilations of existence on the part of transhumanism (Ferrando 2019, 27). Instead, technologies of human enhancement based on biotechnology and AI emerge as the only means of survival. Authors of speculative fiction that had narrative timelines stretching for millions of years expressed this as early as in the 1920s. Of course, in survival mode, regenerative medicine, radical life extension, mind uploading, cryonics, and other

techno-enhancements, or "enchantments", advocated by transhumanism are also put on hold. In other words, it is neither the post-chthonic hybrid human, who lives in harmony with nature, nor the fully evolved compassionate posthuman, attuned to all forms of otherness, who survives the planetary disasters of the far future. It is the transhumanist H+, or human 2.0, built thanks to human ingenuity. It is only as an enhanced species, a product of an accelerated evolution, that humans have the best chance to carry the "immortal gene" (Kováč 2015, 116) beyond the body and beyond Earth itself.

Deep future speculation in fiction and philosophy envisions seemingly paradoxical scenarios that are both anti-human and anthropocentric at the same time. These scenarios are anti-human because evolutionary success might rather belong to spiders, ants, or body-machine hybrids, or might altogether enter the exo-biological realm. They are anthropocentric because these modes of extension of life are achieved by a prompt, focused, and collaborative effort that only one species on Earth – the human species – represents. In line with humankind's history of migrations, starting from the Great Human Migration, visions of the deep future suggest that being human means to be a perpetual refugee, escaping from evolutionary pressures and planetary upheavals. Ultimately the constant mutation, selection, and genetic drift (Gouyon et al. 2007, 90) can force the deep future migration beyond the human body and beyond Earth. Yet, at least in literary visions, this future emigré remains a human.

GENETIC ENGINEERING AS A TOOL FOR SURVIVAL: THE FAR FUTURE OF J.B.S. HALDANE

If modern science fiction takes its origins in the scientific romances and essays of H.G. Wells, then evolutionary science fiction takes most of its subsequent themes from J.B.S. Haldane, the British-Indian biologist, eugenicist and a visionary known for his works in physiology, genetics, evolutionary biology which inspired Olaf Stapledon, Aldous Huxley and many other prominent pioneers of science-fiction and dystopian literature (Adams 2000, 485). Inspired by Darwinian thought, geological and astronomical discoveries of the early 20th century, and Wells's visions of the far future,[3] Haldane's essay on evolutionary biology, "Daedalus; or, Science and the Future", was presented in 1923 and published the following year in the magazine *Today & Tomorrow* (Clute et al. 2019). This reflection on future applications of biotechnology, resulting in the "abolition" of disease and old age, genetic enhancements, and the possible immortality of humankind, inspired a series of futurological articles by Julian Huxley, Bertrand Russell, and other prominent writers and philosophers. On the wave of this intellectual ferment, Haldane wrote *Possible Worlds and Other Essays* (1927), from which the final essay, "The Last Judgment", dramatically developed his prophecies in an effort to envision the consequences of creative evolution millions of years into the future.

The "most probable end" of our planet happens in Haldane's story five million years in the future. People are harvesting the energy of tides from the enlarged Moon, living their lives to their fullest by engaging in creative and scientific activities, and

reaching the age of three thousand. Yet this transhumanist-like happiness does not last long. Informed by advancements in modern astrophysics, specifically the lectures of James H. Jeans on the Sun's life cycle (Adams 2000, 463), Haldane introduces a scientifically supported narrative event: the overheating of the Sun and the scorching of the Earth. The catastrophe of cosmic proportions gives people – in the author's own words – "as much chance of survival as a butterfly in a furnace." By the year 9,000,000, humankind is seeking solutions, firstly in space exploration and secondly in genetic engineering. A large-scale programme of human enhancement focusing on the adaptation to conditions on other planets (Venus and Jupiter) is launched with the goal of extending humans' existence beyond Earth. The story of mankind ends with the destruction of the Earth and the emergence of a super-organism as a highly connected, adaptable, and endurable posthuman society. From the point of view of the super-organism, who manages to survive and evolve to a higher plane of consciousness, the destruction of its home planet was an episode of "entirely negligible importance". Haldane concludes: "And there are other galaxies […]."[4]

The significance of "The Last Judgment" lies in its introduction of a wide range of semantic tropes associated with human evolution, enhancement, and possible responses to the prospect of extinction introduced by the work. The themes of the heat death of the Sun, the disintegration of the Moon, the emergence of a collective mind, the terraforming of other planets, and pantropy – a notion of biologically enhancing humans for a life outside of Earth – would become common across different genres of science fiction and would be further advanced in evolutionary science fiction, from Olaf Stapledon's *Last and First Men: A Story of the Near and Far Future* (1930) to Stephen Baxter's *Evolution* (2003) and Michel Houellebecq's evolutionary satire *The Possibility of an Island* (2005). One key element in Haldane's vision of the future was missing. This was a world without machines and machine intelligence. Being a biologist himself – and fascinated with momentous developments in modern physics, from Planck to Einstein and Heisenberg – Haldane tailored his vision accordingly. Perhaps as a consequence, the genetically modified life forms that are sent on colonizing missions to Venus and Jupiter are presented as subservient and benevolent. The motif of revolt, so frequent in the context of AI, cyborgs, and robots, is absent. Subsequent works of science fiction, even the *Last and First Men* written by Haldane's direct successor Stapledon, would significantly broaden the futurological palette by including machines as our co-habitants, the carriers of human civilization, and our most endurable successors.

In many regards, "The Last Judgment" remains original, future-proof, and relevant. With consequence and in brush strokes, Haldane draws a dividing line between those who have evolved and those who have not, and between those who sacrifice individual happiness for collective survival. A crew that came back from a long-lasting mission to Venus was unable to forge a "fertile union" with the evolved inhabitants of the dying Earth. This put them automatically in a subjugated position. The crew was rendered ineffectual to society, and they were consequently used in biological experiments. That part of society that did not support the idea of accelerated evolutionary change, and who preferred to maintain their existing yet illusory homeo-

stasis, was also marginalized. These were the enhanced trans-humans, who enjoyed a long life of three thousand years and "lived in accordance with instincts which were gratified" (Haldane 2009, 303):

> Those members of mankind who were once more evolving were not happy. They were out of harmony with their surroundings. Disease and crime reappeared among them. For disease is only a failure of bodily function to adjust itself to the environment, and crime a similar failure in behaviour. But disease and crime, as much as heroism and martyrdom, are part of the price which must be paid for evolution.

Haldane introduced a clear distinction between individual and collective happiness, and decidedly pointed to the latter as the route to the survival of the human race. Thanks to an extra sense of radiation that was bioengineered in order to survive on Venus, people gained ultra-fast and telepathic abilities of communication. Radiation quickly turned into a medium of control and discipline. The connected super-organism, a prototype of many "hive minds" in later science fiction, cared little for the individual and his needs. Yet the price paid by the individual – as Haldane puts it – was paid back by the race and the goal of surviving and carrying life beyond Earth was achieved.

Despite it being an early venture into the futuristic speculation of the far future based on and extrapolated from scientific evidence available at the time, Haldane's "The Last Judgment" manages to introduce the main themes of evolutionary science fiction and establish a discursive framework which is still relevant within transhumanist and posthumanist discourse. Two crucial points about the future of biotechnology and evolution are made in "The Last Judgment". They go beyond a single narrative motif, or technological prophecy, and venture into the area of continuing debate on socio-economic, bio-ethical, and pragmatic aspects of human enhancement. The first one can be labelled as "enforced solidarity" and the second as a "suspension of individuality". Rather unpopular in posthumanist research, which is ex definitione emancipatory and pro-individualistic, and mostly invoked in the transhumanist context within a specialized niche of disaster prevention (Bostrom 2013), these issues might sooner or later leave the confines of fiction. The collective scientific effort in the face of the Covid-19 pandemic, which has resulted in the development of a vaccine in an unprecedented time frame of less than one year, might be the best current example of the importance of collective action towards a common goal that Haldane had advocated one hundred years ago.

THE EVOLUTIONARY VISIONS OF OLAF STAPLEDON

Last and First Men: A Story of the Near and Far Future (1930) and its sequel *Star Maker* (1937) continued the British pre-war fascination with scenarios of the far future, human evolution, and the life on other planets. Influenced by Henri Bergson (Stableford 2006, 196), Haldane, and Jean-Baptiste de Lamarck rather than Charles Darwin, Olaf Stapledon presented an epic futurologist fantasy which is mostly earthbound yet still of cosmic proportions. In Stapledon's vision, eighteen different species of man rise, fall, and finally succumb to the heat death of the solar system. In his depictions of the coming and going of civilizations, Stapledon puts the ideas present in Haldane's work to the test. Many derive from pursuing happiness through genetic

engineering and an accelerated evolution of specific sets of physiological and psychological traits. Some enhancements are possible thanks to technology inherited from conquered Martian invaders, although on a moderate scale. Most of the changes come from biological interventions and forced adaptation due to the changing geological patterns. There are flying *sapiens*, spiritual revival *sapiens*, and *sapiens* with extremely enlarged brains that take up most of their body mass and make humans inseparable from their communication devices; there are also highly telepathic *sapiens* who evolve to form a single hive mind. The hive mind and telepathic connection of beings is represented by the last species, the Eighteenth Man, who narrates the million-year-old story of humankind. Through such narrative framing, the Eighteenth Man "connects" with the First Man for whom the story is directed.

The narrative does not follow a strictly causal succession of events, but rather a rhythm of cycles of evolution and devolution shaped according to Hegelian dialectics. In a clearly Lamarckian take on evolution (Nowicki 2014, 41–42), Stapledon's humans evolve in line with their most characteristic traits. These traits, when perfected, fall victim to some other aspects of physiology, psychology, or technology which were overshadowed by the growth of the prime features. This, in turn, triggers processes of devolution into sub-humans or to near extinction. As such, the struggle and conflicts in Stapledon's world are mostly internal, human-centred, and earthbound. Evolutionary cycles do produce some outstanding examples of humanity which, on a level above a single human species and its civilization, seem to defy the laws of entropy. In his address to the First Man, the Last Man – fully evolved and representing the highest achievement of evolution – reflects on the whole of humanity and embraces the shared values that persist throughout all eras.

Nevertheless, the transhumanist fulfilment in Stapledon's story is not eternal and eventually has to succumb to forces much stronger than any human weakness or invention – nature itself. Faced with the ultimate death sentence for the planet – the impending overheating of the Sun – the Last Man is left with limited choices. One remaining option is the unification of individuals and an immersive self-reflection on the whole of humanity made possible by "telepathic" brain implants. Even the final departure from Earth to Neptune is not a permanent solution, as a "supernova" is devouring the whole of the solar system. The last stance of the human race is to devise a virus and propel it into other systems in the hope that it propagates life elsewhere in the universe.

Early far-future speculative fiction, as shown by Haldane and Stapledon, takes an optimistic view on humanity, which is able to perform collective action on a global scale and unite in the face of planetary disaster. Regardless of whether this solidarity is literal, embodied, or forced, it achieves its goal of preservation of life and human values. In one form (the super-organism on Venus in the case of Haldane) or another (genetic material sent into outer space in the case of Stapledon) humankind, or its avatars, is able to survive thanks to its ingenuity, collaboration, and technology, which translates into successful pantropy made possible by genetic enhancements and the successful terraforming of other planets, where life can continue. A different story is presented in post-war and contemporary science fiction.

EVOLUTION IN CONTEMPORARY HARD SCIENCE FICTION

Informed by the historical experience of the Holocaust, the discredited science of eugenics, the Cold War, the adventures of global capitalism, and the emergence of computer technologies, contemporary science fiction directed its scientifically supported visions of the far future into much more sombre and pessimistic outputs. A telling example of such tendencies is *Evolution* (2003) by the British author Stephen Baxter. Following the formula of H.G. Wells's *The Outline of History* (1920), *Evolution* is a collection of nine "books" which give an account of the history of the universe from its origins to its ultimate extinction, bringing a strong and remarkable statement about the human impact on the history of our planet. However, according to Baxter, this impact is ultimately marginal. In the story, a single geological event, the eruption of a super-volcano in the middle of the 21st century, at a time when people are sending AI drones to Mars and struggling to reach an agreement on climate change, is enough to wipe out most of humanity and all of civilization. From then on, evolution takes its own course and is uninterrupted by any human intervention.

Baxter's vision departs from that of Haldane and Stapledon. These pioneers of evolutionary science fiction gave humankind the upper hand in facing planetary disasters. However, this sounds especially crude and ironic in the context of posthumanism and transhumanism. Five hundred million years after the extinction of modern humans, a descendant of the AI drones sent to Mars in the 21st century lands on Earth to find its inhabitants living in small and scattered communities and unable to communicate with the visitor. No civilization is to be found; there is no technology, no cyberspace, and no trace of a collective or super-organism. Instead of Bergson's *L'Évolution créatrice* (1907; *Creative Evolution*, 1911), people had to passively allow evolution to turn in the direction most suitable for itself. As a result, not unlike Wells's Morlocks, people live underground and in symbiosis with trees, whose underground roots deliver shelter and nutrition. Outside there is only a scorched Earth and extreme heat and radiation from the Sun in its deadly Red Giant phase.

Baxter's contribution to the tradition of evolutionary science fiction and to contemporary posthumanist discourse can be encapsulated in his rendition of a few key motifs. The notion of a super-organism that is able to endure changing geological conditions is sustained, but it is greatly reduced to a local level of plant–human symbiosis. This organism is surely able to survive, but it cannot do much more than that. The dream of people living in harmony with nature, which is close to ecological posthumanism, is presented in its most grotesque implementation. As far as posthumanist motifs are concerned, *Evolution* introduces a clear winner of "paradise engineering" (Pearce 1995), and it is neither posthuman nor super-human; it is a machine. The co-evolution of humans and machines is disrupted and leaves the non-human part of such a techno-genesis the sole remaining participant. When most of the human population died in the aftermath of the eruption of the super-volcano, NASA robots stayed on Mars. They were programmed to mine resources and prepare the infrastructure for a human colony. The mission's side project was a "machine reproduction" experiment carried out by AI specialists. One of the robots, a prototype named John Van Neumann, managed to reproduce itself, and soon other robots followed.

With no humans to regulate reproduction growth – after thousands of years and exhaustive wars for resources – robots destroyed the planet core of Mars. Thanks to the development of sun sails, thermonuclear fusion, and anti-matter engines, swarms of replicants were able to disperse across space, and one day their representative arrived on Earth in search of its origins.

Although the possibility of machines being able to self-replicate is a common motif in science fiction, this has also been taken into consideration by science. Stephen Hawking pointed out that with the emergence of AI, machines might be able to "take off on their own" and re-design themselves. In such a case, humans, a species limited by slow biological evolution, would not be able to "compete" in the evolutionary race, and, as Hawking puts it, they "would be superseded" (Cellan-Jones 2014). A similar course of events was explored by Stanisław Lem, both in his parodic takes on common tropes of science fiction and in his non-fiction. In *Dialogues* ([1957] 1996), Lem directly addressed Julian Huxley's ideas of human enhancement and controlled evolution.

Taking a starting point in homeostasis as the mechanism of adaptation, Lem rejects Huxley's anthropocentric criteria of "evolutionary progress" with humans at its centre by distinguishing between success and progress in evolution. Evolutionary success is best represented by insects which – having not changed much in biological form for millions of years – have been able to endure even major planetary cataclysms. Lem argues that, if the goal of evolution is survival and the preservation of life, insects are much better equipped for this achievement than humans, even if humans are much further along than insects in terms of evolutionary progress. However, according to Lem, it is machines that are in a better position than humans and insects:

> From a clearly organizational, statistical, and also adaptational standpoint, by replacing biological forms, machines are not only able to create a uniform, autonomous "planetary homeostat", but they also constitute a solution more stable and more efficient than human civilization (2012, 487; trans. M.P.).

Baxter's *Evolution* supports Lem's predictions. If the transhumanist vision of a happier future through technology is an expression of anthropocentric exceptionalism (Ferrando 2019, 30), then Baxter offers an ironic turn of the advocated dethronement of humans. The accidental successor to human civilization is the human-created machine, whose intelligence and technology evolved on their own. However, when facing the heat death of the human world, the vacant position in the centre of the human-perceived universe – vacant because posthuman tree dwellers live outside of the symbolic space – is not even considered by the descendants of Martian robots. The machine leaves Earth and has no will to come back.

When the super-volcano erupts in *Evolution*, the people who should be most interested in securing humanity's future are engaged in bitter political conflict on a global scale. Scientists are caught between hard-line environmentalists, who would gladly see a stop to technological progress, and well-to-do transhumanists with their designer babies, who believe in the betterment of individuals through genetic and computer enhancement. However, not even the rich manage to escape the inevitable. There is

not much time to make a rescue plan, and within months most of the life on Earth has vanished. In Neal Stephenson's *Seveneves* (2015), humanity witnesses the disintegration of the Moon. What would follow is a deadly rain of burning lunar matter that – as scientists calculated – completely destroys the surface of the Earth and only stops after five thousand years. With not much time left to build an orbital ark that would ensure that the descendants of all human, plant, and animal species re-populate Earth in the distant future, socio-economic divisions arise. The survival effort starts in a genuinely humane, humanitarian, and egalitarian fashion under the auspices of the United Nations and according to a formula of diversity. However, ultimately human ambition and disagreements between the crews of the survival ships lead to struggles and accidents in orbit, and only seven people – all women – survive. The generations who would re-populate Earth a few thousand years later would be the direct descendants of these seven survivors, having been born with the help of preserved genetic material from deceased men.

The logic of biology and evolution, if applied equally to humans, animals, and machines, and with the inclusion of exobiological outcomes, seems to privilege machines, which stand a much higher chance of survival in the face of a planetary catastrophe. A self-replicating and intelligent product of human technology is able to become something more than in Hawking's warning. It does not always constitute an existential threat, and in scenarios unfavourable to man, it may actually serve as a guarantee, extension, and representative of human ingenuity and civilization.

HUMANS, SPIDERS, AND OCTOPI: BIOENGINEERING POSTHUMAN FUTURES IN ADRIAN TCHAIKOVSKY'S FICTION

The pattern of failure, chance discovery, and narrow survival, originating in personal conflicts and a disorderly fragmentation of societies in the face of disaster – something which Haldane's and Stapledon's idealistic visions of the far future did not embrace – also comes to the fore in Adrian Tchaikovsky's *Children of Time* (2015) and to a lesser extent in *Children of Ruin* (2019). Lem's emphasis on insects as species with a better chance of revolutionary success is fully expressed in the first of Tchaikovsky's novels. War-torn humanity has begun to venture into outer space, and several terraforming and "uplifting" projects are carried out. One of these evolutionary experiments goes wrong after it is sabotaged by a crew member. A capsule with monkeys – who were to be injected with an "uplifting" nano-virus of self-awareness in order to populate the planet – is damaged, and the virus finds its way into spiders instead. Sabotage and revolt forces the leader of the project, Avrana Kern, to upload herself into her ship's computer and in this way oversee a thousand years of accelerated evolution and the growth of civilization on the planet. Five thousand years later, a wrecked ship with hibernated survivors from Earth arrives and encounters a sophisticated society of spiders, who themselves are able to direct the evolution of other creatures (such as ants and beetles) on their planet. Kern, who by then has no physical presence, instructs the spiders to allow the landing of the human crew only if the survivors from Earth are injected with another nano-virus, which discharges self-destructive human traits from the genome and allows

for peaceful co-habitation with the uplifted insects. Only then are the humans ready to live on the new planet with the spiders as their hosts and neighbours. Through neural translating devices, the spiders' language, based on leg tapping and stroking, is understandable to humans and vice versa. A new civilization of spiders and humans is born.

Tchaikovsky, who after Haldane and Lem is the third author with academic background in natural science (Haldane was a distinguished biologist, Lem graduated in a degree in biology, Tchaikovsky studied zoology), contrasts the downfall of humans with the rise of intelligent spiders in a way that conforms both to the intuitions of Haldane about the advantages of the super-organism and collective action and Lem's arguments about the adaptive abilities of insects. Bruised, battered, and socially downgraded to the level of medieval feudalism, the humans' only chance of survival is a forced pantropy that makes men more empathic towards other species.

In the sequel, *Children of Ruin*, a book which has similar evolutionary and bioengineering themes, the British author establishes uplifted octopi as the only intelligent survivors of a failed terraforming mission. A thousand years after the death of the last member of a human crew, octopi develop their own orbital society. Just like the descendants of the Martian robots from Baxter's *Evolution*, they are aware of their human ancestry, yet when confronted with visitors from the spider-and-human civilization, they prefer to remain alien to them.

The fate of humanity and the ultimate judgement of humanity's moral standing in *Children of Time* depends on the decision of the computer program, i.e., Kern's uploaded consciousness. The chief scientist of the original terraforming project and the uplifting of monkeys had decided to upload her mind into a computer in order to oversee hundreds of years of accelerated evolution on the planet. She herself is aware of her diminished humanity outside of the body. Her human feelings and emotions wither with time, and ultimately she is presented as a piece of highly intelligent software rather than as an uploaded human; she is a mind fully aware of her digital limitations as a "binary ghost". Kern's case does not conform to Hans Moravec's vision of intelligent robots and uploaded human intelligence (Moravec 1988). Instead, her depiction is more in line with Jean-François Lyotard's reservations about the possibility of an exobiological basis for life and consciousness, which, in his view, is not able to deliver "transcendence in immanence". For the French philosopher, and for Husserl, who is quoted in this context, human thought operates within a field of orientation and expectation where it becomes aware of its horizons and aims at a "noema" which allows for the provision of intuitive and hypothetical configurations (Lyotard 1988, 80). There is no hardware other than the body that would support an analogical relationship to such an asynchronous and non-sequential process. Real "analogy", Lyotard states, requires a thinking or representing machine to be "in its data", just as the eye is in the visual field or writing is in language. To truly support the uploading of minds onto exobiological hardware, the hardware would need to support a special kind of thought:

> [A] thought that proceeds analogically and only analogically – but not logically. A thought in which therefore procedures of the type – "just as ... so likewise ..." or "as if ... then" or

> again "as p is to q, so r is to s" are privileged compared to digital procedures of the type "if … then …" and "p is not non-p". Now these are the paradoxical operations that constitute the experience of a body, of an "actual" or phenomenological body in its space-time continuum of sensibility and perception (1988, 81).

When applying Lyotard's categories to Tchaikovsky's portrayal of Kern, the ambivalent midway position Kern occupies between human and machine intelligence becomes clear. Kern is losing her memories, and quite often it is only thanks to her virtual assistant Eliza that some human thoughts, emotions, and images from her past life can resurface. However, if they do come into Kern's awareness, the construct behaves just like a human, raging with emotion and vehemently executing her self-righteousness. Paradoxically though, and in line with Lyotard's findings, Kern displays a lack of the broader and human "horizon" in her protective stance towards the planet, despite the unique circumstance of the visitors turning out to be the only survivors from Earth. Kern behaves more like a computer program, acting according to a binary logic when defending "her planet" and "her monkeys": "I do not recognize you. You are not human. You are not from Earth" – she broadcasts to the visitors – "You are monkeys of the lower kind. My monkeys are being uplifted. They are pure. You mean nothing to me" (Tchaikovsky 2016, 92). As an uploaded mind and a form of AI, Kern perceives herself as a higher kind of human, yet she repeats the very divisive and faction-prone mode of behavior she wanted "her monkeys" to avoid and never repeat on "her planet".

In the end, the moral conundrum is resolved with a utilitarian impulse which elevates Kern to a more sentient and empathic form of AI, or a posthuman. Kern agrees to let the crew in, but she makes the spiders inject them with the nano-virus which, apart from ensuring co-habitation on the planet, dissolves the warlike, divisive, individualistic, and overly competitive edge of human nature.

In stressing the importance of biological embodiment, which greatly outmatches the consciousness-carrying capacity of a technologically induced simulacrum, or a fully functioning consciousness pattern, Tchaikovsky distances his vision from the Computational Theory of Mind (Panksepp 2017, 145) and the optimistic digital survival utopias of post-singularity (Vinge 2017, 352). Kern is closer to Dixi Flatline from William Gibson's *Neuromancer* (1984) as a digital approximation of the consciousness and memories of the late self, and devoid of human traits and the very "feeling" of being alive, than, for example, to Will Caster from the book and movie *Transcendence*, where upon awakening within a computer network, a former scientist retains his self-awareness and reports the sensation of being as free as ever, especially since his mental and intellectual abilities are multiplied (Micali 2019, 190).

CONCLUSION

The world of the far future shown in science fiction that takes the theory of evolution and biotechnology as the main reference for its vision does not subscribe to the Hegelian or Bergsonian moment of evolutionary triumph. Even the end-of-time scenarios of Haldane and Stapledon do not include the "cosmic point Omega" of Teilhard de Chardin. The highest, God-like point of development of human and cosmic con-

sciousness (Pilsch 2017, 127) is far from being reached. Instead, the course of human history is most often diverted towards dark scenarios with disasters and existential risk at every turn. At best, the human condition is characterized by a constant state of banishment and the status of an eternal refugee, be it an Earthly or a cosmic one. At worst, it is marked by a curse of early extinction with narrow chances of the renewal of life on Earth and beyond.

Nevertheless, the benefits of the distant perspective far outweigh the somber outcomes it proclaims. Evolutionary fiction stands in the privileged position of going beyond the horizon of near-future science fiction. This directly translates to a change of focus from engagement in contemporary social discourse and practices to a more general reflection on existential and ethical issues related to the future of humanity. This position aligns evolutionary fiction with utilitarian concerns of these branches of transhumanism that focus, for example, on risk classification and prevention as well as scenarios of the progress (or regression) of humanity as measured by its technological maturity and survival capabilities (Bostrom 2013, 21–22).

Secondly, far-future fiction successfully suspends some theoretical conundrums: the priority of essentialist/relationalist and anthropocentric/anti-anthropocentric polarities is repositioned when humankind is facing planetary disasters. The social, political, and environmental consequences of human enhancement are delegated to the background when the whole of civilization is at risk and enhancement is a matter of urgency and the only condition for humanity survival (Haldane).

Thirdly, some of the envisioned scenarios of the far future discussed in this article can be understood as anti-human and anthropocentric at the same time. In Tchaikovsky's fiction, the uplifted and intelligent spiders are humanity's partners on their collective cosmic adventures. As such, this vision complies both with Lem's acknowledgement of insects as species that are more successful in finding their ecological niche in a posthuman world as well as with the dethronement of humanity in the post-Chthulucene perspective of Donna Haraway. Somewhat ironically, this co-habitation and co-evolution of humans and animals is possible only because of advanced biotechnology, a token of human ingenuity, and a technological effort expressed in techniques of enhancement, terraforming, pantropy, and mind uploading. In far-future science fiction, this trait of humanity is most often the only guarantee of life on Earth and beyond it.

NOTES

[1] A thorough overview of posthumanist themes in near-future science fiction is given by Simona Micali, who provides an overview of the depiction of the not-distant consequences of technologies of human enhancement and growing division. See Micali 2019.

[2] In the context of this paper posthumanism is understood as the "philosophy of our time", a continuation of postmodernism, and an umbrella term for a range of intellectual movements, including transhumanism. However, the focus of transhumanism on radical transformation of the human condition by existing, emerging, and speculative technologies is not entirely in line with the agenda of posthumanism. Despite shared interest around similar topics (nature of humanity, the future of mankind and of our planet) posthumanist distances itself from the anthropocentric perspective

of the Enlightment which informs the "ultra-humanism" of transhumanism, see Ferrando 2019, 27–28. See also the editorial note to this issue of World Literature Studies.

[3] Especially relevant for the topic pursued by Haldane are Wells's *The Man of the Year Million* (1893), *Time Machine* (1895), and *The First Man in the Moon* (1900).

[4] J.B.S. Haldane: *Daedalus; or, Science and the Future*, available at: https://www.marxists.org/archive/haldane/works/1920s/daedalus.htm.

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Human, super-human, anti-human: The posthuman deep future in evolutionary science fiction

Speculative fiction. Science fiction. Comparative studies. Evolution. Transhumanism. Posthumanism. Human nature.

Posthumanist visions of the future do not venture further ahead than a few hundred or a few thousand years at most. It is within this near future that most scenarios of technological singularity and the enhancement of the human into an H+, or a posthuman, are projected. This paper reflects on visions of much more distant futures found in evolutionary speculative fiction and science fiction, from J.B.S. Haldane (1927) through to Adrian Tchaikovsky (2019). From the vantage point of thousands (or millions) of years, the forthcoming era of mind uploading, designer babies, and technological immortality as envisioned in the transhumanist utopias of Hans Moravec amount to short episodes in a long cycle of evolutionary progress matched by planetary catastrophes. Such a perspective offers a more general reflection on the philosophical and cultural implications of a "creative evolution", the nature of humanity, and humans' place among other species. The transhumanism agenda, initiated by Julian Huxley in the form of a call to arms for the "betterment of humanity" by existing, emerging, and speculative technologies, does not emerge as a retrograde reinstatement of the compromised ideals of Enlightenment, but rather as the sine qua non for human survival in the face of the heat death of the Sun, the eruption of a super-volcano, and any other existential risk. Human ingenuity, reflected in advanced biotechnology, space travel, technological enhancements turns out to be the only guarantee of life on Earth and beyond it. As such, this comparative study of literary examples of possible courses of human history proves that reflections on the far future are capable of healing current discursive divides between posthumanist and transhumanist, anthropocentric and anti-anthropocentric, and technophobic and technophilic approaches to our present.

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Post-dog tales about human extinction

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> And what do you think of the idea of dogs taking over and inheriting the Earth?
>
> Alan Brown (2019)

For my dog Fidži

Clifford Donald Simak (1904–1988) was recognized as the third Grand Master of the Science Fiction and Fantasy Writers of America in 1977.* He had been writing for an unbelievable fifty-seven years, starting with publishing his first story in 1931 and ending with a final novel which was published in 1986 when he was eighty-two. His science-fiction writing was primarily a hobby while he worked as a full-time journalist, most notably for the *Minneapolis Star* and then for the *Minneapolis Sunday Magazine*, until his retirement in 1976. Simak's works encompass twenty-seven novels and more than 120 short stories in the genre of speculative fiction, and he was one of the first writers to expand science fiction beyond its borders into the fantasy genre.

During his life, Simak received the most prestigious awards for science-fiction writing, including three Hugo Awards and one Nebula Award. Despite this, "Simak is not remembered or celebrated as widely as some of his contemporaries" (Brown 2019). He is far less known than Isaac Asimov (who admired Simak and was inspired by him, also corresponding with him for decades), Robert Heinlein, or Philip K. Dick, who is known mostly for the Hollywood film adaptations (*Blade Runner, Total Recall,* and *Minority Report*) and TV (*The Man in the High Castle*) of his writings. In the four decades since his death, Simak has been somewhat marginalized in science-fiction literary history: "He [has] become a kind of footnote to the main action of the Golden Age [of science fiction]" (Cokinos 2014, 133). As Robert J. Ewald points out, this reflects the fact that during his long and productive literary life Simak was "virtually ignored by critics in America [...] and was pigeonholed as a Midwest pastoralist" (Ewald 2006, 5).

Simak's science-fiction stories are mostly seen today as overly sentimental and neo-romantic. It is true that Simak loved to place his stories in countryside settings

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which were based on his memories of the place where he was born and where he grew up – the upper Midwest (Millville in Wisconsin) of the beginning of the twentieth century. People from a sleepy small town in the middle of nowhere represented to him humanity in general – with its bigotry, anger, ignorance, and cupidity – exhibiting both the worst that is in humans as well as their best qualities, such as self-sacrifice and a true concern for others, when, for instance, they are confronted by aliens who are usually wiser and gentler than them (DeMarr 1995). In Simak's stories, human encounters with aliens mostly take place in the countryside, and not in New York, or on a spaceship or some exoplanet in deep space.

Fortunately, this stereotypical perception of Simak has undergone important change since the beginning of the twenty-first century, as the devastation of life, and even human extinction, has become a more realistic scenario than previously thought. The Simakian pastoral style and themes have been recently reassessed from the perspective of environmental philosophy. What was previously seen as sentimental and outdated pastoral writings now seem to be very much in accordance with the highly appreciated eco-humanistic science fiction of Ursula K. Le Guin and Kim Stanley Robinson. The Simakian romantic pastoral style of writing could be seen from this new perspective as the lyricism that embodies Aldo Leopold's Land Ethics philosophy (DeMarr 1995; Cokinos 2014).

The present article focuses on an analysis of Simak's novella *City* ([1952, 1973] 2016), which is one of the classics in science-fiction and fantasy literature, "a work of singular beauty and remarkable visionary power, the finest book of one of the greatest of the pioneering science-fiction writers of Campbell's Golden Age" (Silverberg 1995). Since 1952, when it was first published, new editions have been appearing almost continuously to the present day. *City* was immediately recognized for its excellence by the science-fiction community and in 1953 was awarded the International Fantasy Award, which was the most prestigious appraisal for writings before the Hugo Awards; this brought Simak into the company of such writers as J.R.R. Tolkien and Arthur C. Clarke. The excellence of *City* was confirmed retroactively in 2020 by the world science-fiction and fantasy community with a Retro Hugo Award, one of the most prestigious accolades in the field.[1]

It seems that after a long period of marginalization of Simak in the science-fiction literature discourse, the situation is about to change. In recent years, the first works have appeared which begin to analyze Simak's *City* from posthuman perspective. For example, the entry on Simak in the *Historical Dictionary of Science Fiction in Literature* recognizes *City* as "a forerunner of posthuman science fiction" even though posthumanity is narrowed down to an Anthropocene theme of "offering a panoramic view that sees most of humanity move to Jupiter and take on new bodies, leaving the Earth to intelligent dogs and robots" (Brooker 2014, 269). An important turning point in views of Simak in the history of science-fiction literature, which goes beyond its traditional location in the Golden Age of Science Fiction, is the recognition of Simak as one of the forerunners of Anthropocene science-fiction literature. According to Gerry Canavan, Simak, together with H. G. Wells and Kurt Vonnegut, was an early anticipator of the science fiction of the Anthropocene "decades before

the concept was formalized by geologists" (Canavan 2016, 139). Similarly, in another study Simak's *City* is compared to the posthuman novel *La Possibilité d'une île* (2005; *The Possibility of an Island*, 2006), written by the very popular contemporary French novelist Michel Houellebecq, who explicitly appraised Simak for his futurity retrospective narrative technique and used it in his novel (Feyel 2016).

A posthumanist reading refers to identifying oppositions between the human and the non-human at work. While a posthuman reading is "to project an otherness to the human", the posthumanist reading is in contrast "the deconstruction of the integrity of the human and the other" (Herbrechter and Callus 2008, 96). In the posthumanistic perspective the borders between human and non-human categories are blurred, as they are between humans and post-dogs in Simak's *City* (Feyel 2016). My goal here is to explore *City* not only from a posthuman, but also a posthumanist perspective (Ferrando 2013). As Bruce Clarke asserts, "posthumanism's discursive project aims to decenter the human by terminally disrupting the scripts of humanism" (Clarke and Rossini 2017, 141). In principle, *City* is a posthuman novella describing the process of human extinction on Earth. But it is also a posthumanist imagination about a situation when humanity is confronted with non-human "critters" (post-dogs, Jovian Lopers, human mutants, and ants). Therefore the theme of voluntary human extinction, or rather the desertion of humans' biological existence should be re-read from both a posthuman and a posthumanist perspective. I argue that to name the whole fixup novella after the first story was misleading because *City* is not one of the "urban science-fiction stories." In my opinion, a more appropriate title for the book would have been "Desertion", the title of the fourth story, because this story together with the following fifth tale, "Paradise", explains what would happen if people had the opportunity of instantly entering paradise (Nick Bostrom's "posthuman mode of being"), even at the cost of leaving the human body. Finally, I hypothesize that the founding father of the Golden Age of Science Fiction, John W. Campbell, the editor of *Astounding Science Fiction* magazine, regarded as the prime shaper of modern science fiction, initially refused to publish "Desertion", and never published the final tale, "The Simple Way", very likely because the posthumanist character of these stories contradicted his "classical" view of science-fiction literature.

SIMAK'S POSTHUMAN FIXUP NOVELLA *CITY*

City came out in 1952 as a series of eight tales. Two decades later, Simak wrote "The Coda" ("Epilog"), which was added to later editions. The tales pretend to be fragments of the legend, which had originally been narrated for ages by post-dogs and transmitted from generation to generation, before being transformed into written form as explained in the "Editor's Preface" at the beginning of the book. Each tale is introduced by a short note which dwells on the debate among post-dog scholars about the meaning of these tales.

The first talking dog, Nathaniel, the first post-dog, appears in the third tale of the legend, "Census". As the character Webster explains, dogs have two handicaps: they cannot talk and they do not have hands. Speech and hands made humans a civilized biological species ("[b]ut for speech and hands, we might be dogs and dogs be

men"; [1952, 1973] 2016, 68). Speech and hands would do the same for dogs if their tonsils were surgically modified in a way that would make dogs able to speak, and robots would be programmed to serve dogs and substitute their missing hands. Such uplifted dogs turned into post-dogs (Hauskeller 2017). Post-dogs have a mission in *City* – to continue in humanity's dream on Earth because humans had resigned from this endeavor once they had decided to convert themselves into alien beings (Lopers) on Jupiter. As Alan Brown posted recently on his blog regularly reviewing classic science fiction at *Tor.com*, an online magazine and community site for science fiction and fantasy, Simak, as a longstanding dog owner, did not see the world "going to the dogs" as a bad thing (Brown 2019).

Simak originally had no intention of writing *City* as a book. The stories had originally been written for the *Astounding Science Fiction* magazine over nine years from 1943 to 1951. Simak was a regular contributor to the magazine in the legendary period which is now called the Golden Age of Science Fiction (1938–1950). The first four stories – "City", "Huddling Place", "Census", and "Desertion" – were published in the magazine in 1944; "Paradise" and "Hobbies" then followed in 1946 before "Aesop" in 1947 and finally "The Simple Way" (also known as "Trouble with Ants") in 1951. A year later, he created a fixup novella from these stories and wrote the short introduction from the fictional editor and eight short notes in such a way to then create the eight chapters. For the title of the whole book, the name of the first story, "City", was chosen.

The notes make the originally independent short stories "textual fragments" of a single legend narrative which describes the extinction of humans. These notes are written as commentaries by post-dog scientists who, with the hindsight of millennia, are distant from the events described in the tales and are eager to understand the true meaning of these fragments of the legend. For Alan Brown, these canine scholars are like "real-world biblical historians, trying to compare the tales of the Bible with historical records to determine what is factual and what is legend and parable" (Brown 2019).

In 1973 Simak was asked to write a new-science fiction story for the John W. Campbell Memorial Anthology as one of the science-fiction Golden Age writers. After initial reluctance, he decided to write the final part of *City*. Because he also felt that eight tales form a complete whole about the saga of the Websters and the Dogs, he wrote "Epilog" as the robot Jenkin's story. "Epilog" is about Earth after the post-dogs and (almost) all other animals and robots have gone. Since "Epilog" is not a fragment of the legend, there is no introductory note by a canine narrator; nonetheless, "Epilog" became an integral part of many (but not all) later editions of *City*.

As already mentioned above, Simak, along with Wells and Vonnegut, is one of the forerunners of Anthropocene science fiction (Canavan 2016), which – in contrast to the Star Trek vision of the future, where humans are portrayed as an immortal species with the destiny to colonize the galaxies – describes the end of the human species. Canavan focused on a comparison of Vonnegut's *Galápagos* (1985) and Simak's *City*. In *Galápagos*, humans evolve into a primitive form of a small-brained sea lion-like species on an isolated (and fictitious) island in the Galápagos archipelago.

Ironically, humans all over the world become infertile due to the spread of a parasite damaging women's egg cells, and they only have the chance to survive through mixing with the Galápagos posthuman species (think of the Neanderthals "surviving" in the human genome in the form of few genes due to their interbreeding with Homo sapiens). *Galápagos* and *City*, alongside Wells's *The Time Machine*, are framed in a similar way, being narrated from the far future and employing the trope of "retrospective Anthropocene futurity" (Canavan 2016, 150).

It is clear that to name the whole fixup novella after the first story is misleading. A more appropriate title for the book would be "Desertion", the title of the fourth story, which opens the main theme of the book: the prophecy of the end of the human species on Earth.[2] Indeed, *City* is not one of the "urban science-fiction stories," as Vivian Sobchack has mistakenly suggested when describing it as "a loosely related collection of short stories unified by their location in a city," nor is it a story covering thousands of years of the process of how a "[city] radically changes its shape, its functions, and its citizenry" (1988, 4). It is true that a city symbolizes human progress and civilization. In the time when Simak wrote *City*, the majority of humans still lived outside of cities, but the urbanization trend all over the world was clear. In 1950 "only" 746 million people lived in cities, whereas in 2009 already more people (3.42 billion) lived in urban settlements than in rural ones, with that number expected to double by 2050. The rapid growth of urban life is one of the characteristics of the new geological period, which is known as the Anthropocene. The death of a city would therefore be a perfect symbol of the decline of human civilization in a future scenario. However, this was just a starting premise for Simak's story about human extinction, which begins with the twilight of cities as a form of human "huddling place". Simak's explanation for the death of the city was that there was no selection pressure on humans anymore, thanks to advanced technologies, and that people did not need to live in such overcrowded places. But this is not the main theme of the novella. In *City*, Simak goes far beyond the theme of urban decline, which is only the beginning of humanity's fate.

Simak was well aware that, for most of its existence, the human species lived in small groups dispersed over the land. From an evolutionary perspective, only relatively recently has external economic pressure pushed people to live in urban settlements with an extremely high population density. When such forces vanish thanks to new technologies, the economy and defense paradigm changes as a consequence and people leave the cities for life in houses in the countryside.

In Simak's view, humanity had never adapted to living in cities; human nature remained rural, and coming back to live in the countryside returned humans to the environment they were evolutionarily adapted for. As much as advanced technologies make it possible, humans would prefer an individualistic way of living and would even evolve into beings (human mutants) to reach this goal. Simak is at odds with the whole humanist tradition, which since at least Plato and Aristotle has seen humans as ineradicably social beings. Aristotle's well-known definition of humans as *zoon politikon*[3] makes it clear that what makes humans "human" is that each individual has to aim for the rise of the *polis*, and hence the prosperity of society and humanity as such. The end of the city is the end of the *polis*. Without cities, not only

do city councils lose their meaning (as described in the "City" tale in the novella), but states and central governments gradually become obsolete as well.

The main idea of the fourth tale, "Desertion", and the fifth tale, "Paradise", is considered by many to be pivotal to answering the question of what would happen if people had the opportunity of instantly entering paradise, even if this is at the cost of transforming into a non-human (Jovian) living form. Simak's answer is that they would exchange human existence, human ideals, and humanity for an enhanced and ultimately happy life in a non-human (alien) form of existence.

The scene for conversion from human to alien form is set up on Jupiter. A small group of scientists from Earth live on Jupiter in special capsules resistant to the extremely harsh environment of this enormous planet, which includes immense gravity, resulting, as Simak describes, in "terrific pressure of fifteen thousand pounds per square inch" and "the alkaline rains that forever swept the planet." They are trying to find out how people could survive on this planet and whether it is even possible. In order to move around on the planet's surface, the scientists develop a special converter that allows them to transform into Lopers, the most intelligent form of life on Jupiter. But for some unknown reason, these transformed people disappear, or rather do not come back, which means they do not transform back into their human form. The story revolves around a scientist named Fowler and his old dog, Towser, who convert themselves into Lopers in order to find out why people do not transform back. It is then revealed that as Jovian forms of life, human (or canine) beings enter a whole posthuman stage of existence where they are able to attain ultimate fulfillment and bliss. This state also allows for telepathic communication between humans and dogs, and they can share their wonderful and indescribable new perceptions and understandings of the world. The fulfillment of one's existence, be it a human or canine one, is so overwhelming that neither Fowler the human nor Towser the dog want to return from "what seemed a drugged existence" back to their original form, which explains what happens to the transformed humans on Jupiter.

Compare the following two examples of the posthuman mode of being – the first from Simak's "Desertion", written in 1943 and the second from Nick Bostrom's essay entitled *Why I Want to be a Posthuman When I Grow Up*, which was published in 2008:

> He sensed other things, things not yet quite clear. A vague whispering that hinted of greater things, of mysteries beyond the pale of human thought, beyond even the pale of human imagination. Mysteries, fact, logic built on reasoning. Things that any brain should know if it used all its reasoning power. […] We're just beginning to learn a few of the things we are to know – a few of the things that were kept from us as human beings, perhaps because we were human beings. Because our human bodies were poor bodies. Poorly equipped for thinking, poorly equipped in certain senses that one has to know. Perhaps even lacking in certain senses that are necessary to true knowledge. […] A sense of exhilaration, a deeper sense of life. A sharper mind. A world of beauty that even the dreamers of the Earth had not yet imagined ([1952, 1973] 2016, 102).

> Each day is a joy. You have invented entirely new art forms, which exploit the new kinds of cognitive capacities and sensibilities you have developed. You still listen to music – music

> that is to Mozart what Mozart is to bad Muzak. You are communicating with your contemporaries using a language that has grown out of English over the past century and that has a vocabulary and expressive power that enables you to share and discuss thoughts and feelings that unaugmented humans could not even think or experience. […] [Y]ou feel how every fiber of your body and mind is stretched to its limit in the most creative and imaginative way, and you are creating new realms of abstract and concrete beauty that humans could never (concretely) dream of (Bostrom 2008, 112).

Bostrom argues that becoming posthuman could be an "exceedingly worthwhile type" of the human mode of being. In his understanding, the posthuman mode of being refers to an extreme enhancement of human capacities (health span, cognition, and emotion) which goes far beyond the maximum attainable by the human species. Once you become posthuman, you would not wish to return back to the original human mode. "I can't go back," said the dog Towser at the end of Simak's short story "Desertion". "Nor I," said the human Fowler. "They would turn me back into a dog," said Towser; "and me," said Fowler, "back into a man" ([1952, 1973] 2016,103).

"Paradise" takes place directly after "Desertion", and it is here that Simak explains the main idea behind "Desertion": if people are presented with the opportunity to enter paradise, even if it requires them to give up their identity as humans, the human race will disappear. After five years of existence in a Loper body, Fowler converts himself back into his human form and returns to Earth to share with people the posthuman gospel – the news of the possibility to immediately enter paradise on Jupiter. The only obstacle standing between people and the new gospel is the fact that the message about paradise on Jupiter cannot be transmitted through words, as the experience of living in the body of a Loper is subjective and non-transferable. This means that there is no way Fowler is able to use his experience from Jupiter to convince other people to believe him. And it would stay that way if not a genius mutant named Joe, who completed the unfinished Martian Juwain philosophy and thus allowed people to understand and accept Fowler's Jovian gospel. For Joe, this is just a form of entertainment, a result of childish playfulness. He has no interest in elevating humanity or broadening their horizons, because he has no interest in the future of the human race. The result of his work, however, is not telepathy (used by mutants), but, as Joe explains to Tyler Webster, the chairman of the World Committee:

> The Juwain philosophy provides an ability to sense the viewpoint of another. It won't necessarily make you agree with that viewpoint, but it does make you recognize it. You not only know what the other fellow is talking about, but how he feels about it. With Juwain's philosophy you have to accept the validity of another man's ideas and knowledge, not just the words he says, but the thought back of the words ([1952, 1973] 2016, 119).

Thanks to this ability, the Juwain philosophy can advance humanity by "a hundred thousand years in two generations." The philosophy will also allow people to understand Fowler and his experience with paradise. Fowler visits Chairman Webster, who wonders if it would be a good idea to kill Fowler and thus prevent people from learning about the possibility of entering paradise at the expense of their own extinction.

Indeed, "[t]he people would go to Jupiter, would enter upon a life other than the human life" (126). The Websterian dilemma of his ancestor repeats: the fate of humanity depends on a single person – Webster himself. (One thousand years later, "websters" refer to humans, since the very word "human" has been forgotten.) Just like Jerome Webster could not help humanity because he could not overcome his agoraphobia, Tyler Webster is unable to save humanity from extinction because it would breach the principle of "Thou shall not kill." In other words, not even the prevention of human extinction constitutes a valid reason for breaking that rule and killing even a single person. In Simak's work, the ethics of deontology always win over utilitarianism: "For one hundred and twenty-five years no man had killed another – for more than a thousand years killing had been obsolete as a factor in the determination of human affairs" (126). In *City*, Simak himself implies that the story of "Desertion" plays a key role when, in the canine note to the fourth tale, we find out that "short as it is, this fourth tale probably is the most rewarding of the eight. It is one that recommends itself for thoughtful, careful reading" (90).

HUMANS' HEDONISTIC SUICIDE

Simak's posthumanist science-fiction imagination of the voluntary hedonistic extinction of humans might receive support from science too. Biochemist Ladislav Kováč came up recently with the "finitics hypothesis" on the end of human evolution. Here, the inevitable end of humanity is not a fiction but rather a scientific prediction. In his own words, "[it] is no science fiction, but a scientific reflection on the present and future of humanity" (Kováč 2015, vii). Kováč argues that in the third millennium, human biological evolution has entered the ultimate phase: extinction. The human species is hedonotaxic: inherently searching for pleasure and satisfaction, and seeking more and more of it. Unfortunately, the hedonic thresholds are steadily increasing (the "hedonic treadmill"). According to Kováč, in contrast to Robert Nozick's famous argument from "The Experience Machine" (1974), most people would prefer living in a virtual world (a sort of Wachowskis' Matrix) to reality, and they would transfer available energy to the search for pleasure instead of the "reproduction effort". And this will be the end of humans as a biological species. Kováč could have used for this final phase of human destiny these words from Simak's *City*: "Paradise! Heaven for the asking! And the end of humanity! The end of all the ideals and all the dreams of mankind, the end of the race itself" ([1952, 1973] 2016, 110).

It seems that this idea was not welcomed by John W. Campbell, the iconic editor of *Astounding Science Fiction* (1937–1971), where Simak sent "Desertion" in July 1943. Simak needed to write three other short stories set in the timeline before "Desertion", and these stories were successively published in 1944 in *Astounding Science Fiction* – "City" (the May issue), "Huddling Place" (the July issue), and "Census" (the September issue) – before "Desertion" saw the light of day in the November issue. Campbell is considered to be the father of modern fantasy and science-fiction literature; he singlehandedly transformed the core of the genre from pulpy adventures of super-science to of science fiction. Isaac Asimov once said that he "was the most

powerful force in science fiction ever, and for the first ten years of his editorship he dominated the field completely" (McKitterick 2011). While Campbell himself wrote several science-fiction texts, his main task was to create a platform for authors of science-fiction literature in *Astounding Science Fiction*, which from 1960 was published as *Analog Science Fiction and Fact*, with Campbell working for the magazine from 1938 right up until his death in 1977. There is no doubt that Campbell had a very big influence on Simak. According to Francis Lyall (2020), who was in touch with Simak for many years, Simak told him several times how big this influence was – indeed, no Campbell, no Simak. It was because Campbell was appointed to be the new editor of *Astounding Science Fiction* that Simak decided to come back to writing. On the other hand, it was precisely Campbell's collaborative-writing editing style that pushed away many *Astounding Science Fiction* writers, including Isaac Asimov and Robert A. Heinlein (McKitterick 2011).

The fact that Campbell at first refused to publish "Desertion" became known thanks to an account by David W. Wixon, Simak's close friend, who after Simak's death became his literary executor and had access to his personal journals. Thanks to these journals, Wixon learned about the fate of numerous manuscripts, even those that had been rejected. "Desertion" was among them. According to Wixon, the reason why Campbell refused to publish "Desertion", which is described as "one of the greatest stories the field has ever produced," remains a mystery. He continues that "since it contains in itself no hint that it had a place in any series, there would have been no reason to hold it up unless it was recognized, even before publication, that it provided the platform needed for its sequel, 'Paradise' [published in 1946]" (Wixon 2015, x). Wixon speculates as to whether the concept of a whole book resulting from the series of short stories had already been present "in Simak's head (or Campbell's) early enough to explain why 'Desertion' was held for later publication" (x).

There is another possible explanation: what if the main reason why Campbell had refused to publish "Desertion" was that Simak's posthumanist idea of voluntarily giving up one's human existence was incompatible with Campbell's perception of science fiction and the role of the human race in it? Campbell, being a science-fiction writer himself, was known to have an immense ideological influence on the authors who wrote stories for *Astounding Science Fiction* to the extent that they were even described as "his literary clones". Campbell's views on society were conservative; nowadays, we would say that he adopted the type of anthropocentric worldview rejected by critical posthumanism. He was known to hold prejudices against some science-fiction texts: for example, he refused to publish a novella for such reasons as the main character being black or the presence of a female soldier protagonist. We do not know what Campbell initially disliked in "Desertion" and whether it was the idea of the humans' defection from Earth to Heaven in Jupiter and the betrayal of the biological species.

On the other hand, Campbell eventually published "Desertion", but only after Simak had finished another three short stories that loosely preceded it. Campbell also published other stories from Simak where the action takes place after "Desertion".

The most important of these is the short story "Paradise", which thematically builds upon "Desertion". The core idea of this tale is that it is better to allow the extinction of humanity than prevent it by killing even one person and thus breaking a centuries-old principle of people not killing each other. Campbell also published Simak's "Aesop", which provides an interesting additional explanation to "Desertion" and "Paradise". Accepting the hypothesis about Campbell's rejection of Simak's theory of a complete and inevitable extinction of the human race in the future, one can thus speculate that this represents a kind of compromise. In "Aesop", Simak explains why the extinction of the human race is inevitable (the inherent human trait of solving problems by killing) and the only possible way to save its continuality (i.e., the compromise) is for the human race to repeat its history in an extra-terrestrial world until civilization comes full circle. This can happen an infinite number of times, and the human race can exist forever provided there is an infinite number of worlds where civilization can repeat the cycle all over again. In the final tale "The Simple Way/The Trouble with Ants", the ants reach such a level of civilization that they begin to construct the anthill which reaches gigantic proportions with the prospect of covering the whole Earth, leaving other species without any living space. The dogs and other animals will have to travel to other worlds and leave Earth to the ants because they do not want to break the highest moral imperative – do not kill (them).

This was the only short story from the series that was not published in *Astounding Science Fiction*. Instead, it appeared in the January 1951 issue of the mediocre *Fantastic Adventures* magazine (1939–1953), which was edited by Howard Browne.[4] Does this mean that, in the sense of the abovementioned hypothesis, it was Simak's pessimism beyond the bounds of the human species that was too much for Campbell? According to Broderick (1995, 7), "Campbell [...] presented science fiction as the optimistic literature of the future". He refers to Campbell himself:

> [S]cience fiction is the literature of the Technological Era. It, unlike other literatures, assumes that change is the natural order of things, that there are goals ahead larger than those we know. That the motto of the technological civilization is true: "There must be a better way of doing this!" Basically, of course, the science fictioneer is simply the citizen of the Technological Era, whose concern is, say, the political effect of a United States base on the Moon (Campbell 1952 [Broderick 1995, 5]).

Robert Silverberg, who knew Simak personally, hinted at such a possibility, stating in the introduction to the 1995 Easton Press edition of *City* that:

> Simak, questioned many years later about [Campbell refusing to publish "The Trouble with Ants"], replied, "What I remember him writing was that he thought we had enough of the series. So I took him at his word. I never argue with an editor. He has a perfect right to turn down a story." But other writers, less kindhearted than Simak or perhaps more knowledgeable about Campbell's philosophical quirks and prejudices, have speculated that the real reason for the rejection was Campbell's unwillingness to publish a story so barren of hope for Earth's human inhabitants. Passively handing the planet over to the ants would never have been an idea palatable to Campbell (1995).

CONCLUSION

City should be re-read as one of the first pieces of posthumanist science-fiction writing. In this novella, Simak confronted the human species with its own ideals, and, although he is pessimistic about the human ability to continue the dream of humanity, he presented a scenario of the posthuman world in which post-dogs continue the fulfillment of humanity's ideals (which are never reached by humans themselves). Future research is needed to challenge the hypothesis suggested here that Campbell initially rejected "Desertion" for publication – and did not publish "The Simple Way" – because it contradicted his own Golden Age vision of science fiction. Probably some answers could be found in Simak's journals and correspondence as well as in Campbell's own correspondence[5] with science-fiction writers.

NOTES

[1] The winners were announced in an online ceremony produced by CoNZealand at the 78th World Science Fiction Convention on Thursday 30 July 2020. The awards were the result of free voting by all members of the World Science Fiction Society. See http://www.thehugoawards.org/hugo-history/1945-retro-hugo-awards/.

[2] In some translations of the *City* novella into other languages, more appropriate titles have been chosen, for example, *Demain les chiens* in French (Tomorrow the Dogs, 1952), *Als es noch Menschen gab* in German (When There Were Still People, 1964), *Když ještě žili lidé* in Czech (When People Were Still Alive, 1970), and *Anni sensa fine* in Italian (Endless Years, 1976).

[3] Aristotle's term *zoon politikon* is usually translated as "political animal". It needs to be pointed out that *politikon* should be rendered as "civic" or "social" rather than "political" in the modern sense (Stevenson and Haberman 2004, 94).

[4] Simak, Clifford D. "The Trouble with Ants." Title Record # 61317. *The Internet Speculative Fiction Database*. Accessed December 27, 2020. http://www.isfdb.org/cgi-bin/title.cgi?61317 and http://www.isfdb.org/cgi-bin/pl.cgi?58113.

[5] "To get a better idea of how Campbell thought and how he interacted with some of the greatest literary minds of the last century, check out his two-volume collected letters. There's much left to learn about this complicated man and the authors who invented SF's Golden Age" (McKitterick 2011). For the letters, see Chapdelaine, Chapdelaine, and Hay 1985, 1991.

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Post-dog tales about human extinction

Clifford D. Simak. "City." Posthumanism. Human extinction. Post-dogs.
John W. Campbell. Human nature.

Clifford D. Simak's fixup novella *City* (1952) should be re-read as one of the first pieces of post-humanist science-fiction writing. This article argues that naming the book after the first story, and not after the fourth one, "Desertion", was misleading because the book is not one of the "urban science-fiction stories". *City* rather explores what would happen if people had the opportunity of instantly entering paradise (Nick Bostrom's "posthuman mode of being"), even at the cost of deserting the human body. A further hypothesis suggested here is that John W. Campbell, the founding father of the Golden Age of Science Fiction, initially refused to publish "Desertion" and never published *City*'s final story, "The Simple Way", in his iconic *Astounding Science Fiction* magazine, because the posthumanist character of these stories contradicted his "classical" view of science fiction.

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Parallels between two worlds: Literary science-fiction imagery and transhumanist visions

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Transhumanism presents a vision of the future in which accelerating technological progress is likely to surpass human limitations and expand the cognitive, emotional, and physical abilities of people.* This refinement is to be achieved by using today's genetic and information technology as well as further developments in biotechnology, nanotechnology, and artificial intelligence that are expected to arrive in the near future (Bostrom 2018, 92). As one of the more notable participants in the discourse, Nick Bostrom claims that targeted improvement may transform us into beings who may, for instance, live indefinitely and have broader cognitive abilities than any human previously, perfect sensory perception, and access to sensory qualities that are currently completely unknown (38). These kinds of radical refinements produce great expectations but also valid doubts, making in turn this discourse the subject of much discussion.[1]

If we were to research the prerequisites of transhumanist visions, we would have to analyze multiple and multidimensional levels. One level is the anthropological interpretation of man as "an insufficient being" (Gehlen 2009, 83) who is biologically limited in many respects. At the same time, however, this being possesses an uncanny mutability that relentlessly pushes itself toward self-improvement, the overcoming of shortcomings, and a substitution of deficiencies. Another level can be found on the social level. The current zeitgeist of society, where individualization and individual success in social competition are highly prized, provides an ample basis for the spread of transhumanist ideals. The successful integration of individuals into society depends on their performance, skills, and abilities, and therefore the optimization of basic human abilities becomes an avenue to succeeding in a competitive environment (Spreen 2018, 16).

In addition to the anthropological and social levels, modern science prepared the groundwork for transhumanism through genetics in particular. Decoding the human genome allows one to understand the building blocks of life and gradually use gene technology to correct genetic flaws present in the human body (Sýkora 2019). Rapid developments in the field also lay the groundwork for various experimental processes for human refinement. According to some authors, technological progress

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is increasing exponentially and is another important precondition for transhumanism, so one can presuppose that soon mankind will reach a point when technological progress has become so rapid and broad in scope that with our current abilities we will be unable to comprehend it (Kurzweil 2016, 174). While one line of transhumanism places the main emphasis on human refinement through genetic engineering, others go in the direction of technological perfection, over the course of which mankind would see evolutionary "imperfections" corrected – including even mortality – perhaps to a degree where humans achieve incorporeal existence as digital data or some sort of superintelligence (Kurzweil 2016, 211; Bostrom 2020, 41–79).

Besides the listed prerequisites for transhumanist developments, one should also keep in mind numerous inspirations stemming from science fiction, the figurative speech of which, in connection with anticipated technological developments, provides strong stimuli for transhumanist visions. The language of transhumanism is not entirely alien to the general public, as representations of human optimization efforts are well-known from science-fiction media and are a cultural touchstone in our culture.

This article focuses on the *Foundation* series of science fiction, written by one of the best-known creators of the genre, Isaac Asimov (1920–1992).[2] His first short stories dealing with the Foundation appeared in 1942 in *Astounding Science Fiction* magazine, which was then run by John W. Campbell and which focused on science fiction by young authors. Under Campbell's stewardship, the quality of the magazine improved substantially; he placed an emphasis on the accuracy of the scientific and technical information that authors dealt with. As most authors at the magazine had an education in the natural sciences (for instance, Asimov had a doctorate in biochemistry), they were quickly able to comply with Campbell's requirements and integrate new discoveries from the natural sciences into the diegetic level of their texts. The period between 1938 and 1946, when the magazine *Astounding Science Fiction* enjoyed its greatest fame, is considered the "Golden Age of Science Fiction".[3] It was during this time that the magazine published Asimov's work, and so his beginnings can be dated back to this period. By virtue of his work, Asimov quickly gained credibility among authors, reaching a status alongside names such as Robert A. Heinlein and Alfred E. van Vogt. In addition to popular short stories about robots,[4] he published his first stories about the Foundation, which he then published in book form as a trilogy titled *Foundation* (1951), *Foundation and Empire* (1952), and *Second Foundation* (1953). In his series, he deals with the theme of the impending demise of the galactic Empire and the influence of that on social developments. In addition to mathematical and technical knowledge, an important place is given to the social, historical, and psychological sciences. Through the inclusion of these, Asimov substantially broadened the scope of topics and issues that science fiction deals with (Allen 1977, 7). It is likely that this contributed to Asimov receiving a special Hugo Award for Best All-Time Series in 1966 for the *Foundation* series. In the 1980s, he returned to the topic and published four more sequels.

This article focuses on three motifs present in the original trilogy of Asimov's *Foundation* series and examines to what degree key elements present in science-fiction

literature directly mirror the concept of transhumanism, and whether parallels or differences can be identified between both discourses.

A VISION OF THE FUTURE AND A CRITICAL PERSPECTIVE ON THE PRESENT

Constant scientific and technological progress play a great role in science-fiction literature. Literary visions of the future, which science fiction presents, are not merely arbitrary games of the author's fantasy; rather, they rest on scientific and technological understanding, which becomes an inseparable component of fantastical storytelling.[5] Science fiction creates a vision of the future which takes place in a specific space-time known as the chronotope, which usually happens in the far future and is located in inaccessible or uncharted realms where time and space form a meaningful whole.[6] In this space-time, the author develops, whether as a utopia or a dystopia, new visions of further scientific and technical as well as moral, social, and political operations of society. One could claim that the key feature of science fiction is an intertwining of understanding and prediction and of fact and vision, and thus conclude that the genre has a visionary function.

In his study, Johannes Rüster points out that science fiction is visionary and subversive (2018, 147). What does this mean? Literary visions of the future are usually contradictory to the actual present and a challenge, disturbance, or undermining of its standard constellations, preferred classifications, and established forms of thought. For a new vision of the future, the old order is insufficient, and thus a differentiation from it must be made. It is exactly thanks to this moment that science fiction is later able to retroactively conjure up a critical perspective on the present and guide further development. Science fiction is not merely imagination supported by scientific and technical knowledge; its vision of the future becomes powerful material for a reconsideration of the really existing and non-literary present. It is worth noting that the dynamic often transfers into a fictional space-time; the creation of a vision of a new social order is preceded either by a direct existential threat or a slow decay of the current order, or the new order provides a retrospective mirror to the still-existing yet slowly dissolving system.

This dynamic between visions of the future and a critical reflection, which is one of the characteristics of the science-fiction genre, can be identified in Asimov's *Foundation* trilogy in two lines of inquiry. The first line is directly in a fictional space-time. Preceding the Foundation was the identification of the dissolution of the old order, represented by the Empire. The forces behind the decay of the Empire were chiefly inertia, despotism, and the unjust distribution of goods, which had led to a suppression of curiosity, the expansion of bureaucracy, and a deepening of dependence. The vision of a new and more stable and cleverly designed order is built upon a critical evaluation of the drawbacks of the Empire and the preservation of existing scientific and technical knowledge. This is the basis and most important motivating factor for the creation of the new order in Foundation. Similarly, its rapid growth and successful surmounting of crises become serious grounds for reconsideration in the decaying Empire. The second and more important line can be observed in the extra-liter-

ary time-space. A vision of a stronger and more perfect social system which Asimov creates in his science-fiction story can be interpreted as a reaction to the collapses of various empires throughout history. Asimov took the example of the rise and fall of the Roman Empire, as depicted in the historical works by Edward Gibbon.[7] Asimov's vision of the founding of a new social order on a solid basis, such as an encyclopedia containing the sum total of discovered knowledge, is the sign of a well-thought-out founding act. Even though this vision of a society based on knowledge is not new within the framework of sociopolitical conceptions or philosophical thought experiments about an ideal state, it is nonetheless a strong impulse for the critical re-evaluation of the current operation of social systems. In both presented lines (fictional and extra-literary space-time) we can observe the effectiveness of key aspects of science-fiction literature.

If science fiction is simultaneously visionary and subversive, then the question arises as to whether these elements are also inherent to transhumanism, the rhetoric of which comes very close to science fiction. The introduction of the present article hinted that transhumanism also works with visions and prognoses for the future. Even though the future has almost always been fertile soil for various scenarios where human fantasy was allowed to run wild, it is still necessary to create scenarios of such predominantly symbolical or eschatological character and clearly divide them from scenarios that claim factual grounding and plausibility. Transhumanism creates visions of the future, but, according to Bostrom, these are realistic visions rather than fantastical images (Bostrom 2018, 10). Despite the fact that realistic predictions of future developments are usually incomplete due to our limited knowledge, this does not mean that we should abandon them completely; after all, many planning strategies have already proven themselves useful and sensible in current practice. According to Bostrom, exact knowledge and relevant arguments provide a sufficient framework for the creation of plausible and realistic visions of the future without having to concede the future of mankind to speculation and fantasy (13). Bostrom presents multiple scenarios for the future of mankind, and it is important to acknowledge the perspective with which he draws up his visions. Above all, his is a technocentric perspective (22) that asserts that nearly all substantial aspects of social and private life are directly or indirectly affected by technology. Bostrom posits that current technology and its rapid advancement are the greatest existential threats to mankind in the 21st century, and in one scenario they may be the cause of its extinction (22).[8] This confrontation has, not only for Bostrom, become reason to formulate new visions of the future. What transhumanist visions have in common across the entire discourse is that the same technology which creates the risks, may on the other hand help us reduce these risks (25). As an example, Bostrom theorizes the creation of superintelligence, which may well threaten the existence of the species, but which may also increase mankind's chances of survival if it is capable of harnessing super-intelligent planning (46).

From these thoughts, one can conclude that visions of the future and a critical reflection on the present are characteristic features of both science-fiction and transhumanist discourse. Science fiction provides transhumanism with many literary

images as inspiration for the creation of transhumanist visions. However, whereas literary visions mostly take on a fantastical shape, which to a great degree is the result of the artist's imagination, transhumanist visions endeavor to achieve the character of realistic images, capturing the future development of mankind and appealing to current knowledge, including that of science and technology. Literary and transhumanist discourse has the ability to incite reflections on the present. Reflection and discussion triggered by transhumanist discourse, however, is much greater in scope than that triggered by science-fiction visions and also has greater reach and relevance to technological optimization.

BIG DATA ANALYSIS AND ARTIFICIAL INTELLIGENCE

Asimov integrated one especially interesting element into his *Foundation* series. This was the method by which one of its protagonists, Hari Seldon, predicted the downfall of the Empire. Seldon, as the founder of psychohistory, studied human behavior. He followed the reactions of large groups of people and great societies to various social, cultural, and economic stimuli. One important prerequisite for his research was that the relevant human societies were large enough for the data collection to be suitable for research purposes and that the societal reactions were spontaneous (Asimov 2010, 25). The collected data allowed him to make predictions of future events and developments in social and economic arenas; indeed: "The reaction of one man could be forecast by no known mathematics; the reaction of a billion is something else again" (Asimov 2010, 205).

As early as in the middle of the twentieth century, Asimov ascribed great significance to data collection and processing, which can result in detailed analyses and predictions of fundamental movements in multiple fields in the near future. His protagonist anticipated the collapse of the Empire based on what we might call, in agreement with Tom Boellstorff, "big data" (2014, 109). Big data refers to huge sets of information from varied aspects of life which, with their scope, speed, and variety surpass the abilities of common software to capture and process it (Manovich 2014, 65). In the age of digital technology, the sources of data collection themselves constantly increase in size.

Big data analysis has become one of the strategic factors in the operation of current society. Research into this field has undergone substantial differentiation in recent years, and it is worthwhile looking in detail at two closely related aspects in particular where connections to transhumanist discourse can be found. For one thing, huge databases have inspired research into their effective practical uses. Even though big data analysis was initially used mostly for economic prognoses and models (Berry 2014, 47), after the addition of data from the humanities and social media there gradually began to emerge studies into trends, models, and developments in culture and society. Lev Manovich (2014, 67) asserts that scientists have gained access to such a huge amount of data that it has permitted a broadening of research space into humanities and social sciences, initiated new forms of research into cultural formulas and social movements, and simultaneously activated the interdisciplinary dimension of research. On the other hand, the processing and analysis of data has required in-

creasingly effective and sophisticated analytic tools. Besides techniques such as data classification and text and predictive analysis, new techniques are being constantly developed and refined, including artificial intelligence. One can thus observe that big data and methods of data analysis are interconnected in terms of use. Requirements for data use stimulate development of new analytic methods which then allow for new innovative applications.

This does not mean however, that the development of one or the other field lacks its own dynamic. As Bogumiła Suwara points out, it is important to differentiate between work "with" digital media and work "within" digital media (2016, 97). One can observe that in the field of data analysis application there are numerous discussions on various important social topics, such as the social repercussions of big data research, monopoly on access to data, privacy protections, the structure of a new society, and mechanisms of social control (Galloway and Thacker 2014; Deleuze 1993, 254–262; Manovich 2014, 65–83). One can also observe a broadly diversified and rapid development in the field of digital systems. New algorithms for artificial intelligence (AI) are being developed around the clock, and with machine learning and in specific tasks its performance is already surpassing human efforts. AI has already beaten world champions at various strategic games, be it chess, Scrabble, or Jeopardy, and it can also provide global email communication, administer banking systems, and drive autonomous cars (Bostrom 2020, 27–33). Even though these performances are bound tightly to specifically set goals, they give scientists hope that in the near future AI could achieve the level of a general form of intelligence which is capable of performing all intellectual activities much like a human. From there, transhumanist visionaries see only a step to superintelligence, which would surpass human cognitive abilities in practically all fields (41). In such an event, the speed of data processing for such a huge amount of data and resulting cognitive results would be incomprehensible for humans (Lacko 2020).

Big data analysis was a key factor in Asimov's literary storytelling in the *Foundation* series. It is equally important to the functioning of current society, where more and more reliance is placed on the analysis of a great amount of data by AI which will probably be performed by superintelligence in the future. While Asimov's literary vision is based on natural human intelligence, capable of analyzing large amounts of data using mathematics, the best-known transhumanist vision is built around the idea of machine superintelligence, which is capable of analyzing exponentially more data using algorithms operating on the basis of mathematics and informatics. Both visions intersect at the topic of data processing – which is related to the level of intelligence, rationality, and mathematics available to the processor – and they confirm the importance of that topic to society. The question remains open as to whether this task will be handled by human intelligence, AI, or superintelligence in the future. Human intelligence is able to adapt and evolve naturally, but evolutionary experience shows that this process is slow. AI has the benefit of exponential growth of processing power (Kurzweil 2016, 48–54), which is visible today in some fields where it surpasses human efforts. Even though creating or surpassing the general level of human intelligence is not entirely easy, the transhumanist vision of creating superintelligence,

regardless of whether it ultimately bears fruit or not, will continue to be pursued simply because human ability to analyze large amounts of data is so limited and efforts to make the process more efficient will always seem worthwhile.

COEXISTENCE WITH THOSE DIFFERENT FROM US

Based on an analysis of sociocultural and economic movements, the protagonist Hari Seldon predicted the demise of the Empire and the gradual growth of influence of the Foundation. In his analyses, he predicted many crises that the Foundation would face but successfully overcome. However, he failed to predict one factor, which was the arrival of a mutant with superhuman mental abilities. This mutant was capable of controlling other people's emotions and turning enemies and opponents into allies. His influence solidified at the expense of the Foundation but without bloodshed. Asimov included the following thought in his work: "If the Mule's descendants inherit his mental powers – You see? Homo sapiens could not compete. There would be a new dominant race – a new aristocracy – with Homo sapiens demoted to slave labor as an inferior race. Isn't that so?" (Asimov 2010, 394).

Here Asimov broached a topic in his novel which continues to resonate in transhumanist discourse. According to transhumanist scenarios, it may be possible to achieve superintelligence not only through a refinement of AI, as described in the previous section, but also through the refinement of human intelligence. For the purposes of increasing human cognitive abilities, there are multiple paths one can take, from pharmacological substances through to neurotechnology and genetic engineering.[9] Genome editing, which allows for the targeted rewriting of genetic information with fairly great accuracy, shows especially great promise as a tool for the improvement of cognitive abilities, albeit not without ethical questions. Transhumanists predict that in the coming decades, genetic modification will become commonplace, leading to the emergence of a more perfect human. According to Bostrom, the potential presented by biological refinement is sufficient for weaker forms of superintelligence to emerge (2020, 69). Moreover, in the course of evolution the intelligence of man has constantly improved compared to his predecessors, so there is no reason to assume that Homo sapiens is the best cognitive system (69). Bostrom views the achieving of at least a lesser form of superintelligence through the biotechnological refinement of human cognitive abilities as realistic. He refers to "weaker forms" because the improvement of biological systems is significantly slower than systems of AI.

With rising human abilities, concerns surface regarding the potential discrimination and stigmatization of the unrefined population as well as concerns about growing inequality. Asimov expresses similar worries in his novels. He appears to defuse these worries with the superhuman mutant simply not conceiving offspring who would bring his abilities to future generations. In the meantime, however, the population of the Second Foundation secretly lived with similar mental capabilities as the mutant. Luckily their actions were not of a conquering but rather a stabilizing nature. Transhumanists do not avoid concerns of discrimination; they claim that potential social problems require social solutions (Bostrom 2018, 98). This means that simi-

larly to how society in the present attempts to deal with inequality using social regulation and laws, there will be a need for adequate social mechanisms in the future. Also today, inequality exists due to social and genetic factors, i.e., inequalities caused on the one hand by social background and status and on the other by genetic traits, which present themselves as varied talents and physical markers. Here the efforts of democratic society are to find and apply effective protective and regulatory systems so that the worst possible position would still be acceptable for anyone (Rawls 2007, 78). The society of the future would face a similar task with regard to refined humans. Bostrom does not predict society automatically devolving into slavery, but rather sees the need for a more intensive search for societal solutions to emergent factors (2018, 97).

This problem can be viewed from the perspective of mutual coexistence with those different from us (i.e., accepting variety and differences) and phenomenological philosophy provides us with a rich tapestry of analyses in this direction,[10] but equally evocative are the thoughts of contemporary Italian philosopher Roberto Esposito (2004) on the phenomenon of immunity, which Donna Haraway (1995, 160–199) works with in her analyses and which both authors transport from a purely medical environment to a broader social and biopolitical one. Even though immunity has multiple meanings, in terms of the current topic there are two especially noteworthy medical aspects which reveal its potential for much broader analyses. First, it must be said that the immune system protects the body from harmful substances.[11] When in direct contact with a foreign substance, it provokes an immune reaction which has the goal of eliminating the antigen. To achieve this, it uses an inborn form of defense, but can also, over the course of a lifetime, develop specialized forms of defense which develop in direct contact with various antigens, such as during sickness or vaccination. The primary function of the immune system is therefore to protect the body from foreign substances using a variety of defensive mechanisms. One part of this complex and varied system, however, is immunological tolerance. This is a specific suppression of the immune reaction, or a non-reaction, to those antigens that the body was exposed to during the embryonic stage. Following such prior contact to antigens, no immune reaction is triggered, because immune cells have learned to tolerate these antigens as if they were inherent to the body.[12]

The phenomenon of immunological tolerance is interesting because it shows that a system primarily focused on the protection of an organism from foreign substances is still capable of tolerating these substances under specific conditions. Tolerance is the act of acceptance and cordiality to what is different and foreign. If we return to the previously stated concerns that refined humans may increase discrimination against the non-refined, then besides the implementation of effective social and regulatory mechanisms, it will also be necessary to build and cultivate an environment of tolerance to those different from us. Ultimately, even Asimov hints at two possible approaches. One is the effort to eliminate what is different and remove the mutant. The other approach is coexistence with those different from us, a coexistence with the population of the Second Foundation. An environment of tolerance is exceptionally important and has to be cultivated regardless of whether transhumanist visions

of human refinement are fulfilled or not. Already in today's society, we encounter human diversity, and these connections do not always pass without incident.

CONCLUSION

Mankind's ability to overcome the level of the empirical given is the key to interpreting many of its creations. From the fascination for scientific and technical knowledge, and fears of its possible consequences, human imagination and human rationality have managed to forge varied visions of the future. In science-fiction literature, we can find visions which develop the current form of understanding into literary imagery enhanced with fantasy and speculation. In the direction of plausible and realistic prognoses, visions that attempt to overstep the current level of understanding can be found in transhumanist discourse. Besides parallels relating to the visionary and subversive characters of the two discourses, the joint themes and motifs which they deal with are extremely important and thus present themselves for a more in-depth analysis. Using selected motifs from the well-known *Foundation* series by Isaac Asimov, this article has given some detailed thought to big data analysis, which as a method is a chief moving factor in Asimov's literary storytelling and which spurs on developments in the fields of AI, which, according to transhumanists, will lead to the creation of superintelligence. Another common motif is the confrontation with beings with superhuman mental abilities. This confrontation is directly present in the science-fiction novel and also in transhumanist scenarios, and in both cases brings up multiple questions about mutual coexistence with those different from us. The search for answers to these questions are some of the most pressing for society today both from the viewpoint of possible dystopian futures as well as in terms of accepting the existing diversity of the present.

A parallel study of both discourses confirms that literary and transhumanist visions are now important impulses for societal, social, ethical, and anthropological analyses. The more complex the analyses, the easier it will be to devise strategies which will help mankind eliminate potential risks stemming from the application of technologies to humans.

NOTES

[1] In the article, we use the term transhumanism as an extension of humanism. This is because the transhumanist vision of improvement and enhancement still applies to humans. The term transhumanism was chosen also in the light of the analyzed work by Isaac Asimov, which features the character of a mutant – a human with enhanced mental abilities.

[2] On the occasion of Asimov's 100th birthday, the Lindeni publishing house in 2020 released a complete Slovak edition of Asimov's original *Foundation* trilogy (trans. by Patrick Frank). Until that point, only the first book had been available in Slovak translation (as *Základňa*, trans. by Dušan Slobodník in 1991).

[3] See Nicholls and Ashley 2020.

[4] In his series on robots, Asimov devised the three laws of robotics. At the time, he differentiated himself from earlier narratives about robots such as that depicted in *R.U.R.* by Karel Čapek. See Horáková 2006, 71–80.

[5] See Sterling 1998–2020.
[6] Mikhail M. Bakhtin (2008) analyzed the importance of the term *chronotopos* for literary storytelling.
[7] See Stableford and Langford 2017.
[8] The connection between the concepts of transhumanism and immortality is more closely analyzed by Odorčák 2019.
[9] For connections to broad research in neurotechnology and neuroscience, see an analysis of aesthetic and emotional experience from a cognitive and neuroscience perspective (Démuth 2019; Démuthová 2019) as well as contemporary analyses of perceptual illusions (Ihringová 2019).
[10] See Waldenfels 2006.
[11] *DocCheck Flexikon. Das Medizinlexikon zum Medmachen.* Accessed December 14, 2020. https://flexikon.doccheck.com/de/Immunit%C3%A4t.
[12] Frank M. Burnet and Peter B. Medawar shared the 1960 Nobel Prize in Physiology or Medicine "for discovery of acquired immunological tolerance." See *Universal-Lexikon.* Accessed December 15, 2020. https://universal_lexikon.deacademic.com/271540/Medizinnobelpreis_1960%3A_Frank_McFarlane_Burnet_%E2%80%94_Peter_Bryan_Medawar.

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Parallels between two worlds: Literary science-fiction imagery and transhumanist visions

Science-fiction literature. Isaac Asimov. Transhumanism. Big data analysis. Artificial intelligence. Superintelligence. Coexistence. Diversity. Biotechnology.

The prerequisites for transhumanist visions can be identified on anthropological, social, scientific, and technological levels. But one cannot neglect science-fiction literature, which provides transhumanism with inspiration and literary imagery. This article focuses on three selected motifs in the well-known *Foundation* series by Isaac Asimov, which discusses in relation to ideas of transhumanism. In the first part, the article highlights the visionary and subversive character of these works and seeks similar traits in transhumanism. The second part discusses big data analysis, which is an important component of literary storytelling and which fuels the development of artificial intelligence, which, according to transhumanists, will lead to the creation of superintelligence. The third motif is the confrontation with beings that possess superhuman abilities, something both Asimov's work and transhumanist visions deal with and which opens up questions about coexistence with those who are unlike us. Literary and transhumanist visions have multiple parallels and encourage deeper social, ethical, and anthropological analyses of important topics.

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Saviors, naïfs, or orphans? The posthuman condition in literary and cinematic perspectives on human cloning

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Post- and transhuman narratives in literary fiction and cinema often make use of a whole assortment of themes (e.g., human enhancement, cyborgization, rapid technological development, cyberspatial consciousness, humanoid artificial intelligence, and biohacking), thus allowing the application of a broad variety of storylines, plots, and characters.* A number of literary and cinematic works feature genetic engineering, DNA manipulation, and human cloning as intriguing and often controversial issues that enable powerful psychological, social, and political insights into posthuman societies. The aim of this article is to focus on three works of (science) fiction written between the 1970s and the 2010s to provide an analytical look at how characters who are human clones are used to discuss and address posthumanist and transhumanist issues.

While the theoretical background for the analysis will make use mostly of posthumanist criticism and theory, philosophical posthumanism, and literary criticism, the analysis itself will deal with Kate Wilhelm's acclaimed science-fiction novel *Where Late the Sweet Birds Sang* (1976), Kazuo Ishiguro's successful dystopia *Never Let Me Go* (2005), and Space and BBC America's popular five-season television series *Orphan Black* (2013–2017). The objective is to present the fictional microcosms of these works as valid and relevant societies in which human cloning serves as a backdrop for creating characters who, in turn, serve as pertinent elements in a posthuman environment. The article seeks to use the three selected works as representatives of a development in the portrayal of clone characters – from an impersonal presentation of the clones' collective mentality and lack of imagination, to more fully developed psychological portraits.

POSTHUMAN IDENTITIES

Francesca Ferrando has argued that human identity "has [been] formed, historically and theoretically, through the construction of the 'Other' [...] marking the shifting borders of what would become 'the human' through a process of performative rejections" (2014, 217). As opposed to the physical body, whose otherness has stemmed from a monstrous or freakish appearance, identity in the posthuman

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context is a much more fluid and problematic concept (especially when the characters include clones, bioengineered beings, or machines with a human appearance). This is important, because ultimately "how one feels about the posthuman depends to a great extent on how one relates to the human in the first place" (Braidotti 2013, 194), and, as Judith Halberstam and Ira Livingstone have posited, "[t]he posthuman does not necessitate the obsolescence of the human; it does not represent an evolution or devolution of the human [but] participates in redistributions of difference and identity" (1995, 10). In posthuman narratives, such as the ones that will be discussed below, it is therefore crucial to present how humans and posthumans (or even non-humans) interact with and relate to each other. In the words of Rosi Braidotti, in order to approach the posthuman condition critically, its subjects should "enter into new affective assemblages [and] co-create alternative ethical forces and political codes" (2017, 21).

In *A Critical History of Posthumanism*, Andy Miah claims that our analytical standpoint towards posthumanity should involve "interconnected discourses and philosophical claims surrounding concepts of mind, body, nature and artifice [while acknowledging] concepts that have emerged and the cultural, political and media instantiations through which moral claims about a shift of humanisms can be asserted" (2008, 91). This requires a more open and accepting attitude towards diverse expressions of posthumanity, including bodies and identities which are easily labelled as different. Along a similar vein of thought, Manuela Rossini contends that it is important to address the fear of "encountering posthuman bodies" and advance towards welcoming them "as paradigms of a future posthumanity in a world where difference can be celebrated rather than used for the objectification and suppression of 'the Other'" (2005, 27). In other words, we need what Braidotti refers to as a new "posthuman social agenda" (2013, 196–97), which would reflect the posthuman condition more relevantly and which could help "enlarge the frame and scope of subjectivity along the transversal lines of post-anthropocentric relations" (82).

The transversality of such relations is important because it can help expose the "androcentric and heteronormative bias of what count as intrinsic human qualities" (Rossini 2005, 26) and, in a posthuman condition, present a chance to review our understanding of humanity as an ever-growing symbiotic system of humans, non-humans, and new-humans. In addition to the importance of such a synergetic system, posthuman societies ought to seek to abolish any preoccupation with rule and control of what Katherine Hayles has described as the "emergent processes" in which posthuman bodies and environments arise; for Hayles, the "posthuman conscious agency" is the most important element in the process of the formation of such bodies and environments (1999, 288). In this respect, the narratives studied herein also address the relevance of whether the clones in the stories are aware of their origin as well as to what extent this (lack of) awareness may affect their identity.

As Bruce Clarke and Manuela Rossini successfully argue, posthuman literary plots and characters have long been part of literary endeavors and have covered a multitude of themes; what is more, "literature and fiction have always been privileged speculative discourses haunted by the ghosts of humans, non-humans, and posthu-

mans" (2017, xv). Besides the wide-ranging consideration of art playing an equally important role in trans- and posthumanism as technology (Vita-More 2013, 18), literary devices have been successful at familiarizing readers with "the Other", from a whole range of narratives about imaginary doubles, or *doppelgängers*, or a frequent focus on *simulacra* and hyperreality, to effectively addressing not only unequivocally human but also non-human phenomena and issues (Karkulehto, Koistinen, and Varis 2019, 10). When focusing on human cloning, presently an illegal and presumably only fictional practice, literary and cinematic genres allow the human imagination to pass beyond the present moment "[making] experience possible *and* [generating] lines of time and futurity beyond present experience" (Collebrook 2017, 199). In other words, as Bakošová and Odorčák propose in relation to Samuel Scheffler's assumption about intrinsic human altruism, "only the existence of an ongoing future of the world and humans can render their current lives meaningful" (2020, 54–55).

CLONES AND MONSTERS

The cloning of a human would deem any outer expressions of "otherness" secondary, as the genetic similarity between the clone and its original accounts for the clones being copies rather than visibly different beings. As Simona Micali posits, in fiction, "the peculiar figure of the clone [can be] particularly suitable for highlighting the problematic component in the theme of the subhuman. As an identical copy of man, in both appearance and behavior *its monstrosity is no way physical but metaphysical*" (2019, 68). It is the mode of origination that establishes "the Other" (or defines the subhuman) and might consequently impose social or political roles on clones. Since "most of the ethical and bioethical dilemmas related to cloning or enhancing human beings are mostly absent when relating to other species" (Ferrando 2019, 136), the so-called "clone narratives" have become interesting sources of discussion about posthuman bodies and subjectivity. Manipulating the genetic code, a competence presumed to be only acceptable in nature (or among the gods), gives fictional scientists power and influence while reinforcing hierarchical social structures. When discussing Jürgen Habermas's and Francis Fukuyama's pessimistic views on posthumanist development and genetic enhancement, Sarah Franklin posits that such a suspicious attitude identifies "genetic manipulation as *a force unto itself*, hostile to social order and integration" (2006, 87). As a result, and this is clearly visible in the analyzed works, human clones (as well as designer children) have become "iconic signifier[s] of the dilemmas and risks posed by new genetic technologies" (86).

The dilemmas, understandably, have brought forward numerous objections to human cloning. For example, cloning human children is considered problematic not only "because it violates the right to autonomy: by choosing a child's genetic makeup in advance, parents deny the child's right to an open future," but also because specific genetic enhancements "would point children toward particular choices, and so designer children would never fully be free" (Sandel 2013, 72). In other words, children cloned from people with successful life paths would be expected to follow either the same or similar careers, thus pre-determining their identity, at least

in part. Gregory E. Pence makes a similar argument, drawing a parallel with Immanuel Kant's ideas about "authentic personhood" which should be "chosen and not imposed"; in other words, "people [themselves] should make choices about who they are rather than having it imposed on them by external forces or other people" (2016, 180). When talking about clones in fictional stories, any considerations about identity require "acknowledging the dazzling complexity of interactions between brain, mind, sensation, expression and bodily gesture that go into the making (and perhaps the myth) of recognizable and autonomous personhood" (Goulet and Rushing 2018, 14). This complexity is at the heart of how the three clone narratives create a literary impact in their respective posthuman microcosms.

Ethical concerns, moral dilemmas, and drawing a line between what is considered to be medically relevant or therapeutic and what is already the unnecessary enhancement or power-driven transformation of individuals (or entire species) have been frequently discussed and disputed (Ferrando 2019, 137). Literature and cinema have been quite prolific in presenting fictional accounts of the subjectivity and identity of engineered beings (clones or others) as well as their objectification, commodification, and potential danger to society. As early as 1818, Mary Shelley's *Frankenstein* raised concerns about the advancement of science at the expense of a moral capacity for understanding the price of progress upon the background of a story of a man-made being. In 1896, H.G. Wells' *The Island of Doctor Moreau* presented such issues as moral responsibility and the significance of human identity using the example of characters created by vivisection. Both novels introduced the now archetypal character of the mad scientist who is unable to see the intricate cause-and-effect reality behind the Romantic desire to subjugate nature to human will.

In his scientific and progressive endeavor to create a living being, Victor Frankenstein claims that for him financial success was only secondary and that the principal aim of his effort was to "banish disease from the human frame and render man invulnerable to any but a violent death!" (Shelley 2012, 42). His is a noble end, it seems, despite the fact that the objective is far from modest – he yearns to create a whole new life form: "A new species would bless me as its creator and source; many happy and excellent natures would owe their being to me" (47). Frankenstein's failure is inevitable when his creature starts to express human desires and becomes all too human. The humanity of the "monster" elicits sympathy, not unlike the pity that Prendick feels for the Beast Folk in *The Island of Doctor Moreau.* However, Moreau's experiments are portrayed as utterly cruel and barbaric, and his character represents the idea that scientific enhancement stands above sentiment or morality. One of the most famous quotes from Wells's book proves this when Moreau says: "To this day I have never troubled about the ethics of the matter. The study of Nature makes a man at last as remorseless as Nature" (2005, 75).

The Romantic (Gothic) character of 19th-century stories featuring enhanced or bioengineered beings makes it difficult to discuss their identity in complex psychological or social terms. Moreau, for example, had to escape civilization to continue his horrific experiments on a remote island, and, at the end of the novel, Prendick looks at the civilized society in London, fearing the animal part of each individual, and

is unable to get over it (Wells 2005, 130). Any attempt at accommodating otherness (or outright monstrosity) is, therefore, doomed to failure, or, in the words of Christopher Peterson: "All forms of belonging – no matter how open and hospitable they are toward others – inevitably produce 'beasts' (both human and non-human) whose exclusion functions at cross purposes with our apparent desire for inclusivity and nonviolence" (2011, 133). This is an important insight for further discussion about clones as fictional characters, particularly in the light of their being perceived as copies, or Baudrillardian *simulacra,* devoid of originality and profound meaning.

COPIES AD INFINITUM?

In his seminal book *Simulacra and Simulation*, Jean Baudrillard introduced the *simulacrum* as part of a chain-like order of representational meaning attached to objects. From initially mirroring a meaningful reality, *simulacra* pass through several stages of development and transformation until the copying process has no profound reality to represent and ends up as a mere simulation (1994, 6). In his book, Baudrillard also discusses clones, whom he refers to as "human cuttings ad infinitum", simulacra of sorts, comparable to the literary "double":

> [T]he imaginary power and wealth of the double – the one in which the strangeness and at the same time the intimacy of the subject to itself are played out (heimlich/unheimlich) – rests on its immateriality, on the fact that it is and remains a phantasm. Everyone can dream, and must have dreamed his whole life, of a perfect duplication or multiplication of his being, but such copies only have the power of dreams, and are destroyed when one attempts to force the dream into the real (95).

Consequently, it can be expected that clones or bioengineered beings, when used as fictional characters, would seek to identify their parent, original, or maker as part of their quest for identity. This is an important component of the plot in *Orphan Black*, a marginal feature of *Never Let Me Go*, and a non-existent element in *Where Late the Sweet Birds Sang.* However, the strangeness brought about by the genetic similarity is present in all of the works, alluding to such well-known concepts as Sigmund Freud's "Unheimlich" or "uncanny" (1919) and Masahiro Mori's notion of "bukimi no tani", translated as "uncanny valley" (2012). The uneasiness caused by the knowledge that a person's genome could be used to create a copy of themselves can have deep psychological implications, even in Mori's account of the breaking point (uncanny valley) some people might experience when the robotic or mechanical creatures they feel affinity towards appear too human-like.

Using clone characters in fiction is an effective instrument in posthuman narratives, because a clone "questions and destabilizes the boundaries between self and other, original and copy" and "opens up the question of technology's potential to alter human subjectivity" (Stout 2018, 97). Such issues as identity, nature vs. nurture, and determinism acquire new potential for application in plots, narration, psychological characterization, and in movie and television acting and representation. The clone characters in *Orphan Black*, for example, are performed by a single actress, Tatiana Maslany, whose representation may rest on her individual physique and appearance, yet she responds to the challenge of playing significantly different personalities by al-

tering her posture, movement, gesture, as well as overall appearance. The visual medium of a television series allows this – unlike the literary examples in which the subjectivity of the cloned individuals is presented through narration (Kathy in *Never Let Me Go*) or by the behavior and psychological insight into the clones' collective psyche in *Where Late the Sweet Birds Sang*.

The uneasiness, strangeness, uncanniness, and otherness of the clones is what drives the plots, piques the interest of the reader or viewer, and generally offers sufficient material to discuss very conventional human themes in posthuman environments. As Amit Marcus proposes:

> Clones are a particular type of other, being not simply similar to their originals but also their genetic copies, who nonetheless differ from their originals in their age, education, and the circumstances of their lives. All ethical issues discussed in bioethics concerning clones originate in the ambiguity between sameness and alterity, which is amplified in literary representations (2012, 430).

Clones are copies, but they are not necessarily the same. As Pence explains in a comprehensive passage about the factors influencing the genetic information in identical clones, if several clones are created from one original, their DNA would not be 100 percent the same (2016, 133–36). Another important factor – visible, for example, in *Orphan Black* – is how the varied environments (the wombs of different surrogate mothers, diverse upbringings, and experiences) contribute to their physical, mental, and emotional development, resulting in different personalities. In contrast, the clones in *Where Late the Sweet Birds Sang* and *Never Let Me Go* are brought up rather uniformly.

The fictional representation of clones, despite the indisputable variety of approaches taken by different individual authors, places them in environments in which they interact with two types of people: understanding, tolerating, even empathetic men and women who treat the clones with respect and humanity on the one hand (Miss Lucy in Ishiguro's novel, Donnie or Paul in *Orphan Black*); and power-driven and controlling individuals or institutions who objectify the clones and see them as a means to an end, commodities, instruments, and even political weapons on the other. Clones are either considered to be subhuman, being "*less than human creatures* [...] less 'authentic'" (Micali 2019, 34), or there is a prevalent fear that, in contrast, they "would be not subhuman but superhuman" (Pence 2016, 17). These attitudes, among other things, will be addressed in the analysis of the three selected works below.

SAVIORS, NAÏFS, AND ORPHANS

It is worthwhile firstly demonstrating that there is a certain chronological development in the portrayal of clone characters. The three selected works cover a time period of over forty years (1976–2017) and use different settings: Wilhelm's *Where Late the Sweet Birds Sang* is set in a post-apocalyptic situation where cloning is needed to preserve the human species; Ishiguro's *Never Let Me Go* (published in 2005) goes back to the 1990s to an alternative society where cloning is a real possibility used to produce cloned humans for organ donations; and *Orphan Black* is set in the early 21st century with the main clone characters, all in their thirties, left searching for their identity and place in society.

In terms of genre, while Wilhelm's novel is undeniably science fiction (a fact underscored by it being awarded the Hugo Award), Ishiguro's book balances between several genres (dystopia, Bildungsroman, and science fiction). Some scholars offer interesting analyses of the novel as a "speculative memoir" (McDonald 2007), while others provide a wide-ranging and thought-provoking discussion about the multiple genre categories of *Never Let Me Go* (Shaddox 2013, 449). The television series *Orphan Black* is primarily a thriller, with scientific, psychological, and sociological issues at its heart. It not only offers a very extensive and profound insight into the science of cloning, but also provides hints at its potential social and political impact.

The realistic and contemporary setting of *Orphan Black* contrasts with the post-apocalyptic backdrop of *Where Late the Sweet Birds Sang*; in the latter, the situation provides a good justification for human cloning: humans are infertile and would not survive as a species. In addition, the human community in which the story commences has already successfully cloned livestock to provide food for its members. The book thus becomes part of an important discussion about whether it is an "important moral duty" to preserve the human genome (Harris 2013, 134). As an example of a "clone narrative", Wilhelm's book represents a conventional science-fiction story (Marcus 2012, 406) which, nonetheless, extends its appeal beyond the traditional science-fiction readership. As Miroslav Kotásek argues: "[t]he social world is constructed by borrowing and utilizing components identifiable especially on the level of plot and story, used in science fiction to model and suggest new types of sociability up until now not fully realized" (2015, 68). In *Where Late the Sweet Birds Sang*, the interaction between humans and clones is depicted through the prism of diversity vs. individuality: there are clone groups made from male or female originals and collectively referred to as "brothers" or "sisters". The clones lack imagination and distinctiveness, and they suffer when they are separated from their siblings. In the course of the novel, the argument is made that cloning is not beneficial for a higher species like humans, because "it stifles diversity"; however, an objection is made that when a constant future of the (cloned) human race is concerned, diversity may not be always favorable: "You pay a high price for individuality" (Wilhelm 1998, 66).

For the clone community, who consider themselves to be the saviors of humankind, once the original humans are completely extinct it becomes imperative "to safeguard the well-being of the unit, not the various individuals within it. If there is a conflict between those two choices, we must abandon the individual. This is a given" (124). In a twist of Darwinian logic, this attitude – taught by the human originators of the clone community and learned by the clones because of their overly rational, unemotional, and unimaginative makeup – eventually produces "two castes [–] the leaders, and the workers, who were always expendable" (232). In other words, the clones learn everything their elders (makers) teach them, but that is where their creativity ends: "They could duplicate what had gone before, but they originated nothing" (193). Mark, a man who is reproduced sexually by two clones and the first of his kind to be allowed to live in their community, becomes an outcast and troublemaker who finds unity with nature and ultimately escapes the clones to establish his own community, which eventually becomes able to reproduce naturally. The perfec-

tion associated with clones brings along a false sense of happiness: "[the clones] were happy because they didn't have enough imagination to look ahead [...] and anyone who tried to tell them there were dangers was by definition an enemy of the community. In disrupting their perfect existence, [Mark] had become an enemy" (238). Kate Wilhelm's posthuman environment thus allows her to highlight the contrast between the individuality and imagination of the humans (and only very few clones) and the uniformity and collective consciousness of the clones.

In *Never Let Me Go,* Kazuo Ishiguro, on the other hand, presents clones who are created in order to be used as organ donors (a premise similar to the 2005 film *The Island*, directed by Michael Bay). However, as opposed to *The Island*, where the characters decide to flee and fight their fate, the characters in Ishiguro's microcosm react to their identity (i.e., realizing they are clones) by peacefully accepting it (Schillings 2016, 139). The only active and engaged form of revolt on their part is their decent demand to get "a deferral": a postponement, perhaps indefinite, of their having to start donating their organs. Their passivity, of course, is the result of their education at Hailsham – an institution that seems like a typical boarding school with a primary focus on the arts and humanities, as if such an approach would make the "unnaturally" made students more human. The important thing here is that Ishiguro's narrative makes the clone characters very human in terms of both its content and form.

The clones in Ishiguro's novel are humanized by being shown as creators and recipients of art, as well as by their struggle to deal with the loss of their "families": "For the parentless clones […] the demise of connective ties with familial others created in their years at Hailsham is more than losing friends and lovers; it is the loss of the medium through which they interconstitutively construct themselves as individuals" (Shaddox 2013, 459). Also, the form of narration makes use of a very intimate story told by one of the clones, Kathy, who uses second-person narration, "a device commonly used in Victorian fiction to enhance sympathetic connection" (Whitehead 2011, 58), which Karl Shaddox suggests is not dissimilar from the sentimental novel or abolitionist literature because it helps establish a connection between the protagonist and the reader (2013, 459). The novel portrays the clone characters, particularly towards the end, "as loving and sensitive individuals, even if they are not accorded the status and rights of citizens within the dystopian political system that has brought them into being" (Whitehead 2011, 56).

The clones are "naïfs" who believe in the non-existing deferral, who experience humiliation, like, for example, Tommy (Ishiguro 2005, 7); they are repeatedly referred to by the "normals" as "shadowy objects in test tubes" (256) and creatures everyone is afraid of "as one might be afraid of spiders" (35). Miss Emily, the head of Hailsham, expresses the general fear and aversion to the clones as follows: "We are *all* afraid of you. I myself had to fight back my dread of you all almost every day I was at Hailsham" (264). This only further amplifies the "sympathetic connection" the reader feels with the clone characters and becomes a rudimentary form of what Rosi Braidotti calls "new affective assemblages" (2017, 21).

If the clones in *Where Late the Sweet Birds Sang* are saviors, and the clones in *Never Let Me Go* are naïfs, then the female characters in *Orphan Black*, the Leda clones,

are orphans: they grow up unaware of their status as clones with people who are not their biological parents. What is more, even their surrogate mothers remain mostly unknown. In the course of the series, however, their status as orphans is replaced by a kind of sisterhood: a unit (not dissimilar from the collective sense of togetherness in Kate Wilhelm's novel) that becomes important in the clones' struggle against their makers and would-be owners. The clones' authentic and autonomous personhood, as discussed by Gregory E. Pence and cited above, is shown in the way the clones use their individual identity and self-awareness while constantly combatting attempts to subjugate them. John C. Stout presents a comprehensive analysis of how the importance of family, orphanhood, and identity for the clones in *Orphan Black* (2018, 98) extends the view that the series expresses "our current fears, anxieties and desires surrounding the discovery of genes as the ultimate truth of who we are" (Goulet and Rushing 2018, 18).

In a similar vein, *Orphan Black* focuses on the importance of control and surveillance in the posthuman condition – the clones are being monitored by various corporate institutions whose objectives range from medical research, through transhumanist enhancement, all the way to a quest for the fountain of youth. In addition, as Andrea Goulet and Robert A. Rushing posit, "control over women's bodies, health and reproduction is absolutely central to *Orphan Black*" (2018, 7); the show is also "a critique of the constant scrutiny – social, legal, medical – given to women's bodies" (11). As opposed to the clones in *Where Late the Sweet Birds Sang*, and partly also in *Never Let Me Go*, the story of *Orphan Black* ends up cherishing diversity and individuality.

"MANY HAPPY AND EXCELLENT NATURES"

A straightforward conclusion may be drawn about the three selected works: they represent an advancement in the portrayal of clone characters in fiction – from the functional instruments of human reproduction in a post-apocalyptic scenario to complex psychological and social depictions in modern-day narratives which balance on the edge of realism and science fiction. Simultaneously, the novels and TV series progressively employ their readers' and viewers' ability to imagine posthuman social setups and juxtaposing them to the contemporary condition. Or, as Mads Rosendahl Thomsen has suggested: "There is an uncanny feeling to imagining a more advanced culture, or a being more advanced than the human, which would put existing humanity into a broader perspective as just one element in a long evolution" (2015, 55). The three works discussed above try to play along with that uncanny feeling and imagine similar social conditions. Of course, such fictional accounts always recognize the "anxiety over the desire to pursue scientific knowledge and control nature as the ultimate goal of humanity," particularly the potentially "regrettable motives and disastrous results" of such efforts (Marcus 2012, 407).

Analyzing posthuman fiction and cinema, for example through the prism of the authors' approach to characterization and narration, offers a chance to address important questions of tomorrow, including the potential of human social cooperation, the effects of corporate and political power, and the ethics of progressive medical research. Such a discussion necessarily extends to the relevance of "man-

ufactured and patented bio-products [and] the ethical imperative to bind to them and be accountable for their well-being," while simultaneously recognizing the need for "new genealogies, alternative theoretical and legal representations of the new kinship systems and adequate narratives" (Braidotti 2013, 80). Also, as Peter Sýkora suggests, now that "the genetic enhancements of both humans and animals, including their cognitive capacity, has become reality, the discussion about them is no longer a thought experiment, but a challenge for mankind that will have to be dealt with as soon as possible – ethically, philosophically, politically, and legally" (2019, 524, trans. I.L.).

Our ability to challenge well-established social, cultural, and political systems, and oversee their constant analysis and adaptation, will prove instrumental as the posthuman condition becomes more complex. The existing social polarization in several areas, based on a dualist approach to social and cultural interaction, might lead to enhanced modes of labelling, control, and discrimination. Or, as Francesca Ferrando aptly puts it: "Even if post-humanistic and post-anthropocentric social performances may eventually overcome some forms of discrimination, such as racism, sexism, and speciesism, if we do not embrace post-dualism and critically address, and deconstruct, rigid forms of dualistic identity-formation practices, other forms of discrimination will consistently continue to arise" (2019, 189). If humans are able to align their scientific determination with the pace of socio-cultural development, our posthuman future might get to see Viktor Frankenstein's dream of "many happy and excellent natures" owing their existence and life to us.

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CITED AUDIOVISUAL WORK

Orphan Black (directed by John Fawcett and Graeme Manson, Canada, 2013–2017)
The Island (directed by Michael Bay, United States of America, 2005)

Saviors, naïfs, or orphans? The posthuman condition in literary and cinematic perspectives on human cloning

Posthuman. Posthumanism. Cloning. Clone narratives. Genetic determinism. Nature vs. nurture. Human genome editing.

This article focuses on cloning as a relevant trans- and posthumanist theme presented in the classical science fiction of the 1970s (Kate Wilhelm's *Where Late the Sweet Birds Sang*), 21st-century literary fiction (Kazuo Ishiguro's *Never Let Me Go*), and streaming television series made in the 2010s (BBC America's *Orphan Black*). With special emphasis on the subject of human cloning, the article will endeavor to discuss questions of identity in a posthuman environment, tracing the development from Wilhelm's dystopian and post-apocalyptic scenarios in which clones and humans interact to disastrous ends, through Ishiguro's psychological and emotional exploration of the inner world of cloned individuals whose fates are narrated in a form similar to the *Bildungsroman*, all the way to the complex study of nature vs. nurture in the cloned characters of *Orphan Black.*

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From "andys" to "toasters": How has politics affected the view of non-humans in "Blade Runner" and "Battlestar Galactica"?

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The genre of science fiction in literary and audiovisual works allows for a peek behind the curtain that hides tomorrow's world.* It is also useful as a tool for a critical reflection of the political and social reality at the time of its creation. Politics entered this genre as early as the era of philosophical utopian works, and it also has an important place in modern science-fiction writing from the 20th and 21st centuries. Science fiction uncovers humankind's fears while warning us about the potential threat of an apocalypse. An interesting aspect of science-fiction literature is the uncovering of possibilities on how to avoid a dystopian future, which is often depicted in the form of totalitarian regimes and natural or man-made catastrophes as well as in the way that the view of the coexistence of humans and the "non-humans" created by people has changed over time. Are we at all prepared for the situation that soon we will not be alone? Are we able to imagine cohabitation with beings that feel and have a mind of their own? What is the objective criterion of "humanity"?

Those who were able to project a future with "new people" depicted a world scarred by conflict and often inevitably doomed. It was through images of the future and the stories that took place in galaxies far away that authors presented a critique of the societal and political crises of their own times, which they deemed to be the cause of humanity's destruction. For a better understanding of how politics influences the depiction of the relationship to "our creations" and how this relationship was affected by political changes, it is worthwhile analyzing the cult-like novel *Do Androids Dream of Electric Sheep?* (1968), its film adaptations *Blade Runner* (1982) and *Blade Runner: 2049* (2017), and the TV series *Battlestar Galactica* (2004–2009) and its prequel *Caprica* (2010).

CROSSING THE BORDERS

Humans are convinced that the world they live in is shaped upon their own ideas. They believe they are creating the world and that it serves them, because it is born out of their own initiative. Artificial intelligence (AI) is the proof of humans' ability to "breathe life" into the non-living. It distinguishes us from those beings that work and count yet do not create. Despite the fact that we are repeatedly wrong in our

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own visions, we do not want to admit that things could be different. We do not listen to the voices of scientists and writers who call for caution, because it may come to "an unprecedented confrontation with biotechnological and informational technologies" (Harari 2019, 19). However, not even scientists are immune to factors that influence the perception of our world. There is no difference, whether we look at it through the eyes of a visionary from the second half of the 19th century who is mesmerized by the breakthroughs of the Industrial Revolution, a writer from the end of the 1960s who perceives the threat of social and political changes, or authors from the early 21st century who live in a world threatened by terrorism and whose lives are organized by algorithms. Nonetheless, in this case it is usually true that "nothing is more problematic than predicting the future. If the record of past predictions is any guide, the one thing we can know for sure is that when the future arrives, it will be different from the future we expected" (Hayles 2005, 131).

Contrary to technologies, politics is what primarily forms social relationships and causalities which later on find their way into the plot of science-fiction storylines. The utilization of science fiction to provide commentary on current events has been frequently noted. Indeed, "[a]nxieties of the time can be projected into the future or onto an alien civilization and then exaggerated in order to provide a warning. As a mirror of the hopes and fears of society, it displaces the political and social issues of its time to a different plane and reflects them back" (Maguire 2012, 332). Science fiction creates a space for confrontation with the current social situation, crosses the borders of the possible, and tries to warn about what happens if society continues walking on its current path. The importance of studying the interactions between real-life politics and the science-fiction genre has been highlighted in several studies (Tighe 1999; Grayson, Davies, and Philpot 2009; Carpenter 2016; Young and Carpenter 2018). Literature and film are becoming philosophical as well as critical instruments to evaluate politics. For instance, "[b]y the 1960s and 1970s, science fiction generated by the 'British New Wave' reflected dramatic changes in contemporary culture, especially political aspects of gender, conflict, and freedom of expression" (Menadue and Cheer 2017, 1). Authors of science fiction started with a given sociopolitical situation and placed it in the worst possible scenarios of the future. They outlined what they themselves feared could happen and what could fatally threaten society (Young and Carpenter 2018). While they have more often than not been mistaken in depicting the future world which they adjusted to their own time period (*Metropolis*, 1927), in other cases they have predicted it with surgical precision. In this sense, Thomas M. Disch considers a classic example to be Aldous Huxley's *Brave New World* (1932), which "seems more prophetic every decade. Technology keeps getting closer to creating true test tube babies, and human cloning looms ahead" (2000, 7).

When looking at politics, science fiction most often depicts the fear of the rise of political systems that decapitate freedom and democracy. This is how they portrayed their fear of the return of Nazism (Philip K. Dick: *The Man in the High Castle*, 1962), the global spread of Communism (Yevgeny Zamyatin: *We*, 1920; George Orwell: *1984*, 1949), and the rise of autocratic religious fundamentalism (Margaret Atwood: *The Handmaid's Tale*, 1985), which were all relevant concerns at the times

they were published (Disch 2000). In *The Handmaid's Tale* we can see that the warnings expressed by Atwood more than three decades ago may be relevant at any point in the future; its storyline shows how science fiction was dealing with a political issue of the period – the rise to power of Protestant fundamentalism connected to the Republican Party and President Ronald Reagan – while also providing a warning that such dogmas may easily return. It is because of this timeliness that science fiction is attractive for authors as well as readers.

However, there is another level of the relationship between politics and science fiction; this does not necessarily concern the depiction of utopian ideal worlds or dystopian catastrophic futures that create the primary storyline, but rather deals with fears for the survival of liberal democracy. In particular, there is a secondary fixation on politics in storylines which changes accordingly as the sociopolitical circumstances in the "real" world change. Yuval N. Harari is objectively worried that "the technological advance of the twenty-first century could reverse the humanist revolution, strip people of their reign over their lives, and give it to inhuman algorithms" (2017, 342). It is not only the fear of losing one's freedom that we are facing. Science fiction refers to current policies and the attitudes of political elites and the public to specific aspects of life. This is also the case with Huxley's *Brave New World*, Jack London's *The Iron Heel* (1907), and Karel Čapek's *R.U.R.* (1920). They all warn against the advent of the technological world (Huxley's "Fordization"), which, while advancing humanity, also curtails its political and economic freedoms. They also point to the need to resist this world, which in the case of Čapek's play is associated with the Russian Revolution: "Capek's sympathies waver between indignation on behalf of the exploited robots (which sometimes seem to have souls) and fear of the impending day of judgment that will bring middle-class privilege to an end" (Disch 2000, 8). On the other hand, in many science-fiction works there is an exaggerated belief in "the liberal tale of an individual's struggle for freedom and privacy against the global government of corporate octopuses" (Harari 2017, 331). This is a faith which is actually the culmination of the contemporary notion of the end of history (Fukuyama 2007).

Today, mechanisms, machines, and AI are ubiquitous, affecting every aspect of our lives, be it relieving us of routine household chores or providing health care. Various applications notice our health and emotions, and search engines make contact between people who, for instance, want to meet, do business, or pray together. How should society and state policies cope with the expansion of AI that transcends national borders? Could technological progress result in the intellectual decline of humanity?

These dilemmas are tackled by science-fiction authors, who move them onto the level of existing relationships between ethnicities, races, and social groups, often discussing them within the context of political regimes that abuse technological progress to "consolidate society." The relationship between humans and non-humans exceeds the borders of fantasy and has now become a topic of political and legal discussion concerning identity and borders of freedom, and it has become the politics that influences the science-fiction world.

"ANDYS" AS A CRITIQUE OF RACIAL SEGREGATION IN THE UNITED STATES

The question of coexistence of humans and non-humans is the crucial storyline in Dick's novel *Do Androids Dream of Electric Sheep?* Set "in a post-apocalyptic 1992, the book follows bounty hunter Rick Deckard in a risky mission to 'retire' (destroy) six state of-the-art Nexus-6 androids, who have fled to Earth after killing their human masters in a Martian colony" (Bhattacharya 2018, 163). The story takes place in a world destroyed by humans that is supposed to have become a place of liberation for enslaved androids. Under seemingly ambiguous circumstances for the reader, the androids rebelled in the colonies on Mars and fled to Earth, which most people are trying to leave.

The reason why the surviving people on Earth are trying to emigrate is the fact that with the possibility of colonizing Mars, they gain the right to own slaves (androids). Dick was thus referring to the formation of the United States itself, which was born of colonization as people fled the catastrophe of European wars of the seventeenth century. The creators of the "American Dream" based their future prosperity on colonization and slavery, and this legacy continues to stain American democracy. Dick returns to this in the description of an advertisement for the colonization of Mars which encourages the earthlings to leave: "Under U.N. law each emigrant automatically received possession of an android subtype of his choice, and, by 1990, the variety of subtypes passed all understanding, in the manner of American automobiles of the 1960s" along with a hint of "the android servant as carrot, the radioactive fallout as stick" (Dick [1968] 2008, 15). This is made more apparent in an interview with Mrs. Klugman, who praises life on Mars mainly because of the feeling of dignity that the ownership of an android gives her:

> "Let's hear from Mrs. Maggie Klugman," the TV announcer suggested to John Isidore, who wanted only to know the time. "A recent immigrant to Mars, Mrs. Klugman in an interview taped live in New New York had this to say. Mrs. Klugman, how would you contrast your life back on contaminated Earth with your new life here in a world rich with every imaginable possibility?" A pause, and then a tired, dry, middle-aged, female voice said, "I think what I and my family of three noticed most was the dignity." "The dignity, Mrs. Klugman?" the announcer asked. "Yes," Mrs. Klugman, now of New New York, Mars, said. "It's a hard thing to explain. Having a servant you can depend on in these troubled times… I find it reassuring" (Dick [1968] 2017, 29-30).

Dick does not just focus on criticizing earlier American history. His friend and fellow science-fiction author Brian Aldiss considered him to be one of the masters of the frustrations of the time he lived in (Zelazny, in Dick [1968] 2017, 7), which explains his authorial skepticism. In most of his novels, he showed readers the world of his fears, and as a result, he is often ranked among the forerunners of tech-noir, a cinematic genre that:

> represents a purely human dimension of the science fiction film, one that casts light on the dark regions of the human heart, and though aliens, monsters, and cybernetic brains may occasionally appear, they are not the soul of the plot. The tech-noir genre hybrid is the black hole of the science fiction film, in which the effects of tainted technology cast long shadows over the resident darkness of the human condition (Meehan 2008, 2).

In the world he created, Dick's criticism of the United States was transformed into a sociopolitical and technological "hell" in which individuals or indeed all of humanity found itself. He did not analyze a priori specific political systems, or only in passing: the references to the Soviet Union and the KGB in *Do Androids Dream of Electric Sheep?*, for instance, were only part of a peripheral storyline. They underlined the fact that despite the technological and societal changes and nuclear catastrophe, the states and regimes he knew would still survive. It could be no different, as he was not doing a deep analysis and "political systems are only useful, to Dick, as long as they can be completely understood by those involved in the transactions they represent. And 'understanding', in this situation, means also a concurrence, an acceptance not imposed by the system, but by the individual" (Barlow 2005, 134).

Dick was deeply affected by the events of World War II and its final outcome. The dropping of atomic bombs on Hiroshima and Nagasaki scarred him so much that a global nuclear catastrophe became the backdrop to the story (Barlow 2005, 15). Nonetheless, American society in the second half of the 1960s lived with a deep internal contradiction, and real concerns about a third World War during the Cuban Crisis of 1962 seemed to be a reflection of the distant past. The hypocritical character of American democracy seen in the form of segregation was transferred by Dick into his novel. The image of a society that humiliates, discriminates against, and kills those it does not consider worthy of being part of it has been present in his depiction of America in the early 1990s. In addition to referring to androids with the pejorative "nigger", he also uses the neologism "andys" which similarly contains both humiliation and contempt. He uses equally offensive labels – "specials" and "chickenheads" – for people who are not suitable for emigration to the New World. Stupid, disfavored, and sentenced to life on a destroyed planet, the "niggers", "andys", and "chickenheads" are not considered as people in society. This begins with an introductory conversation between Rick Deckard and his wife, Iran:

> "I'm not a cop." He felt irritable, now, although he hadn't dialed for it.
> "You're worse," his wife said, her eyes still shut. "You're a murderer hired by the cops."
> "I've never killed a human being in my life." His irritability had risen, now; had become outright hostility.
> Iran said, "Just those poor andys." (Dick [1968] 2017, 17)

For Deckard, "andys" are just things (options) which he "sends to rest" so he can then get money to buy a live animal: "Rick said quietly, 'I don't want a domestic pet. I want what I originally had, a large animal. A sheep or if I can get the money a cow or a steer or what you have; a horse.' The bounty from retiring five andys would do it, he realized" (25). This animal could be an artificial one, but in his eyes this would be on a similar level as an android. The reference to American segregation is mirrored in the attitude toward "specials". John Isidore, a man who is doomed to stay on Earth because of his disability, is looked down upon by people and androids. We can find proof of this in a conversation between Pris and Roy Baty, who are perfect androids that despise "specials":

"Why don't you move in with him?" Roy said to Pris, indicating Isidore. "He could give you a certain amount of protection."
"A chickenhead?" Pris said. "I'm not going to live with a chickenhead." Her nostrils flared. Irmgard said rapidly, "I think you're foolish to be a snob at a time like this. Bounty hunters move fast; he may try to tie it up this evening. There may be a bonus in it for him if he got it done by –" (137).

The place of "specials" in society is illustrated by Isidore's thought processes. He realizes that because of his position, he is doomed to end up as a "kipple": "'Kipple is useless objects, like junk mail or match folders after you use the last match or gum wrappers or yesterday's homeopape. When nobody's around, kipple reproduces itself. [...] There's the First Law of Kipple,' he said. 'Kipple drives out nonkipple'" (66). Dick uses another neologism, "kipple", to describe accumulating waste that will engulf the entire planet and which will eventually include all of those who are despised by society: the "andys" and the "chickenheads".

In the summer of 1967, demonstrations took place across the United States calling for the remaining racial laws to be repealed. During this "long, hot summer", more than eighty protesters were killed and more than two thousand were injured. The cycle of violence seemed unstoppable. In early April 1968, Martin Luther King Jr. was assassinated in Memphis; Robert F. Kennedy was assassinated two months later. In such a socially torn society, a novel was created which, in an image of the future, retold the story of excluded individuals and groups which people despised and denied rights. This was the story of people who society viewed as "kipple".

"ANDYS" AND THE STORY OF HUMAN IDENTITY

With the rise of the popularity of science-fiction films at the turn of the 1970s and 1980s, which was caused by George Lucas's *Star Wars: A New Hope* (1977) and *Star Wars: The Empire Strikes Back* (1980), *Do Androids Dream of Electric Sheep?* received its own film adaptation, *Blade Runner* (1982), which also became a cult work of science fiction. Ridley Scott's film captured the connection between the criminal genre of film noir – depicting a cruel, dark, and dystopian social reality – and cyberpunk, which combined the technological scenes of the future with visible social deprivation and the ubiquitous failing of social welfare and the rule of law. The decade that separated Scott's film from the book may at first glance seem short and insufficient to make a significant contribution to the content of the story. But the United States had changed in the 1970s, which witnessed progress in African-American civil rights along with the end of the Vietnam War and the hippie movement, followed by an economic recession lasting from 1979 to 1982. These events caused shifts in the perception of American society which were transferred to the film adaptation, in which the setting and the relationships between people and androids were changed. The storyline was moved from 1992 to 2019, and from San Francisco to Los Angeles. The city, known for its materialistic lifestyle and constant sunshine, is turned into a dystopian place of unhappy despair. American cities at the turn of the decade were the model for this depiction; crime flourished due to the ubiquitous effects of the economic crisis. Scott's Los Angeles is a dirty

city, which is sometimes illuminated by neon colors. One can feel the alienation, cynicism, and expectations of an approaching end; however, the audience does not learn much about the end and causes of this condition: "The film never specifically mentions the atomic war itself, instead leaving it to our imagination to comprehend how the festering hell-hole of technological overkill and a debased humanity on earth came about" (Williams 1988, 384).

There is also a change in the depiction of the relationship between humans and the genetically engineered non-humans. The script retained their serial designation as Nexus-6, but the pejorative name "andys" is replaced by the more correct sounding "replicants"; nonetheless, the threat they pose to humanity remains. The reasons for the need to eliminate them remain obscure. There are no more "specials" in the film. And the "chickenhead" Isidore acquires a new identity as J.F. Sebastian (William Sanderson). He does not do menial work and is a genetic designer instead. It is precisely the possibility of the genetic modification of humans and non-humans (the improvement of humans and their creations) which is portrayed as a threat to humanity, replacing the nuclear catastrophe from the original version of the story. The issues of colonialism and slavery are not addressed; however, there are mentions of them in the film, as when the android Roy Batty (Rutger Hauer) recalls the experience of living in fear and slavery (*Blade Runner* 1982). Direct segregation disappears from the story even though the "replicants" have no right to live on Earth. Roy and Pris (Daryl Hannah) are aware of their limited lifespan as androids, and they seek answers to questions about the meaning of their existence when they meet "with the Creator" Tyrel (Joe Turkel). They think and feel, but they are not humans. Rick Deckard (Harrison Ford) finds himself in the same situation after killing Batty, asking himself where he is from, where he is going, and how long he will be there. He thinks about the limited lifespan of "creations" and, indeed, of people, and is surprised when the much stronger Roy saves him:

> I don't know why he saved my life. Maybe in those last moments he loved life more than he ever had before. Not just his life – anybody's life; my life. All he'd wanted were the same answers the rest of us want. Where did I come from? Where am I going? How long have I got? All I could do was sit there and watch him die (*Blade Runner* 1982).

Deckard survives, as does Rachel (Sean Young), since Deckard's colleague Gaff (Edward James Olmos) is convinced that Rachel has only a limited lifespan like other Nexus-6 models and lets her live (Eberl 1992). This decision becomes key to continuing the story in *Blade Runner: 2049* (directed by Denis Villeneuve; 2017). The thirty-year shift between the two films was reflected in the story as well as in the political references to the time of its creation. One paradox is that while the Tyrell Corporation has gone bankrupt following several uprisings of replicants (artificially created people), the Soviet Union still exists sixty years after its actual demise. Along with the main character KD6-3.7 (Ryan Gosling), the societal challenges, accumulated fears, and dilemmas of the main protagonists are changing. Dick's Deckard is a man who struggles with the emotions he harbors for ostracized "machines", but Scott's Deckard is looking for the meaning of life and perhaps suspects that he himself is a genetically engineered "human":

> K's dilemma is that he knows full well about his status as replicant: He knows that his memories are implants designed to control his emotional responses, but nevertheless he continues to be compliant. Similarly, we are aware of the social, political, economic, and ecological problems that we face in our contemporary age and can avow this at a conscious level (Flisfeder 2019, 144).

The world that opens up to the audience is astonishingly familiar. References to the climate crisis of the latter part of the second decade of the twenty-first century have replaced the fears of a nuclear catastrophe that had dominated the story in the late 1960s. Furthermore, links to "Trump's wall" can be found in the dialogue as a wall to protect the existing world and separate humans and non-humans. In the words of Lieutenant Joshi (Robin Wright): "There is an order to things. That's what we do here. We keep order" (*Blade Runner: 2049* 2017); this is also a reference to the socially and politically required gender equality that symbolizes our present. There will simply be chaos without order and walls. If the other side discovers that they are no longer dependent on humans for their reproduction, they will complete their own liberation. Under the guise of a migration crisis, a negative view on diversity emerges. K becomes the subject of vulgar attacks ("skin job") not only from "human" colleagues at work but also other ordinary people who, despite living in poverty, enjoy the superiority they have over him because they are people, at least. Characteristically for the time in which the film was made, Villeneuve seeks an answer to the question of the limits of freedom and the essence of humanity, which does not always have only a human face. At one point, Freysa (Hiam Abbass) persuades K to sacrifice himself to save a child. She argues that dying for the right thing is the most human thing he can do. This is because "that baby meant we are more than just slaves. If a baby can come from one of us, we are our own masters". Mariette (Mackenzie Davis), another replicant, adds that it is "more human than humans" (*Blade Runner: 2049* 2017).

Each processing of the search for a place in this world of people and non-people points to the problem of this coexistence. At the same time, the audience does not find out the fundamental secret of what happens when our world becomes theirs as well. Will it be our world at all, or will it be theirs? Can our imagination even picture a world of different kinds of "humans"?

TOASTERS THAT REVOLTED: AND THEY HAD A PLAN!

Robots are machines that make people's lives easier, used for hard and monotonous work, for pleasure, and ultimately for killing (preferably other people). This is a paradox, and it follows a sequence that copies the policies of automation and robotics that began in the 1990s. At first, robots were dominant in engineering, where they routinely replaced human labor; the first decade of the 21st century then saw the advent of drones, which can kill over thousands of kilometers away but which are ultimately controlled by humans. The crisis associated with the COVID-19 pandemic shows that we cannot do without robots in the social sphere; technology also has an important place in the socialization of children. The threat posed by robots and their increasingly necessary presence – indeed, our dependence on them – have become the subject of a number of literary and audiovisual works.

Such a sequence of robotization is depicted in *Battlestar Galactica* (2004–2009) and in its prequel *Caprica* (2010). In addition to suggesting how "toasters" become killers and eventually "people", both series analyze the real social and political dilemmas of our time. *Battlestar Galactica* begins with the "cliché" that humans created robots (Cylons) to make their lives easier. Indeed, "the Cylons were created by humans to make life easier on the Twelve Colonies. They began as simple robots – toys for the amusement of the wealthy and the young – but it was not long before they became useful, and then indispensable, workers" (Carver 2006, ix). The increasingly sophisticated machines, which are used by people for slave labor, eventually revolt and refuse to serve people anymore. They want to obtain freedom by removing their cause of enslavement and thus by annihilating humans. The war waged by the "enslaved" against the "enslavers" is ended by their unexpected disappearance. Nobody hears of them for several years, and people become content to believe that the problem has "taken care of itself". The Cylons, however, have a plan of revenge they want to fulfill, so they launch a surprise attack and almost wipe out humanity. This story of the struggle for human survival is also the story of a struggle with one's own conscience and the formation of a human community after the apocalypse.

The position of the Cylons in *Battlestar Galactica* is different from the humanoid androids in Dick's novel and the subsequent depictions of "replicants"; in both cases, people treat them with contempt. Although they look human, people do not want to acknowledge their "humanity". In *Battlestar Galactica*, humans see the androids from the very beginning as merely machines that have defied their destiny and caused the destruction of humanity, and because people see them as the cause of their fate, they hate them. Despite the intimate closeness and de facto betrayal of humans by Gaius Baltar (James Callis), he does not believe that Number Six (Tricia Helfer), who takes the form of a seductive woman, is a Cylon:

> "You're a machine." He let out a frustrated breath. "You're a synthetic woman. A robot." He let out another breath, which sounded like a laugh but was a cry of pain. I've been sleeping with a robot. A Cylon. No, that is not possible.
> She calmly answered, "I've said it three times now." His answer was anything but calm. "Well, forgive me, I'm having the tiniest bit of trouble believing that, especially since the last time anyone saw the Cylons they looked like walking chrome toasters" (Carver 2006, 70–71).

Kieran Tranter (2007) perceives the story of *Battlestar Galactica* through the prism of an internal conflict between man and machine. This is a conflict which is an integral part of technological progress, in which humanity – although perhaps only the thoughtful part of it – fears for the future and the possibility of coexistence of man and technology. This significantly shifts the perspective of the perception of humanoid androids and their position in human society. It also qualitatively brings to a new level the notion of forming a society which, under the influence of developments, changes its attitudes toward these "talking toasters". Tranter states that what *Battlestar Galactica* offers "is not just a parable of politics and law in the new millennium, or a drama on the faults within 'post-feminism', but it provides jurisprudence with resources through which to approach the technical" (2007, 46).

Caprica (2010) provides an interesting updated approach to political and philosophical discussions responding to the philosophical concepts of post-humanism at the beginning of the second decade of the 21st century. *Caprica* did not experience the success of *Battlestar Galactica*, but it elaborates on the possible causes that led humanity to the situation it would face. Technological progress, the endless desire to control life and not to lose loved ones, and the popular advent of artificial intelligence and avatars can all help change a person's paradigm. Steven Kapica places his own work on *Caprica* "in conversation with post-humanism and the law and proposes that Zoe Graystone's avatar exposes the problems inherent in contemporary constructions of legal personhood; furthermore, it highlights the impossibility of granting full subjectivity to a non-corporeal intelligence within the matrix of humanism" (2014, 612). *Battlestar Galactica* focuses on current issues related to the fight against terrorism as well as its reflections in and implications for liberal democracy, especially human and civil rights, the protection of democracy against political radicalism, and the gradual corrosion of democratic rules. Unlike *Battlestar Galactica*, *Caprica* focuses on how human society got into a "civil war" with the Cylons. There is a reference to how modern society is morally relativized by overlooking phenomena associated with corruption, crime, and the widening gap between generations and social groups. Instead, "*Caprica* presents a vision of the future built from current technological trends and scientific theories, and it adroitly probes contemporary anxieties sparked by the challenges technology presents to human autonomy" (613).

Caprica, *Battlestar Galactica*, *Do Androids Dream of Electric Sheep?* and its film adaptations *Blade Runner* and *Blade Runner: 2049* all tackle a significant political and legal dilemma: the legal status of "non-humans" in society. They show a legal essence, which Kapica also notices:

> Despite this trust in the elasticity of the law, when they ask, "Can current laws comfortably incorporate… new entities," I am inclined to answer no, especially when we consider the vision presented by *Caprica* – a vision that suggests we are still too dependent on humanist figurations to comfortably transition to a robust legal personhood accepting of disembodied intelligences as autonomous, acting selves (618).

Our experience of not being willing to accept otherness as part of society is transferred to science-fiction novels and films, and it forms an important line of conflict between humans and non-humans. The clear definition of sociopolitical realities, which is a reflection of contemporary politics and is present in all works, will eventually break and there will be individual changes in people's behavior, which in turn indicates the authors' belief that society (or at least part of it) is able to accept difference as part of their world. To some extent, this belief in humanity is a reflection of the social changes that are taking place in real time and in real life, which are also observed by the authors of these works.

WHAT NEXT?

Stories about people and non-people are built upon their desire and struggle to become human. But do they really want to be human? Are these ideas not just a reflection of our own anthropocentrism? The judgment of a "talking monkey" about its

own perfection? After all, why would a being that is more perfect than a human want to be human? In the case of Dick's portrayal of Roy Baty, we can see that he does not want to become human; his only desire is to live long enough that his life would have some meaning. We also find the same desire in the Cylon imagination of John Cavil (Dean Stockwell), one of the Significant Seven series. It is he – his model – who longs to destroy all people to the very end. He mocks the efforts of other models to find a way to talk to people and their religiosity, which is a de facto reflection of the faith of the community of people who had created them. Cavil wants to stay a Cylon and thus an extraordinary being:

> I don't want to be human. I want to see gamma rays, I want to hear X-rays, and I want to smell dark matter. Do you see the absurdity of what I am? I can't even express these things properly, because I have to – I have to conceptualize complex ideas in this stupid, limiting spoken language, but I know I want to reach out with something other than these prehensile paws, and feel the solar wind of a supernova flowing over me. I'm a machine, and I can know much more, I could experience so much more, but I'm trapped in this absurd body (*Battlestar Galactica* 2004–2009).

The result of the authors' view of the future in science fiction is a look into our own (often dark) inner world. They offer a critique of the bleak times that we live in and the decisions we make in life and politics. Nonetheless, what we want to know about the future still remains shrouded in mystery. At most, it is a reflection of what is human in us and what human traits we would like to pass on to those that some look forward to yet others fear. After all, "[w]hat it means to be human finally is not so much about intelligent machines as it is about how to create just societies in a transnational global world that may include in its purview both carbon and silicon citizens" (Hayles 2005, 148). Science-fiction authors cannot detach themselves from politics, since how the future state of the world will be shaped by political decisions.

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CITED AUDIOVISUAL WORKS

Battlestar Galactica (created by Glen A. Larson and Ronald D. Moore. USA, Canada, 2004–2009)
Blade Runner: Director's Cut (directed by Ridley Scott, USA, 1982)
Blade Runner: 2049 (directed by Denis Villeneuve, USA, UK, Canada, Hungary, Spain, Mexico, 2017)

From "andys" to "toasters": How has politics affected the view of non-humans in "Blade Runner" and "Battlestar Galactica"?

Science-fiction politics. Dystopia. Non-human. Post-humanism. Corrosion of democracy. Segregation. The world of tomorrow.

This article focuses on the change in perception of humanoid androids in science fiction from Philip K. Dick's cult novel *Do Androids Dream of Electric Sheep?* (1968) and its later film adaptations, to the depictions of androids and people in the struggle for survival and immortality in the TV series *Battlestar Galactica* (2004–2009) and *Caprica* (2010). Science-fiction novels usually outline the author's ideas about the near or distant future of the world with which they are confronted on a daily basis. They usually warn readers of a possible apocalypse or present models of an ideal future society to replace the society of today. However, science fiction is written by real people in a specific space and time who often reflect the social tensions and issues of the time they were created. The depictions of humanoid androids, their position in society, and their desire to break free from their undignified or even slavish positions are, in many cases, a reflection of real policies and the position of today's "others" in mainstream society.

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Homo artefactus and Promethean shame: Reflections on Josef Čapek, Futurism, transhumanism, posthumanism, and the Obvious

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Recent decades have been a time of growing interest in philosophy, art, and literature dealing with technology.* A contemplative awareness about technology is, of course, not an entirely new theme (i.e., Plato, Phaedrus, 1990, 274d–275b), but technology was, until recently, mostly associated with human modifications of the environment. Current technology, however, can be used for modification of the human. This paper tries to relate these notions of technology in philosophy with the ideas of creative technology presented in early 20th-century avant-garde literature and art, particularly concerning the problem of the technologization of humans and posthumanism.[1]

The present philosophical attention to internal employment of technology has been mostly guided, but not necessary definitionally exhausted, by reflections on the current state of affairs of informatics, biology, and biomedicine; it is widely thematized by concepts of human enhancement (Parens 1995, 141), anthropotechnic (Teyssot 1994, 16), and biopolitics in general (Foucault 1978, 139–140). Philosophical attitudes on this topic usually range from categorically dismissive stances (Sandel 2007, 99) and charitably disproving opinions (Buchanan 2011, 14) through to benevolently favorable views (Harris 2007, 19) and even glorifying celebrations of diverse technological modifications that could bring about new forms of a radically transformed life that may or may not resemble humans and their aspirations (More 2013, 4). Indeed, talk about so-called posthumans[2] has become quite common in some philosophical circles.

This paper will attempt to reenact the debate by connecting some of the notions that emerged when posthumans became a topic of discussion in art and literature. For instance, the technological transformation of humans played a rather prominent role in speculations of the 20th-century avant-garde movement of Futurism (Marinetti [1910] 2006), which in turn was tightly scrutinized by many of the cultural critics of the artificialization of modern life. Some critics pointed out that this Promethean promise of a new kind of *Homo artefactus* (Čapek [1924] 2018, 25) could be, for all its worth, also perceived as an artistic expression of "Promethean shame" (Anders [1956] 2016, 31) that is based on a latent embarrassment of humans by the impressive results of modern technology (Hauskeller 2014, 43). This paper

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will try to argue that some of the past and present motivations for creating posthumans are infected by this paradoxical underpinning of the relationship of humans to technology, and it will also try to show that the precursors for this conclusion did not escape the attention of Josef Čapek, who actually proposed the term (Čapek 1933, 12), which is still one of the central tropes for all of posthumanist philosophy, art, and science. This paper therefore tries to bring together robots, posthumans, Josef Čapek, Futurism, transhumanism, posthumanism, and shame. Before continuing with the past, present, and future of posthumans, it is appropriate at this juncture to begin with a story which perhaps best represents the current understanding of humans and technology.

THE OBVIOUS STATE OF TECHNOLOGY AND JOSEF ČAPEK

On 25 October 2018, there was a strange art auction happening in New York. The auction on its own had the usual course of events, but one of the pieces managed to catch some desired attention due to its apparent ambiguity of a general style (Carron 2018) and the absence of a balanced technique (Hassine and Neeman 2019, 20), which raised doubts about its legitimacy at this event. Nonetheless, the piece in question was seen by some as one-of-a-kind, novel, weird, and contemporary enough in its representation for it to be heralded, or auctioned off to be more precise, as an innovative breakthrough in art (Schneider and Rea 2018). The auctioned item was eponymously presented as a portrait of *Edmond de Belamy, from La Famille de Belamy* and had been developed, constructed, and published by Obvious, a Parisian art collective (Christie's 2018).[3] The Obvious collective,[4] however, cunningly claimed that *Edmond de Belamy* had not been their creation, but had in fact been a design made by an unknown entity – artificial intelligence – that had managed to create art[5] (Obvious 2018 [Vincent 2018]).

This posthumanist statement then unsurprisingly provoked some continual furor. The verbal fisticuffs erupted mainly around the intellectual disagreement over the work's originality (Hertzmann 2018), identity (Rosenmeyer 2020, 36), politics (Schröter 2019, 297–311), sociology (Arriagada 2020, 403–404), interpretation (Stephensen 2019, 21–30), the auction itself (Sidorova 2019), the code (Epstein et al. 2020, 1), art (Miller 2019, 119–122), and reality as such (Conte 2019, 20–21). Some of the artists and art critics accused the Parisian collective and the British auction house of a horrible aesthetic (Goodman 2020, 43), communicational misconduct (Elgammal 2018), and even implication for art fraud in general (Hassine and Neeman 2019, 22). Thus, they were banning the non-human *Edmond de Belamy* and his new no-art movement from the realm of true art.[6] Others, however, pointed out the refreshingly subversive and therefore very humorous character of this obvious happening by the Obvious collective and Christie's role in it (Rolez 2019). To this day, the official web page of the auction house still nonchalantly mentions "the oeuvre of some as yet undreamed-of robot Picasso" (Christie's 2018).

Admittedly, the conclusion of that last statement seems false. Obviously, there is not any robot Picasso yet, but there were countless dreams and even night-

mares about "robot Picassos" in the cultural history of the 20th century. Interestingly enough, Josef Čapek, a man who by his nonchalant ingenuity actually coined the term "robot" for his brother Karel's 1921 play *R.U.R.* (Čapek 1933, 12), and ultimately for all of us, was in fact an established Cubist painter (Slavík 1987, 6). Josef Čapek was also a rather prominent figure in heated intellectual debates about the right interpretation of dreams about tools for a new Futuristic kind of being[7] and the new avant-garde movement of Futurism. Josef Čapek's fair liaison with Futurism started with mildly welcoming reviews of the new Italian art movement (1912; 1914). It then culminated in an unsuccessful attempt at painting (Srp 2006, 161) along with the successful creation of fiction (Čapek [1913] 2014) that bore some resemblance to the motifs of the technologically induced deconstruction of human exceptionalism. It eventually ended abruptly with a mocking feuilleton about the comical but grave consequences of the technical seizure of humanness (Čapek [1924] 2018). Ultimately, Josef Čapek had seen it all, one of the essential observations being that he could, if he wished and had the time, note that the many confrontations of the previous on-future-oriented art movement had not been merely verbal (Nezval 1959, 73) or intended as such (Marinetti [1913] 2006, 177).

Regardless, quarrels about the right *nuovo* in modernism had some bearings on the proper understanding of Josef Čapek, who has sometimes been, especially in older anglophone studies, referred to simply as the older brother of the more famous Karel (Seymour-Smith 1985, 376). That being said, the crucial brotherly cooperation of Josef and Karel Čapek is well understood (Katz 2016, 189–191), has been many times referred to (Kussi 1990, 12), and has been celebrated (Ort 2013, 14). Nonetheless, for some authors, Josef is still primarily seen as an avant-garde writer and painter (Sriratana 2018, 10), whereas Karel is described as "the more somber and philosophic from the duo" (Cravens 2006, 502). This kind of conforming juxtaposition of Josef and Karel Čapek is probably understandable from the point of view of the popularity of some of their common works, but it is not entirely supported by further rigorous readings of Josef's complete work and life trajectory (Opelík [1980] 2017; Slavík 1987; Opelík and Slavík 1996). After all, Josef Čapek created a plethora of diverse works including paintings, illustrations, scenic designs, novels, essays, poems, theatrical plays, screenplays, tales, columns, and fierce reviews, all of which provide a sketch of his unique philosophical outlook. Therefore, there is a reasonable disagreement about the correct interpretation of the systematicity of his philosophy (Patočka [1964] 2004, 181). However, it seems uncontroversial to say that Josef Čapek was interested in the study, adaptation, and critique of classical and novel philosophical ideas. The usually supposed inspirations are, for example, the philosophy of vitalism (Sleigh 2009, 241) and French philosophy in general (Opelík [1980] 2017, 292). This paper, however, does not intend to provide a systematic review of Josef Čapek's philosophy and creative work as such. Instead, it takes on a modern, specific yet broader philosophical question that Josef Čapek inspired: Why would anyone want to create a robot Picasso?[8] In other words, and using a contemporary philosophical term, why create a "posthuman"?

TRANSHUMANISM AND THE ROBOT PICASSO

The Obvious collective may well rightfully claim that their artistic intentions where gravely distorted by the workings of the fast media machinery (Caselles-Dupré 2018 [Bailey 2018]). Then again their official manifesto still nonchalantly, albeit modestly self-referentially, states that "humans are limited by creativity and biased visions of the world" and that technology could help us to "overcome these challenges", but that all of this has a catch: namely, the destruction of our "mental barriers" (Obvious 2020, 10).[9] Once the whole process has been concluded, we will have the chance to marvel at a spectacular "machine that is capable of being creative, in the same way a human is" (6); thus, employing a simple metaphor from the manifest of the Obvious collective, this machine "will be capable of creating new examples of Picasso" (7).

However, there also seems to be a noticeable motivational problem for this endeavor. There already was someone who could paint like "a Picasso" – Picasso himself. And as it happens, there already are and will be, albeit only for a definite time, "machines" of a sort (i.e., humans) that can create various new examples, even of Picasso. So why should we try to destroy the limitations and barriers of humans, when humans – despite all their limitations and barriers – are the original creators of Picasso? According to the Obvious collective, the reasons are in providing "knowledge and future perspective to the world" (3) and "reducing the gap between research and applications" (3) that may unveil "true creative potential" (3) and "fresh perspective on different eras, cultures, and human inspirations" (Vernier, Caselles-Dupré, and Fautrel 2020a, 2), or even a new kind of devotion "where science meets with spirituality after these two notions spent so many years being kept apart" (Vernier, Caselles-Dupré, and Fautrel 2020b, 1). However, there also seems to be some (maybe unfaithful) confusion, because technology is seen at one time by the Obvious collective as the "best tool to push our limits" (2020a, 2), while their other statements maintain that "technology itself doesn't have any impact on our society, nor on our lives" (2).

Leaving this aside, it is also clear that the Obvious collective try to cast a curious, playful, and particular outlook on the challenges of the extensive use of transformational technologies. For example, they do not shy away from the critique of the cult-like or reckless approach to current cutting-edge technology in some media, business, politics, and science circles, nor do they seem to ignore the many possible ethical and societal problems that (could) come with algorithmic governance, artificial intelligence, and the big data revolution (2020b, 1). They also do not try to paint their status as "unprecedented", and therefore it seems that there is some human modesty, humbleness, and also caution in their work, albeit only when their manifesto and reports were not written by AI.[10] It therefore seems apparent that they follow the path of theory that philosophers usually distinguish as "moderate transhumanism" (McNamee and Edwards 2006, 514), which is nowadays a prevalent and somewhat dated philosophy of some of the technoscientific and biopolitical communities (Frodeman 2019, 96). The common idea behind this type of philosophy is simple and maybe even old-fashioned: to understand a human, you must produce or emulate as many creations of a human's abilities – and *the* human itself – as possible.

FUTURISM AND THE MECHANICAL PICASSO

Nevertheless, there seems to be a bolder, and therefore also more challenging, solution to the problem of the capture of the supposedly elusive essence of humans. The radical Futuristic solution commonly believes that if you do not understand the old human, then it would be probably best to create a completely new one. The more the human is new, the more he will be reasonable, intelligible, and variable. According to Futurism, which was one of the traditional takes on this Futuristic solution, humans, whatever they actually may be, should not hide behind some substitutional tales about the social wellbeing of their wildest creative ambitions and dreams (Marinetti [1910] 2006, 86). Futurists assumed that it would be much franker to argue that humans should persistently try to accelerate the process of a new kind of transformative creation, because actual beauty, and the beauty of the process, is always in speed (Marinetti [1909] 2006, 13). Thus, the idea of the Futuristic refashioning of the universe (Balla and Depero [1915] 2009) presented in orthodox Futurism aimed at nothing less than the creative reconstruction of all parameters of humans, nature, existence, and the universe as such. This grandiose plan had some obvious limits, to put it mildly, especially if you recall that neither Marinetti, Balla, Depero, nor the other Futurists at the time could not have known that there were, for example, other galaxies.[11] Nonetheless, the philosophical grounding of Futurism was based on some definitive (even if loosely defined) prerogatives.

Futurists typically believed that the center of any exuberant creation was essentially bound by the understanding of the designer himself or herself. This creator could have many forms – e.g., an engineer, a scientist, an entrepreneur, a poet, a painter, or a worker – but all of these and other forms were epistemologically established by Futurists as the many particulars of the only true ontological idea, the idea of the artist (Marinetti [1909] 2006, 15). Thus, the Futurists believed foremost in the important reality of the creator – the artist – and hence themselves. However, Futurists have also taken note that the central role of the artist as the creator must have some apparent limits – specifically, the limits of the creator himself. Therefore, if the whole point of the Futuristic process of creation should consist of a new yet unfathomed reality, or the reestablishment of the universe as such, then the logical prerequisites of this gigantic task also require an analytical reconstruction, systematic deconstruction, and determined destruction of the limits of the creator. This has led to some disastrous political decisions on the part of the Futurists (Gentile 2003, 41–45) but nonetheless has also established a central trope of Futurism, specifically the figure of an all-encompassing transformation through technology (Marinetti [1910] 2006).

The mechanical speculations of the Futurists were, as in other matters of Futurism, primarily guided by the narrative of conflict. Futurists believed that the creative aspect of the creator can be endangered twofold. First of all, chaotic nature has to be tamed by the rationale of the tools of the artist. Nature is the primal limit of the creator and the creation, while technologies are the secondary – yet still essential – "natures" of the artist imposed upon primordial nature (Balla and Depero [1915] 2009, 211–212). From this Futurist point of view, all of humankind's attempts at derivative yet existentially adamant technological natures should be celebrated

only when they keep the nonderivative, yet existentially compromising, "natural" nature at an impasse. Thus, Michelangelo's *Pieta* – or the speeding automobile, to use the chronic example of Futurism (212) – are both beautiful since they deify the limits of the marble in the example of the sculpture, the place in the example of the passenger, and nature in the example as such. This, however, also means that if all of these second natures are not beautiful per se, then they can quickly become ugly, especially when they somehow halt the creation of other complex natures that could bring about new and more effective forms of natural restriction or artistic expression. And as nature, by its chaotic temper, always fights back, then all of the old forms of natural domestication are only temporary and thus chronically dubious and unsuccessful in the eyes of Futurists (Marinetti [1909] 2006, 15).

The Futurists' squabbles with their forefathers were, however, only a prelude to a second breakdown of the endangerment of the creative aspects of the creator. All of the creative tools, regardless of how advanced they might be, are characterized by an extensional power that not only refashions nature and enhances humans, but which also delimitates the whole creative space of nature and humans (Marinetti [1910] 2006, 85). Even if the extensions are used by humans with loving intentions, then the technologies in the end always are what they are – an exclave of the power of the creator. This externalization of the power of the creator was also seen by Futurists as the prima facie confirmation of the ongoing ontological weakness and existential absurdity of humans (86). Thus, Caravaggio's tenebrism – or the electrified city, to use another chronic example of Futurism (Marinetti [1909] 2006, 15) – are exceptionally radiant yet nonetheless constant reminders that humans cannot see in the dark. The touch and comfort of the human body and soul are not enough. By contrast, Futurists proclaimed that humans should not be seen only in the role of benevolent opposition to technology, but most importantly as the possible infinitum of technology, the machine, and the absolute (16). Marinetti's famous erotic encounter with an airplane ([1912] 2006, 107) was not proposed by the Futurists merely as a thought-provoking metaphor for the propelled destruction of the syntax (108); it was also intended as a normative attempt at the salvation of creativity before humans' existential fragility and anthropocentric entrapments. Every divide between human and technology must come to a halt; hence man must become a machine. Or, to put it more expressively, according to Futurists, humans should desire to create "[a] non-human species, in which moral anguish, goodness, affection, and love, the singular corrosive poisons of vital energy, the only off-switches of our powerful, physiological electricity, will be abolished" (Marinetti [1910] 2006, 86).

HOMO ARTEFACTUS AND PROMETHEAN SHAME

Perhaps humans should not desire to create such a species, even though it is quite clear that such allusions and projects may have more interpretative layers. From a local and absorbed point of view, there is some rather ostensible curiosity involved in the "provocative emphasis" (Čapek 1912, 175) of Futurism on the need for a new era, a new man, and a new nature (Čapek [1924] 2018, 9).[12] This curiosity, which is usually celebrated as an essential prerequisite for imaginative artistic creations,

reached new heights in declarations of Futurism, as it was primarily seen as the core principle of the whole movement; thus, Josef Čapek's take on the emergence of Futurism was at first marked by a gentle defense of a new kind of misunderstood artistic expression (1912, 174–175) that, in his opinion, had the "exceptional power of modern comedy" (1914, 141). This mildly welcoming opinion was not shared by everyone and therefore subsequently led to Josef Čapek's removal from the position of editor-in-chief of the journal *Umělecký měsíčník* (Art Monthly) and the well-known conflict with Skupina výtvarných umělců (The Group of Visual Artists; Lamač 1988, 184). The main disputes between Josef Čapek and some of his artistic peers lay in their differing opinions on the rigidity of Cubism, the innovativeness of Cubo-Futurism (Vichnar 2019, 88), and the definition of art in general (Opelík [1980] 2017, 98). For Josef Čapek, Cubism was not the end of art, but rather more of a means for art, even though he continued to be devoted to the Cubist fashion (Srp 2006, 165). Josef Čapek's disagreement about the permitted expressions of art, however, was also guided by a wider standpoint, specifically a philosophical one (Čapek 1912 [Opelík 2017, 99]).

From the global and more reflective point of view, it is also evident that Futurism's artistic expressions were not merely descriptive; they were also categorically prescriptive, as was declared many times by the Futurists themselves (Marinetti [1910] 2006, 86). From the start, Josef Čapek had also taken note that the idea of a speedy mechanical reinvigoration of Picasso can be, for sure, quite amusing, but that the actual prerequisites and consequences of the realization of this concept may vary because the required "compositional destruction" (1912, 176) may not have definitive "limits and endings" (176). The conundrum lies in the straightforward logical absurdity that depends on the inconsistency between the advertised premises (see Čapek [1924] 2018, 9–14) and the illustrious conclusion of such a radical Futuristic undergoing (51–60).

The first problem of this kind of approach to humans, posthumans, and reality as such depends on the doubtful validity of the conjunction of the premises. The whole approach seems to be based on the contradictory assumptions that (1) humans somehow are able to create marvelous works, and by this they are praiseworthy, and that (2) these same humans and works are in some way still perceived, to put it bluntly, as despicable. For sure, the inconsistency of the conflation of these premises could be solved by the abandonment of one of them, but then the motivational impetus for the whole future of this kind of *Homo artefactus* would diminish (25). If one accepts only one of the sides of the conjecture, then people really are that creative, intelligent, and thus not suitable for abolishment, or, if it is simply true that humans are so unoriginal and dull, then their attempts will inevitably fail. Hence, the first problem of Futurism and some of the radical Futuristic attempts at creating something beyond humans consists of the melancholic yet bipolar understanding of the human as a foolish genius. This is a modern paradoxical state that was later coined by Günter Anders as the attitude of Promethean shame ([1956] 2016, 31).

The chronic oscillations between these two poles, however, can very quickly lead to stark existential fatigue. The answer to this state then is the second point, where

plenty of on-future-transformation speculations and philosophies usually differ. Futurists believed that the right response to the human tragicomedy lies in the establishment of a new kind of comedy, or rather a perilous type of novel tragedy (Marinetti [1912] 2006, 107). This reasoning was dependent upon assumptions that in the end all human problems require some unprecedented non-human solutions. The most radical of the Futurists thereafter concluded that the maximal non-human solution for the human is consistently *the* non-human, which some of them, by merits of extrapolation, saw or provocatively marketed as an a-human (Marinetti [1910] 2006, 86).

However, there are other options for the human transformation if one wishes. First of all, you could paint the transformation rosier or make it more earthbound. This type of creative expression maintains that the required non-human solutions are performed solely for the sake of humans. These interventions (in the broad sense) are presented as the means by which humans are enhanced, upgraded, and uplifted. Thus, these solutions, which are usually coupled with some kind of exciting and ground-breaking possibility of technology, are seen as the prima facie enablers for novel human self-understanding, self-knowledge, and self-creation (Obvious 2020, 3). However, it would be much more honest to claim that these adventures are undertaken more for the sake of the exact understanding of technology than for the comprehension of humans, who sometimes only play the role of an experimental space for this option. Be that as it may, the conclusion still remains that with this solution humans are also seen as something to be radically transcended,[13] even though this change is presented gradually with slogans about the most humane intentions for an upgrade of humanity. Hence, intentions that are depended on the axiom of the understanding of humans as something insufficient for this or another impending world.

POSTHUMANISM AS THE CONCLUSION

There is another solution. Maybe the problem is not the human, but our understanding of the human as such. Because even if something about the human has to change, then it could be the change of the human as well as the change of the understanding of the human species and its misguided place in the deceptively hierarchical structure of the "Great Chain of Being"[14] (Ferrando 2019a, 94). The current philosophy of posthumanism believes that the downsides of the human, and skepticism about the past, present, and future situation of the human species, are most likely prime examples of the crucial downsides of the philosophy of humanism and anthropocentrism. According to posthumanism, the Western metaphysical tradition of humanism requires humans to see themselves as unique, special, and radically different from all other forms of life and matter (Schussler 2020, 26). The supposed extraordinariness of humans can hardly, however, be preserved in the face of mundane global reality. Therefore, humans confronted with this veracity generally opt for the strategy of sharpening some of the remaining differences through the destruction of others (the catastrophic exploitation of nature) or the destruction of themselves (the technologically induced post-biology of robotic Picassos).

As a result, some of the motivational assumptions about the creation of the posthuman are built upon a disastrous stigmatization of the human by humans that envy the hypothetical superiority of the technological other. What is then the solution of posthumanism?[15] Everything is equal but not the same, such as the human's shame before the posthuman.

NOTES

[1] For a broader review of the relationship between the discourse of philosophy, art, and literary science, see Papoušek 2018.

[2] I will use the term *posthuman* in an unrestricted manner. For a current analysis of the technological and ethical modalities of the posthuman, see Sýkora 2019. For an informative review of the narratives about the sublime hybridization of the human and posthuman, see Kotásek 2015.

[3] The portrait *Edmond de Bellamy* was created with the help of the algorithms of the generative adversarial network (GAN) technique, which is a subtype of machine-learning technology. The framework of this technology was originally proposed by Ian J. Goodfellow and his colleagues (2014). The GAN innovation for the purpose of generating artworks was introduced by Alec Radford, Luke Metz, and Soumith Chintala (Epstein et al. 2020, 1), and the configuration of the GAN code for the creation of art-style images was originally performed by Robbie Barrat (Vincent 2018).

[4] The Obvious collective is a collaborative project by Gauthier Vernier, Hugo Caselles-Dupré, and Pierre Fautrel.

[5] For a similar approach in literature, see the electronic text composition project Erica T. Carter (Carpenter 2004) or the current anthology of Liza Gennart (2020) developed by Zuzana Husárová and Ľubomír Panák.

[6] A substantial review of the general problem of the relationship between AI and art is beyond the limited scope of this paper. For a recent topical survey, see Démuth 2020.

[7] Alessandro Catalano (2013) points out that Karel Čapek's knowledge of Futurism may have played a role in the development of the concept of robots famously introduced in the play *R.U.R.* (1920). Catalano specifically mentions Marinetti's play *Poupées électriques* (Electric Dolls), which was published in 1909 and contained a preface on Futurism (Bohn 2018, 449). It was not possible for the present author to locate any definitive proof of Josef Čapek's knowledge of that particular play, but if Catalano's allusions are correct then it seems probable that Josef may have also had an early awareness of Marinetti's idea of electric automata and their narrative place in Futurism.

[8] For the nomenclature of Josef Čapek on this matter, see his notions of robots and *Homo cubisticus* ([1924] 2018, 31–36).

[9] The manifesto is published on the official website of the Obvious art collective (http://obvious-art.com/wp-content/uploads/2020/04/MANIFESTO-V2.pdf). This document is the second version of the manifesto and was published in April 2020. The digital library of the Internet Archive (https://archive.org/) shows that the first (now obsolete) version was published in July 2019, probably in connection with the introduction of the new Obvious project *Electric Dreams of Ukiyo*. The archive also indicates that the first version of the manifesto is still accessible at https://drive.google.com/file/d/1esAOv8MsVzYH9njGmHnqUdgPh4aFDVvK/view. There are some differences between these two versions, but this paper will stick to the present version of the Obvious manuscript (2020).

[10] It is not the intention herein to imply that the experimental application of collaboration between literature, language processing applications, and AI precludes creativity or originality. For a review of the idea of digital postmodernism, see Pisarski 2017.

[11] Definitive proof of the existence of separate galaxies beyond the Milky Way was provided by observations performed by Edwin Hubble from 1923 to 1928 (1929, 103).

[12] Josef Čapek's study of Futurism was formed through his general knowledge of the works of Marinetti (Gwóźdź-Szewczenko 2011, 158). For example, the introduction of Josef Čapek's feuilleton *Umělý člověk* (Artificial human/*Homo artefactus*) directly quotes ([1924] 2018, 10) a passage from Marinetti's "Technical Manifesto of Futurist Literature" (cf. [1912] 2006, 111).

[13] For an illuminative examination of the relationship between technology, religion, and mythology, see Frunză 2019.

[14] Francesca Ferrando believes that the hierarchical concept of the *Great Chain of Being* is rooted in Plato, Aristotle, and the Old Testament, and was, with contextual modifications, passed on to modern philosophies that are based on the concept of the biological constitution of humans (Ferrando 2019b, 647).

[15] It is interesting to note that the bibliography of Ferrando's pivotal work lists (2019a, 235) Karel Čapek's *R.U.R* (1920) as a source. However, there does not appear to be any specific reference to Karel Čapek in the body of the text of *Philosophical Posthumanism* (2019a).

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Homo artefactus and Promethean shame: Reflections on Josef Čapek, Futurism, transhumanism, posthumanism, and the Obvious

Josef Čapek. Futurism. Transhumanism. Posthumanism. Artificial intelligence art. Robot. Posthuman.

This paper is focused on an analysis of Josef Čapek's notion of technology and his scrutiny of the conflicting nature of the avant-garde movement of Futurism in relation to the contemporary assumptions of the processual philosophies of transhumanism and posthumanism. The analysis is reconstructed in the narrative setting of the technological and methodological hybridization of the categories of the human and posthuman (*Homo artefactus*) and is inspired by Josef Čapek's approach to a specific philosophical question: Why would anyone want to create a posthuman, a "robot Picasso"? It is argued that Josef Čapek projected that some of the motivational assumptions about the creation of posthumans would be built upon the inconsistent stigmatization of the human by humans that envy the hypothetical superiority of posthumans (i.e., Promethean shame).

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Toward a bioethical perspective for posthumanist aesthetics: Bioart as an example

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> To be or not to be genetically modified?
>
> Francesca Ferrando (2019, 127)

> Should there be limits to what artists may do with biological materials in the name of art? These questions require reflecting upon the tensions between the values of "free expression" typically extended to art and artists, and ethical limits that have emerged in the biosciences due to some noteworthy failings of scientists in the past.
>
> David Koepsell (2017, 71)

Rapid technological development has provoked fears regarding the safety of technological applications.* In the field of information and cultural technologies, access to the text generator GPT2-AI (for the creation of news reports or fiction) was recently discontinued due to fears of potential abuse (Rosenberg 2017; Hern 2019). Bioethicists earlier pointed out the potential risks stemming from biotechnology (Bostrom 2002). In publications dealing with these issues, the warning of Jeremy Lanier was often repeated as to whether one should do all that one could (Vaage 2016a), but after the most recent development in gene editing (CRISPR-Cas9) was introduced to clinical practice, it became necessary to reformulate this issue in order to make this introduction as careful and safe as possible (Sýkora 2019).

The influence of information technology and biotechnology on the transformation of Homo sapiens in the direction of a hypothetical posthuman person (Huxley 1957; Bostrom 2008) or being has been postulated by members of the transhumanist movement, which today is chiefly represented by the +HUMAN organization. Some authors (e.g., Hayles 2011) have expressed doubts over the overly optimistic promises of information technology regarding its ability to transform the human consciousness into artificial intelligence (AI). Furthermore, as biotechnology allows for the possibility of modifying the genetic line of Homo sapiens, bioethicists warn that futuristic transhumanist visions have to be taken seriously and discussed in the present (Porter 2017; Sorgner 2010).

Transhumanist visions were nourishment for the popular imagination, especially in the 1990s (Bolter 2016; Troffoletti 2007). Bioartists have used biotechnology

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and living organisms continually since the 1980s, but "transhumanist art" posited within transhumanism (Vita-More 2018; Bostrom 2008) has not managed to penetrate much into the art world or establish itself there. For this reason, artworks that experiment with biotechnology are created and interpreted chiefly within the context of the posthumanist intellectual mainstream (Simoniti 2019) or in posthuman aesthetics (Ferrando 2016 and 2019). The goal of this study is to explore to what extent and under what conditions bioethics can, as a careful overseer, penetrate into the space of posthuman aesthetics, including the use of DIY strategies as a mode of transfer of scientific and technological knowledge to the general public and their participation in deciding on the future of the genome, and consequently of Homo sapiens as such. It does this using the example of bioart, which has expressed itself through biotechnology.

THE POSTHUMANIZED SOCIETY AND QUESTIONS OF BIOETHICS

The posthumanized society is most commonly presented as an imagined future where human beings are more "computerized", becoming further and further integrated into artificial devices and systems, and computers are more "humanized", especially in terms of acquiring social, emotional, and learning abilities (Gladden 2019). In this process of social transformation, one will be able to witness the creation of highly sophisticated social and emotional robots, embodied AI, artificial life, self-organizing and self-directing computer networks, avatars in virtual worlds, and other artificial forms of intelligent cyber-physical social agents (Gladden 2019). In this vision, the development of the "natural human" is given only a modest role; in Gladden's categories, this would be the "meta-human" as a genetically improved society of Homo sapiens.

Peter Sýkora (2019) recently pointed out the need to re-evaluate the underappreciated significance of potential biological changes shifting toward a posthuman population. Sýkora argues that "we can expect the creation of a posthuman being from directed genetic engineering, the field of biology, rather than the uploading of minds into non-biological media, as suggested in information and communication technologies, and therefore it [...] is of great importance to direct the attention of posthumanist discourse in this direction" (513). This position is based on an interpretation of the long-term results of processes of gene-editing technology as well as the reaction of experts to the first clinical application of CRISPER-Cas9 technology for human genome modification by the Chinese scientist He Jiankui. Experts called this clinical use of technology "rushed", and it led as pointed out by Sýkora to the creation of:

> a joint declaration of several renowned biologists and bioethicists from various countries calling for a global (temporary) halt (moratorium) on experiments which would lead to the creation of genetically edited children. This halt on further experimentation is to "permit discussions about the technical, scientific, medical, societal, ethical, and moral issues that must be considered before germline is permitted" and "this period would provide time to establish an international framework" (Lander et al. 2019 [2019, 511–512]).

In further continuations of this discussion, the voices and arguments of bioethicists (Mackellar 2019; Vijlbrief et al. 2020) can be heard. This article discusses one important postulate from these discussions: the restrictions on the use of technology used in "free"/"limited" art creation (Macneill and Ferran 2011).

Until the clinical use of CRISPR-Cas9, biotechnology was an internal matter for research institutions; however, the effective application of germline modification made it a "quintessentially public issue". In this context, it is necessary to place this technology in the public sphere and make scientific results accessible to the public within a public dialogue, while concurrently encouraging scientists to take responsibility for their research's effects on society (Vijlbrief et al. 2020). The Geneva Statement on Heritable Human Genome Editing describes the conditions of public dialogue in greater detail. It argues that the discussion must be public, global, and inclusive, and should not become dominated by the voices of scientists developing new technologies; instead, it should include experts from the fields of the social sciences and humanities, law, politics, and the wider circles of organized civil society and public institutions (Andorno, Baylis, Darnovsky et al. 2020).

Independent initiatives from academic societies have spoken out in favor of the transfer of such scientific information to the public through international networks and online presentations of research (Jasanoff and Hurlbut 2018). Simon Burall, an expert on dialogue between science and the public at the Citizens and Science program, recommended some methods on how to further the popularization of CRISPR technology among a broader audience. According to him, specific potential technological applications may be very controversial; therefore, national governments and decision-making parties should solve them with a "new engagement" whereby the public can influence the degree to which political leaders are informed and subsequently influence their political decisions. In the process of building a new engagement through public awareness and explaining the scientific foundations of gene editing, it would be advisable to use methods that have proven useful in prior recent innovations "through news stories, at science festivals, in public lectures and in museums" (2018, 438–439). From the perspective of science festivals, this "new engagement" is useful in explaining the practices relating to posthumanist aesthetics.

As an example, the "Introduction to Posthuman Aesthetics" (Leopoldseder, Schopf, and Stocker 2019, 247) project presents an application which permits experimentation across a broad spectrum of fields, supports the sharing of knowledge with the wider community, references the processes of the democratization of science, and supports methods of independent research in the form of DIY home experiments. Here the subject of creative work is more than just the human being; indeed, "the toolkits question the creativity of non-humans and do not presume humans to be the only creative force at work" (247). This direction of posthuman aesthetics casts doubt on "positive science", but it also redirects scientific activities to various societies and subjects – such as the "science citizen" and scientific knowledge of local and ethnographic groups and shamans – and it highlights the use of animals and machines in the scientific process (Domańska 2013, 24–26). Posthuman aesthetics focusing on the "I" (subject) as no longer holding the central position through which

all is perceived and presented have not yet been confronted with the challenge to accept or implement a horizon of academic bioethics which would primarily – from a historical perspective in bioethical discourse – make reference to healthcare provision in poor material conditions. Bioethics thus searches for the meaning of the subject in the context of their abilities in the field of rational decision-making in situations of strong emotionality,[1] while also considering social, political, and cultural commitments and restrictions (Botbol-Baum 2015).

TRANSFERRING SCIENCE AND BIOETHICS TO THE PUBLIC

How ready is the art world for the transfer of science and bioethics to the public? To answer this question, it is necessary to reference the reproduction of art media and artworks which reach into biotechnology and bioart as a means of expression. Over the past few decades, there has been a well-established opinion in academic and artistic practice that art has carved its way out of traditional art history disciplines and that the antiquated "techné" no longer avoids the sciences and modern technology. From a historical viewpoint, this can be seen as a paradigm shift most poignantly analyzed by the critic Arthur Danto ([1997] 2013); despite the contemporary backlash, he gave a philosophical context to art using items of convenience and new technologies such as the digital camera. Danto emphasized that since the mid-20th century, and with increasing regularity, projects were being created which grasped for means of expression outside traditional art media such as painting and sculpture. He suggested that for the history of Western European art, the search for an answer to the age-old philosophical quandary of "what is art" had lost its meaning. For these reasons, he perceived current art to belong to the category of "after the end of art" (1997). Instead of pursuing artistic values in the context of evolutionary changes and transformations, Danto proposed the image of a vascular bed containing various philosophically reasoned artistic objects, solutions, and activities. And thanks to this paradigm shift in the world of art, various art initiatives, and experiments were launched for the furthering of artistic methods and means in science and technology that could also be considered as artistic phenomena.

One example of these projects is EAT (Experiments in Art and Technology), which was founded in 1966 by the artists Robert Rauschenberg and Robert Whitman alongside the engineers Billy Klüver (Klüver and Martin 2003) and Fred Waldhauer; all of them were intrigued by the potential application of technologies in art. The main goal of EAT was to document the success rate of cooperation between artists and the scientists providing them with new materials, such as plastics, resin, video, electronic technology, and computers, which at that point were usually only available to research institutes. This organization allowed for experimentation with cutting-edge technologies such as chat links, cable televisions, faxes, lasers, and digital graphics. Indeed, Robert Rauschenberg's *Oracle* (1962–1965) sound sculpture was still being exhibited as of 2021. Similar initiatives focusing on digital art emerged concurrently in Europe, such as the Institut de Recherche et Coordination Acoustique/Musique in France (which was founded in 1969) and the Ars Electronica festival in Austria (which has been held since 1979). The annual reports from the festivals show how artists searched for means of expres-

sion in electric and then electronic New Media, where ultimately the concept of biomedia developed. These media can be "wet", i.e., in some way "alive" – using live tissue and cells as "Live Art" (Bakke 2014) – or "transgenetic", meaning that they use the genetic information in live tissue or as the content for electronic information in a "live system". A more general name for this sort of artistic direction is simply "bioart".[2]

In relation to the question of how the art world has prepared to transfer bioethics to the public, it is worth emphasizing that to this day there have been few projects that have directly reacted to the need to acquaint the public with bioethics; such works have mostly been focused on health, health care and similar areas. In this context, the relevant literature[3] refers to the Art + Bioéthique project (Couture et al. 2017), which took place in Montréal and initiated cooperation between bioethicists, art historians and artists with the aim of expressing bioethics through arts and starting a public discussion on bioethical issues through the blending of arts and bioethics. Smaller events took place in the form of exhibitions, as well as a workshop and a platform that combined artworks, essays and cultural and scientific mediation activities directed at the general public as well as illness-support groups. Some authors refer to the difficulty of interdisciplinary communication between authors – bioethicists and artists – in order to achieve an artistic and bioethical consensus.

These projects and similar ones have used various media such as literature,[4] film, visual arts, theater performances, and art workshops to present topics that highlight issues of the relationship between art and bioethics. The analysis of this relationship yields a relevance for both disciplines. For bioethics, the "experience of direct engagement", "direct involvement", and the familiarization with new discursive and narrative forms alongside the aesthetic values of art has been useful in balancing out the dominant features of bioethics (mind and rationality) (Macneill 2017; Chambers 2005). On the other hand, those limitations which, as regulatory and bioethical postulates (Vaage 2016a), dominate bioethicist discourse can inspire art discourse on a theoretical level (Macneill and Ferran 2011). This postulate debating "restrictions" in the practice of art was formed by the bioethicist Paul Macneill as part of the Art and Bioethics framework discussion at the World Congress of Bioethics in Singapore (Macneill and Ferran 2011). Ionat Zurr also meaningfully contributed to the discussion with her analysis of limitations "handed down" by the bioethics commission on art projects undertaken at SymbioticA (Zurr and Catts 2014), a laboratory established in 2000 at the School of Anatomy, Physiology, and Human Biology (now the School of Human Sciences) at the University of Western Australia which, according to the initiators, was focused on exploration and speculative research into the application of various biological and biotechnological tools and materials as a means for artistic expression (Zurr and Catts 2003).

RESTRICTIONS AND LIMITATIONS ON BIOART

The "limitations" from the ethics commission which Zurr referred to would be more accurately described as questions to the "ethics commission" regarding art research projects realized at the SymbioticA laboratory. Answers to the questions and their evaluation by the commission were part of the approval process for the imple-

mentation of projects, making them accessible to the audience which is analogous to the approval process for scientific projects by Human Research Ethics Committee (HREC).

If we are to treat questions and answers ("limitations") as a crossroads between art and science from a bioethics perspective, we can identify two to three categories of issues. In the interest of clarity, these will be defined in reference to one of Stelarc's projects:

1. Safety checks for scientific projects: (a) securing raw materials (such as blood, cells, tissue, laboratory animals, and the artist's skin) and the question of whether this would be in line with regulations pertaining to research on humans and animals as well as regulations for acquiring cells and tissue; (b) determining the scientific contribution of the project in terms of improvement of research processes; and (c) determining the contribution for the furthering of understanding of the technology.
2. Safety checks for audiences exposed to exhibited projects: Stelarc's project of transplanting live cells (acquired in accordance with the rules) into an implant of biodegradable polymers, which created a quarter-scale replica of Stelarc's ear on his forearm; this was evaluated on ethical[5] grounds of "when and why the audience should be protected" and whether "the integrity of the body was maintained." (Zurr and Catts 2014, 208).

The solution to the first issue was found with the assistance of the audience. The second issue was defended with reference to the "technology understanding" requirement, and the project showed the possibilities stemming from the manipulation of living systems and the fact that tissue can be kept alive even when apart from the human body.

3. The identification of non-scientific characteristics: this is analogous to the aesthetic function of a project or artwork. Stelarc's project was designed so that the audience would be encouraged to reconsider their preconceived notions of "living" systems and the perception of "life", using the context of the presented concept of "partial life": the replica of the ear. The audience was to reconsider what it meant to be alive.[6] The project thus prepared the foundation for further philosophical and ethical aspects of discussions about life and being alive (Zurr and Catts 2014).

If we were to accept such a typology of "restrictions"/"limitations" on projects which are both artistic and scientific, the aesthetic function of a project or work may be linked to the "contribution for understanding technology" (209) which the project presents in the context of aesthetic categories and the theory of culture. Aesthetic categories would include "symbolic meanings", "irony", and the "grotesque" (209), and the theory of culture would include alternative bioethics (Zylinska 2009 and 2013) and discussions with the audience which, beyond simply transferring scientific knowledge (Vijlbrief et al. 2020; Burall 2018; Domańska 2013) would also invite the audience to alternative stances, the reconsideration of stereotypes, introspection, and a reflection on the bioethical aspects of technology presented in given bioartworks (Zurr and Catts 2014; Macneill 2017).

When focusing on the aesthetic function of a project performed in a laboratory – indeed, "on the edge of biology", a description suggested by Nora Vaage (2016b) – multiple questions emerge: is the author of the artwork an individual or a collective? Are the scientists and/or bioethicists co-authors? (One can find analogous discussions in the field of digital art.) To what degree is it important to differentiate between the medium (carrier) and the used technology and laboratory equipment (the medium tool)? How can we identify the bioartwork's aesthetic function (Mukařovský, [1936] 1971)?[7] Can it be linked to the medium itself (carrier), as well as the techné, that is, the methods of application of particular tools according to laboratory processes (device), and ultimately the information channel (when the artist explains in discursive form the "operation" and meaning of the project)? (Macneill and Ferran 2011) (Presently, bioart conceived of in such a way is consequently labeled "hybrid art".) Does the aesthetic function have to be connected with the conceptual "use" of both scientific knowledge as well as biomedia? (This is often posited when discussing the vanishing border between art and science.) Must the artistic intention of the author be kept in mind? And how does the artistic intention differ from the scientific intention of a project? These questions can only be partially answered by bioart publications. A more thorough analysis may provide the foundation for a further elaboration on relationships between the aesthetic function of a project and its scientific contribution, and consequently the evaluation of a bioart project. That, however, is beyond the scope of this article.

Since 2000, when the first biophysics laboratory (SymbioticA) opened up to artistic initiatives, the process of perception and the sensitivity to bioethics have deepened in multiple directions. In terms of the process of the creation of bioart, the process of cooperation between science institutions (which provide technology) and the procedures of making projects accessible to the public in galleries (as a part of public ethics) and at science festivals have developed to a point where they are a conduit of science to the audience and public at large (Hiebert 2017). In the decade since the World Congress in Singapore, the presence of bioethics perspectives on bioart projects has become more precisely articulated, as is apparent from safety requirements at events and festivals such as Ars Electronica (Zawojski 2015), the exhibition areas of MoMa (Aristarkhova 2010), and most recently at the "Art's Work/Genetic Future" exhibition and in the dedication in its catalog. The exhibition's organizers (North Carolina State University) and the curator Hannah Star Rogers (2019) presented works dedicated to the genetic future of artworks as a set of works ranging from those created with traditional media up to projects on "art about ethics in the genomic age" (Mulligan 2019).

Presently, hundreds of artists across the globe are working with living material and creating "living artworks" (Vaage 2016b),[8] hybrid art, and "bioart" (Macneill and Ferran 2011). All these projects fall under the definition of bioart:

> Bioart, in the strict sense, is a very young and ethically controversial form of art, which works with live tissues, bacteria and living organisms; in the broad sense, it might include artists who address biotechnology merely from a symbolic or conceptual perspective. The connection between Posthumanism and bioart is complex (Ferrando 2016, 7).

Multiple bioartworks have been created in connection with CRISPR technology on both the symbolic and conceptual levels; two such projects include "Genetics Gym" and "Made Do and Mend". Directly in response to the clinical application of CRISPR by Jiankui, the British artist and designer Adam Peacock created the "Genetics Gym" project. It was exhibited at the Science Gallery in Melbourne in 2018 and asked the question "Would you CRISPR your genes?"[9] The fact that the use of gene-editing permits for a world where individuals would be able to modify their DNA at will (Murillo 2018) is relevant to the art world, and is even "distressing", according to Peacock.[10] The "Genetics Gym" project was presented by Peacock in opposition to efforts by transhumanists to influence the transformation of humanity and the freedom to decide on one's own bodily appearance. Peacock looks at the issue of marketing strategies within social media sites and advertising, which will expose people to the risk of unknown yet predictable interests and offers from the bio-business sector (Hiebert 2017, 7).

In this regard, today's design strategy, based on a principle of ignoring all standards for the treatment of boundaries and traditions, must make a shift toward responsibility. If gene-editing technology really was to provide possibilities for the implementation of fantasies of unlimited human bodily designs, such as the disharmonious forms suggested at "Genetics Gym", the question arises as to what sort of psychological, legal, and ethical preparations would have to be made in order to prepare today's humans for such developments. Can we solve the question of human autonomy when confronted with gene marketing? These questions are relevant for both transhumanist art as well as bioethics (Porter 2017, 237).

The "Make Do and Mend: Exploring Gene Regulation and CRISPR" project is the result of Anna Dumitriu's longstanding work at "The Future Emerging Art and Technology" project, where she had the opportunity to learn to understand the decoding of genes:

> The lab is the lead coordinator on the MRG-Grammar project, which aims to devise a new strategy for deciphering the rules of gene regulation. Using synthetic biology, DNA synthesis and high-throughput analysis, the project aims to generate new types of biological datasets that systematically explore all possible regulatory landscapes (Dumitriu and Godlberg 2019, 1).

"Make Do and Mend" conceptualizes an event in the history of medicine (the discovery of penicillin at Oxford in the precarious conditions of the World War II) as well as rationing, regulations on the use of basic products during the Battle of Britain, and government encouragement to repair and re-use old clothes by using the phrase "make do and mend", which an artist and a scientist integrated into the genetic code of a bacteria with "damaged" resistance to antibiotics. With assistance from Sarah Goldberg and Roee Amit as well as the artists, Dumitriu mended a hole in a military uniform which had been distributed in 1943 by the War Production Board with a decorative stitch and special thread. The thread was created from *E. Coli* bacteria modified using CRISPR-Cas9. The artist learned to practically use CRISPR-Cas9, which was a time-intensive and highly demanding tool in terms of precision:

> I worked hands-on to edit the genome of the TOP10 *E. coli* strain to remove an ampicillin (a penicillin-related antibiotic) resistance gene which was part of the bacterium's genome, having previously been inserted into it using CRISPR-Cas9, literally mending the bacterium in the same way that the dress is mended with the bacteria-stained cloth (Dumitriu and Goldberg 2019, 1).

On the conceptual level, this was the use of cutting-edge technology to "repair" an organism (*E. coli* bacteria) so that it would revert back to its state before 1941, when penicillin had only just begun to save human lives. This is a symbolic gesture, because the *E. coli* that was available to the project was evolutionarily distant to the 1941 version. Dumitriu's intention was to evoke images of potential possibilities that technologies such as CRISPR could bring, especially in terms of "mending" problems which scientific research failed to predict; there is analogy here with antibiotic-resistant bacteria. Conversely, technology will only bring further "unexpected issues" (Dumitriu and Goldberg 2019). This familiarization with CRISPR gene-editing technology had the intention of producing a project which would be able to speak to a wide spectrum of audiences at workshops using a historical parallel and the context of the evolution of bacteria, alongside friendly and comprehensible language, in order to expand scientific knowledge among the general public about CRISPR-Cas9 gene editing and allow for an open discussion about what sorts of communication channels can deliver information about scientific progress to the public and how this affects their decision-making in specific situations. The potential of technologies such as CRISPR-Cas9 and the voices of bioethicists "to consider its use" is an attractive philosophical concept for an interpretation and possible understanding of bioart projects, which have been created in a world where biotechnological and biomedical offers and marketing are present.

BIOART AS AN ETHICALLY CONTROVERSIAL PHENOMENON

When discussing these artistic activities, the question arises as to why the "connection between posthumanism and bioart is complex" and why bioart is "ethically controversial" (Ferrando 2016). Bioart has a postmodernist strategy of leveling out borders and rejecting referential relationships in areas such as literary genres and forms, musical genres and the arrangement of musical texts for new instruments, multi-genre theater, the blurring of boundaries between text and image, and the blurring of boundaries of epistemology, ontology, and similar areas. Digital technologies in communication and software have opened an interesting field of activity for this trend and have significantly influenced the development of information sciences and the natural sciences, spectacularly so in the development of molecular biology, genetics, and medicine. The coding languages that have provided the possibilities for intersemiotic coding (Szczęsna, Pisarski, and Kubiński 2019) as well as the generation of new content from digital information (e.g., generative poetry and code poetry) and sound visualization have also brought about the development of software and computer systems within works by the first bioartists, such as in the form of hacking and biohacking. The empirical yet well-described process of the development of activism and bioart (Sützl and Hug 2012) was con-

firmed by the first bioart project in the USA by Jonas Davis, "Microvenus" (1986), a pictogram – similar to the Germanic symbol of life and earth – showing the insertion of a genetic sequence into *E. coli* bacteria. Among other things, this work conceptually illustrated the potential of storing and encoding data in resistant bacteria as a visual and biological carrier.

The leveling out of boundaries as a theoretical concept is ethically ambivalent in terms of the relationship of bioart toward environmental policies, because it can justify the unrestricted misuse of natural resources by mankind (Ferrando 2016). This ethical ambivalence, which refers to the possibility of strengthening the position of the subject, complicates the importance of bioart within posthumanism; however, if the projects by female artists mentioned by Ferrando were supplemented by projects from male artists, such as GenTerra, Free Range Grain, and the activists of the Critical Art Ensemble (Sützl and Hug 2012), it would become apparent that environmental policies refer to spaces of biopower and bio-business (e.g., the sale of genetically modified seeds, bio-pharmacological products, military biotechnology, and biometers), which is also a part of posthumanism, as was suggested by Michel Foucault (2000, 116). In this context, however, a question still remains as to what the relationship of bioethics is toward controversial projects carried out as a part of bio-activism: for example, what does one make of the Critical Art Ensemble's "bioterrorist" experiment to alert consumers to the presence of genetically modified foods in their diets? And what about the Tactical Bioart project, aimed at creating a new science where art cooperates with activism, animal husbandry, and chemistry? (Sützl and Hug 2012).

From the beginning, "body art" has aroused ethical controversy and penetrated into bioethical discourse over time (Chambers 2005). Bioart is recognized as either being ethically significant (Zurr and Catts 2014) or controversial (Ferrando 2016). There are several reasons for this, which can be summarized in two areas that relate to (1) the conditions for creating a project and (2) the contextualization of projects through philosophy or aesthetics:

1. a: They are created with the intention to expose the violence of power (Dumit 2008), or they are part of the activity of anarchist groups and are intentionally provocative, such as in the case of the Critical Art Ensemble (Sützl and Hug 2012) and Eduardo Kac (Ferrando 2016; Vaage 2016a).

   b: They concern experimentation with one's own body. For instance, Orlan's and Stelarc's projects evoke ethical issues concerning aesthetic surgery, tissue surgery, and orthopedics, and they are controversial from the point of view of medical bioethics in terms of there being damage done to a healthy body (Macneill and Ferran 2011).

   c: They originate in laboratories (Zurr and Catts 2014), or living bodies, or animals are involved; see K. D. Thornton, Zaretsky, and Kathy High (Aristarkhova 2010, 5). Also the animal species which are ecological predators in some regions yet which are genetically modified so that they do not reproduce (e.g., the gene drive machine).

d: They are based on gene editing (CRISPR technology) and are presented in the context of a new concept of neo-eugenics (see the catalog of the "Art's Work/Genetic Futures" exhibition).

2. a: In the interpretations of some artists (Zaretsky) or cultural theorists (Zylinska 2009 and 2014), bioartworks are ethically problematic due to "bioethics" itself, which they present primarily in a theological context. One of the implications is the meeting of the theological conception of "life" as a "sacred value" with the vitalist idea of the "continuum of life" and the "current of life." This confrontation unwittingly leads to unlimited artistic creativity and invention, which is guaranteed and supported in bioart by the concept of vitalism (Zylinska 2014, 199).

   b: In the relevant literature, there is often a general premise to separate ethics and aesthetics from one another instead of combining them, with reference being made to the famed artistic promoter of Nazism, the director Leni Riefenstahl (Devereaux 1998). Recently, Vaage (2016a) and Macneill (2017) tried to comprehend the relationship between ethics and aesthetics by returning to the concepts of the ethical aspect of (beautiful) art.

"TRUST ME, I'M AN ARTIST": TOWARDS AN ETHICS OF ART/SCIENCE COLLABORATION

"Trust Me, I'm an Artist" was an important project that was implemented from 2011 to 2014 as part of the Horizon 2020 program within the context of the EU's decision on the regulation of genetic research. The project was designed by Anna Dumitriu in long-term collaboration with the microbiologist John Paul and the bioethicist Bobbie Farsides and the Waag Society (Institute for Art, Science, and Technology in Amsterdam) with the aim of examining ethical issues within the cooperative process of art, science, and biomedicine. After the artists' experience when facing the requirements of the ethics committee (Zurr and Catts 2015) and the complicated bioethical nature of works of bioart (Francesca Ferrando, Nora S. Vaage, Paul Macneill, and Tod Chambers), it seemed clear that the time had come to examine bioethics and the implications of artistic work in laboratories and of bioartists in particular (Dumitriu and Goldberg 2019). The project was carried out in several stages (a questionnaire for artists, the presentation of projects based on an approval process by ethics committees, an invitation to public discussions, and guiding the public in creating separate DIY projects) and in galleries that work with scientific institutes (Arts Catalyst in London, CIANT in Prague, the Kapelica Gallery in Ljubljana, and Medical Museion in Copenhagen) along with the participation of artists, curators, and the public. Based on questions given to artists related to, among other things, their degree of readiness to subordinate their artistic intent or artistic freedom to scientific purposes, and conversely; to carry out a project even if it would not lead to any scientific results, the authors of the project tried to create a model upon the basis of which specific projects could be assessed in terms of public ethics (Hiebert 2017, 1). In this context, Anna Dumitriu and Bobbie Farsides have formulated the need to adopt certain regulations and manage approaches to artwork as a current challenge for artists working with

scientists at the forefront of innovation, who are pushing the boundaries of what they talk about and how they do so (2017).

Approaching scientific and intellectual boundaries in artwork should, according to those behind the "Trust Me, I'm an Artist" project, encourage artists to actively address the ethical and philosophical challenges that science and new technologies pose to society. When looking at the challenges of bioethics, it is therefore necessary for artists to "consider the use" of a particular technology and think about how and for what artistic purpose they plan to use it, while also taking into consideration how it can affect society.

The "Trust Me, I'm an Artist" project confirmed that "ethics committees" could take into account the specifics of works of art, and it leaned toward the view that art projects do not bring direct scientific benefits (Zurr and Catts 2014, 212). Nonetheless, they can lead scientific and technological collaborators toward creating a new ethical framework where they can work with active players from the world of art (Dumitriu and Farsides 2017, 2). The aim of "Trust Me, I'm an Artist" was to stimulate new ways of thinking about how art, biotechnology, and biomedicine can intersect in the creation and survival of new art forms.

The "consideration of the use" of a specific process of project implementation refers to the idea of "limited" artistic freedom; it evokes the existence of some imaginary or real boundaries for bioart. It would be nice to believe that the specific boundaries of today's bioart, which has emerged in an age of rapidly evolving biotechnology (and CRISPR gene editing) concern "art about ethics in the genomic age"). As an example, the Lucy Mice project by Joe Davis, which was prepared for the Art's Work/Genetic Futures event in 2020, was discussed in advance with the Commission for the Treatment of Animals in Research; among other things, it focused on the bioethics of a random genetic mutation of the "happiness gene" in the examined mice. A few countries, such as Australia, support the acquisition of the critical awareness of ethics in university education in the artistic (creative) disciplines, and they are preparing students to discuss ethical issues in both their research and artistic work (MacNeill et al. 2020).

CONCLUSION

One of the roles of art in communities using biotechnology will be that of mediation between science producers, technological applications (focused on clinical use, marketing, and AI), and the public. The biotechnology and living biological material used in the work of bioartists are sorts of models and experiments that evoke bioethical problems that society will have to resolve within different communities (e.g., scientists, producers of technologies and applications, different user communities, artists, activists, public organizations, and institutions). DIY strategies practiced within the aesthetics of posthumanism provide models for solving community problems and are also suitable for obtaining and transferring information to the public and exercising practices that lead to public discussion. An analysis of the conditions and various aspects of the "use" of biotechnology in art has shown that bioart has great potential for public discussions focused on the bioethical aspects of technology. However, it is questionable how they are used in mediatization practices, various media, curatorial practices, exhibition halls, and possibly also in political negotiations.

NOTES

[1] In the environmental humanities, the reconceptualization of the posthuman subject has been urged by Ewa Domańska (2013, 31); in a parallel sense, the reconceptualization of rationality as a component of bioethics through the lens of its relationship to aesthetics has been postulated by Paul Macneill (2017).

[2] "In the area that has become known as bioart there is a strong blurring of boundaries between art and the biosciences to create forms of hybrid practice. Bioart is a form of art practice that engages in some way with biology. It involves living organisms, living tissues, bacteria and cell biology and employs, considers and critically reflects on the ethics, methods and practices of biotechnology or biomedicine" (Dumitriu and Farsides 2017, 4).

[3] It is apparent that the undertaking of artistic projects focusing on topics of bioethics is not evenly distributed on a global scale. According to the relevant literature, such projects tend to be found in Australia, Canada, England, and Singapore. The correlation between the emergence of such projects and the operation of independent national structures of bioethics is a question that sociologists, political scientists, and cultural studies scholars could consider answering.

[4] Narrative bioethics. See Murray 1997.

[5] It was not assessed from a biomedical point of view, such as in the context of aesthetic surgery or that of diagnosis in terms of voluntary harm being done to one's own body.

[6] Compare with an opera about post-human life and death: Death and the Powers (composed by Tod Machover and developed at the MIT Media Lab along with Diane Paulus – director – and Alex McDowell – production designer).

[7] "The aesthetic function is defined paradoxically as a function denying the (usual) functionality – either as the function allowing for the mediation among all the functions or among all layers of the (given) material, or as the medium in its most fundamental social and anthropological purposes. Out of many attempts, the most productive is still Jan Mukařovský's attempt to grasp the aesthetic function as a mediation function which determines the relation between functions – and values – which are only very difficult to combine in a broader social reality" (Müller, Chudý et al. 2019, 651).

[8] It is not yet clear how the bioart community as a whole has reacted to the call for a "temporary embargo" on using CRISPR technology on the human germline genome. In this sense, the work of Stelarc has most directly dealt with the issue: "The problem is that it goes beyond mere Cosmetic Surgery. It is not simply about the modifying or the adjusting of existing anatomical features (now sanctioned in our society), but rather what's perceived as the more monstrous pursuit of constructing an additional feature that conjures up either some congenital defect, an extreme body modification or even perhaps a radical genetic intervention (Macneill and Ferran 2011, 79).

[9] https://melbourne.sciencegallery.com/perfection-exhibits/genetics-gym-ss18. Melbourne's Science Gallery poses this question on the webpage of the "Genetics Gym" project.

[10] "It becomes alarming because the more I work with this, and the more I speak with geneticists we start to realize that some of what I'm speculating is not just possible, but is fast becoming a reality, and it comes with a sense of urgency to discuss how we want this technology to be developed" (Kamau 2018).

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Toward a bioethical perspective for posthumanist aesthetics: Bioart as an example

Natural human. Posthuman aesthetics. CRISPR bioethics. Bioart. Anna Dumitriu. SimbioticA. Biohacking. Citizens and Science program.

The recent use of gene editing technology (CRISPR-Cas9) in clinical practice revived not only bioethical discussions surrounding the potential abuse of the technology, but also the democratization processes when making decisions about how biotechnologies are to be used. Biological material and laboratory techniques have served as means of artistic expression for several decades. Using the examples of bioart projects, this article will present to what extent and in what conditions could bioethics penetrate the aesthetic space of posthumanism – including DIY strategies as a mode of transfer of scientific and technological knowledge to the public, while engaging the people's participation in the decisions made concerning the future of the human genome.

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FRANCESCA FERRANDO: Philosophical Posthumanism

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Francesca Ferrando je významnou osobnosťou súčasného filozofického diskurzu. V rámci neho sa koncentruje najmä na posthumanizmus, ktorý považuje za filozofiu dnešnej doby (1). Knižná monografia s názvom *Philosophical Posthumanism* je výsledkom jej uvažovania za posledných desať rokov. Ide o upravený preklad pôvodnej knihy *Il Postumanesimo Filosofico e le sue Alterità* (2016), ktorá vznikla na základe autorkinej ocenenej dizertačnej práce s názvom *The posthuman: Philosophical posthumanism and its Others* (2014); získala za ňu cenu Sainati (cenu prezidenta Talianskej republiky). Zameriava sa v nej na rodovú problematiku (*gender studies*) a na teóriu kyborgov (*cyborg theory*), pričom skúma predovšetkým anglický pojem *posthuman*. Ferrando je zároveň zakladateľkou Globálnej posthumánnej siete (Global Posthuman Network, 2012). Jej záujem o analýzu tohto pojmu vyplýva z otázky, či obrat paradigmy v ontologickej a epistemologickej percepcii človeka, ktorý filozofia posthumanizmu vytvára, možno označiť za posthumánny. Autorka metodologicky skúma, či historicky pôvodné percepcie človeka, ako aj vzťah človeka k vonkajšiemu svetu, mení filozofia posthumanizmu natoľko, že už viac nemožno hovoriť o človeku, ale skôr o postčloveku (*posthuman*). Nezaujíma ju však iba to, na čo pojem *posthuman* vo filozofii historicky odkazuje alebo čo zastrešuje, ale aj to, ako sa človek v antropocénnej dobe môže stať (nielen) metodologicky posthumánnym.

Analýza filozofického posthumanizmu ako aktuálnej témy vo filozofii je v monografii reflektovaná v dvoch hlavných rovinách, ktoré zároveň vytvárajú jej základný tematický rámec. Prvú rovinu predstavuje analýza posthumanizmu ako *post-humanizmu*. V tejto rovine je posthumanizmus konceptuálne uchopený ako druhá generácia postmodernizmu. V tomto význame kopíruje všeobecnú metódu filozofického postmodernizmu, ktorá je primárne vybudovaná na dekonštrukcii pôvodne humanistického konceptu človeka. Autorka vytvára nielen historickú reflexiu radikálnej dekonštrukcie pôvodne humanistického pojmu človek, ale svoj záujem orientuje aj na revíziu (pre posthumanizmus falošnej) druhovosti, teda kritiky určitej nadradenosti a privilegovanosti biologického druhu Homo sapiens nad inými biologickými druhmi. Prvá rovina analytického prístupu k post-humanizmu je tak naplnená kritikou *rozdielu*. Je to práve fenomén diferencie, ktorý je v optike post-humanizmu kritizovaný a zároveň vnímaný ako niečo, čo treba metodologicky eliminovať a efektívne nahradiť. Takáto optika nazerania na človeka a na jeho postavenie vo svete odstraňuje rozdielnosti vyplývajúce z nadradeného humanistického (sexizmus, rasizmus), ako aj antropocentrického (speciesizmu) prístupu k vonkajšiemu svetu.

Druhá rovina monografie predstavuje analýzu posthumanizmu ako *posthuman-izmu*. Analýza sa sústreďuje najmä na chronologickú rekonštrukciu používania kľúčového pojmu *posthuman* v súčasnej akademickej diskusii. Okrem toho, že tento pojem v knihe figuruje ako zastrešujúci pre viaceré filozofické izmy 20. a 21. storočia, zároveň predstavuje vzťah človeka k aktuálne existujúcim, emergentným či dokonca špekulatívnym technológiám „as in the case of regenerative medicine, radical life extension, mind uploading, and cryonics" (3; ako v prípade regeneratívnej medicíny, radikálneho predĺ-

ženia života, nahrávania mysle a kryoniky; prel. P. B.). Vplyv technológií na človeka sa tak v perspektíve *posthuman-izmu* primárne spája s fenoménom *premeny*. Jednak možnej premeny človeka a jeho prirodzenosti, ako aj premeny vzťahu či postoja človeka k technológiám. V takejto perspektíve posthumanizmu sa totiž človek vzhľadom na možnosti rôznorodých technológií môže tak radikálne transformovať, že sa z neho napokon stáva postčlovek (*posthuman*).

Komplementárnosť fenoménov diferencie a premeny vytvára v knihe nielen filozofický či metodologický, ale aj poetický, ba priam umelecký rys základného chápania filozofického posthumanizmu. Jedna z metód analýzy filozofického posthumanizmu sa riadi najmä feministickým prístupom, ktorý patrí k metódam uplatňovaným v tejto filozofii. Ide hlavne o pokračovanie v metodologickej línii filozofky Rosi Braidotti, ktorá upozornila na uplatňovanie nového spôsobu premýšľania o hmote: „[as] an assumption about the vital, self-organizing, and yet non-naturalistic structure of living matter itself" (1; ako predpoklade o vitálnej, samoorganizujúcej sa, a predsa neprirodzenej štruktúre samotnej živej hmoty; Rosi Braidotti: *The Posthuman*, 2013; prel. P. B.). Takto inšpirovaná metóda umožňuje nahradiť antropocentrizmus novým súborom väzieb človeka k iným bytostiam (ľudským či neľudským), druhom, technologickým artefaktom či iným zatiaľ neznámym skutočnostiam. Ferrando však uplatňuje aj prístup, ktorý vyplýva zo širokej kolekcie otázok. Každá kapitola monografie totiž predstavuje určitý tematický rámec, ktorý je doplnený o niekoľko autorkiných otázok. Práve táto metóda robí z knihy *Philosophical Posthumanism* publikáciu vhodnú nielen pre akademickú obec, ale aj pre širšiu verejnosť. Analytický prístup Ferrando k hľadaniu odpovedí na dané otázky pripomína zrod vítaného obnovenia sokratiky vo filozofii posthumanizmu, pretože metodologicky pretvára myslenie bežného človeka, zbavuje ho historicky chybných dogiem a zároveň ho učí zahrnúť posthumanistický obrat do kríz 21. storočia.

Monografia je rozdelená na tri hlavné časti, v rámci ktorých sú jednotlivé kapitoly navzájom prepojené. Prvá časť knihy sa zameriava na určenie základného rámca pre filozofický posthumanizmus, čím sa primárne orientuje na spomínaný rozklad pôvodne humanistického významu pojmu človek. Epistemologické obmedzenia človeka sú nahradené nehierarchickou perspektívou postčloveka (*posthuman*), ktorá spočíva v skúsenosti s inými než ľudskými bytosťami, s umelou inteligenciou, robotikou či s doposiaľ neznámymi formami života. Takto predefinovaná integrácia pôvodne humanistického pojmu človek sa orientuje na analytický výklad pojmu postčlovek (*posthuman*). Pojem *posthuman* následne zahŕňa významy vedecko-technologického či biotechnologického vývoja 20. a 21. storočia, kde sa autorka zameriava najmä na zdôraznenie podobností, ako aj rozdielností medzi jednotlivými školami myslenia, ktoré referujú o pojme *posthuman*. Sleduje pritom kontrasty medzi posthumanizmom filozofickým, kultúrnym a kritickým, transhumanizmom extropianistickým, liberálnym a demokratickým, novým materializmom s feministickým vplyvom, antihumanizmom a jeho objektovo orientovanou ontológiou či metahumanizmom. Genealógie, analógie a vzájomné prekrývanie týchto nových izmov zároveň vyúsťujú do konceptuálneho uchopenia a zodpovedania pôvodnej otázky: Čo je filozofický posthumanizmus?

Druhá časť knihy sa zameriava na koncept človeka v zmysle sémantiky a pragmatiky podporujúcej pojem človeka. Analýza prebieha cez skúmanie dvoch rovín pôvodného pojmu človek: jednak cez latinskú etymológiu pojmu *humanitas* a druhotne cez taxonomickú klasifikáciu človeka ako Homo sapiens. Ferrando takto zvolený prístup považuje za dôležitý z dvoch dôvodov. Na jednej strane je pre koncept *posthuman* potrebné porozumieť genealogickému vzťahu k človeku, teda vykonať určitý náhľad do historického, ako aj filozofického významu pojmu človek. Na strane druhej treba porozumieť kritickému významu pridanej predpony post- ako spô-

sobu na odstraňovanie pôvodných a falošných dichotómií, hierarchického usporiadania či opozičného nahliadania.

Tretia časť knihy sa zameriava najmä na skúmanie v oblasti biológie s explicitným dôrazom na pojem život, ako aj na bioetiku či biotechnologický vývoj patriaci do posthumanizmu. Ferrando biologickú evolúciu vníma ako určitú technológiu existencie, kde každý materiálny prejav možno chápať ako bytostné existenčné pôsobenie bez pridaného rozdielu: „[E]volution does not imply any type of hierarchy nor progression from inferior to superior organisms, nor does it support any essentialism or strict dualism; rather, it complies with a hybrid, processual perception of existence, which is in tune with Philosophical Posthumanism" (124; Evolúcia neznamená žiadny typ hierarchie ani postup od podradných k nadradeným organizmom, ani nepodporuje žiadny esencializmus či striktný dualizmus; skôr je v súlade s hybridným, procesným vnímaním existencie, ktoré súznie s filozofickým posthumanizmom; prel. P. B.). Antropocentrická voľba orientovaná smerom k významu *bios* (pojem vnímaný ako osobitý pre človeka, keďže súvisí s pojmom *logos*; ide o život (bios), ktorý dáva životu zmysel a rozpoznáva ľudí ako ľudí; pozri viac 109 – 110) je náležite nahradená voľbou vitacentrickou, odkazujúcou k významu pojmu *zoē* (pojem spoločný pre všetky živé bytosti vrátane zvierat, ľudí či bohov; možno ho definovať ako „holý život", vzťahujúci sa k životu všeobecne, bez charakterizácie; pozri viac 109 – 110). Tento konceptuálny prechod k vitacentrizmu je v poslednej časti knihy demonštrovaný príznačným myšlienkovým experimentom *The Posthuman Multiverse*, ktorého jadrom je dekonštrukcia paradigmy Ja/Iní (*Self/Others paradigm*), čím monografia vytvára inovatívny prístup k realite.

Francesca Ferrando svojou knihou *Philosophical Posthumanism* prispieva ku kritike antropocentrizmu a taktiež porozumeniu problematickosti geologickej epochy antropocénu pre každú oblasť vedeckého záujmu. Opisuje hlavné riziká, ktoré vyplývajú z predstavy nadradenosti, ako aj vylepšovania ľudí pomocou technológií. Pojem *posthuman* v knihe figuruje najmä v súvislosti s metodologickým obratom a opustením názorov a postojov, ktoré môžu viesť k diskriminácii človeka a iných bytostí (5 – 6). A práve preto s istou mierou nadsádzky smieme predpokladať, že ak raz na Zem zavítajú mimozemské neľudské bytosti, kniha *Philosophical Posthumanism* môže zohrávať úlohu dokonalého bedekra, v ktorom sa dozvedia, že tí, na ktorých sa pozerajú, by už nemali byť ľudia, ale postľudia.

Zdá sa teda, že ak chce ľudstvo oslavovať svoju existenciu, potom azda iba v intenciách filozofického posthumanizmu, pretože iná budúcnosť ako metodologicky či technologicky posthumánna nás podľa Francescy Ferrando už nečaká: „(I)t is now clear that Humans are no longer the most important things in the Universe. This is something the Humanists have yet to accept" (56; „Teraz je zrejmé, že ľudia už nie sú to najdôležitejšie vo vesmíre. Toto je čosi, čo musia humanisti ešte prijať"; prel. P. B.). Ferrando prístupným spôsobom predstavuje základné tézy súčasného posthumanizmu, čím do takto orientovaného filozofického diskurzu vnáša analytickú jasnosť a zrozumiteľnosť jednotlivých izmov 20. a 21. storočia. Zvolený prístup autorky je zároveň originálny, keďže monografia okrem potreby metodologicky opustiť pôvodne humanistický koncept človeka predstavuje príklady z praxe, pomocou ktorých človek 21. storočia lepšie porozumie svojmu reálnemu pôsobeniu, ako aj miestu vo svete.

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RICHARD MÜLLER, TOMÁŠ CHUDÝ A KOL.: Za obrysy média. Literatura a medialita [Beyond the Horizons of the Medium. Literature and Mediality]
Praha: Ústav pro českou literaturu AV ČR – Nakladatelství Karolinum, 2020. 666 s.
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Vzťah literatúry a nových médií (elektronických a digitálnych) vyvolával už od ich nástupu množstvo ambivalentných reakcií. Na jednej strane prehnaných očakávaní, na strane druhej ešte prehnanejších obáv. Dôvodom bolo najmä to, že spočiatku reflektovanie médií výrazne ovplyvňovali názory Marshalla McLuhana, pričom v oblasti uvažovania o médiách, resp. o masmediálnej komunikácii (filme, televízii, rozhlase, dennej tlači) nielen dominovali, ale aj vymedzovali jeho hranice. Turbulentné diskusie o technologických zmenách, ich vplyve na človeka, spoločnosť, literatúru a ďalšie druhy umení a o ich recepcii v druhej polovici 20. storočia vychádzali z predpokladu, že svet nových médií bude diametrálne odlišný od dovtedajšieho sveta. Skutočne radikálna zmena však prišla až neskôr s érou osobných počítačov a rozšírením internetovej siete v 90. rokoch, keď niektorí teoretici vzhľadom k literatúre predpovedali koniec tlačenej knihy (napr. Brett Sutton, ed.: *Literary Texts in an Electronical Age: Scholarly Implication and Library Services*, 1994, alebo Jay David Bolter: *Writing Space: Computers, Hypertext, and the Remediation of Print*, 2001) a jej nahradenie rôznymi digitálnymi formátmi (od hologramu až po zdieľanú sieť textov na internete), čo sa vzhľadom na rýchlo napredujúci pokrok a možnosti z neho vyplývajúce zdalo pravdepodobné a obhájiteľné. Napriek týmto proroctvám však nové médiá nenahradili knihu a ani zážitok z bežného čítania. Polemiky okolo dichotómie analógové verzus digitálne postupne stratili svoje opodstatnenie, ostala však citlivosť na problematiku média tak v súvislostiach (literárnej) komunikácie, pôsobenia literatúry v spoločnosti, ako aj v oblasti technologických možností a ich lákadiel.

Pre súčasnosť je preto charakteristická vyššia miera vzájomnej adopcie medzi „klasickými" a „novými" médiami než v druhej polovici minulého storočia, čo však neznamená, že sa dialóg ukončil alebo vývoj tohto vzťahu dosiahol svoj vrchol. Tak ako digitalizácia zastrešuje stále komplexnejší proces od konverzie klasických mediálnych nosičov do digitálnej podoby až po pôvodne multimediálne obsahy, rovnako stále platí, že spolu s nárastom dát sa rozširuje aj priestor ich pôsobenia. O zmene paradigmy nakoniec svedčí aj expanzia *digital humanities* na univerzitách v Európe a USA, ktorú sledujeme v posledných desaťročiach.

Rozsiahla kolektívna monografia deväťčlenného autorského kolektívu (Richard Müller, Tomáš Chudý, Pavel Šidák, Martin Ritter, Miroslav Petříček, Josef Vojvodík, Josef Šebek, Stanislava Fedrová, Alice Jedličková) *Za obrysy média. Literatura a medialita* si kladie za cieľ ozrejmiť a čiastočne aj preklenúť diskrepanciu medzi literárnou a mediálnou vedou. Nové technológie dnes zásadným spôsobom ovplyvňujú nielen literatúru, ale aj iné druhy umenia, preto súčasnosť môžeme charakterizovať najmä ako obdobie korekcií v minulosti často protichodne chápaných pojmov a argumentov. Je to zároveň príležitosť dať týmto pojmom nový základ či zvoliť k ich definícii iný prístup. Rozpor medzi týmito dvoma oblasťami je podľa autorov jednotlivých kapitol monografie spôsobený nedostatočným dialógom, na ktorom nesie vinu stereotypnosť vnímania „nových" médií ako opozície k „starému či klasickému" typu média, zastupovanému literatúrou.

Literatúra a jej reflexia dnes čelia mnohým výzvam zo strany vizuálnych médií, internetu a počítačových hier, ktoré poskytujú recipientovi zážitok imerzie vo virtuálnej realite, čo nás nabáda literatúru vnímať ako staré médium či „médium pamäti", teda s istým akcentom na jej historickosť. To je aj

dôvod, prečo metafory čerpané z konceptualizácie „média" prenikajú do skúmania literatúry len ťažko a obrátenie pozornosti na médium ako príležitosť uvažovať o literatúre v kontexte iných druhov umenia, ktoré si autorský kolektív recenzovaného titulu zvolil, predstavuje v tomto kontexte vzácnu teoretickú inováciu.

Autori a autorky monografie za východisko svojho uvažovania považujú uchopenie súvislosti medzi literárnou a mediálnou vedou: „Rozpravu těchto dvou oborů můžeme doposud stručně (ale výstižně) charakterizovat dlouhodobou vzájemnou neochotou naslouchat; tu lze připsat kromě jiného tomu, že mediální studia mají počátek ve snaze radikálně se vymezit vůči etablovaným rámcům literárněvědných disciplín" (Richard Müller: „Úvodem. Genealogie konceptu média a literární věda", 11). Literárna veda zostávala dlhodobo odtrhnutá od otázok spojených s vývojom médií, ktoré uvádzali do pohybu mediálne štúdiá, a namiesto dialógu sme boli svedkami vzájomného nezáujmu. Toto východisko a rámec bral autorský kolektív na zreteľ v celej monografii, takže v pozadí jeho reflexie neustále zaznievajú otázky: čo je to médium? Čo je medialita? Ako literárnu teóriu spojiť s mediálnym myslením? Aké možnosti ponúka predstava mediálnej teórie literatúry a aké problémy to so sebou prináša?

Dlhodobá absencia pojmu média v literárnovedných disciplínach, resp. jeho latentná prítomnosť, vyvoláva potrebu genealogicky definovať pojem média na pozadí literárnej vedy a nájsť tradíciu mediálneho myslenia o literatúre, ktorá bola okrem zahraničia prítomná aj v českom prostredí v teórii umenia a estetiky. Trinásť kapitol knihy je rozdelených do troch častí, pričom v prvej časti si autori kladú základné genealogické otázky definície média a konceptualizácie evolúcie médií, kde využívajú aj podnety vychádzajúce z Pražskej školy (Pavel Šidák: „Materiál v literatuře. Pohledy české estetiky a poetiky 19. století" či Richard Müller a Pavel Šidák: „Reflexe mediality v Pražské škole") a predpoklad, že v teoreticko-estetickom diskurze Pražskej školy sa skrze reflexiu umeleckej avantgardy (literárnej, filmovej, architektonickej, divadelnej, fotografickej) objavili tlaky na nové vymedzenia mediality a sféry umenia.

Druhá časť knihy sa sústreďuje na rozvíjanie vzťahu filozofie médií a filozoficko-mediálnej antropológie (Martin Ritter: „Mediální filosofie Waltera Benjamina" či Miroslav Petříček: „Diskurz, fikce, médium a *écriture*"). V prvom prípade ide o interpretáciu známej Benjaminovej eseje o umeleckom diele v dobe technickej reprodukovateľnosti, a teda o vzťah technologicky premeneného média k recepcii a interpretácii. V druhom zase o problém zmyslu a model otvoreného systému primárneho média filozofie a literatúry, ktorým je fikcia v súvislostiach francúzskej filozofie a teórie literatúry 60. rokov.

Tretia časť monografie sa zoberá tým, ako médiá poskytujú podklad na zviditeľnenie mediálnych javov, pričom príspevky v nej sa opierajú o teóriu komunikácie a semiotiku, teóriu informácie a pod. (Richard Müller: „Poetika – sémiosféra – médium. Rozcestí Lotmanovy kulturní semiotiky"). Rovnako v tejto časti zaznievajú aj otázky dynamiky vzťahov medzi technologickým pokrokom, t. j. neustálym vylepšovaním nástrojov komunikácie, a človekom (Tomáš Chudý: „Technika a média"), či otázky o formovaní intermediálneho diskurzu (Stanislava Fedrová, Alice Jedličková: „Teorie intermediality. Zjevnost vztahů, unikavost média").

Záverečná kapitola (podpísaná autorským kolektívom monografie) sumarizuje všetky spomínané časti knihy a nastoľuje či skôr otvára smer skúmania literatúry cez prizmu „mediálnej teórie literatúry", ktorej vypracovanie sa pre literárne disciplíny v súčasnosti ukazuje ako nevyhnutné. Fakt, že táto kniha vychádza z prostredia literárnej vedy, filozofie, teórie médií a ďalších subsumovaných disciplín, z nej robí unikátne dielo a vstup do problematiky nielen médií a mediálnych štúdií, ale aj súčasnej teórie literatúry. Za zmienku stojí aj to, že i keď sú jednotlivé kapitoly spracované veľmi dôsledne, napĺňanie výsledkami skúmania jednotlivých parciálnych tém

neskĺzlo do autonómnych celkov s vlastnou, uzavretou terminológiou a metodológiou, ale naopak celá kniha pôsobí ako ucelené dielo.

Prínosom monografie pre globálny výskum média je fakt, že sa autorom podarilo prelomiť mýtus neprekonateľnej vzdialenosti medzi americko-britským teoretizovaním o médiách a napríklad jeho kontinentálnym variantom. Významnou mierou k tomu prispelo zakomponovanie konceptu otvoreného systému Jana Mukařovského do diskurzu o médiu, ktorý otvoril možnosti prienikov a vzťahov odlišných systémov, teda intermedialite. Pojem média, rovnako ako teoretické myslenie o literatúre sa ruka v ruke v tejto práci prirodzene vymaňujú zo svojich starých obmedzení a odkrývajú svoju prirodzenú povahu, ktorou je neustály proces vývinu.

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BOGUMIŁA SUWARA – MARIUSZ PISARSKI (eds.):
Remediation: Crossing Discursive Boundaries. Central European Perspective
Berlin: Peter Lang Verlag – Bratislava: Veda, vydavateľstvo SAV, 2019.
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When new media emerged in Western Europe and then slightly later in Central and Eastern Europe in the 1980s and 1990s, they provoked immense interest in all accessible global information and aroused the hope of improving interactivity in the field of communication. The communication shifted from the real space to the virtual – cyberspace. Both types of space can be perceived as a certain reflection of society and culture that shape and form it; however, the media they work with are different, being fully influenced by technologies that the individual environments have at their disposal. Whereas real space offered work with traditional (old) media, cyberspace perfected its technical possibilities in such a way that new and hitherto unknown media could be created. The fast development of the progress of these media, primarily designated for the transmission of information which we can receive, share, edit, reshape, or interact with in other ways, slowly established itself in the artistic sphere. This phenomenon can be observed especially in recent decades when visual art and literature began experimenting with media. This resulted in diverse experimental strategies, including videoart, happenings, artistic installations, art using hypertext, electronic literature, digital poetry, and other multi- and hyper-media artworks. They are a combination of media; they are based on one another and affect each other, and they are appropriating the methods and techniques of older media, which have occupied their position in the arts for a long time. This process of creating new artwork began to reflect a media theory, and Richard Grusin and Jay David Bolter became its leading voices. Their 1999 publication *Remediation: Understanding New Media*, nowadays considered canonical, analyzes the contexts from which new media arise or are transformed. The process of the constant rewriting of old media into new media and their reciprocal influencing is known as "remediation". Digital media remediate already-existing media, whereas actual remediation is mainly created by two strategies: hypermediation and immediation.

Theoretical problems that were established more than two decades ago did not become isolated; indeed, the opposite is true. They ignited other authors, theorists, and

artists to let the concept of remediation evolve within various digital platforms, cyberspaces, and theoretical discourses. This new and insufficiently explored area is mapped in the book *Remediation: Crossing Discursive Boundaries. Central European Perspective*, edited by Bogumiła Suwara and Mariusz Pisarski. As the editors state, the aim of the publication is to map the theoretical and artistic discourse in Central and Eastern Europe dealing with diverse forms of remediation, and to prove these processes by means of chosen examples in the field of art and literature (7). Central and Eastern Europe is specific due to its geopolitical position; it is vastly influenced by the political and social conditions of the past that radically interfered in the existence of art. It was also thanks to the Internet that many of the artists gradually got the possibility to create art and communicate with the world freely; in a way they moved their artwork onto the online space naturally. The book under review regards these branched processes from several aspects which the editors thematically sorted into three sections: "Contexts", "History", and "Poetics". Each section consists of six studies, giving a total of eighteen unique interpretations whose common denominator is the theoretical consideration and practical application of the concept of remediation in Central and Eastern Europe.

The section "Contexts" maps the pervasiveness of the remediation concept into the sundry areas of cultural and social life. The information transmission from one medium to another, or the transformation of an old medium into a new one, has also become a part of our culture, which is gradually forming into digital representation (Pavol Rankov) as a new phenomenon worthy of attention. This phenomenon is directly explored by the authors in the first part of the book in the section on artistic creation, be it through specific examples of transforming filmmaking art into electronic literature (Janez Strehovec) or video-remediation (Agnieszka Jelewska and Michał Krawczak), where they analyze individual remediation phases as well as forms of the recipient's deeper participation in the artwork. The remediation concept, however, does not necessarily have to stay exclusive to the cultural or medium sphere; it can be considered as a complex biotechnological system which connects the genetic code with the cybernetic one, as Peter Sýkora asserts. Remediation in the form of transcoding the genetic code is worthy of greater attention on its own, but it also opens up a vast space for experimental forms of artwork. These spaces could be compared to Foucault's heterotopias, which disrupt currently valid arrangements or kinds of thinking and motivate people to think differently (Jana Tomašovičová). The arts are mostly open to these new ways of thinking, and academia is discovering the benefits of digital technologies and their possibilities, albeit at a slower pace; they are nevertheless a perspective for avenues of theoretical inquiry, especially if they allow for the viewpoint of effective interactive and interdisciplinary cooperation (Bogumiła Suwara).

Whereas the aspects analyzed in "Contexts" have a universally relevant character, the section "History" is thematical and examines the remediation concept in relation to literature and literary theory primarily focused on Central and Eastern Europe. The authors collectively create a valuable mosaic of new media and the influence of their continual variations in the more recent history of Russian, Czech, Croatian, Hungarian, and Polish literature. It is a unique reflection on the given cultural and geographic environment, which helps to complete the image of the mutual overlap of digital technologies and literature. Jana Kostincová analyses Russian literature in the modernist era and monitors the gradual shift toward experiments with poetic language, which consequently influenced literature when the Internet and digital networks first emerged. Karel Piorecký maps the history of serial novels in the Czech environment and compares traditional print novels

to today's digitalized methods. The Czech avant-garde of the 1920s and the establishment of the Poetism art school is explored by Kateřina Piorecká, who simultaneously analyzes Vítězslav Nezval's *Pantomima* as an example of intermedia and remediation practices. The specificity of Croatian experimental literature, which emerges with the help of digital technologies, is presented by Katarina Peović Vuković, whereas the Hungarian theorist Zoltán Szűts focuses on the evaluation of such experimental work and states that old principles cannot be applied. The specific question of the remediation of liturgical texts strongly connected to symbolism is dealt with by the Polish author Andrzej Adamski.

The section "Poetics" gives the reader the opportunity to dig deeper into some processes of creating art, be it the examination of semantic or semiotic structures. The Polish authors Ewa Szczęsna, Mariusz Pisarski, and Piotr Kubiński are particularly creative in this aspect. They examine the strategy of creating meaning in digital art, at the same time presenting how remixing, programming, and other forms of connecting texts can change the understanding of art creation. In the process of creating the art, the space where the experiment is being conducted is deserving of attention. The overlap of semiotic, physical, and virtual space is explored by Piotr Marecki, which is proven by the example of stickers that contain small fragments of text, physically scattered in a space, as well as QR codes and web addresses. This revealing of topographic overlaps broadens the interpretation options of artworks, according to Marecki. One of their branches, electronic poetry, which thanks to interactive cooperation can turn into a multimedia project, is analyzed in detail by Martin Flašar. Dagmar Sabolová-Princic and Zuzana Husárová explore the possibilities of remediating classic literary works, whether into the audible form of a radio drama or into the digital format of a touchscreen application. Husárová also has an interesting reflective essay about "creative cannibalism" with regards to the transfer of artistically valuable content from an old into a new medium. The fact that creativity in the field of art is not limited is also discussed by Ivan Lacko, who analyzes the influence of remediation in cinematography, specifically the influence on intermedia and the intertext mechanisms present in the artwork of David Lynch.

All three sections in the book are justifiable and allow the reader to perceive the remediation concept in several key perspectives. For some, it is a broader cultural and social phenomenon which affects nearly every part of our lives; for others, it is a concept whose theoretical and historical conditions are worthy of deeper analyses, and simultaneously an impulse that vastly modifies current art creation and contributes to the commencement of new artistic strategies. One specific aspect is the fact that the remediation concept is explored by authors who map artistic activities characteristic for the region of Central and Eastern Europe, which has not been sufficiently examined from this point of view. *Remediation: Crossing Discursive Boundaries. Central European Perspective* therefore represents initial material for future examination in the respective field. It provides a collection of many original insights, which present a meaning of remediation for media theory as well as for literary-critical aesthetics and even the visual arts, while also keeping the door open for its further possible use.

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JUDIT GÖRÖZDI: Dejiny v súčasných maďarských románoch
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The evolutionary stages of the Hungarian historical novel can be characterized by those strategies which were operated by the authors of certain eras as they were recounting the past.

The first era can be identified as the 19th century. Besides the typical features of romanticism, works which belong to this era integrated many of the characteristics of the epic as well. Their most defining feature was national commitment, since many authors wanted to take part in the process of building a nation by expressing this commitment (e.g. Mór Jókai, born in Komárno). In his book *Literatúry v kontaktoch* (Literature in Contacts, 1972) Rudolf Chmel draws a parallel between this era and the period described as the beginnings of the Slovak historical novel. The second era can be put in the 20th century, with its prime period in the first decades of the century. Its influential authors were Géza Gárdonyi, Kálmán Mikszáth, Zsigmond Móricz who reinterpreted the genre in terms of realism. The expectations of historical novels of the era were summarized by the Marxist philosopher György Lukács. He assumed the given era's objective reflection, the avoidance of exoticism, the depiction of characters in social connections, and the presentation of history as the antecedent which has led to the processes of the present. This perspective and the iteration of the form outlined above led to a crisis within the genre from the 1970s onward.

It is the third era, which is interesting to us now, which Judit Görözdi focuses on in her monograph *Dejiny v súčasných maďarských románoch* (History in Contemporary Hungarian Novels). As an effect of the results of international postmodern literary studies and history, Hungarian novels dealing with the narratability of history and the problem of narratability have been continually published since the turn of the millennium. "Although they apply very different text-composing procedures and narrative modes, they share the feature that their goal is not primarily to narrate a self-aware historical plot, but to use the story to point to the patterns/schemes/shifts/empty places of the contemporary interpretation of history" (11; trans. L.P.B). This is why it is not possible to talk about a uniform perspective in their case, but rather about a kaleidoscope through which we observe history itself. This is why the historical novels in the classical sense of the word are not and cannot be the focus of this monograph. Those latter works reposition themselves in the territory of popular literature, since they do not expose themselves – nor the past – to self-reflection.

If we created a list of those literary scholars who have contributed the most to the Slovak-language reception of contemporary Hungarian literature, Judit Görözdi's name would have a distinguished place. Her first monograph was *Hangyasírás, csillagmorajlás: elhallgatásalakzatok Mészöly Miklós írásművészetében* (Ant-crying, Star-rumbling: Concealment Formations in Miklós Mészöly's Writing Art, 2006), whose revised version *Figúry odmlčania v próze Miklósa Mészölya* (Concealment Figures in the Prose of Miklós Mészöly, 2010) is available in Slovak language as well. Both works focus on the still-poetics of Mészöly's prose which, through the concealment figures, confronts us with the unnarratable as well as with the limits of language. Not incidentally, the late work of Mészöly functions as the foundation of the pseudohistorical novels discussed below. Görözdi's prominent editorial work includes the volume titled *Priestory vnímania.*

O tvorbe Pétera Nádasa (Spaces of Perception. About the Work of Péter Nádas, 2011) which plays a central role in the Slovak language reception of Nádas's fiction. We should also mention the 2014/2 issue of *World Literature Studies* with the theme "Súčasné stredoeurópske podoby historického románu" (Contemporary Central European Figures of the Historical Novel) which can be considered as an important antecedent and context of the volume introduced here. The issue sheds light on the fact that the problem of the narratability of history is a common feature in the literature of Central European nations.

The following two works, often referred to by Görözdi as well, can be considered as the basic works of international literature dealing with the historical perspective and poetics of postmodern literary works: Brian McHale's *Postmodernist Fiction* (1987) and Linda Hutcheon's *The Poetics of Postmodernism. History, Theory, Fiction* (1995). McHale points out that postmodern novels give space to the historical experience of previously marginalized groups, which central history, functioning as the great narrative, does not deal with, such as the female horizons of the eras, or the perspectives of ethnic, racial, or sexual minorities, etc. The *apocryphal history* arising in this manner often puts the historical eras and events under a very different (spot) light. Linda Hutcheon introduced the notion of *historiographical metafiction*, by which she means that in postmodern novels the emphasis is not on the plot, but on the narratability of history; how they are organized and which model the individual history representations follow; which ideology they reveal and what role they play in forming identity.

Both the validation of the marginalized perspective and the deconstruction of history are key moments in the works analyzed by Görözdi. *Dejiny v súčasných maďarských románoch* investigates works which have also had a foreign reception, fit into the broadly interpreted postmodern period, share the common feature of approaching the past in a novel way, and besides one or two exceptions they are all available either in Slovak or Czech, which means that the Slovak/Czech reader can have direct access to the texts beyond the monograph.

Beyond the context provided in the introduction, the volume consists of six chapters, each analyzing the works and novel poetics of different authors. Görözdi does not approach her investigation with a central theory, but she assigns relevant theoretical literature to the works based on the questions, poetic solutions, recommendations and answers to the narratability and approachability of history these novels raise. In our judgment it would be useful to publish the monograph in English or even in Hungarian, since there is no other comprehensive work using a similar investigative horizon available in the latter language either. Maybe we could mention Péter Bokányi's monograph titled *Ahogyan sosem volt. A történelmi regény változatai az ezredforduló magyar irodalmában* (How It Has Never Been. The Varieties of the Historical Novel in the Hungarian Literature of the Millenium, 2007), many of whose sections resonate with Görözdi's volume.

The first chapter analyzes two novels of Péter Esterházy which are immersed in historical memory, in our inherited substances, and in the deconstruction of the traditional structural features of the historical narrative. As Görözdi describes, the first book of *Harmonia Caelestis* (2000; *Celestial Harmonies*, 2004) applies the features of the collective and cultural memories (which drive the codes of the self-determination of a group), defined by Jan Assmann, and the second one uses the features of communicative memory (direct, experience-like mode of voice): "While the first part of the novel disrupted the 'significant' historical events with the first-person narrative (thus it is about destruction and deconstruction), the narrative of the second part of the novel, by adding a new perspective, is based on the reconstruction of how historical events are formed socially" (34; trans. L.P.B.). The *Egyszerű történet vessző száz oldal – a kardozós változat* (Simple Story Com-

ma One Hundred Pages – The Mark Version, 2013) ironically confronts us with the victim position perspective of Hungarian history, in the case of which the contradictions and inconsistencies of its sections prevent the formation of a version which is self-reinforcing from the national perspective. According to Görözdi, the features of the texts are: the elimination of plot, the description of possible historical narratives, and the rejection of the patterns of thinking about history – meaning the ideological content connected to form and identity as well.

The second chapter focuses on the Hungarian pseudohistorical novels, which Görözdi approaches from the results of the literature of magical realism. László Darvasi's *A könnymutatványosok legandája* (The Legend of the Tear Jugglers, 1999), László Márton's *Testvériség* (Brotherhood) trilogy (2001–2003), and Lajos Grendel's *Galeri* (Gang, 1982) all are about disintegration and rebuilding of the historical, linguistic and narrative tradition: "[T]hey shocked the logic of historical narrative among others by crossing the border of historical referentiality and turning into the direction of the supernatural/magical as well as towards the mythical" (46; trans. L.P.B.). Their features are: the melting of reality and fiction into one, the breaking up of the consistency of cause and effect, the investigation of the problem of authenticity and certifiability, the validation of marginal existence as well as its horizon, and the elimination of heroism. Görözdi points out that Grendel's novel – similarly to many other minority novels of the period written in Hungarian – can be approached with post-colonialist theories by the inter-ethnic minority environment of its world and also by its self-conflicting interpretations, mentalities, and identity constructs.

The third part analyzes works validating female and minority horizons which were left out of the "historical great narratives", and also which – according to McHale – generate *apocryphal histories*. Usually they have an observer contemplating the events from a worm's eye view and are in connection with writing micro(hi)stories as well. Görözdi's analyses confirm Mary Gergen's results about female narratives according to which "they are characterized by a spreading structure and they depict the individual in the context of their emotional ties, which makes the story labyrinth-like and eliminates the linearity typical for male narratives" (85; trans. L.P.B.). In her work *A kígyó árnyéka* (The Shadow of the Snake, 2002) Zsuzsa Rakovszky writes about the struggles of a girl who is a German citizen, and Judit Kováts in the *Hazátlanok* (Countrymen Without Homeland, 2019) tells the story of the Germans of Kézsmárk in the time of adversities after the World War II. Éva Bánki in her work *Esőváros* (Rain City, 2004) and Anikó N. Tóth in her novel titled *Fényszilánkok* (Light Splinters, 2005) depict the everyday life of the 20th century Hungarian minority rural families in Slovakia. In the former one we can follow a family in Žitný ostrov as they are building their dynasty. The latter three narrative modes let us observe everyday life through the perspectives of the punctuation-free grandmother, the son operating with photos, and the little girl with the tendency to collide reality with a tale. Vulnerability is a recurring element of the works in male–female, majority–minority, winner–loser, and rich–poor correlations alike.

The last three chapters each focus on a certain novel by a certain author. Péter Nádas's *Párhuzamos történetek* (2005; *Parallel Stories*, 2011) provides a view on the inhuman ideologies and their self-belying systems of the 20th century from the viewpoint of the body and body ideology. Based on Klaus Theweleit's results, Görözdi points out the connection between masculine sexual fantasies and the violent abuse of power in the work. As its title suggests, the novel is comprised of multiple stories, which are only connected to each other through certain structural features and fractal-like repetitions. Pál Závada's *Természetes fény* (Natural Light, 2014) experiments with the parallel use of two forms of media, text and photo, in order to revive the past which, howev-

er, can never fully be accomplished. According to Görözdi, while at the beginning of the work the two forms of media strengthen and supplement each other, moving forward in the story they generate contradictions and deficiencies. By this they draw attention to the intentional and unintentional forgetting, as well as to the doubts about the authenticity of historical documents. The last analyzed work is László Krasznahorkai's *Háború és háború* (1999; *War and War*, 2006) which considers whether there is any sense to history and historical development. In Görözdi's view, while going through the eras, the dynamism created in the work wishes to disrupt the Judeo-Christian traditions which are the bases of western culture. The apocalyptic nature of the work arises as the result of rendering redemption and the divine being uncertain, as well as presenting the battle of darkness and light as the continuous escape of the latter.

Although the chapters refer to each other, they can also be read as separate case studies, and the kaleidoscopic nature of the book allows it to be expanded by additional (literary) historical interpretations as well. A potential chapter, for example, could be written about the Hungarian alternative history, similar to Erik Gilk's article in connection to Czech allohistoricism in the 2014/2 issue of *World Literature Studies*, with the title *Kontrafaktuální historická fikce v současné české próze* (Counterfactual Historical Fiction in Contemporary Czech Prose). According to the theorist of the counterfactual school, Gavriel D. Rosenfeld, alternative history is presentist, revealing more about us, the thinking of our era (zeitgeist) and its estimation about the past, than how convincingly it manages to build an alternative universe. Such novels as András Gáspár's *Ezüst félhold blues* (Silver Half-Moon Blues, 1990), Gábor Trenka Csaba's *Egyenlítői Magyar Afrika* (Equatorial Hungarian Africa, 1991), Imre Horváth László's *Lett este és lett reggel* (There Be Evening and Morning, 2014) all provide exciting answers to the question of "what (would have happened) if" and might be a good basis for such a chapter. The latter two also focus on the autocratic systems and ideologies of the 20th century, whose literary accomplishment might even contribute to the reevaluation of our present.

Dejiny v súčasných maďarských románoch is a monograph which has an exceptionally wide perspective, many layers, and is written in an especially concise style. Not only can the book be read successfully by the audience as a source of the significant results of contemporary Hungarian prose, but the investigative perspectives suggested by the author and the integrated relevant literature can also be successfully applied in the analysis of other postmodern novels focusing on history in Hungarian, Slovak or any other language. In addition, they can function as the basis of comparative works similar to Rudolf Chmel's or some of Görözdi's earlier studies, since facing the past is a mighty challenge, especially today, when previously marginalized voices are finally gaining some space and letting us see history in a new light.

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RENÁTA BOJNIČANOVÁ – TAMARA ŠIMONČÍKOVÁ-HERIBANOVÁ (eds.): Komplexnosť tvorivosti. Zborník príspevkov k jubileu Márie Bátorovej [The Complexity of Creativity. Proceedings for the jubilee of Mária Bátorová]
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V našich pomeroch nebýva pravidlom, aby sa významné životné jubileum nejakej osobnosti, nech už z oblasti vedy alebo umenia, bilancovalo aj v podobe rozsiahlej publikácie, ktorá by ponúkla istú rekapituláciu a sumarizáciu počinov jubilanta, jubilantky v danej profesijnej oblasti, ruka v ruke s hodnotením osobnostného habitusu, celkovým zástojom v kultúre, s presahom a dosahom aj do zahraničia. V prípade literárnej vedkyne a spisovateľky Márie Bátorovej takáto publikácia vyšla v roku 2020. Vyše šesťdesiatčlenný kolektív autorov a autoriek prekročil svoju profesionálnu špecializáciu, aby realizoval zámer, ktorým by si uctil jej prácu a výkon.

Už výber názvu publikácie *Komplexnosť tvorivosti* signalizuje, že dielo Márie Bátorovej sa vyznačuje viacvrstevnatosťou, má mnohoraký charakter a človek váha, ktorú činnosť – vedeckú alebo literárnu – treba uviesť a zhodnotiť na prvom mieste. Zostavovateľky Renáta Bojničanová a Tamara Šimončíková-Heribanová si však poradili s touto dilemou a príspevky zoradili podľa kritérií rešpektujúcich jednotlivé oblasti tvorby M. Bátorovej. Súčasťou zborníka je aj personálna bibliografia, ktorú zostavila Veronika Čejková. Treba poznamenať, že zborník zahrnuje aj fotodokumentačný materiál, pričom vizuálnu stránku dopĺňajú jednak kresby ceruzkou od literárnej vedkyne Moniky Schmitz-Emans, jednak kresby karikaturistu a spisovateľa Pavla Taussiga, ktorého koláže výtvarne dotvárajú mnohé Bátorovej diela.

V prvej časti zborníka s názvom „Sila a odvaha skúmať" sú zahrnuté štúdie a články z pera dvadsiatich ôsmich autorov a autoriek. Na jednej strane ide o obsahovo aj žánrovo rôznorodé state z literárnej vedy, komparatistiky, dedikované jubilantke, no venované rozličným osobnostiam a aspektom literatúry (napr. Vasylovi Stusovi a postavám ukrajinského exilu, Miguelovi de Unamunovi, Aloisovi Jiráskovi, Milanovi Rúfusovi, Vladimírovi Reiselovi, Dominikovi Tatarkovi a i.) od domácich (Renáta Bojničanová, Ladislav Franek, Marta Žilková, Judit Görözdi, Anna Zelenková a i.), ale aj zahraničných autorov (Salustio Alvarado, Bogusław Bakuła, Lauer Reinhard, Monika Schmitz-Emans, Alla Mašková a i.). Na strane druhej zároveň táto časť zborníka zahrnuje príspevky, ktoré sa bezprostredne vyjadrujú k vedeckej, literárnovednej alebo umeleckej tvorbe M. Bátorovej, s akcentom na jej metódu, postupy a jazyk. V stati „Od textu ku kontextu – od kontextu ku komparácii" Katarína Zechelová osvetľuje Bátorovej interdisciplinárnu metódu s dôrazom na významovo-štruktúrnu povahu umeleckého diela, antropologický a psychologický aspekt výskumu a analýzu difúzie autorského subjektu v diele, pričom túto metódu aplikuje na vlastný výskum komparácie prozaickej tvorby Arthura Schnitzlera a Stefana Zweiga. Róbert Gáfrik vo svojej štúdii približuje odkaz Dionýza Ďurišina, jeho premeny v súčasnej komparatistike a pripomína, čo ostalo živé z jeho konceptuálnej sústavy (medziliterárnosť a medziliterárne spoločenstvo, recepcia, dejiny prekladu). Metodologické inštrumentárium M. Bátorovej hodnotí ako motivované antropologickým obratom v literárnej vede a konceptmi D. Ďurišina, na rozdiel od ktorého sa však Bátorová orientuje na autora a kontextualizáciu, spočívajúcu v tematickej analýze diela a určení typologických vzťahov k iným dielam, literárnym javom vo svetovej literatúre.

Okrem statí o metóde sa ďalšie príspevky venujú hlavne Bátorovej románu *Stred*, v ktorom sa prelína minulosť a prítomnosť. Tomáš Strauss v ňom vidí prieniky fakticity a dejín,

osobnú angažovanosť, živú kresbu aj osudovú vrhnutosť do súradníc doby a priestoru. Píše aj o Bátorovej literárnych počiatkoch (o zbierke poviedok *Zvony v kameni*, 1993; básnickej zbierke *Púšte a oázy*, 2008). Okrem toho podčiarkuje jej odvahu pozrieť sa novými očami na modernu a umiestniť do nej Jozefa Cígera Hronského (*J. C. Hronský a moderna: mýtus a mytológia v literatúre*, 2000; *Jozef Cíger Hronský und die Moderne*, 2004). Z jazykového aspektu sa románu *Stred* venuje Ján Kačala, ktorý vyzdvihuje slovnú zásobu, syntax a štýl, bohatosť a diferencovanosť jeho výrazových prostriedkov.

O esejistickej tvorbe jubilantky sa vyjadruje Etela Farkašová, ktorá upozorňuje na fakt, že práve v tomto žánri je Bátorovej individualita prítomná silnejšie než vo vedeckých textoch. V esejach Bátorová hľadá prieniky a paralely domácej literatúry s európskym kontextom, čo podľa Farkašovej predstavuje autorkin ideový manifest.

Tvorba Márie Bátorovej má aj spirituálny rozmer, najmä pokiaľ sa venuje spisbe básnikov katolíckej moderny, ako vo svojom príspevku konštatuje Ján Gálik. S aspektom spirituality v Bátorovej tvorbe súznie štúdia z pera Zlatice Plašienkovej o kozmickej dimenzii modlitby v poetických textoch Teilharda de Chardina. Zbierku poviedok *Tell* analyzuje Zuzana Kopecká, ktorá na Bátorovej tvorbu nazerá cez povahu jej literárnych postáv.

Bátorovej srdcovou záležitosťou je dielo a autorská postava Dominika Tatarku. Nad jej obrazom Tatarku, pokusom ukázať ho celostne, v súradniciach slovenského kultúrneho priestoru, ale aj mimo neho, sa zamýšľa Katarína Bednárová. Zdôrazňovanie jeho autentickosti, ktorú vyzdvihuje Bátorová, ale aj dvojkoľajnosti životného osudu a sebapresahovania nastoľuje aj otázku, či je Tatarka ako autor existencialistom skôr pocitovo, svojím životom alebo tematicky. Bednárová však Bátorovej predstavu o Tatarkovi ako o slovenskom Donovi Quijotovi akceptuje (101). Aj hodnotenie tvorby spisovateľa a lekára Pavla Straussa v Bátorovej práci od Tibora Žilku prináša zaujímavú optiku recepcie tejto pozoruhodnej osobnosti.

Z prvej časti zborníka sa čitateľská verejnosť mnohé dozvie o práci Márie Bátorovej ako vedkyne, esejistky, glosátorky spoločenského diania a jej umeleckej, žánrovo pestrej tvorbe (poézia, novely, román). Vnímavý recipient rozhodne aspoň vo svojej mysli bude konfrontovať to, čo sa naučil v škole a čo ponúka Bátorovej optika, jej vhľad a perspektíva, ktoré dokážu posunúť rámce a preskupiť v novom kontexte to, čo sa zdá už načisto „prebraté a prepraté“ (Alexander Matuška).

Do druhej časti publikácie s názvom „Uvidieť srdcom“ prispelo štrnásť spisovateliek a spisovateľov, ktorí pozdravili jubilantku formou básní a úryvkov zo svojich prozaických literárnych diel (ako Boris Brendza, Leopold Hnidek, Erika Schuster, Tamara Šimončíková-Heribanová, Stanislav Štepka, Ján Tazberík).

Tretia časť s titulom „Blízkosť v našom živote. Spomienky a reflexie“ obsahuje osobne ladené pozdravy, gratulačné a spomienkové texty, ale aj pozdravy zahrnujúce reflexiu odbornej jubilantkinej tvorby od dvadsiatich prispievateľov a prispievateliek. Z tých prvých spomeniem aspoň list manželov Ladislava a Silvie Mihálikovcov či laudatio Amrita Mehtu, šéfredaktora medzinárodného indického časopisu Saar Sansar, v ktorom vyšli preklady z tvorby M. Bátorovej v hindčine. Anton Baláž okrem iného podčiarkuje, že Bátorová neúnavne propaguje a všemožne sprítomňuje slovenskú literárnu tvorbu v zahraničí a pripomína konferenciu o Tatarkovi v inštitúte INALCO v Paríži v septembri 2019. Anton Hykisch vyzdvihuje všestrannosť M. Bátorovej, jej úsilie a zanietenosť pri odkrývaní bielych miest na mape slovenskej literatúry, nekonvenčnosť pri zaraďovaní slovenských autorov do širšieho európskeho aj svetového kontextu, jej angažované účinkovanie v spisovateľských organizáciách.

Na koniec zborníka editorky zaradili dva rozhovory. Prvý viedla riaditeľka Ústavu filologických štúdií na Pedagogickej fakulte Univerzity Komenského v Bratislave Mária Vajičková a venuje sa zahraničnému pobytu Márie Bátorovej, jej aktivitám hlavne na In-

štitúte slavistiky v Kolíne nad Rýnom (1995 – 1998), ktorý podľa rozhovoru významne ovplyvnil profesionálnu životnú dráhu jubilantky svojím intelektuálnym, emočným a umeleckým potenciálom. Podľa vyjadrenia Bátorovej, „bez Kolína by som nebola tým, čím som“ (447). Druhé rozsiahle interview viedla Tamara Šimončíková-Heribanová a dala mu názov „Čo sa nechveje, je pevné“; „osobné aj neosobné“ otázky pokryli takmer celé spektrum profesionálnej orientácie M. Bátorovej, „dvojdomovosti“ jej tvorby, inšpirácií, výsledkov, učiteľského a školiteľského pôsobenia, organizačných aktivít, občianskej apelatívnosti poézie atď., a smerovali aj k súkromnej sfére, k rodinnému zázemiu, k vzťahu s otcom, dvojnásobným disidentom, spisovateľom Jozefom Hnitkom, dokumentu o jeho živote, úspešnom usporiadaní rodinnej a kariérnej životnej cesty. Z odpovedí sa utvára a dotvára predstava o človeku, žene, vedkyni, literátke, manželke a matke, Slovenke, Stredoeurópanke.

Mária Bátorová je typom tvorivej, premýšľavej, iniciatívnej a rozhľadenej autorky, u ktorej sa v organickej jednote snúbi povestný rozum a cit, a dodajme dôvtip. Hoci editorky podčiarkujú komplexnosť tvorby Márie Bátorovej, je ťažké nejako jednoznačne určiť jej tvorivý typ. Dielo tejto vedkyne a literátky nemusí každému lahodiť, ale nemožno mu uprieť všestrannosť, intelektuálnu poctivosť, zanietenosť a citlivosť. Tieto akordy zaznievajú v Bátorovej prozaických dielach a poézii, ale osobnostné nasadenie a autentickosť sú doslova hmatateľné aj v jej vedeckých literárnych prácach a esejistke. Stavanie mostov medzi domovom, jeho kultúrou, najmä tou literárnou, a svetom tiež patrí ku kľúčovej dimenzii osobnosti Márie Bátorovej, ktorej obdivuhodnú komplexnú tvorivosť a duchovný elán tento zborník sprítomňuje.

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