

Transhumanism

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TRANSHUMANISM AS A SECULARIST FAITH

by Hava Tirosh-Samuelsan

Abstract. In the second half of the twentieth century, humanism—namely, the worldview that underpinned Western thought for several centuries—has been severely critiqued by philosophers who highlighted its theoretical and ethical limitations. Inspired by the emergence of cybernetics and new technologies such as robotics, prosthetics, communications, artificial intelligence, genetic engineering, and nanotechnology, there has been a desire to articulate a new worldview that will fit the posthuman condition. Posthumanism is a description of a new form of human existence in which the boundaries between humans and nature and humans and machines are blurred, as well as a prescription for an ideal situation in which the limitations of human biology are transcended, replaced by machines. The transition from the human condition to the posthuman condition will be facilitated by transhumanism, the project of human enhancement that will ultimately yield the transformation of the human species from the human to the posthuman. As an intellectual movement, transhumanism is still very small, but transhumanist ideas exert deep and broad influence on contemporary culture and society. This essay highlights the religious dimension of transhumanism and argues that it should be seen as a secularist faith: transhumanism secularizes traditional religious themes, concerns, and goals, while endowing technology with religious significance. Science-Religion Studies is the most appropriate context to explore the cultural significance of transhumanism.

Keywords: apocalyptic AI; cybernetics; Enlightenment Project; eschatology; new religious movements; philosophical/cultural posthumanism; posthumanism; postsecular moment; technological posthumanism; transhumanism

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POSTHUMANISM AND TRANSHUMANISM¹

Technology has always shaped human society and culture, but today the convergence of nanotechnology, biotechnology, robotics, informatics and communication technology, and applied cognitive science poses a new situation: humans are not only shaping the external environment so as to improve the conditions of human life, but they seek to change human biological existence itself. Today new kinds of cognitive tools combine artificial intelligence with interface technology, molecular biology, and nanotechnology; genetic manipulation enhances human mental and physical capacities; diseases are successfully combatted; the process of aging is slowed down; and desires, moods, and mental states are controlled by chemicals.

These rapid technological developments inspire the hope that human beings will live longer, healthier, and happier lives because technologies will remove biological imperfections and the social ills they cause.

Those excited by the synergistic convergence of “nano-cogno-robo-info” technologies (NBIC) envision a vast transformation that will mesh biological, physical, psychological, and social elements. As two leading visionaries predict, the work of “artists-engineers” will usher in a new “golden age,” a new Renaissance that will bring “world peace, universal prosperity, and evolution to a higher level of compassion and accomplishments” (Bainbridge and Mihail 2002, 6). Life in the new “golden age,” so we are told, will consist of an interface between human brains and machines, including wearable sensors and computers that will inform us about our health conditions. Robots and software agents will serve humanity; the human body will be more durable, healthier, and energetic, easy to repair, and resistant to many kinds of stress, biological threats, and aging processes; mental handicaps will be overcome or eliminated; human control of the genetics of humans, animals, and agricultural plants will benefit human welfare; outer space will be conquered; agriculture and the food industry will increase yields and reduce spoilage; formal education will be transformed by a unified curriculum for understanding the entire physical world from the nano to the cosmic scale (Bainbridge and Mihail 2002, 4–6). Welcome to the posthuman age!

The term “posthumanism” was first coined in the Josiah Macy Foundation conferences on cybernetics (1946–1953) in New York, where leading scientists (e.g., Norbert Wiener, Heinz von Foerster, John von Neuman, Warren McCulloch, Gregory Bateson, Julian Bieglow, and Arturo Rosenblueth) began to search for “a new theoretical model for biological, mechanical, and communicational processes that removed the human and *Homo sapiens* from any particularly privileged position in relation to matters, meaning, information, and cognition” (Wolfe, 1010, xii). The term “posthumanism” was meant to help imagine a

“postbiological” “post-Darwinian” stage of human development that will include not only genetics but also “all the paraphernalia of cultural and technological existence” (Pepperrell, 2003, 171). In the following decades, cybernetics would evolve into other disciplines and research interests that have shaped contemporary life (e.g., computer science, electrical engineering, system engineering, and biofeedback), but its philosophical significance is still contested. Whereas Heidegger saw it as the “apotheosis of Cartesian humanism,” Jean Pierre Dupuy has argued that cybernetics represented a crucial moment in its demystification and indeed the deconstruction of humanism. For Dupuy, “cybernetics consisted of a decisive step in the rise of antihumanism” (Dupuy 2011, 228), by which he means (following Hannah Arendt) the “rebellion against human existence.” If to be human means to experience freedom and mortality, the convergence of biology and technology hailed by the cybernetics movement challenged both, requiring a new theorizing of the meaning of being human. For the past six decades we have witnessed the rethinking and debating of the meaning of being human, driven by acceleration of scientific advances and technological innovations.

Postmodernism—namely, the cultural movement that has adopted a skeptical attitude toward the principles of humanism—represents one prevalent type of rethinking the meaning of being human. Postmodernist thinkers targeted the belief in progress characteristic of the Enlightenment Project and its key philosophical assumption: that “Man” is the measure of all things; that the individual subject is a being with a unique essence (“human nature”) whose goal is self-realization; that human language accurately represents reality; that the human subject is the foundation of inherent political rights that demand political representation; and that the human species is superior to nonhumans and can use natural resources solely for its own benefit.

Postmodern thinkers such as Michel Foucault and Jacques Derrida declared the end of “man-centered universe” and “long held belief in the infallibility of human of human power and the arrogant belief in our superiority and uniqueness” (Pepperrell 2003, 100). The “end of Man” paved the way for the emergence of the “posthuman age.”

Postmodernism was bolstered by critical discourses such as feminism, postcolonialism, queer theory, and environmentalism that have exposed the shortcomings of humanism and its harmful implications for women, minorities, occupied and oppressed social groups, and nonhuman animals. These critical discourses dismissed the assumptions of the Enlightenment as either naive or self-contradictory and its foundational metaphysics as philosophically flawed. Endorsing Foucault’s call for “perpetual critique of ourselves,” literary critics (Badmington 2000; Graham 2002) reconsidered what was taken for granted about *Homo sapiens* and began to appreciate humans as animals who are not only part of the evolutionary history but

also animals who are inherently “a prosthetic creature that has evolved with various forms of technicity and materiality, forms that are fundamentally ‘not-human’ and yet have nevertheless made the human what it is” (Wolfe, xxv). In this literary/philosophical/cultural discourse, posthumanism, as Cary Wolfe succinctly put it,

names a historical moment in which the decentering of the human by its imbrication in technical, medical, informatics, and economics networks is increasingly impossible to ignore, a historical development that points toward the necessity of new theoretical paradigms (but also thrust them on is), a new mode of thought that comes after the cultural repression and fantasies, the philosophical protocols and evasions, of humans as a historical specific phenomenon. (Wolfe, xv–xvi)

The discourse of cultural posthumanism not only exposed the paradoxes of the postmodern condition because “the end of Man is bound to be written in the language of Man,” as Derrida put it (Derrida 1982), but also called for a more inclusive, just, and egalitarian world in which humans have less control, the fallibility of human knowledge is confessed, and oppressive cultural boundaries are uplifted. A leading inspiration for cultural posthumanism was the *Cyborg Manifesto* by Donna Haraway (1985), a technofeminist who saw posthumanism as a form of liberation from oppression. Originally coined by the research space scientist Manfred Clynes, the Cyborg was a combination of “cybernetic and organism” used to describe a hybrid being who is half human and half machine. Cyborgs have populated the science fiction imagination since the 1920s, but in the 1980s they became a staple of cult films such as *Terminator* (1984), where the Cyborg figure is an emotionless machine that is invincible to destruction. In Haraway’s feminist rendering of the Cyborg, it signified the breaking of boundaries between nature and culture, organic and inorganic, human and animal, and a new understanding of human embodiment.

If “Man” is dead, the human body needs to be understood anew. Literary critics and artists began to theorize the emergence of posthuman bodies that reflect

the causes and effects of postmodern relations of power and pleasure, virtuality and reality, sex and its consequences. The posthuman body is a technology, a screen, a projected image; it is a body under the sign of AIDS, a contaminated body, a deadly body, a techno-body; it is . . . a queer body. The human body itself is no longer part of the “family of man” but of a zoo of posthumanities. (Halberstam and Livingston 1995, 3)

No longer seen as a repository of the soul, the human body was now viewed as the “interface between mind and experience . . . and is narrated as a site of exploration and transfiguration, through which the interface with an electronically based postmodern experience is inscribed” (Buktaman 2000, 98). In the works of cultural posthumanists, the boundaries between

animals, humans, and machines are blurred; reproduction is nonbiological; and “bodies are determined and operated by systems whose reproduction is . . . asexual: capitalism, culture, professions, and institutions, and in fact sexuality itself” (Halberstam and Livingstone, 17). The family no longer exists as an object of social research. Cultural posthumanism thus entailed the breakdown of traditional boundaries, hierarchies, and dichotomies, and the imagining of a new relationship between humans and machine as well as between humans and animals.

The transhumanist cultural discourse expressed itself in several cultural domains such as literature, film, science fiction, performance and installation art, horror genre, and video games, all of which have disengaged the human body from its biological nature as the body was dissolved into electronic space and cybernetics existence. The most perceptive reflections on the posthuman existence were articulated in the genre of science fiction. In her celebrated book *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (1999), N. Katherine Hayles summarizes the features of the posthuman condition: patterns of information are more essential to the state of being than any material instantiation; the embodiment in a biological substrate is seen as an accident of history rather than an inevitability of life; there is no immaterial soul, and consciousness is an epiphenomenon; the body is nothing more than a prosthesis, and to exchange this prosthesis for another is simply an extension of that relation; and a human being is capable of being seemingly articulated with intelligent machines. Posthuman existence meant that there is no demarcation between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot technology and human goals. In the posthuman condition there no separation between humans and their environment, between “the thing that thinks and the thing that is thought” (Pepperrell, 33), and “no inherent dichotomy between mind and matter” (Pepperrell, 34).

If cultural posthumanists expressed postmodern sensibilities, computer engineers, and specialists in robotics and artificial intelligence followed more closely the footsteps of the cybernetic movement when they envisioned the posthuman future. These engineers of artificial intelligence (e.g., De Garis 2005, 2010; Kurzweil 1999, 2005; Minsky 1986, 2006; Moravec 1988, 1999) speculated that the fusion of humans and machines will usher in a new phase in the evolution of the human species in which machines (especially super-intelligent machines) will not only augment human physical and mental capacity, but will actually supersede the humans who have designed them. For these visionaries, the posthuman Mechanical Age will come about after an irreversible turning point—the Singularity—will commence as a result of exponential, accelerated process of technological progress. As Geraci succinctly explains, Singularity is “a point of the graph of progress where explosive growth occurs in a blink

of an eye” when machines “become sufficiently smart to start teaching themselves” (Geraci 2008, 149). When this happens, “the world will irrevocably shift from the biological to the mechanical” and the Mechanical Age will inaugurate the New Kingdom, the Virtual Kingdom. In the technofuturistic scenario mechanical creativity itself promises the salvation of humanity, destroying the most problematic aspects of the biologically evolved human body.

The transformation from human to decision-making, super-intelligent machines will be gradual. At first, humans will upload their minds (the most salient aspect of their personalities) into super-computers who will serve the material needs of humanity. Eventually the machines “will tire of caring for humanity and will decide to spread throughout the universe in the interest of discovering all the secrets of the cosmos” (Geraci, 2008). As Hans Moravec imagines it, machines will convert the entire universe into an “extended thinking entity” (Moravec 1988, 116). As the “Age of Robots” will be supplanted by the “Age of Mind,” machines will create space for a “subtler world” (Moravec 1999, 163) in which computations alone remain. In the Virtual Kingdom the “Mind Fire” will render earthly life meaningless, ultimately swallowed by cyberspace (Moravec 1999, 167). This is the ultimate *telos* of the transformation and transfiguration of the human to the posthuman. Through technology humans will presumably be able to achieve what traditional religions have sought for millennia: immortality.

Because the discourse on posthumanism has at least two distinct strands—philosophical-cultural posthumanism and technoscientific posthumanism—there is considerable confusion in the debates about posthumanism. To clarify the confusion it helps to note what the two types of posthumanism have in common and where they differ. The two types of posthumanism share the notion that there is no stable, fixed human essence (i.e., “human nature”), that the human species is no more than a “work in progress,” and that humans can redesign themselves in order to overcome biological limitations. The two discourses also welcome a future in which the boundaries between humans and machines or humans and animals will be blurred and cherish cyborgization. Most importantly, both types of posthumanism entertain the possibility of delinking sex and reproduction and seek the self-destruction of the embodied human. As a result, both groups envision *the eventual obsolescence of the human species*. In fact, the posthuman, ideal future that cultural posthumanists fantasize about in their literary and artistic works is realized by technological inventions and innovations of scientists and engineers. However, the two types of posthumanism are diametrically opposed philosophically: whereas the technological posthumanists see themselves as a continuation and even intensification of the Enlightenment Project and glorify human reason and its ability to improve the world, philosophical/cultural posthumanists

critique the Enlightenment Project because of its flawed metaphysics and harmful social consequences. Moreover, in contrast to the secularist tendencies of cultural posthumanism, technoscientific posthumanism is rife with religious motifs as scientists endow technology with salvific power, offering humanity transcendence by means of science and technology. Not surprisingly, there is little conversation between the two communities that speculate about the posthuman age.

How will humanity reach the posthuman age? The answer lies in transhumanism. The term was coined by Julian Huxley in 1957 in an attempt to articulate “the new system of ideas appropriate to man’s new situation.” Huxley had in mind the development in ecology, genetics, paleontology, geographical distribution, embryology, systematics, and comparative anatomy, which he had summarized in *Evolution, the Modern Synthesis* (1942) (Tirosch-Samuels 2012, 59). Today the term “transhumanism” refers to “the intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by developing and making widely available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities (Bostrom, Transhumanism FAQ 2.1, 5). Transhumanism then denotes the *transition* from human to posthuman existence, as well as activities and attitudes that one is expected to promote in order to bring about the ideal, posthuman *future*. Because transhumanism sees itself as a process that will culminate in posthuman existence, the two terms are often used interchangeably, further adding to the terminological confusion. Furthermore, within the transhumanist discourse there are at least two distinct strands. One focuses on human enhancement in the *present*, whereas the other focuses on cyber-immortality in the *future*. The former is straightforwardly secular, indeed a continuation of nineteenth-century humanistic naturalism and utilitarianism, while the latter is saturated with religious themes: its mentality is apocalyptic and its orientation is eschatological.

The transhumanist agenda that focuses on enhancement calls on human beings to take charge of the evolutionary process through technological expertise in order to liberate the human species from its biological limitations (Young 2005). Through techniques such as stem-cell therapy, gene manipulation, selection of embryos, drugs, machines and other mechanical enhancements, genetic engineering, psychopharmacology, anti-aging therapies, neural interfaces, advanced information-management tools, memory-enhancing drugs, wearable computers, and cognitive technique, human beings will be able to enhance human mental and physical capacities, combat diseases, and slow down the process of aging and exercise control over desires, moods, and mental states. These enhancements may bring about radical life extension and postponement of death

(De Grey 2007, 2011). Technology will affect not only those bodies that will be enhanced, but also future generations whose genetic makeup will be redesigned in accordance with transhumanist ideals and sensibilities (Stock 2002). Through their deliberate intervention in the evolutionary process human beings will bring about “enhancement evolution” (Harris 2007, 11).

The future-oriented strand of transhumanism envisions a scenario in which augmented humans (or transhumans), who will still be recognizably human, will voluntarily upload their minds into the machines. Ray Kurzweil, the leading transhumanist visionary, imagines a “brain-porting scenario” that will involve “scanning a human brain, capturing all of its salient details.” This will entail re-instantiating the brain’s state in a different, much more powerful computational substrate. Human beings “will continue to have human bodies, but they will become morphable projections of our intelligence” (Kurzweil 2005, 138). Such “software-based humans,” he predicts, “will be vastly extended beyond the severe limitations of humans as we know them today. They will live out on the Web, projecting bodies whenever they need or want them, including virtual bodies in diverse realms of virtual reality, holographically projected bodies, foglet-projected bodies, and physical bodies, comprising nanobot swarms and other forms of nanotechnology” (Kurzweil 2005, 235). For Kurzweil the uploading of ourselves into a human-made machine is the spiritual goal of transhumanism, since it promises transcendence and even immortality. While the body, the hardware of the human computer, will die, the software of our lives, our personal “mind file,” will continue to live on the Web in the posthuman future where holographic avatars will interact with others bodiless posthuman entities.

Today transhumanism is still a small movement (about 5,000 people worldwide), but its ideas are widespread due to advanced communication technology such as the Internet. The transhumanist discourse gives expression to the impulses and sentiments of the scientific and technological community, especially those who promote the convergence of nanotechnology, biotechnology, information technology, and cognitive science. Some technoenthusiasts such as William Sims Bainbridge and Mihail Roco also hold positions of power and influence in governmental agencies such as the National Science Foundation, facilitating the investment of financial resources in the project of human technological augmentation. Indeed, many technological and cognitive developments are of interest especially to the military and take place in DARPA, the research facility of the United States Ministry of Defense (Garreau 2004). The project of creating faster, stronger, and smarter human beings is not an idle fantasy but an expensive program that siphons off precious resources from other projects for the betterment of the human condition. Most importantly, as the essays in this volume demonstrate, transhumanist themes pervade and shape

many aspects of culture, society, and politics. The cultural significance of transhumanism goes well beyond the numbers of people who are self-declared transhumanists.

There are many ways to engage transhumanism. For example, one could study transhumanism in the context of technology and science studies, focusing on policies that facilitate interventions that will enhance human performance on individual and societal levels (Barben 2012). A different approach could consider transhumanism as an ethical and social theory about the human condition and the relationship between human nature, technology, and culture that seeks to transcend biological limitations. In this regard, the transhumanist preoccupation with human enhancement raises a host of ethical and social concerns regarding equality, access to limited resources, and fairness (Mehlman 2003, 2009, 2012), as well as reflection on the economic and political implications (Fukuyama 2002; Sandel 2007). One can also engage transhumanism in the context of the theory of evolution and ponder how transhumanism perpetuates Darwinian theory of evolution while at the same time undermining it with the call for “designed evolution,” and a fourth approach could investigate transhumanism as a cultural product, looking at the cultural forms that express the transhumanist imagination. Precisely because transhumanism has many facets, only a multidisciplinary examination can do justice to the issues involved, as I have tried to do in my coedited volume (Tirosh-Samuelson and Mossman 2012).

The essays in this volume of *Zygon* shed light on one crucial but underappreciated dimension of transhumanism: its religiosity. The assertion that transhumanist discourse harbors religious themes may seem odd to practitioners of transhumanism, because advocates of transhumanism see it as an “extension of secular humanism” (Bostrom 2005, 19). Indeed, many members of the World Transhumanist Association define themselves as atheists and treat traditional religions (especially Christianity) with disdain because religious practitioners tend to ignore contemporary science and technology (Campbell and Walker 2005, ii–iv). Furthermore, several Christian theologians have critiqued the transhumanist agenda for its hubris and mistaken understanding of the being human, or superficial view of transcendence (Cole-Turner 2011; Hertzfeld 2011; Peters 2003, 2005; Waters 2006). Conversely, advocates of transhumanism have presented it as a direct competition to traditional religions (Bainbridge 2005), further contributing to the perception that transhumanism is inherently secular. The essays in this volume demonstrate that it is overly simplistic to treat transhumanism as a mere secular phenomenon and that transhumanism should be understood as a peculiar hybrid of religious and secular motifs, a secular faith that fits the contemporary postsecular moment.

Robert M. Geraci, a sociologist of religion and popular culture, goes as far as saying that “transhumanism is a pervasive religious system in modern

life, operating across a wide array of cultural domains, both implicitly and explicitly” (Geraci, this volume). Through his detailed analysis of video games and virtual worlds, Geraci sheds light on the diffusion of transhumanist themes in contemporary popular culture. More cautiously, James J. Hughes, a sociologist who has written extensively on transhumanism, exposes the “successful manifestation of the syncretism of transhumanism and Sigularitarianism with religious millennialism,” and delineates “religious transhumanism” as one distinctive strand of transhumanism. Hughes also showcases the internal debates within the transhumanist movement that explain why it is difficult to generalize about the transhumanist movement. Precisely because transhumanism harbors religious themes, albeit in a secularized idiom, transhumanist ideas impact established religions. Ronald Cole-Turner, a theologian who has engaged biotechnology from a Christian perspective, discusses charismatic evangelical Christians Hal Lindsey, C. C. Carlson, Rick Warren, and Rob Bell, demonstrating the extent to which transhumanist themes pervade the Christian evangelical discourse on the one hand and conversely, how transhumanist literature in fact reworks traditional Christian themes. My essay presents transhumanism as a secularist faith, a hybrid of secular and religious motifs: transhumanism secularizes traditional religious motifs on the one hand and endows technology with salvific meaning on the other hand.

TRANSHUMANISM AS “RELIGION WITHOUT REVELATION”

To appreciate the religious dimension of transhumanism, we need to turn to Julian Huxley (1887–1975), who coined the term “transhumanism” in 1957 (Huxley 1957, 17). Huxley envisioned transhumanism as “religion without revelation,” and this was the title of a short treatise he published in 1927, although at the time he did not call it “transhumanism” (Huxley 1927). Huxley saw himself as a “midwife” who would deliver into the world a “new ideology.” Originally he called this “new ideology” “evolutionary humanism” and considered it “an attitude of mind” that would address the crisis of humanity by bridging science and the arts and by using science to build a better world. According to Huxley’s evolutionary humanism, the destiny of humanity is to understand human–nature and to actualize the possibilities of development inherent in it. The human mind inspires the march of progress in nature and “the source of all truth, beauty, morality, and purpose is to be found in human nature” (Huxley 1934, 7). Highlighting human-evolving nature, Huxley urged his readers to “utilize available knowledge in giving guidance and encouragement for the continuing adventure of human development.” This is the core belief of the transhumanist program today, and Huxley’s work could be considered a foundational text of the transhumanist movement.

Huxley encouraged all people to take control of the evolutionary process in order to attain the human ideal in this life. Ironically this

human-controlled evolution was articulated by a person who understood his mission and vision in religious terms, albeit pantheistic rather than theistic ones. Huxley's evolutionary humanism was a statement of a secularist faith for a world that had to come to terms with the facts of evolution and was decidedly articulated in ethical and aesthetic terms. While Huxley opposed supernatural explanations, he deeply appreciated the mystery of existence and had no qualms using ethical and religious concepts such as "destiny" and "the sacred" to articulate his vision of and for humanity. Huxley's unified cosmic vision that privileges the human mind is remarkably similar to that of Pierre Teilhard de Chardin, the Jesuit paleontologist for whom progressive evolution led to the "noösphere" (namely, a sphere of mind as opposed to or rather superimposed on the biosphere or sphere of life) and later to the collective consciousness of the Omega Point (Steinhart 2008; cf., Burdett 2011, 29–33). For Huxley, the task of humanity is to actualize the immense potential of the human mind and take control of the evolutionary process itself. For this reason Huxley was an ardent supporter of the eugenics movement, long after eugenics was discredited. During the 1930s and 1940s, he wrote prolifically about eugenic topics, and from 1959 to 1964 he served as the president of the Eugenics Society. Once again, whether transhumanists like it or not, their project of human enhancement has much in common with the earlier eugenics movement and its particular biases (Gratton 2012). As James Hughes shows in this volume, eugenics itself was steeped in utopianism, since it was a secular project to save humanity from its biological limitations.

Huxley's "religion without revelation" had much in common with yet another modern, utopian program: Communism. Indeed, a main inspiration for the transhumanist movement comes from two friends of Julian Huxley—J. S. B. Haldane (1892–1964) and J. D. Bernal (1901–1971)—both of whom were members of the Communist Party of Great Britain (Tirosh-Samuels 2012, 64–78). Haldane was deeply interested in bettering human life by employing science and technology, since human progress moves the species to transcend its biological limitations. Although Haldane rebelled against traditional mores in Victorian England, his faith in biological engineering and his futuristic speculations about human-machine interface had a quasi-religious quality. After his disillusionment with Communism in the mid-1950s, he was drawn to Hinduism and became committed to international peace initiatives. Bernal, who remained a communist to the end of his life, expressed faith in science that could be described as secularized religious devotion: only through science (the new secularized religion) can humanity overcome the enemies of the rational soul. Bernal concerned himself with long-term perspectives of the human species and contemplated the future transformation of the human form. He too supported the eugenics movement and envisioned the emergence of the mechanical man as a

“break in organic evolution.” Like Huxley, Bernal saw the “new man” as the logical outcome of the immense, still largely unrealized possibilities of the human brain, and his youthful scientific fantasy predicted many of the technological developments of the second half of the twentieth century: computers, information technology, and artificial intelligence.

TRANSHUMANISM AS A FUNCTIONING RELIGION

Needless to say, whether transhumanism has religious aspects depends on how one defines “religion.” Scholars of religious studies agree that world religions share at least some of the following characteristics: the beliefs in supernatural beings; a distinction between the sacred and the profane rituals; a moral code; religious feelings and experiences; prayer and communication with gods; and a comprehensive worldview, a lifestyle based on that worldview, and a social group that promotes that lifestyle (Alles 2005). Even a superficial look at transhumanism indicates that it shares several features with traditional religions: the pursuit of perfection and the focus on human improvement; the concern for the betterment of society by eliminating social ills such as poverty, sickness, and suffering; the progressive understanding of human history that sees the future as necessarily better than the past; and the preoccupation with transcendence. Furthermore, transhumanism shares with Western monotheistic religions a strong *eschatological impulse*, even though transhumanism speculates about the eschatological end of the world as a goal that can be accomplished by human efforts alone rather than with divine intervention. Indeed, the main difference between traditional religions and transhumanism concerns the “methods of transcendence” (Hopkins 2005, 22): whereas traditional believers look to prayer, ritual, meditation, and moral discipline, the proponents of transhumanism mobilize technology. Hopkins suggests that “transhumanism could be seen as *religious*, if not a *religion*.”

At the dawn of the twenty-first century, however, it is not traditional religions that are growing in numbers but New Religious Movements (NRM) that are critical of traditional religions and offer a different kind of religiosity to their adherents. New Religious Movements share some of the features of traditional religions, but they are also distinct from them. According to Amarasingam (2008), New Religious Movements “are concerned with meeting the needs of individual members, . . . lay claim to some esoteric knowledge that has been lost or repressed or newly discovered, . . . offer their believers some kind of ecstatic or transfiguring experience that is more direct than that provided by traditional modes of religious life, . . . display no systematic orientation to a broader society and are usually loosely organized, . . . and almost always center on a charismatic leader and face disintegration when the leader dies or is discredited” (Amarasingam, 2). These features are exhibited by the transhumanist movement as well,

especially the more futuristic aspect of transhumanism that speculates about cyber-immortality as the dominant feature of the posthuman age. Amarasingam actually argues that futurology should be viewed as NRM because it has “charismatic leaders, authoritative texts, mystique, and a fairly complete vision of salvation” (Amarasingam,13). Ray Kurzweil, the prophet of Singularity, is a charismatic leader who not only speculates about transcendence by means of technology, but also cultivates a personal cult that is not different from the cult of any other religious or spiritual guru. We will have more to say about Kurzweil’s ideas below, but for now let us note that today the futuristic scenario of transhumanism about cyber-immortality has to compete with other New Religious Movements in the marketplace of ideas. Ironically, the success of futurology is to be found in the fact that (presumably secular) science has an aura of the sacred in contemporary culture.

A few self-defined transhumanists acknowledge the religious dimension of their agenda and even encourage their fellow transhumanists to enter a conversation with representatives of religious traditions. James J. Hughes concedes that while most “transhumanists see themselves as part of the Enlightenment humanist tradition, most are atheist, and many feel that one cannot be a theist transhumanist” (Hughes 2007, 5). Some members of the World Transhumanist Association define themselves as religious believers or are members of traditional religious communities. Furthermore, Hughes has shown the compatibility between established religions and transhumanism and even called upon the transhumanist community to regard transhumanism as a religion and develop religious transhumanism with its symbolic language and rituals. Hughes in fact has pleaded with his fellow transhumanists to enter a dialogue with members of faith communities because “pursuing a future world community that makes safe human enhancement universally accessible requires a broad, diverse coalition including both secular humanists and people of faith sympathetic with transhumanism” (Hughes, 7). Out of this dialogue, a new, syncretistic “trans-spirituality” will emerge “in which enhancement technologies are selectively incorporated by groups in all religious traditions.” What such trans-spirituality might look like is spelled out by Michael LaTorra (2005), who offers it as a fusion of religion and scientific rationality appropriate to the technological mentality of the twenty-first century.

It is difficult to generalize about “religion,” since world religions are such complex historical phenomena. Hughes does well to acknowledge the complex attitudes of Christian thinkers toward transhumanism and to note that Eastern religious traditions such as Buddhism and Shintoism are much more open to the transhumanist project, both in terms of human enhancement and nondualistic metaphysics. The evidence for this observation can be found in the robotics industry in Japan, as documented by Robert M. Geraci, who has shown that both Buddhism and Shintoism

“afford sanctity to robots: robots are blessed, take part in cosmic salvation history, and are accordingly welcome in Japanese society” (Geraci 2006, 7). At least in the early phases of the manufacturing of robots, they were consecrated by Shinto priests, thus indicating that the Japanese robotics industry has benefited greatly from the pervasiveness of religious ideas in Japanese society. Eventually, as the robotics industry became more successful, these practices were abandoned, but in Japan “robotics and the robots themselves remain closely tied to the sacred” (Geraci, 8). In contrast to the robotics industry in the United States, which has shied away from giving robots human form because it seeks to transcend human embodiment, the Japanese robotic engineers celebrated human embodiment, precisely because in Japanese spirituality it makes little sense to separate between mind and body or to discard the body in order to attain the salvation of mind or spirit.

The degree to which transhumanism is compatible with religion will continue to be debated among practicing transhumanists. Most explicitly Gregory Jordan (2006) called on his fellow transhumanists to define transhumanism as a religion and to develop a transhumanist religiosity. According to Jordan, “Transhumanism serves some of the ‘functions’ of religion, with regard to providing a sense of direction and purpose and providing something greater than the present condition” (Jordan, 58). While the transhumanist discourse does not use the theistic concept of God, it does “imply the possibility of ‘godlike’ beings . . . who are ‘supernatural’ in the sense of attaining the fullest imaginable powers possible in nature, far beyond what humans are presently capable.” Jordan also imputes to transhumanism, “symbolic representation of shared meaning in the form of transhumanist art, which includes symbols, vocabulary, images, songs, film, and science fiction literature” (61). Transhumanism also exhibits a “sense of awe associated with the scientific worldview and the contemplation of nature,” and its “all-encompassing scientific epistemology combined with theories of sufficient provisional explanatory powers, may soon give rise to a comprehensive worldview.” Jordan maintains that the similarities between transhumanism and traditional religions can be accounted for by “commonalities in fundamental human ambitions, desires, and longing” (62). According to Jordan, however, transhumanist religiosity will be different from traditional religions because it will lack any form of dogmatism, and the transhumanist belief in the “‘possibility and desirability’ of developing advanced technologies ‘to improve the human condition’ is quite different from fideistic certitude.” Jordan concludes that “even if transhumanism is not perceived as a religion, it could easily be analyzed as one” (63). Moreover, it will be beneficial for transhumanism to be viewed as a religion, since religions provide a context for the consideration of meaning, value, and purpose. If and when Singularity occurs, the transhumanist religion will be in its infancy, but transhumanist

religion will displace traditional religions and will become “what we know” and “how we live” (68).

TRANSHUMANIST ESCHATOLOGY

To succeed in the marketplace of ideas in our contemporary New Age, transhumanism needs people who will promote it with zeal. William Sims Bainbridge is responsible not only for translating the transhumanist agenda into a national science policy but also for the perception that transhumanism necessarily conflicts with traditional religions. As social science researcher, Bainbridge has attempted to document the claim that those who hold traditional religious beliefs tend to be more critical of the transhumanist project of human enhancement (Bainbridge 2005). He has also asserted that religious people may be more likely than nonreligious people to reject various forms of technological transcendence, and he accentuated the potential conflict between religions and transhumanism because he sees them as competitors in the marketplace of eternal life, so to speak. For Bainbridge, traditional religions are threatened by transhumanism, and, therefore, they can be predicted to try to suppress transhumanism. Since Bainbridge endorses and promotes technological-based immortality, he predicts that it “will put religions largely out of business, and [therefore] religious fundamentalists would condemn activities in these directions” (Bainbridge 2007, 3). Particularly protective of the transhumanist notion of cyber-immortality, Bainbridge speculates about the immoral scenario in which “a mob of fanatics will break into personality archives to erase their content” (3). He regards this as a form of murder, an “infocide,” “because it kills people in their pure form” and against such dark forces, he presents transhumanism as a religion for the *galactic civilization* (Bainbridge 1982) and calls us to exercise our imagination so that the current virtual world “could evolve into extrasolar homes for posthuman beings” (Bainbridge 2007, 5). Bainbridge’s willingness to extend moral status to bits of information (that is, to uploaded mind-files) lies at the heart of the debate between transhumanists and their religious opponents, and his vision of transhumanism as the religion for galactic civilization accords with the views of LaTorra.

Where does the competition between transhumanism and traditional religions take place? Not so much in the political arena, although James Hughes’s essay in this volume sheds light on the politics of the transhumanist discourse, but in the world of cyberspace and video games, as Robert M. Geraci’s documents. For Geraci, the religious dimension of transhumanism is incontrovertible. One only needs to examine the cultural domain of video games to see how designers, who are “not always transhumanist, produce games with transhumanist features, and transhumanists themselves actively desire to use video games in evangelical

contexts” (Geraci, in this volume). Geraci insightfully exposes the degree to which transhumanist themes, beliefs, and rhetorical postures permeate the gaming world whose goal is “transcendent by design.” Games are “places of reform, where we become more than we were,” although game designers “almost universally express skepticism about the possibility of transhumanist predictions.” It is most relevant that one of the major promoters of transhumanism, William Bainbridge, is also among the founders of the Order of Cosmic Engineers, as well as the designer and maker of *The World of Warcraft*, a very popular video game that has high appeal for transhumanists. For Bainbridge this game brings about functional immortality because the characters live forever in cyberspace. Bainbridge’s prediction that transhumanism will become the religion for galactic civilization is thus a wishful thinking of an evangelist who wants to build a new world in which his own prescription for transcendence becomes a reality, albeit in this case a virtual reality.

Ironically, the dissemination of transhumanist motifs is helped by the fact that they are endorsed and incorporated into the influential writings of leading evangelical Christians, as Ronald Cole-Turner illustrates. The Christian evangelical discourse is technologically optimistic, it considers the human as a “work in progress,” it focuses on the moment of “rapture,” and it promises humans eternal life in a disembodied state. Conversely, the transhumanist futurist speculations, especially on technological Singularity, secularize traditional Christian apocalyptic tropes: the radical disdain toward the biological human body, the strong sense of alienation from the present world, the utopian speculations about the ideal good life in which all needs will be fulfilled, and the experience of immortality. Evangelicals and transhumanist futurists both believe that nature itself will be radically transformed by technology and a new level of reality will emerge, but they differ about the degree of human ability to control the process. Regardless of differences, evangelicals and transhumanist visionaries emphatically hold that the “radical transformations of the future have already begun with the rapid advances in technology” (Cole-Turner, in this volume).

In previously published studies, Geraci (2008, 2010) has already demonstrated the degree to which Kurzweil and other AI advocates “lead a scientific movement that never strays far from the apocalyptic traditions of Western culture” (Geraci 2008, 140). Like ancient Jewish and Christian apocalypticists, Kurzweil and his cohorts have a strong alienation from the imperfect state of humans and a desire to radically break with it and inaugurate the New Age. In Kurzweil’s scenario of the eschatological future, meaningful life will take place only in cyberspace, where human bodies will be purified of their earthliness, and the minds of the future will possess only virtual bodies. This end result is deemed necessary because “evolutionary natural selection will favor artificial intelligence over human intelligence” and the spread of computational AI is declared “inexorable.”

This process will greatly benefit human beings because computers will solve human problems, and when human beings upload their minds into machines, they will not only live longer, happier lives, but they will also attain immortality, the very end that traditional religions promised their adherents. Since salvation will finally be attained in the “disembodied paradise” of cyberspace, Geraci is right to claim that “Apocalyptic AI is technoreligion for the masses” (Geraci 2007, 56). Of course, there are also differences between contemporary visionaries such as Kurzweil and the ancient apocalypticists: whereas in ancient apocalypticism, God has final victory over the forces of evil, in Apocalyptic AI evolution takes the place of God. Instead of the transcendent God, humans immortalize themselves in super-intelligent machines, thereby becoming gods.

How Kurzweil’s secularist faith evolved requires a separate study, but the insights of Michael Zimmerman are most useful. Zimmerman argues that the technoscientific vision of Ray Kurzweil is deeply indebted to Hegel’s secularization of Christianity. As a student in a Lutheran seminary, Hegel respected the transcendence of human rationality preached by the Enlightenment without denying the heterogeneity and specificity of actual, concrete existence. His philosophical solution was to view historical existence as the realization of Absolute Idea; the transcendent Absolute is both the subject of the process of self-realization through successive negations (or alienations) as well as its own objects. The Self-Realization of the Spirit is a secularized version of the Christian Incarnation theology, and history is the process by which Geist (spirit, mind, God) actualizes its original potential by becoming wholly free, self-conscious, and self-identical. The true subject of world history is not humankind but rather Geist at work in and through humankind. As Zimmerman explains, “Hegel depicted humankind as the instrument through which absolute Geist (spirit) achieves total self-consciousness. Jesus Christ was the man who became God as much as the God who became man. Similarly Ray Kurzweil “revises the customary conception of God to accommodate the possibility that humans are taking part in a process by which posthuman beings, according to traditional theism, will attain powers equivalent to those usually attributed to God” (Zimmerman 2008, 348). For Kurzweil the (secularized) divine spirit that works through humans (namely evolution) will take charge of its own destiny and will “spiritualize” everything in the universe, including matter and energy. Despite their differences, for Kurzweil as well as for Hegel, the cosmos has not only brought itself to self-awareness through humankind, but eventually humans will evolve beyond themselves by generating modes of consciousness and technology that will make possible a cosmic self-realization. Zimmerman concludes that “the God-like posthuman amounts to a creature that has become divine and that has thereby attained the status of cosmic Logos” (363), a notion that cannot be reconciled with traditional Christian beliefs. For this reason,

perhaps Bainbridge is right to speak about transhumanism as a “heresy” (Bainbridge 2005).

It may not be a coincidence that the fastest-growing religion today—the Church of Latter Day Saints—which some Christians regard as a “heresy,” is also the tradition that exhibits the most positive attitude toward transhumanism. The Mormon Transhumanist Association (2007) endorses the vision of a “neohuman future that will evolve as time goes on,” and it was the first religious affiliate of the World Transhumanist Association. According to the MTA, the “neohuman future” will consist of highly advanced intellectual capabilities; a physical body immune to disease and aging; an ability to commune complex thoughts and emotions instantaneously; expanded sensory inputs that enable higher awareness of even distant environs; superhuman strength and agility; perfect control of individual desires, moods, and mental states; and increased capacity to experience joy, love, pleasure, and other emotions. Going beyond physical enhancement, Mormons endorse the transhumanist project on theological grounds, since they believe in the principle of *theosis*, the concept of eternal progress of humans, and the concept of a progressing God. Mormons see mortal existence as but a preparation for the work that will continue after death, and they hold that individuals will take with them into the next life the knowledge and intelligence they have garnered during their earthly life. According to Lincoln Cannon, the president of the Mormon Transhumanist Association, Mormonism is in fact “the most transhumanist religion” (Cannon 2011) because Mormon beliefs “parallel the transhumanists’ common expectation that we will someday be capable of engineering intelligence and worlds.” However, the good works in this world that Mormons consider necessary for eternal life consist of service to others and massive investment in education; while transhumanists talk about the benefit of technology to humanity, they have yet to translate their ideology into social action or education.

Kurzweil has much in common not only with Hegel and Mormonism but also with the Greek thinker Nikolai Fedorovich Fedorov (1829–1903), a radical ascetic who “sought to synthesize Orthodox teaching about the Incarnation and the resurrection with the modern materialist science of his day to solve the greatest of human problems—war, death, and natural disaster” (Clay 2012, 167; cf., Burdett 2011, 25–28). According to Fedorov, in the eschatological future all humans should unite in the common cause of raising the dead and regulating the universe through scientific means, and he called for the enhancing of the human body in many ways that anticipated the transhumanist project by a century. Like the transhumanists, Fedorov believed that human beings are in large measure responsible for their own destiny and that they can fulfill the role that God has assigned for them: “to become a part of a single family . . . to triumph over death, . . . [and] to become the governors of the universe” (169–70).

Fedorov inspired several leading Russian scientists who were at the helm of the Russian space exploration (160), and (not surprisingly) the declaration of the Russian Transhumanist Association founded in 2003 has adopted Fedorov's view (157). Kurzweil may not have been familiar with the details of Fedorov's theology, but he shared his belief in deification (*theosis*), the ultimate end of salvation, as well as his vision of universal resurrection of the dead. This is a central tenet of rabbinic Judaism (and Kurzweil is a born Jew) as well as Christianity. In an interview he gave to *Rolling Stone* magazine, Kurzweil speculated how technology could be used to resurrect his own dead father (Clay 2012, 173). What was a religious hope for the very remote future would now be actualized by technology.

TRANSHUMANISM IN THE POSTSECULAR MOMENT

The above discussion of transhumanism argues that the cultural significance of transhumanism far exceeds the numerical strength of the World Transhumanist Association. Transhumanism is a multifaceted cultural phenomenon that consists of beliefs, norms, literatures, and social practices that address not only scientific and technological changes but also deeper human fears about death and the deep-seated human yearning for immortality. Transhumanism is rooted in the Enlightenment secularist ideology of progress, and it promotes technological change as the engine of human progress. In fact, transhumanism could be seen as an ideology of extreme progress that is expected to emancipate humans from the limitations of the biological, mortal body. More than mere reflections about the power of technological change to enhance life and engender progress, transhumanism offers a vision of the right moral ordering of self and society in relation to technology-driven world transformation. In the transhumanist normative vision, technology serves as the driving force of cultural change, including changes in religious and moral sensibilities. Furthermore, transhumanism articulates an eschatological future in which the human species will both transcend itself and bring about its own planned obsolescence.

It is fitting to see transhumanism as "religion without revelation" as Julian Huxley originally termed it, although there are significant differences between Huxley and contemporary transhumanists. Contemporary transhumanism theorizes about the human species in ultimate terms: it seeks transcendence by means of technology; it has authoritative doctrines, texts, and leaders, as well as normative beliefs and values; it articulates an eschatological vision that gives historical coherence and a narrative of directionality to trajectories of technological change; and it offers an ethical vision in which technological innovation is *the* central human achievement and thereby becomes the medium for achieving authenticity, liberty, and justice. Transhumanism already has a distinctive rhetoric and

artistic preferences, and eventually it will develop its own rituals. By all measures, then, transhumanism functions as a religion, albeit a secularized one, that offers meaning and seeks to recruit new adherents.

Why has transhumanism been so influential, well beyond the numerical numbers of the World Transhumanist Association? The answer lies not only in the power of contemporary communication technology but also in the peculiar hybrid of religious and secular elements. On the one hand, transhumanism expresses deep religious impulses in a secularized idiom of science and technology that previously has been taken to be in contrast to religion, but on the other hand, transhumanism reflects widespread cultural dispositions toward technology that it crystallizes into an explicitly teleological vision of the future—an eschatology. This hybridization of the religious and the secular fits the current situation in the world that Jürgen Habermas and other social theorists have designated as “the postsecular moment” (Gorski et al. 2012). The term captures the paradoxical situation in which, on the one hand, societies that have considered themselves secular (e.g., most European countries, Canada, Australia, and New Zealand) have witnessed the return of religion to the public discourse, after a long period during which religion was relegated to the private sphere, and conversely, religious societies (e.g., the United States) have witnessed the revival of a very militant form of atheism (Dawkins 2007; Harris 2004; Hitchens 2007). The secularist certainty that religion will disappear worldwide in the course of modernization has lost ground and instead the public influence on and relevance of religion have increased. A postsecularist sensibility means a “renewed openness to questions of the spirit, while retaining the secular habit of critical thought” (King 2009, 45).

Scholarship in the social sciences has produced extensive accounts of secularism, clustered around the “secularization thesis” according to which modernization has created problems for religion. In the analysis of Steve Bruce (2002), the main features of secularization were the decline of importance of religious institutions in public life, the decline of the social standing of religion, and the decline of the extent to which people are religious. For Bruce, the secularization process will lead inevitably to the disappearance of mainline (Christian) religious traditions such as Methodism and Anglicanism. Another theorist of the secularization process, Martin (2005) is less sure about the direction of the march of secularization and admits that “religious language is *sui generis*,” precisely what the atheists deny, but he demonstrates the degree to which mainstream cultural production promotes secular values. And Charles Taylor (2007) explains the three facets of secularity: the common institutions and practices, the practices themselves, and the “conditions of belief.” He defines the secular age as “one in which the eclipse of all goals beyond human flourishing becomes conceivable” (19), and there is primary focus on human flourishing solely in the immanent, material world. By contrast,

the postsecular moment, according to Taylor, is “a time in which the hegemony of the mainstream master narrative of secularization will be more and more challenged” and a “new age of religious searching” will commence “whose outcome now one can foresee” (534).

Habermas’s reflections on the postsecular age can help us understand the difference between secularism and postsecularism in relation to technological change. Habermas correctly understood that genetic manipulation goes to the heart of the “self-understanding of the species.” He has been quite critical of biotechnology and the drive for enhancement, which he called “liberal eugenics,” because they threaten deep normative logic that undergirds liberal democracy.

Technology threatens the greatest achievement of the Enlightenment and highlights the desire for freedom, because it empowers the “made” (or “programmed”) over the “grown” (Habermas 2003, 44–53). In seeking to articulate “species ethics,” Habermas reframed the relationship between liberalism and biotechnology: all citizens are entitled to equal opportunity for an autonomous direction of their own lives. He argued that genetic manipulation could change the self-understanding of the species in so fundamental a way that the attack on modern concepts of law and morality might at the same time affect the inalienable normative foundations of society’s integration. What makes his analysis of the situation distinctive and relevant to this discussion is that Habermas sought to define the limits of “liberal eugenics” and prevent it from becoming normalized on philosophical, nonreligious grounds, while allowing for the dialogue with religious thinkers. Contemporary biotechnology does pose a new challenge to the human species because of the fusion of man and machine, the vision of future robots becoming autonomous and making humans of flesh and blood a model doomed to distinction, and the blurring of distinction between the subjective and objective, all of which require serious theorizing if we are to retain the constitutional state. Yet such theorizing cannot take place without religion. In his conversations with Pope Benedict XVI and a number of other Catholic theologians, Habermas suggested that the prominence of religion in global affairs reveals that secularization is less complete than previously believed (Habermas et al. 2008; Ratzinger and Habermas 2007). Habermas therefore has engaged religious thinkers in an attempt to articulate a philosophical, secular answer to the challenges of biotechnology without dismissing the relevance of the religious voice. He acknowledges the force of religious traditions to articulate moral intuitions with regard to social forms of a dignified human life and that religious presentations on relevant political issues are a serious candidate for possible truth contents that can be translated from the vocabulary of a specific religious community into a generally accessible language.

In this understanding of the postsecular moment, religion is part of the genealogy of public reason itself. To disengage the idea of public

reason from religion is to disconnect it from a tradition that continues to give it life and content. Therefore, the public sphere necessarily includes processes of culture-making that are not reducible to advances in reason and that nonetheless may be crucial to capacities for mutual understanding. In this framework, religion is no more relegated just to the private sphere; religion has public implications. Postsecular thinking is thus more attentive to the persistence of religion and its relevance to the public sphere, and that is precisely what we see in transhumanism. Transhumanism expresses postsecular sense-making because it constructs a (religious) narrative that lends coherence and meaning to a moment of destabilizing technological change. Transhumanism reflects the postsecular moment because it hybridizes the religious with the secular, in effect “re-enchanting” the secular while simultaneously aligning with enlightenment rationality over religious belief.

The essays on transhumanism in this volume enable us to appreciate the power of transhumanism as secularized religiosity, inviting us to engage transhumanism on intellectual, social, political, ethical, and philosophical grounds. We may not like where the transhumanist imagination is taking us, but if we care to understand the world we inhabit, we must not ignore transhumanism. Rather, we should understand its complexity, including tensions, contradictions, and paradoxes, and understand its deep yearning to transcend human biological existence. One of the glaring paradoxes of transhumanism concerns the possibility of freedom. On the one hand, transhumanism calls human beings to take control of evolution in the name of an idealized secular eschaton in order to free humans from the limitation of biological evolution, but on the other hand, the imagined future is actually dictated by human-made technology. Another paradox concerns the dialectic of enchantment: as a child of Enlightenment rationalism, transhumanism seems to privilege secular rationalism over religious belief, thereby disenchanting the world, but by assigning salvific meaning to man-made technology, transhumanism “re-enchants” the secular. Most poignantly, the transhumanist eschatology re-imagines the place and role of technology in historical change because technology is seen as the driving force of cultural change, but since technology operates along an exponential trajectory, it belies the “intuitive linear” view of history. In short, if we are to understand the complexity of the current postsecular moment, we will do well to examine transhumanism.

NOTES

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1. I explain the relationship between posthumanism and transhumanism in greater length in my essay on “Religion” in *Posthumanism and Transhumanism*, ed. Stefan Sorgner and Robert Ranisch (Frankfurt am Main: Peter Lang, forthcoming).

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