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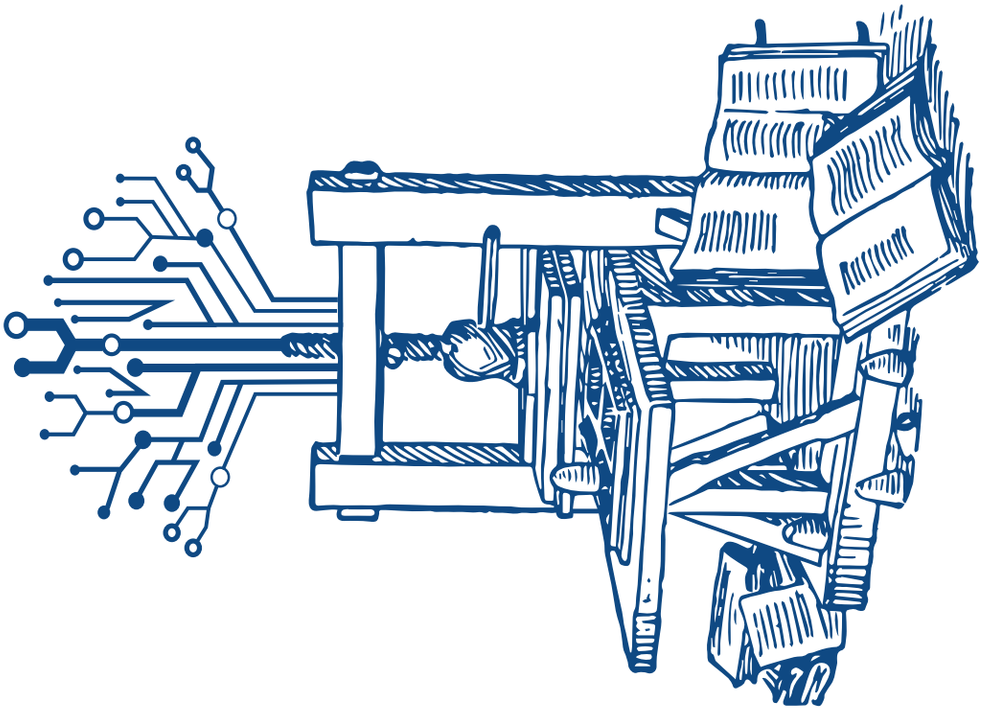

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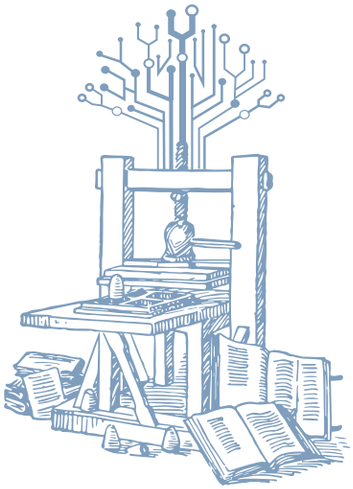
Sean Erwin, PhD, Editor
Associate Professor of Philosophy
Barry University
11300 NE 2nd Avenue Miami, FL 33161
Serwin@barry.edu erwinsean.com



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Contact Information

For information concerning the HTA contact:

Dr. Darrell Arnold, President, *HTA*
Assistant Professor of Philosophy
Arts and Philosophy Department
Miami Dade College
11380 NW 27th Ave., Room 5226
Miami, FL 33167
Email: darnold@mdc.edu

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Technological Re-Enchantment: Transhumanism, Techno-Religion, and Post-Secular Transcendence

Albert R. Antosca
Dartmouth College

Abstract:

This article provides a framework for understanding the dynamics between the disenchanting effects of a uniquely modern existential meaning crisis and a countervailing re-enchantment facilitated by the techno-cultural movement of transhumanism. This movement constructs a post-secular techno-theology grounded in a transhumanist ontology that corresponds to a shift away from anthropocentric meaning systems. To shed light on this dynamic, I take a phenomenological approach to the human-technology relationship, highlighting the role of technology in ontology formation and religious imagination. I refer to examples of transhumanist religious movements to illustrate a new post-humanist ontological grounding of meaning corresponding to a contemporary meaning-crisis that scholars are calling 'neuroexistentialism.' I then use the language of Charles Taylor and his work on secularization to frame these ontological developments. Ultimately, this article argues that

transhumanist religious expression represents a zeitgeist of post-secular re-enchantment.

Introduction

Scientists and philosophers alike are beginning to recognize a uniquely modern meaning-crisis driven by the contemporary techno-scientific milieu. The term "neuroexistentialism" has been coined to describe a new wave of existentialism characterized by the disenchanting effects of science and technology that pose a fatal challenge to fundamental conceptions of humanist-based groundings of meaning, forcing a reassessment of what it means to be human and producing a correlated meaning-vacuum as these fundamental conceptions of ontological grounding begin to shift. This article explores a countervailing meaning-producing phenomenon of technological re-enchantment emerging from transhumanism, a growing cultural movement that seeks to transcend humanity through the radical use of technology. Despite the disenchanting effects of modern science and secularization, this techno-cultural movement of transhumanism[1] has given rise to new techno-religions, stimulating religious imagination based on a new techno-theology grounded in a shifted locus of meaning beyond the human subject.

To support this understanding, I explore the case of emerging techno-theology arising from the techno-cultural movement of transhumanism. Transhumanism, with its

[1] Transhumanism is the idea that the concept of the human is open-ended and should be transcended through the use of radical technological interventions. Transhumanism shifts the locus of ultimate value from the human itself to a broader focus on consciousness, data, or information patterns, thereby seeing the human being as merely a limited manifestation of consciousness that should be technologically upgraded.

accelerationist ethos,[2] is posing a challenge to a traditionally humanist model of meaning-making, facilitating new transhumanist forms of religious expression.[3] Some of these forms of religious expression include the Church of Perpetual Life, the Turing Church, Terasem, the Christian Transhumanist Association, and the Mormon Transhumanist Association.

With the phenomenology of perception as my point of departure, I describe the function of technology as a mediator to constructing models of reality, thereby providing a point of connection between meaning-making structures and technology. Ultimately, I argue that this ontological shift from human-centric meaning structures to the transhuman ontology has developed into a form of techno-theology, facilitating new modes of religious expression and post-humanistic meaning-making. To begin talking about how technology is affecting the underlying ontological meaning-making paradigms of techno-culture, and thereby facilitating new forms of religious expression, I will briefly lay out a phenomenological perspective on the human-technology relationship.

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[2] I use the term "accelerationist" to signify a belief in the historically inevitable process by which technology advances at a rapid, accelerating, and predictable pace. Such accelerationism and corresponding beliefs drive much of the enthusiasm for transhumanism and give strength to certain predictions of radical technological progress.

[3] Historian Yuval Noah Harari, although never using the term "transhumanism," does outline a dichotomy of dataist vs. humanist ideologies in his book *Homo Deus: A Brief History of Tomorrow.* I argue that this dataist mindset can be clearly observed in the growing transhumanist movement. See: Harari, Y. N. (2017) *Homo Deus: A Brief History of Tomorrow*. New York: HarperCollins, p. 371.

Phenomenology of Technological Mediation

According to Heidegger, entities like ourselves experience the world first and foremost as a world of meanings, rather than objects. This view challenges the objective Cartesian concept of an observer apprehending an array of objects in a context-independent world *present-at-hand,* instead positing a phenomenologically-oriented ontology of Beings interacting with their environment in a *ready-at-hand*, context-dependent situation, always already equipped with value-predicates. In Heideggerian terms, *Dasein* is understood to be, "[…] in primary epistemic contact not with context-independent *present-at-hand* primitives […] to which context-dependent meaning would need to be added via value-predicates, but rather with equipment, the kind of entity whose mode of Being is *readiness-to-hand* and which therefore comes already laden with context-dependent significance. (italics mine)"[1] Heidegger outlines this distinction in the following way:

> What we 'first' hear is never noises or complexes of sounds, but the creaking wagon, the motor-cycle. We hear the column on the march, the north wind, the woodpecker tapping, the fire crackling… It requires a very artificial and complicated frame of mind to 'hear' a 'pure noise.' The fact that motor-cycles and wagons are what we proximally hear is the phenomenal evidence that in every case Dasein, as Being-in-the-world, already dwells alongside what is ready-to-hand within-the-world; it certainly does not dwell proximally alongside 'sensations'; nor would it first have to give shape to the swirl of sensations to provide a springboard from which the subject leaps off and finally arrives at a 'world.' Dasein, as essentially understanding, is proximally alongside what is understood.[2]

The world presents itself to us as *ready-to-hand*, in terms of potential uses, not initially as objects. We see the meaning of things in terms of their uses, and then infer intentional objects from this initial perception of significance. This structure of perception is an essential element in the framework of our mode of existing in the world and produces a world with a particular set of technologically mediated questions, goals, motivations, and values. For example, a person in Latin Christendom is going to have a fundamentally different set of questions and challenges in life than the modern Western person, because their world is constructed of fundamentally different networks of goals and values, mediated by the technological conditions of their reality.[4] The technology of your world changes your world, and by extension changes your concerns to include the ultimate locus of meaning if the technological conditions are sufficiently transformative to challenge the underlying meaning-making structures.

Therefore, the world is mediated, interpreted, and ultimately constructed through technology. This technological lens frames our perceptions, attitudes, and theories of our situation, structuring reality in a particular way. Technology mediates our world insofar as it immersively sets the scope of perceptual significance in which we orient our moment-to-moment actions.[5] The set of problems that make up our perception of the world is technological.

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[4] The example of Latin Christendom is also famously used as an arbitrary point of historical contrast by the philosopher Charles Taylor when considering changes to secularity in the West. I am adopting this same point of contrast. See: Taylor, C. (2007) *A Secular Age* Cambridge, MA: The Belknap Press of Harvard University Press, p. 13.

[5] In his book *Homo Deus*, Harari makes an argument concerning the power of technology to set the bounds of our understanding the challenges and opportunities available in a

Technology and the Problem of Meaning

Apart from the material impact of technology, we cannot separate the technological from our understanding of the world, since the world always already presents itself from within an ontology of technological framing. In this way, the problems and questions a Western individual self might have in, for example, Medieval Europe, were different from those of today because of the different technological realities bounding the limits of how reality is understood. Technology gives rise to the kinds of problems and potentiality with which the society is presently confronted in any given historical moment. The other elements of the society, such as its particular political structure, normative values, economic system, etc., are built upon the foundation of these technologically mediated concerns.

This role of technology implies a link between technology and meaning. The relationship between technology and meaning can be seen in the shifted grounding of meaning from the divine to the human that precipitated liberal humanism and its various corresponding political and economic systems of organization. Commenting on the nature of this transition, historian Yuval Noah Harari writes, "the central religious revolution of modernity was not losing faith in God; rather, it was gaining faith in humanity."[3] For example we can see this transition in the work of John Locke, manifested in the *Declaration of Independence* of the United States, which is decidedly humanist in its foundational beliefs

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given society, although without emphasizing a phenomenological approach. Likewise, much work has been done by Don Ihde in the area of post-phenomenology, producing a more nuanced and granular examination of the human-technology relationship. See: Ihde, D. (1990) *Technology and the Lifeworld: From Garden to Earth*. Indianapolis, IA: Indiana University Press.

in the human as a free, individual self, worthy of inalienable rights. Although these rights originate from a divine creator who established natural law, the Deism fashionable at that time required only a small shift to eventually bracket off the divine agent, leaving only the superordinate 'natural law' itself.

With this newfound confidence and faith in humanity, the West committed to a new paradigm of locating ultimate meaning in humanist values. This was not a painless transition, as Nietzsche foretold with his proclamation of the 'death of God.' The experiments in different varieties of humanism, such as the communist and Nazi varieties, each held the same fundamentally secular belief in the primacy of the human as a source of meaning, although these systems disagreed drastically as to the scope and implications of such a commitment.

However, the 19th century was one of religious diversity and fervor, at a time when certain secular and religious paradigms of meaning were competing to fill a meaning-vacuum formed by a rapidly changing world. The technological conditions of reality were changing, and there were several options from which to choose when deciding how best to adapt. Considering this process, Harari asks,

> Why did Marx and Lenin succeed where Hong and Mahdi failed? Not because socialist humanism was philosophically more sophisticated than Islam and Christian theology, but rather because Marx and Lenin devoted more attention to understanding the technological and economic realities of their time […][4]

These reactions to the meaning vacuum fit with what philosopher Charles Taylor terms "the malaise of modernity" whereby our modern "spiritually unstable" milieu is characterized by a need for meaning.[5]

This makes sense in a context where technology is understood as playing a major role in the creation of meaning systems. Harari writes, "[…] technology often defines the scope and limits of our religious visions. […] New technologies kill old gods and give birth to new gods."[6] In this way, Marx's apt understanding of and adapting to the new technological realities of his time are what drove the powerful rise of Marxism. Old paradigms of meaning must continuously adapt to avoid becoming obsolete. As Marx wrote, "[…] mankind always takes up only such problems as it can solve; since, looking at the matter more closely, we will always find that the problem itself arises only when the material conditions necessary for its solution already exist or are at least in the process of formation."[7] In this way, we can start to see a path by which technology can give rise to yet another shift in meaning-making, facilitating new forms of religious expression such as the new religions emerging from the transhumanist movement.

Science, Technology, and Religion

This is not to say that traditional 'world religions' are not adaptable. Indeed, the rise of artificial intelligence (AI) is now compelling mainstream religious organizations to confront accelerating technological change. One example is the Southern Baptist Convention who recently issued an official declaration of principles concerning AI to address the growing relevance and social impact of accelerating technology.[8] However, there are other voices in this discussion about the different possible ways contemporary religion can adapt to a technologically changing world.

For example, Miroslav Volf writes about contemporary religion and globalization, including the corresponding issue of accelerating technological advance.[9] In his book *Flourishing: Why We Need Religion in a Globalized World*, Volf points out that:

> Unless we seriously misunderstand both globalization and world religions, the achievements of well-run globalization and the offering of world religions aren't in competition with one another. More precisely: market-driven globalization in alliance with science and technology and globalization shaped by world religions aren't exclusive alternatives and need not clash; religions have their own contribution to make without diminishing the importance of science and technology.[10]

In response to thinkers such as Volf, who object to the way in which technology and religion are pitted against each other in a competition for hearts and minds, a distinction must be made as to *why* technological adaptation is occurring. The assumption that science is functioning merely as descriptive or that technology's function is merely providing material goods ignores the deeper ontological *essence* of technology and its potential effect on meaning making. Volf rightly points out that, "… to put the contest between religion on the one side and science and technology on the other in these terms presumes that religions, like science and technology, primarily aim at explaining and manipulating the world."[11]

This is a compelling position since it rejects the notion that religion is merely oriented at explaining the world, but the technology/religion dialogue does not necessarily have to assume such a position. My point is not to reduce the function or role of religion to the level of scientific explanation, but to show how science and technology can shape meaning-making paradigms, going beyond the mere explanatory function typically granted them. Volf's point is correct, but only if we disregard science and technology's power to affect meaning-making paradigms and to facilitate the transcendent. Volf writes:

> From the perspective of world religions, their central challenge isn't to gain a competitive advantage over

> science and technology or at least maintain their share of the same "market." World religions don't stand or fall on their ability to deliver more and better worldly gods to more people than do science and technology in the context of globalization—goods like health and longevity, the necessities and conveniences of life, or explanations of how the world and things in it function. World religions stand or fall on their ability to connect to the transcendent realm and thereby make it possible for them to truly flourish, to find genuine fulfillment in both their successes and failures, and to lead lives worthy of human beings...[12]

This objection is valid, but only by assuming a narrow conception of the role of science and technology in affecting meaning-making. Nevertheless, Volf's point of view is necessary to present a valid counter-perspective that helps to draw the limits of such claims on science and technology's impact on religion.

For now, the liberal humanist paradigm of meaning is holding strong in modern Western society, but the prevalence of this paradigm does not necessarily correlate to the continued stability or longevity of the paradigm. History is rife with examples of paradigm shifts emanating from relatively small groups that represented indicators of how religion was changing. New transhumanist religions may be providing such an indication since they are founded on a shift toward fundamentally different paradigms of meaning.

Shifting Paradigms: From Humanism to Transhumanism

Prior to the ontological changes described in this article, the label given to the modern grounding of meaning-making has been 'liberalism,' or the more general term 'humanism.'[6] This signifies a modern Western sense of

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[6] Both Harari and Taylor point to what I believe is the same

placing the individual human self at the center of our system of values. Charles Taylor adds to this the modern emphasis on following our individual hearts and desires. Taylor notes how the modern Western ethic of authenticity emerging after the Second World War placed special emphasis on a kind of humanism that gave precedent to the desires and feelings of the individual. Mantras such as 'follow your heart' and 'do what feels right' became widely popular, and when seeking answers to deep personal questions, your friends, family, or therapist will no longer advise that you seek the counsel of your priest to interpret the appropriate action, but rather ask how you feel, what would make you happy, and understand the solution in terms of how it best expresses the desire of your *true* self.[13]

This modern ethic is built on an understanding of the human as an innately free and individual self, possessing both free will and innate value. The liberal intersubjective ideology, complete with its commitments to universal human rights and the resulting legal and political systems on which are predicated these ontological presuppositions are themselves upheld by prior essential presuppositions about reality.[7] For

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modern humanist locus of meaning when they speak of "humanism" or "liberal humanism."

[7] The term 'intersubjective' has been used in many ways by philosophers and social scientists. I use the term intersubjective here in the same way as Harari to refer to a level of reality distinct from subjective and objective realities whereby an entity or concept emerges as a function of many individuals holding a common belief. Examples of intersubjective entities or concepts include corporations, imagined national communities, the value of paper money, etc. whereby the entity does not exist objectively, but rather exists as an intersubjective supposition. See: Harari, *Homo Deus*, p.146.

example, the structural integrity of this edifice requires the concepts of free will and a model of the self as *individual*. Only then are we able to derive an innate value of the individual and locate our sources of meaning in a conception of human agency based on the presupposition of free will.[14]

Transhumanist Technology and Neuroexistentialism

The current grounding of humanist individualism and corresponding religious ultimate concerns are being challenged by certain scientific discoveries and technological advances. I label this set of scientific discoveries and technological advances as "transhumanist technology."[8]

Since our liberal humanist worldview is based on a conception of the self with axiomatic presuppositions such as free will and individualism, we must look to transhumanist technologies that pose a potential threat to these particular elements of the contemporary humanist ethic. We can see that, if an empirically valid observation of the world contradicts some element of our presuppositions, that this will call into question the validity of that presupposition, thereby posing a fatal challenge to the conclusions which the presuppositions support. We can see that, given the implicit acceptance of the concept of free will, for example, that we do not simply *believe* in free will, but also hold some sort of basis on which to believe it at some level—the belief had to be perceived as being real, grounded in our understanding of reality, not arbitrary. It then follows that, insofar as our understanding of material reality changes, so too could our beliefs since our reliance on the concept of free will represents an elementary presupposition of the humanist liberal order. Additionally,

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[8] "Transhumanist technologies" is a term I use to refer to advanced technologies with transhumanist implications, i.e., that hold the potential to shift the mainstream cultural attitude towards that of transhumanism.

since such a belief is not arbitrary and must be seen as true, in a sense as corresponding to our reality, any challenge to the empirical truth-value of this claim could undermine its ultimate validity and ontological status, resulting in the above-described disruption to the paradigm.

Harari states that, "For liberalism to make sense, I must have one—and only one—true self, for if I had more than one authentic voice, how would I know which voice to heed in the polling station, in the supermarket and the marriage market? […] If I look really deep within myself, the seeming unity that I take for granted dissolves into a cacophony of conflicting voices, none of which is 'my true self.' Humans aren't individuals. They are 'dividuals.'"[15] This reinforces the notion that our modern paradigm of liberal humanist meaning is grounded in large part on the idea of the individual self. Transhumanist technology is posing a challenge to this element of humanist grounding.

Our modern paradigm of liberal humanist meaning is not merely grounded in a conception of the individual self, but also depends on that self as possessing a free will.[16] In 2015, I asked the philosopher and linguist Noam Chomsky a question concerning the nature of the mind and its computability. Essentially, my question asked whether he believed the mind to be computable, in principle. Chomsky answered by stating:

> The mind is organized matter. It's organized in a particular way, which we don't understand, but we don't understand much about bee communication. We don't know of any physical reason to believe that the particular components of that organized matter are critical for its operation. It appears to be something about the way it's organized; that's as far as we know.

> So therefore, it could be emulated, presumably, in some other substances.[9]

However, he went on to say, "[…] the major question—what is the puppeteer doing—that is one that we don't even know how to address." [9]

The 'puppeteer' to whom Chomsky refers is the mysterious pre-conscious driver of our thoughts and actions, uncovered by recent discoveries in neuroscience.[17,18] His analogy to a puppeteer is apt; what he is alluding to is the fact that recent neuroscience has confirmed that intentional human action in the body is initiated in the brain prior to conscious awareness of the action. This means that when we make decisions we are actually acting on mobilizing forces prior to our consciousness of having made our decision to act, implying some kind of disconnect between the thing that we suppose is making our decisions—namely, our individual, free, willful 'self'—and the thing actually making the decision, which seems to be much more diffuse and complex. This leads to a new understanding of how free-will functions, presenting an incompatible element of consciousness that our present humanist model of self cannot incorporate. These revelations serve as key drivers of this new wave of shifting meaning structures.

The 'puppeteer' study to which Chomsky referred concluded that, "…the outcome of a decision can be encoded in brain activity of prefrontal and parietal cortex up to 10 s before it enters awareness. This delay presumably reflects the

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[9] This question was posed to Prof. Chomsky through a live online correspondence facilitated by Twitter and broadcast live on the Internet as part of a public speaking engagement. My question was posed to Chomsky by the moderator. See: Chomsky, N. (2015) *Chomsky and Krauss: An Origins Project Dialogue (official) - (Part 2/2)* [Video File]. Retrieved from: https://www.youtube.com/watch?v=tbxp8ViBTu8

operation of a network of high-level control areas that begin to prepare an upcoming decision long before it enters awareness."[19] Essentially, this new understanding shows that our actions are based on operations in the brain, the neuronal correlates to which we are able to empirically observe. The new reality emerging from this science tells us that free will is more complicated than our conception of an individual human agent making their own decisions. *You*, in an essential sense, are not making choices despite the intuitive phenomenology of perception and identity.

There are many discrete examples of transhumanist technology presenting similar challenges to traditional understandings of the self and a corresponding grounding of meaning, from brain-machine interfaces to technologically enabled neuroscientific insights into the nature of perception and behavior. These innovations collectively are now giving rise to what some scholars are now calling "neuroexistentialism." This can be understood in the following context:

> There are three kinds of existentialism that respond to three different kinds of grounding projects—grounding in God's nature, in a shared vision of collective good, or in science. The first-wave existentialism of Kierkegaard, Dostoevsky, and Nietzsche expressed anxiety about the idea that meaning and morals are made secure because of God's omniscience and good will. The second-wave existentialism of Sartre, Camus, and de Beauvoir was a post-Holocaust response to the idea that some uplifting secular vision of the common good might serve as a foundation. Today, there is a third-wave existentialism, neuroexistentialism, which expresses the anxiety that, even as science yields the truth about human nature, it also disenchants.[20]

My argument is that transhumanist technologies are now providing an adaptive means of re-enchantment as a response to the challenge of third-wave neuroexistentialism by dissolving the "boundary of the mind" that Taylor describes as the defining feature of what he calls the "buffered," disenchanted self.[21]

Techno-theology: Dissolving the Porous/Buffered Boundary

The question then becomes: what does the human-technology relationship reveal in a world of rapidly accelerating transhumanist technologies? To understand what it means to be religious in an age of advanced technology, I frame the concepts of religion and the secular through the lens of Charles Taylor and his model of the 'porous' and buffered' selves since these shifts in meaning making seem to tightly correspond to the shifts in meaning making he describes as having occurred in the prior God-centric to human-centric shift. The human-centric to transhuman shift can be seen as the next step in Taylor's model.

Taylor's phenomenological approach starts with a presupposition that humans do not possess an innate, universal, unchanging nature, and that from epoch to epoch, the nature of how humans relate to the world can change. In comparing the two epochs of the years 1500 and 2000, Taylor sees two distinct versions of a conception of self and its relation to the world. In the older version of the past, he describes a way-of-being he calls the "porous self"—this term refers to the porous nature of the boundary between the self and the world. This is a conception in which the self, living in a pre-scientific world, is available to enchantment in a world full of mysterious spiritual forces.

He contrasts this 'porous self' with the modern way of being, called the "buffered self," which is a result of our disenchantment and newfound confidence in our ability to

find order in the world.[22] The buffered self is "buffered" or "shielded," in the sense that, in the modern "social imaginary,"[10] the self is no longer available to the magic of the enchanted world—we are no longer porous; we live in our own internal psychological and scientifically grounded reality.

Here, Taylor links the concepts of porousness and enchantment. Taylor summarizes the key concepts of the porous and buffered selves in the following way:

> Almost everyone can agree that one of the big differences between us and our ancestors of five hundred years ago is that they lived in an "enchanted" world, and we do not; at the very least, we live in a much less "enchanted" world. We might think of this as our having "lost" a number of beliefs and the practices which they made possible. But more, the enchanted world was one in which these forces could cross a porous boundary and shape our lives, psychic and physical. One of the big differences between us and them is that we live with a much firmer sense of the boundary between self and other. We are "buffered" selves. We have changed.[23]

Taylor's conception of the buffered self serves as a sophisticated model of secularization and serves as a way of understanding the implications of the emerging techno-theology represented by transhumanist religions. In a world

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[10] Taylor's concept of social imaginary can be defined as: "Different from an intellectual system or framework, "broader and deeper than the intellectual schemes people may entertain when they think about social reality in a disengaged mode," surroundings, and this is often not expressed in theoretical terms, it carried images, stories, legends, etc." See: Smith, J. K. A. (2014) *How Not to Be Secular: Reading Charles Taylor*. Grand Rapids, MI: Wm. B. Eerdmans Publishing. See also: Taylor, *A Secular Age*, pp. 171-172.

saturated by transhumanist technology, a new-wave neuroexistential meaning crisis, and corresponding countervailing materialist techno-theologies, it is meaningless to call the self "buffered." One must ask, from what is it buffered?

There is no longer this kind of subject/object dualism. There is no opposing realm from which the self is buffered. No longer is the subject buffered from the enchanted world because in the transhumanist world all is contained, in principle, within the same material space-time system, which itself is available to materially realized yet mysterious and functionally miraculous forces.[11]

In a transhumanist world full of mysterious, albeit ultimately material forces, the barrier between the realm of phenomenal experience and the magical world is flattened—the transhumanist world is completely available to the miraculous, and this is taken for granted. The entire world is contained within a common plane of reality available to the miraculous, albeit a materially-realized, functionally miraculous. This represents a cultural re-enchantment linked to technology. For transhumanist religions, a techno-theology of re-enchantment moves the locus of meaning through a transmutation of the human to the transhuman.

In his book, *A Secular Age*, Charles Taylor lays out a critique of Weberean secularization theory by rejecting the traditionally conceived notion of secularization as an

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[11] My use of "miraculous" here is in a functional sense—I am claiming a miracle in this sense need not be supernatural, by definition, but be mysterious to the person or group experiencing the miracle. A miracle with a supernatural cause and a miracle with a perceived or expected material cause are functionally and phenomenologically equivalent as long as the element of mystery exists—they are experienced in the same way and serve the same function.

axiomatic result of a decline in religion—something Taylor describes as a mere 'subtraction story.' Instead, Taylor sees our disenchanted secular world as a result of a complex process of buffering ourselves to the enchanted world, to which our Western ancestors of 500 years ago were porously open. The porous openness of the past resulted in theirs being an enchanted world. However, given the challenge of modern technological conditions, I claim that our uniquely advanced transhumanist technology is bringing back this state of enchantment by eliminating the boundary between the magical and the "real world" in which we act, thereby revealing the role modern technology plays in forming new paradigms of meaning and religious expression.

The old world in which people of Latin Christendom acted was enchanted precisely because it was co-located with the world of the mysterious and miraculous—there was no boundary. The same now holds for transhumanists and their worldview as transhumanist techno-theology dissolves the secular boundary between the magical realm and the material world; they are once again coterminous in a re-enchanted world of unlimited technological potentiality. Transhumanist technology serves to transfer the locus of meaning from the human to quantifiable data, thus combining the world of perceived technological wonder with the phenomenologically experienced self. This self is no longer indivisible, but malleable and deconstructed. The world is, once again, porous.

Transhumanist Hyper-connectivity: Collapsing Boundaries

The transhumanist future expects a world of hyper-connectivity. Some transhumanists, such as Singularitarians[12],

[12] Singularitarians are a subset of transhumanists who hold a belief in a coming event known as the Technological

hope to connect their minds with machines, in line with the possibilities of the deconstructed, quantified, dataist conception of self. This would, in principle, collapse the boundary between an external world and the mind—a boundary that Charles Taylor defines as a necessary condition for the modern buffered self. Philosopher Slavoj Žižek agrees that the removal of this buffer would amount to a categorical shift in the human condition, noting, "[…] are we aware that, if this becomes a reality—this direct link between our brain and digital space […] then in a way we will no longer be human because to be human means to have this minimal sense of separation between me in my mind and reality out there. Who knows what happens when this distance falls."[24] This minimal separation represents the metaphorical "buffer" of Taylor's "buffered self"—the metaphysical vanguard defending against our return to the enchanted world. In a transhumanist ontology, Being will not be thought of in terms of the human but rather the transhuman of nebulous identity and patterns of data.

In such a world, who or where is the puppeteer? This question highlights my connection to Taylor since his concept of the buffered self relies on the presence of a boundary separating our mental world and the external world. I am claiming that the transhumanist view implies the elimination

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Singularity. This event has an eschatological dimension as it represents a transformative world-changing moment when technology accelerates at an explosive exponential rate, creating near-infinite levels of superintelligence and creating new possibilities that cannot currently be conceived of using current human minds. The Technological Singularity is therefore tantamount to an end-times event found in millenarian religious beliefs and includes a functionally-miraculous transition to a state of permanent well-being through mysterious, unknowable technological processes.

of this distinction—it implies a world where we are directly linked to the deconstructed plane of data on which the miraculous technologies mysteriously function.

Similarly, in Taylor's concept of the enchanted world of the porous self, people were likewise directly available to the mysterious and magical. Taylor writes,

> …in the enchanted world, the line between personal agency and impersonal force was not at all clearly drawn. We see this again in relics. The cures effected by them, or the curse laid on people who stole them or otherwise mishandled them. Were seen both as emanating from them, as loci of power, and also as coming from the good will, or anger, of the saint they belonged to. Indeed, we can say that in this world, there is a whole gamut of forces, ranging from (to take the evil side for a moment) super-agents like Satan himself, forever plotting to encompass our domination, down to minor demons, like the spirits of the wood, which are almost indistinguishable from the loci they inhabit, and ending in magic potions which bring sickness or death. This illustrates that […] in the enchanted world, in contrast to our universe of buffered selves and "minds," shows a perplexing absence of certain boundaries which seem to us essential.[25]

Functionally, the enchanted world was one in which *objects* were tacitly understood to be imbued with potential mysterious power. What, essentially, is the difference between this and magical technology? As Singularity University[13] co-founder David Rose wrote, "Humans today are no less prone

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[13] Singularity University is a transhumanist educational institute co-founded by transhumanist Singularitarian thinker (and current Director of Engineering at Google, Inc.) Ray Kurzweil.

to believe in potions and elixirs, magic stones fountains, and youth-giving spirits than the past."[26] As was the case in the enchanted world, objects have power. This reflects Taylor's conception of the porous, which he understood as representing the enchanted world of Medieval Europe. This world is returning by transhumanist technology removing the Taylorian buffer, opening space for re-enchantment through techno-theology.

It is this notion of boundary that defines the modern buffered self. Taylor notes that, "The materialist fantasy, that we could for all we know be brains in a vat, being manipulated by some mad scientist, depends for its sense on this view that the material sufficient condition for thoughts of all kinds is within the cranium." In other words, our buffered self depends on a conception of self predicated on a mind-centric world, as opposed to the enchanted world. Taylor writes:

> the crucial difference between the mind-centered view and the enchanted world emerges when we look at meanings in this sense[14] that things only have the meaning they do in that they awaken a certain response in us, and this has to do with our nature as creatures who are thus capable of such responses, which means

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[14] Taylor's sense of "meanings" here is in the context of a discussion of thoughts. Taylor writes: "What I am gesturing at with the expression "thoughts, etc."? I mean, of course, the perceptions we have, as well as the beliefs of propositions which we hold or entertain about the world and ourselves. But I also mean our responses, the significance, importance, meaning, we find in things. I want to use for these the generic term 'meaning,' even though there is in principle a danger of confusion with linguistic meaning. Here I am using it in the sense in which we talk about "the meaning of life," or of a relationship as having great "meaning" for us." See Taylor, *Secular Age*, p. 31.

> creatures with feelings, with desires, aversions, i.e., beings endowed with minds, in the broadest sense.[27]

Transhumanism represents a move away from the humanist ethic of the buffered, anthropocentric identity that gave rise to the "malaises of modernity" of which Taylor writes. Humans are now moving back to a pre-buffered state of enchantment by moving past the human, past the anthropocentric, having transitioned from a pre-humanistic structure, through a humanistic one, to the functionally enchanted post-humanistic structure of meaning. When you remove the world-mind substance boundary, you strip away the security of being a buffered self and are once again available to an enchanted reality. As Taylor explains, "Living in a disenchanted world, the buffered self is no longer open, vulnerable to a world of spirits and forces which cross the boundary of the mind, indeed negate the very idea of there being a secure boundary."[28] What has in modernity provided such a buffer is now becoming experienced as obsolete, returning to a porous, enchanted default mode.

Conclusion

The mediating function of technology, in which our world is constructed through a technological lens, characterizes the human-technology relationship. In a world of rapidly accelerating and increasingly immersive technologies, our meaning-making paradigms have the potential to deconstruct into a more transhumanist orientation. We see this early shift in the rise of transhumanist religions and third-wave neuroexistentialism. Some of these transhumanist religions include the Church of Perpetual Life, the Turing Church, the Terasem Faith, the Christian Transhumanist Association, and the Mormon Transhumanist Association, among others. Likewise, Singularitarianism poses a novel example of millennialism in the new light of techno-theology.

Faced with accelerating transhumanist technology, the "buffer" of Taylor's secularization model could be removed as a slide back into a "re-enchanted" state of living in an immersive world of technologically enabled enchantment occurs. This slide back to an enchanted world begins when we start to lose what Zizek describes as our "minimal sense of separation between me in my mind and reality out there," and what Taylor describes as, "certain boundaries which are both familiar and crucial…"[29] Transhumanist religions represent an early sign of this merger.

The rise of transhumanist religions is a product of what Harari calls an intersubjective ideology of "dataism," born from technological accelerationism and novel interpretations of key scientific discoveries, framed within the rich historical legacy of techno-millennial expectations in the West.[15] The new transhumanist techno-theology is the result of a confluence of factors that include the material technological conditions able to generate key interpretations of reality that serve to challenge traditional paradigms of the self. In the midst of a wave of disenchanting neuroexistentialism, transhumanist techno-theology represents the deeply human quest for meaning adapted to the modern technological age. By relocating the modern ontological grounding, transhumanism is contributing to a post-secular zeitgeist of technologically mediated re-enchantment.

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Three Visions of the Human Future: Transhumanist, Conservationist, and Nietzschean

Christopher England
University of South Florida

Abstract

This article explores philosophical perspectives on humanity's future by reading Friedrich Nietzsche into ongoing debates about the promise and dangers of transhumanism (the view that emerging technologies should be used to guide the next phase of human evolution). I show that Nietzsche's thought represents an important corrective to the binary oppositions that too often characterize the current conversation. On the one hand, his reservations about modern science writ large can help us understand better the risks of transhumanism's millenarian aspiration to remake the human condition. On the other hand, unlike conservationist opponents of human enhancement who insist that our enduring nature must be preserved at all costs, Nietzsche acknowledges that human nature may need to evolve in the face of unprecedented technological, ecological, and political challenges.

> We can do this because we have technology to manipulate matter right down to the molecular level. This is an extraordinary ability, think of it! And yet some of us here can accept transforming the entire physical reality of this planet, without doing a single thing to change ourselves, or the way we live. To be 21st century scientists… But at the same time living within 19th-century social systems, based on 17th-century ideologies. It's absurd, it's crazy, it's – it's…It's unscientific!
> Arkady, *Red Mars* (Robinson, 1993, p. 87)

I. Evolution as a Vision of Order

Is contemporary thought animated by a vision of the whole, some intimation of the way that everything "hangs together," or has secular modernity been cut adrift from such airy metaphysical speculations? This remains one of the fraught questions in modern philosophy and social theory, and I will certainly not attempt to resolve it here. However, I would like to suggest that if we pay attention to language as it is used in everyday life, we can begin to locate those paradigmatic "organizing concepts" that circumscribe the horizon within which thought takes place, thereby providing something like an intimation of order. Of course, it may be true that several different concepts fill this role, but one can make a good case that some diffuse notion of "evolution" is the most pervasive organizing concept in broad circulation today. In some ways evolution – and its kindred notions of cumulative change, process, selection, and fitness – has taken over the sense-making function that the concept of history served for the 19th century, just as history superseded a set of metaphysical ideas about nature and just as nature replaced ideas about the divine order of the cosmos (Arendt, 2006, p. 57). This phenomenon is evident in popular culture where books with titles like *The Evolution of Everything* are

becoming too numerous to count, and inside academia where every discipline from cosmology to political science and economics to "process theology" has incorporated evolutionary categories in some fashion (Ridley, 2016).

In the *Philosophical Investigations*, Wittgenstein gives an evocative interpretation of the modern turn toward evolutionary explanations. He writes:

> The evolution of the higher animals and of man, and the awakening of consciousness at a particular stage. The picture is something like this: Though the ether is filled with vibrations, the world is dark. But one day, man opens his seeing eye, and there is light. In the first place, our language describes a picture. What is to be done with the picture, how it is to be used, is still obscure…But the picture seems to spare us this work: it already points to a particular use. This is how it takes us in. (2009, p. 184)

His point is that, like many of our cherished concepts, at the most abstract level evolution is not a mere scientific hypothesis that we bring to bear in a neutral or fully transparent manner. Instead, "evolution" functions as a kind of picture, an image in the mind's eye that already seems to stage for us certain problems along with a complicated set of possible responses.

This evolutionary picture implicitly raises the question, for instance, of how various different organisms relate to one another in a dynamic environment. What sort of interactions predominate when some pre-existing harmony is not rooted in place "by nature" or divine law? In the years immediately following Darwin, it seemed to many that the only possible answer was a bleak and incessant struggle for life, a "survival of the fittest," as Herbert Spencer famously put it (2001, p. 131). But there are other potential answers, too. In more recent decades the pathbreaking work of biologist Lynn Margolis on "symbiogenesis," which describes how

cooperation across different organisms often drives evolutionary change, has given rise to a more benign view of ecological interdependence. As one follower of Margolis declares (in words that echo Whitehead) "the spoils of evolution go not to the fastest or the smartest but to those who can find the best relationship between individuality and cooperative sociality" (Phipps, 2012, p. 50). Competition versus harmony, that is the question.

However, even more important than the opposition between notions of Spencerian conflict and cooperative symbiogenesis is something that both readings of evolution share: each seems to call human agency into question by conjuring up the image of "deep time," a past and future composed of timeless eons out of mind, such as we begin to see in the fiction of Lovecraft and others around the turn of the 20th century. Deep time implies that humanity is caught up in processes far beyond its control, something that has significant implications for conceptions of morality, freedom, and moral agency. To take one current example, Jordan Peterson argues in his recent blockbuster *12 Rules to Life* that because hierarchical social structures are present even in relatively simple creatures such as lobsters, these "dominance hierarchies" are a normal evolutionary outcome that humanity has limited power to change (2008, p. 5). Readers are thus invited to take a more *laissez-faire* attitude toward those hierarchies that exist in their own societies.

At the same time, the image of evolutionary deep time can have precisely the opposite effect, increasing our aspirations and the ethical demands placed upon us by opening an infinite horizon for human activity. This line of thought hints that once the mechanisms of change are properly understood, the whole process can be ordered, improved, guided, and perhaps even mastered. Julian Huxley described this more ambitious sensibility in his 1957 article "Transhumanism" in words that continue to resonate:

> It is as if man had suddenly been appointed managing director of the biggest business of all, the business of evolution…What is more, he can't refuse the job…he is in point of fact determining the future direction of evolution on this earth. That is his inescapable destiny, and the sooner he realizes it and starts believing in it, the better for all concerned…(Quoted in Phipps, 2012, p. 31)

Huxley suggests that control of evolution is more than just possible: the conscious stewardship for life on earth may be humanity's highest duty of all. At this point transhumanism begins to assume the role of a religious or metaphysical faith. By situating humanity within a comprehensive vision of the cosmos, it prescribes an ethos, a set of duties, and hints toward a vague destiny of future redemption. These aspirations continue to characterize the transhumanist movement, making it one of the most ambitious (and thought provoking) visions of the human future available.

The remainder of this article explores ongoing debates about the desirability and feasibility of the transhumanist program by turning to Friedrich Nietzsche as a critical voice. At this point, the reader is entitled to ask why we need Nietzsche to think through these questions at all. The answer is that Nietzsche was among the first modern philosophers to take seriously what he called "the horizon of the infinite," a universe in which nature – including human nature – is in a constant state of becoming (2004, #124). Against this background, his Zarathustra famously heralds the coming of the *Übermensch* and declares that "Human being is something that must be overcome" (2006, p. 5). For all of these reasons, the proper name "Nietzsche" has, for good or ill, become indelibly linked to projects like eugenics and transhumanism, in almost the same way that Marx has become synonymous with socialism, Hegel with history, and Burke with conservatism. To some degree, then, what we are able to think

about the engineering of human nature is bound up with our various interpretations of Nietzsche.

In what follows, I stage a conversation between Nietzsche, advocates of transhumanism, and some of its most well-known opponents. After explicating what I take to be the most persuasive arguments made by each camp, I turn to Nietzsche and show how he allows us to see the flaws in both established positions. Risks abound in the utopian desire for endless human enhancement, and yet the stolid insistence that we are morally obligated to retain a human nature that is essentially given will likely become an unsustainable position over the long run.

II. The Transhumanist Imperative

In their important 2015 book *Evolving Ourselves: How Unnatural Selection and Nonrandom Mutation are Changing Life on Earth*, the futurist Juan Enriquez and former Harvard Medical School professor Steve Gullans have produced one of the most compelling and accessible restatements of the transhumanist vision to appear in recent years. In it, the authors make a series of radical claims about the past and future of the human race, nearly all of which seem designed to discomfit readers in the humanities and social sciences (Enriquez and Gullans, 2016).

When most of us start to ask questions about human nature, we begin from the baseline assumption that it is natural for the world to contain just one human species (because this is self-evidently true of the contemporary world in which we live). But Enriquez and Gullans insist on something that should be obvious to anyone with a passing knowledge of human evolution: it was the norm for much of evolutionary history to find multiple species and sub-species of hominins living on the earth at once. Human diversity was not unusual, and multiple types of so-called "archaic humans" inhabited different regions of the world. Denisovans, Hobbits, and

Neanderthals all existed when our direct ancestors, so-called "behaviorally modern" humans, emerged between 50,000 and 80,000 years ago (Ibid., 228). Indeed, the world was so densely populated with these different hominins that the ancestral population of today's humans was effectively surrounded in its East African homeland for many thousands of years, hemmed in and unable to migrate. The best contemporary research suggests that the Neanderthals displaced at least one major attempt to settle the Near East between 100,000 to 120,000 years ago, forcing our ancestors to wait another *50,000 years* until they were able to skirt around the Near East by crossing the Red Sea at the Bab el Mandeb Strait. From there, *Homo sapiens* made its way to the Indian subcontinent before dispersing throughout Eurasia, eventually displacing archaic humans (see Harcourt, 2015, p. 47; Wade, 2006, p. 90).

From an historical perspective, then, the current dominance of *Homo Sapiens* is an aberration. Perhaps we should expect the reemergence of multiple new human species in the future, if for no other reason than because evolution trends toward diversity over the long-term. "Imagine," they prompt readers, "a world in which there is a single species of bird, everywhere. Just woodpeckers everywhere and nothing else – no robins, hummingbirds, finches…That would be weird, no?" (Enriquez and Gullans, 2016, p. 229). The implication is that a wave of human evolution leading to renewed genetic diversity – perhaps even full-blown speciation – would be a reversion to the historical mean.

But the really crucial question is whether radical evolutionary changes are already taking place. Consider how rapidly our environment has changed just over the last 300 years. Given the ubiquitous exposure of modern humans to an ever-changing cocktail of pollutants, fertility treatments, and drugs, combined with enormous changes in life and work patterns, it would be odd if the human genotype did not adapt

in response. If this seems far-fetched, consider a simple fact of human biology: as men age, their sperm acquire mutations, on average at the rate of about two a year (Ibid., 52). One consequence might be that as medical technology extends life expectancies across the world and drugs like Viagra supplement male virility, more and more babies will be born with a greater number of genetic mutations (most of which are harmful), leading to a perpetual increase in what geneticists sometimes call the "mutation load." Some of the late 20th century's best evolutionary biologists, luminaries like W.D. Hamilton (famous for his theory of kin selection), feared that life in industrial societies might be causing the mutation load to tick ever upward, creating a kind of ratchet effect as each generation inherited a greater number of inimical mutations (see Salter, 2015). If this line of thinking is at all correct, it points to a looming social problem, as Eriquez and Gullans are quick to point out. They note, for example, that we lack a truly compelling explanation for the simultaneous and exponential increases in per capita rates of obesity, autism, depression and ADHD, and food allergies to staple foods like bread, milk, and nuts (2016, p. 23). Could this be evidence that our bodies are changing, rapidly and in ways we do not fully understand?

Many other factors may also contribute to rapid evolution. War, famine, and infectious disease once eliminated many harmful genetic traits. The attenuation of violent conflict and greater food security across much of the globe (Pinker, 2018) also means that suboptimal traits are more likely to persist through multiple generations (Enriquez and Gullans, 2016, p. 27). Indeed, in many different ways citizens of the developed world seem to be growing more and more unhealthy as late modernity drags on: on average, we burn fewer calories per day, run slower, have more allergies, and weigh more than our parents. And our parents display the same deficiencies when compared to our grandparents. "If we

keep going the way we are going," they write, "our grandkids may not be as healthy tomorrow" (Ibid., p. 45). For Gullans and Enriquez, the solution is clear: deliberate intervention in the genotype may be necessary simply to ensure the health of humanity as our bodies struggle to adapt to a (post)industrial civilization.

Moreover, a number of these negative trends extend far beyond the narrow confines of the human estate. Much attention has rightly been paid to the massive wave of extinctions currently underway across the globe (Kolbert, 2014). According to some measures, however, net biodiversity is actually *increasing* virtually everywhere in the world as flora and fauna adapt to human driven ecological change. The ultimate legacy of the Anthropocene, suggests biologist Chris Thomas, could be the eruption of a "mass speciation event," an explosion of entirely new forms of life (Thomas, 2018).

Once again, human activity is clearly one factor driving these developments. There is evidence, for example, that the accumulation of trace amounts of antibiotics in the environment – which are given to livestock not to prevent disease, but because it leads to weight gain – and other so-called "obesogens" such as BPA (used in plastics) and triflumizole (a fungicide) is causing major weight gain in many animals throughout the world (Enriquez and Gullans, 2016, p. 44). Even the animals get fat in modernity. Given these realities, humans have already taken on a vast ecological responsibility, whether we like it or not, and the deliberate adoption of Huxley's full transhumanist program – that is, assuming conscious stewardship for the future evolution of life on Earth – might actually be more benign than our present mode of conduct, which is often ad hoc, selfish, and mired in short-term thinking.

On a longer timescale, transhumanists believe that genetic engineering will be necessary to ensure the survival of

humanity. They see the relative lack of human genetic diversity as dangerous in the same way that monoculture is a bad strategy for farmers: put simply, it exposes humanity to an increased risk of extinction from pandemics or major environmental changes. These perils are real. Humans have already been close to extinction at least once in our history, roughly 100,000 years ago, when some estimates show that the number of living humans worldwide may have dropped to around just 2,000 (Ibid., p. 29).

Even outside the camp of card-carrying transhumanists, scientists have started to voice concerns about the need to plan for human survival. In an editorial titled, "I Think the Human Race has no Future if it Doesn't go to Space," written for the *Guardian* shortly before his death, Stephen Hawking declares that, in light of ecological degradation and our own gleeful propensity for mutual destruction, humankind will probably go extinct within a mere two centuries unless it can achieve viable space travel (Hawking, 2016). This is a position that Enriquez and Gullans happily endorse, but they go on to point out that the human body as currently constituted is ill-suited for such an ambitious enterprise. Let's begin with the most obvious problem. The natural human life span is simply too short for the durations involved in meaningful interstellar travel. At the fastest speeds currently possible, trips to potentially habitable worlds would take many thousands of years. Then there is the fact that our bodies are designed specifically to cope with the Earth's gravity. Prolonged exposure to Zero G environments has a range of adverse effects, including brain impairment, weakening of the heart, and a continual loss of bone density. Similarly, living in space would, over time, entail prolonged exposure to dangerous levels of radiation. As advocates of human enhancement are quick to note, it is difficult to see how these and myriad other problems can be addressed without deliberately re-engineering the human organism to thrive in

new environments, allowing us to brave the hazards of space travel and life on other worlds (Enriquez and Gullans, 2016, pp. 244-7).

For transhumanists like Enriquez and Gullans, the present moment is one to be celebrated. While they would be the first to admit that the eugenic fantasies of the late 19th century proved to be premature, little more than ideology and pseudoscience, they also point to the dramatic scientific advances made in recent decades. The full mapping of the human genome, which, after all, was only completed in 2003, and the emergence of entirely new fields such as genomics and epigenetics has given us a far better understanding of evolutionary change. New techniques of genetic engineering such as the much publicized CRISPR seem to have brought this change within reach of conscious control. In the not so distant future, guided evolution might truly be possible for the first time. The transhumanists believe that this agenda is moral (because it would limit suffering and increase flourishing), necessary (to ensure human health and survival), and feasible (due to recent and future innovations).

Despite the shortcomings of this program, which I will address momentarily, I believe that the transhumanist view becomes increasingly compelling when humanity is viewed on a longer timeline. As anthropologist Alexander Harcourt observes, *Homo sapiens* is just one tiny branch on an evolutionary line that began some 5 million years ago, and we have not even been particularly successful from an evolutionary perspective, something we tend to forget in light of our current planetary dominance. "To be just an average human-like species," he writes, "just an average hominin, humans need to persist for another four hundred thousand years, twice as long as we have existed so far" (Harcourt, 2015, p. 279.). Now, consider the countless ecological, social, and political difficulties that plague our world, each one potentially devastating, and ask: can we really expect to

achieve that lofty goal, another *four hundred thousand years*, without deliberate scientific intervention? Whatever their faults, and they are legion, transhumanists are to be commended for taking a sober view of this dilemma.

III. Critical Perspectives on the Transhumanist Moment

Nevertheless, calls for human enhancement continue to provoke widespread anxiety. Here I focus on two of the movement's most well-known critics, the philosopher Michael Sandel and the political scientist Francis Fukuyama, who together provide an instructive catalogue of its ethical and social dangers.

In *The Case Against Perfection*, Michael Sandel argues that the systematic genetic engineering of humans would give rise to a culture fascinated with ideas of mastery, a world in which perfection would eclipse all other standards of value (Sandel, 2009). This perfectionist ethos, he believes, would diminish our moral agency and limit our ability to find value in those aspects of life that may be unpredictable or simply given. If Sandel is correct, transhumanism creates an ethical dilemma that I call, for lack of a better term, a "paradox of agency": that is, even as genetic enhancement seems to increase our power over nature, it robs us of the ability to be our best selves, i.e. the types of people we should most desire to be. How does this happen?

Drawing on Aristotle, Sandel argues that much of human life is comprised of distinct social roles – parent, teacher, soldier, citizen, athlete, etc. – and other activities that have their own internal standards of excellence/virtue (p.28). Parents are supposed to love their children; athletes are supposed to develop physical prowess; soldiers are supposed to be brave, and so on. Sandel suggests that because these activities are "directed toward" the development of particular skills and virtues, they have an immanent teleology that helps make life meaningful by giving us a litany of practical and

ethical standards for which to strive. In other words, part of what makes life meaningful, what allows us to perceive ourselves as autonomous agents and to appreciate the worth of the lives we lead, are the values embodied in our aspirations to do things such as "become a good teacher" or "become a musician." By contrast, anything that erodes this habitus of roles, aspirations, and practices impoverishes experience by destroying the structure that gives it meaning.

Consider the following example. Sandel points out that we have a different kind of respect for live music as compared to recorded music (or, heaven forbid, lip-syncing) because we recognize the poise and endurance of the artist (p. 39). A hypothetical society in which live music did not exist would, to that extent, be deprived of the unique experiences that only a live performance can elicit. On the other hand, a society of genetically enhanced musical virtuosos, in which nearly everyone was born with perfect pitch and incredible musical abilities in the same way that most people today can walk and talk, would also lose something. In this second example it would still be possible to play music, but it would not be possible to *become a musician*, in the sense of striving to acquire the distinctive attributes that only a master musician can possess. The ability, in some sense, would cease to confer dignity in the way that it does today. Sandel's point seems to be that genetic enhancement of the sort advocated by transhumanists, by making perfection comparatively "easy," would rob us of these opportunities to display excellence through striving. This, in turn, would make it harder to see ourselves as unique individuals who find meaning in specific activities.

To spell out what remains implicit in Sandel's argument, the problem is that many advocates of genetic engineering conflate the increased *abilities* that enhancement would make possible with greater moral *agency*, and treat both of these as more or less synonymous with human dignity (see

Fenton, 2008). However, these are actually three distinct categories. In simple or trivial cases, ability may in fact be equivalent to agency (e.g. the ability to leap tall buildings in a single bound is one kind of agency). Yet, in more complicated cases, full agency requires more than mere ability, just as *being* a musician is more than just playing music. In these more complex examples, which include many of the things we care most deeply about, free agency is akin to the opportunity to participate in distinct practices or roles, to acquire and be recognized as having acquired, perhaps over a lifetime of effort, the special excellences associated with that role. Enhancement seems to threaten this process.

Moreover, as human enhancement brings more and more aspects of reality under conscious control, Sandel believes that individuals will increasingly face new and extreme pressures to assume direct responsibility for all aspects of life. The real problem, he says:

> is the explosion…of responsibility...One of the [current] benefits of seeing ourselves as creatures of nature, God, or fortune is that we are not wholly responsible for the way we are. The more we become masters of our genetic endowments, the greater burden we bear for the talents we have and the way we perform...Today when a basketball player misses a rebound, his coach can blame him for being out of position. Tomorrow the coach may blame him for being too short. (Sandel, 2009, p. 87)

In this scenario, humans are primarily responsible for *who they are* rather than *what they do*. The difference here is subtle but important. Much Western morality and law is based on the idea of penalties for prohibited actions, and one wonders how these traditions could survive a world in which we are "responsible" for everything about ourselves, down to our gender, our race, and our emotional predispositions, as if these attributes were a kind of "action" that we could have chosen

to perform in a different way. Again, Sandel points to a paradox: the erosion of respect for the given *seems* to disclose a new world of potential mastery, but in truth individuals would be naked before the standard of absolute perfection. In a world of widespread human enhancement, there would simply be no point in trying to become a basketball player unless one already had access to world-class scientists and genetic treatments. But, in that scenario, how much agency does the player actually have? Is not the scientist/engineer the true agent?

Where Sandel brings to light important ethical dilemmas, other critics focus on the social consequences of human enhancement. As far back as 2004, Francis Fukuyama declared that transhumanism, rather than, say, nationalism or religious extremism, was "the most dangerous idea in the world" (Fukuyama, 2004). For Fukuyama, the danger is that the ostensible benefits of enhancement will make it deeply attractive to individuals, while the long-term social and political consequences are vague and would mostly be borne by later generations. This creates a kind of inter-generational moral hazard, in which later generations bear most of the risk for present decisions (Fukuyama, 2003). As the global response to climate change has shown, the ability of contemporary polities to take preventive measure against diffuse future risk must be viewed with skepticism.

For instance, problems will arise if innovations in different fields of medical research proceed at different speeds. What happens, Fukuyama asks, if we gain the power to further extend the average human lifespan before we have the ability to significantly reduce the decline in mental and physical abilities that are normal aspects of aging? This would create numerous difficulties. To begin with, it is not obvious that it would be ethical to extend our lifespan without improving the quality of life in old age. On one plausible interpretation, this scenario would lead to a net increase in

human suffering. Is that truly something we want? Moreover, if this were to happen, younger generations would face the enormous financial and emotional burden of caring for a growing class of dependents whose productive years have long since passed. This could contribute to economic stagnation as more and more resources are diverted into care for the aged – essentially a form of consumption rather than investment – but it would also likely be the source of severe intergenerational resentments and political instability (Fukuyama, 2003, Ch. 1).

But perhaps this grim scenario is too pessimistic. Let us, then, re-run the same thought experiment with more optimistic assumptions about the future of technology: this time the average lifespan increases even as humans are able to retain their cognitive and physical powers far into old age. Unfortunately, this outcome will also generate significant problems. Fukuyama worries that a glut of able-bodied elderly might corrode liberal societies from the inside out, turning them into sclerotic gerontocracies where the youth cohort vegetates as an unofficial underclass. It is also possible that longer lives could slow the pace of progressive social change. After all, the procession of generations is one way that new ideas and practices come to the forefront (2003, p. 9).

In any case, one thing is relatively certain: the emergence of enhancement technologies are going to intensify any pre-existing social conflicts (including racial, national, ethnic conflicts). This will happen because advanced technologies are most easily accessible to those groups that already have economic and political resources (2003, p. 158). The result could be inequality and social stratification on a scale unlike anything that has been witnessed for many centuries.

Is there a solution here? Perhaps. Both Fukuyama and Sandel argue that only the regulation of enhancement technologies by the state can solve the aforementioned

problems, and that such control is possible, morally acceptable, and fully consistent with the freedoms of a liberal society (2003, p. 10). Occasionally, Fukuyama goes one step further: asked in one interview whether the government has the right to tell citizens that they must die rather than seek immortality, he replied, "Yes, absolutely" (Quoted in Moore and Vita-More, 2013, p. 329). On this view, a timely death becomes one of the obligations of citizenship, enforceable by the coercive powers of the state.

Given the context, it is hard to say just how seriously we should take Fukuyama on this last point, but it is clear that his position raises a cascade of questions about state power, human rights, individuality, and the limits of legitimate political authority. Is it right for the state to prescribe the conditions under which citizens must die? What penalties could be sufficient to incentivize individuals to accept death in the face of an attractive alternative? These are important moral questions that could remake some of our most basic ideas about politics in the decades ahead. But perhaps the more difficult question is whether such prohibitions would even be feasible, and what unintended consequences might result from trying and failing to prohibit enhancements. I would argue that if viable enhancement technologies exist but citizens are denied access to them, they will be sought out a) on the black market or b) in states with looser regulatory regimes.

Fukuyama is not fully consistent here. In his written work, he attempts to reassure readers that the modern state has always regulated technologies, and he directs our attention to the reasonably successful regulatory regimes that now govern nuclear weapons, intercontinental ballistic missiles (ICBMs), and biological and chemical warfare agents (2003, p. 188). But in interviews on the subject he is usually more candid and far more equivocal. In one interview, Fukuyama suggests that truly radical human engineering is likely to take place

somewhere in Asia. This will happen, he believes, because Asian thought does not draw the sharp distinctions between the human and the rest of nature that we see in much traditional Western morality. Eastern ontology is, as Deleuze would say, "univocal" in the sense that all creation is understood to exist on a single plane of immanence (Deleuze, 1994, p. 34). In contrast, much Western thought operates with the implicit assumption that a "chain of being" divides the human, the animal, and the transcendent divine. Fukuyama believes that Asian ontologies of immanence will generate fewer of the gnawing doubts and moral dilemmas that Westerners face when it comes to human enhancement (Fukuyama, 2010). To take just one example, because Asian thought is not monotheistic and hierarchical, it does not give rise to that trope about the perils of "usurping the role of God" that we find in Western mythologies from Prometheus to Frankenstein to Doctor Moreau.

However, Fukuyama fails to pursue this argument to its logical conclusion: any "early adopter" states will likely reap considerable economic and military advantages (or be perceived by others to have gained such advantages). Once this happens, other states will feel compelled to pursue similar enhancement technologies due to the normal logic of international competition. This competitive cycle is just beginning to take off. China, for example, has recently authorized experiments with CRISPR gene editing techniques, with the ultimate goal of raising the average IQ across the entire population (Latiff, 2017). Massive legal and ethical barriers still prevent similar research in the U.S. and the broader Western world. But, as retired Air Force major general Robert Latiff points out in his book *Future War,* the U.S. military is keenly aware of these recent developments and already looking for ways to catch up (2017, p. 33).

We can also imagine many scenarios in which "democratic" political pressures from below push states to

make enhancement more widely available. Let's consider three simple examples. First, if climate change drastically increases global temperatures during the 21st century, parents may come to feel that it is their duty to engineer children who can flourish on a hotter planet. Second, if automation and artificial intelligence begin eliminating jobs at a truly catastrophic rate, some people will probably clamor for whatever available enhancements might help them compete economically. Lastly, if terrorists ever unleash genetically engineered diseases, democratic publics will probably demand genetically engineered cures. My point here is that in many conceivable scenarios the incentive structure will push individuals and democratic publics *toward,* not away from, genetic enhancement. And, as time goes on, the relevant technologies are only becoming cheaper and more user-friendly. Thousands of high school students are already using sophisticated engineering methods to design living organisms at events like the iGEM competition (short for International Genetically Engineered Machine). The genetically enhanced cat is already halfway out of the proverbial bag, and the moderately successful ICBM regulations of the 20th century are a poor guide to what the future will hold.

Therefore, while the moral and political critiques of enhancement made by Sandel, Fukuyama, and others must be taken seriously, it is very likely that human engineering will occur at some point within the next century. If it becomes viable on a large scale, powerful incentives operating at the individual and state levels will push many societies to attempt deliberate enhancement programs. This means that moral views aimed exclusively at preventing enhancement are likely to become moot, and we will have to think harder about how to live *with* the technologies lauded by transhumanists.

IV. Nietzsche and the Transhumanist Predicament

Where the advocates of transhumanism see in guided evolution the potential to eliminate suffering and ensure the survival of humanity, its opponents argue that it threatens to destroy traditional social structures and mutilate our enduring human nature. Nietzsche's thought offers a third view, one that starts from a completely different set of assumptions about the value of science and the contours of human nature. He therefore offers an effective critique that helps us to see the pitfalls of both established positions.

First, however, we must dispel a popular misconception. Many commentators believe that Nietzsche should be seen as an ally of and a philosophical precursor to contemporary transhumanism, as evidenced by his use of terms like *Übermensch* and emphasis on the importance of *Züchtung* (breeding or cultivation) for the human future.[1] In one of the more persuasive readings of Nietzsche as a transhumanist *avant la lettre*, Stefan Sorgner points to four doctrines that are common to both parties (Sorgner, 2009).

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[1] A search for the word "Züchtung" in the digital edition of Nietzsche's collected works reveals 63 uses of the term, and these span the entirety of his career. Those who see Nietzsche as a proponent of guided evolution often rely on comments like this one from an unpublished fragment written in 1875, where he writes: *"Da liegen meine Hoffnungen: Züchtung der bedeutenden Menschen.*" (My translation: "There are my hopes: breeding of the important people.") However, it is also necessary to point out that this remark, like many similar ones, appears in a larger discussion about *education,* not biology. As a result, scholars remain divided on exactly what sort of cultivation Nietzsche advocates. See Nietzsche, Friedrich, "Nachgelassene Fragmente Frühling–Sommer 1875," www.nietzschesource.org/#eKGWB/NF-1875,5[11] (accessed 9/12/2018).

First, he alleges, transhumanists and Nietzsche both champion a notion of the universe as constant evolution and becoming. Second, both seek to overturn traditional Christian morality, especially ideas of other-worldly transcendence, the afterlife, a personal God, and the immortal soul. Third, both Nietzsche and transhumanists see ethical values as "perspectives" that individuals can adopt and alter as they see fit; that is, they take an experimental attitude toward life. Finally, both insist on the imperative to overcome humanity in its current incarnation (2009, pp. 30-35). At a superficial level, this comparison seems irrefutable.

However, Sorgner's attempt to recruit Nietzsche for the cause falls short because he ignores the larger issues at stake. Chief among these is the fact that Nietzsche develops a general critique of modern science and of the existential/psychological drives that often motivate scientific enterprise. His reservations about science writ large also extend, *ceteris paribus,* to contemporary transhumanism, revealing it in a new light. In order to see this, we need only compare Nietzsche to the true intellectual precursors of transhumanism, the founders of the 17th century scientific Enlightenment, men such as Renee Descartes and Francis Bacon.

Since early modernity, the goals of scientific optimists have been threefold: the attenuation of suffering via mastery of nature, the extension of life, and what I would call the "democratization of ability," so that more and more people could be literate citizens, productive workers, and good soldiers. It is well-known, for example, that Descartes called on humanity to, "render ourselves masters and possessors of nature." He hoped that this would enable the invention of an "infinity of applications" that would allow us to transcend the "infirmities of age" and make humankind, "wiser and cleverer than they have hitherto been" (Quoted in Schiffman, 2015). More interesting still is the case of Francis Bacon. He is

perhaps best remembered as the author of *The New Organon* (*Novum Organum Scientiarum*), a key work that encouraged modern thinkers to abandon Aristotelian teleology and embrace the minute, empirical study of nature. Again, this much is well known. However, I would like to insist on the importance of a marginal piece of writing that Bacon appended to his futuristic fable, *New Atlantis*, when it first appeared in 1624, a short "poem" of a single stanza with the Latin title *Magnalia Naturae, Praecipue Quad Usus Humanos* (The Wonderful Works of Nature, Chiefly Such as Benefit Mankind). This strange piece of writing is both a paean to the human mind and a sort of technological wish list, and it is fascinating precisely because it clarifies the moral purpose of science as Bacon understood it. It begins:

> The prolongation of life.
> The restitution of youth in some degree.
> The retardation of age.
> The curing of diseases counted incurable.
> The mitigation of pain.
> More easy and less loathsome purgings.
> The increasing of strength and activity.
> The increasing of ability to suffer torture or pain.
> The altering of complexions, and fatness and leanness.
> The altering of statures.
> The altering of features.
> The increasing and exalting of the intellectual parts.
> Versions of bodies into other bodies.
> Making of new species.
> Transplanting of one species into another.
> Instruments of destruction, as of war and poison. (Bacon, 1999, p. 185)

This is the dizzy vision to which transhumanists are the heirs. Desires and aspirations of the sort that Bacon articulates, at once alluring and frightful, have circulated within the modern scientific imagination since its inception. Although these

Baconian dreams for the mastery of life sometimes get pushed into the background and we hear little serious talk about them in public for decades on end, such fantasies tend to reemerge during those periods of sweeping scientific and technological innovation when, as Kuhn put it, "normal" science is disrupted by the advent of a new paradigm (Kuhn, 2012, Ch. 3). The contemporary moment is one such period. For transhumanists and other thinkers within the orbit of this tradition, science is viewed as so crucial to human flourishing that it becomes virtually an end in itself.

Nietzsche, however, takes none of these Baconian aspirations for granted and instead begins, as Leo Strauss says in an unpublished lecture, by posing the question: Why science? (Strauss, 2014). In other words, Nietzsche asks about the value that science has for life and the human character. Why do we desire science, with all its rigor and power? Will it enhance our zest for life and our abilities to conceive admirable projects and see them through to the end? Or does science also have certain corrosive effects, making us dependent on technologies and narrow experts? Does science make us better able to bear the suffering that is inevitable in life, or does it make us more susceptible to the pangs of existence? Transhumanists seldom ask these questions because they assume that science is almost entirely a force for good. Sometimes they appear to believe that the best cure for any evils that might be caused by science and the technology it enables is, well, more and better science.

By contrast, Nietzsche's tragic view of life causes him to be more sensitive to the way that the good is inextricably bound up with evil in all things (Nietzsche, 2002, #45). For this reason, he also recognizes that the scientific/transhumanist obsession with extending life and minimizing physical suffering also has undesirable effects on politics and the human character (Gillespie, 2017, p. 20). To the extent that much contemporary science is animated by the

end goal of eliminating suffering, risk, and uncertainty from life, it often becomes the handmaiden of political ideologies that are either ignoble or destructive. On the one hand, when they are successful, affluent technological societies seem to engender the lazy consumerism that Nietzsche associates with the last man. On the other hand, these same societies may witness periodic cycles of destructive resentment and nihilistic violence as people rebel against a world where secular promises for earthly happiness have gone unmet while suffering and injustice remain intractable (Gillespie, 2017, p. 192). To clarify: what is at stake here is not just the question of whether technocratic, clinical rationality *should* become the ruling principle of contemporary life and thought, but whether it can actually play this role without riding on the coattails of something truly horrifying.

Questions about the value of science have a long philosophical history. In Plato's *Phaedrus*, Socrates suggests that mnemonic technologies like writing are harmful to humans because they degrade our natural abilities, making us dependent on external props (Plato, 1997, 274b – 277a). Rousseau reiterates precisely this argument in the *Discourse on the Sciences and Arts*. More important in the present context is the case of Arthur Schopenhauer, Nietzsche's first true philosophical love. Schopenhauer was enthusiastic about 19th century natural science, but he remained skeptical of the hyperbolic moral and political claims made by the casual scientific popularizers of the age (Murdoch, 1992, p. 57). Large portions of his *The World as Will and Representation* are devoted to esoteric scientific debates about such topics as the nature of matter or the role of the retina in perceiving color (Schopenhauer, 1969). But Schopenhauer also argues that because all life is characterized by willing and striving, and these traits necessarily require obstacles and frustration in order to exist, we should conclude that the overall amount of suffering in the world is basically fixed. For him, empirical

science is intrinsically valuable for its own sake, but we should not expect it to alter the basic contours of the human predicament.

We saw some of the reasons why this is during the earlier discussion of *Evolving Ourselves.* Enriquez and Gullans believe that many of our current problems, from autism to obesity to mass extinctions, are the unintended consequences of technological advances made in recent centuries. From this they draw the lesson that a better understanding of evolution, combined with new technologies, will allow humans to overcome these problems. But won't this next round of intervention produce one more cycle of unintended consequences, and so on, *ad nauseum*? Transhumanists may be right to suggest that a more pronounced turn toward technological mastery is required to cope with severe crises that are already in play. But they are almost certainly wrong to embrace breathless eschatological fantasies of a future in which the basic dilemmas that have always plagued human life will be eliminated

For his part, Nietzsche opposes science to the spirt of nobility, or what he describes as a, "noble taste which seems to *deny* suffering" (2002, p. 45). His point here is not the crude, romantic notion that suffering is in itself good. Rather, Nietzsche suggests that the ability to pursue higher goals and lead meaningful lives depends, in part, on the ability to persevere through suffering, even to the extent of denying that it is really suffering at all. Conversely, when longevity and the avoidance of pain become our highest aspirations right from the start, we lose the ability to make distinctions about what values are worth suffering for. The consequence of this outlook is that mere life – any type of life – becomes the overriding value, and this is perhaps one reason why many transhumanists appear so eager to contort the human body and soul into totally unrecognizable shapes if it means survival. The technophile's gambit is that, if you get the machinery

right, everything else will take care of itself. By contrast, Zarathustra insists that a noble virtue is the ability to "die at the right time," that is, to come to terms with death and human finitude within the context of some vision of the life worth leading (Nietzsche, 2006, p. 53).

One of the best expositions of the noble ethos in Nietzsche's oeuvre is Zarathustra's speech, "On the Tree on the Mountain." Here Zarathustra declares that:

> a noble person stands in everyone's way. A noble person also stands in the way of the good: and even when they call him a good man, they do so in order to get rid of him. The noble person wants to create new things and a new virtue. The good person wants old things, and for old things to be preserved. But it is not the danger of the noble one that he will become a good person, but a churl, a mocker, an annihilator. Oh, I knew noble people who lost their highest hope. And then they slandered all high hopes. Then they lived churlishly in brief pleasures, scarcely casting their goals beyond the day... Once they thought of becoming heroes: now they are libertines. (2006, 34)

Like transhumanists – and in contrast to their conservationist critics – Zarathustra happily acknowledges that the future will require the invention of "new things and a new virtue." But it is also the case that contemporary transhumanists too often resemble the ignoble souls that Zarathustra pillories. They have no real vision for what the future *should* become, but are mostly interested in avoiding pain and being left alone to pursue whatever pleasure strikes their fancy at the present moment. Although they ape the language of futuristic heroes, they are merely libertines. This disposition has always been evident in popular imaginings of transhumanist technologies, where the major benefit is that both pleasure and new abilities become immediately accessible to all without effort or cost. Consider, for instance, the classic 1999 film, *The Matrix,*

where viewers quickly learn that virtual reality can 1) create realistic simulations of beautiful women and 2) teach Neo to become a master of martial arts in mere seconds (Wachowski and Wachowski, 1999). This is, in essence, a fantasy of limitless pleasure and unearned excellence. Nietzsche doubts whether such a thing exists. "Souls of the noble kind," he writes, "want nothing for free" (2006, p. 53).

The upshot is that despite some more or less superficial similarities in rhetorical style, Nietzsche diverges from transhumanists on some of the most important questions that will shape how we respond to the impending technological future. Above all, he sees science as something that must be sublimated within a broader view of life, rather than as a good in itself. Second, Nietzsche highlights the thinly veiled providentialism at the heart of modern transhumanism. It hints at an end to suffering. It promises to give meaning to our lives by a radical vision of future redemption in which the last shall be first and the first will also still be first. But these promises will not be kept. He shows that the transhumanist agenda presents humanity with an existential double bind. If we pursue total mastery of nature and fail, we will become increasingly frustrated and filled with resentment at a continued life of suffering when solutions appear so near at hand. On the other hand, if we succeed, we may become satiated and incapable of noble aspirations (Gillespie, 2017, p. 33).

None of this should be taken to imply that Nietzsche agrees with the critique of transhumanism coming from critics such as Sandel and Fukuyama. Zarathustra starts from the position that, "Mankind is a rope fastened between animal and overman – a rope over an abyss" (2006, p. 7). From this perspective, humanity does not have an eternal, "thick" or substantive human nature on which to ground morality. By contrast, Sandel and Fukuyama both advocate for a modern neo-Aristotelianism; to put it simply, this means that they

make a series of claims about human nature and morality that they ultimately trace back to Aristotle (Fukuyama, 2003, p. 157). These claims include the assertions that:

a) There is a definable human nature
b) There is thus a clearly definable human good or set of goods, i.e. good for humans
c) We can know these goods objectively via rational reflection
d) We are both obligated and naturally inclined to seek these goods
e) We are therefore obligated to retain fidelity to our "given" nature

Now, it should be evident that these various claims do not logically imply one another, even if they do share a kind of elective affinity. Unfortunately, this is not the place to adjudicate the dispute between Aristotle and Nietzsche over the significance of human nature. However, it should be clear that Nietzsche disagrees with most of these claims. At the very least, we can see that the project of simply conserving human nature is not open to him, especially at an historical moment when everything from politics to the environment to our own genetic code is increasingly in flux. Nor would Nietzsche be comfortable with allowing the state – what Zarathustra calls the "coldest of all cold monsters" (2006, p. 34) – to be the final arbiter of human destiny via its power to regulate enhancement technologies and, by extension, evolution itself.

Lastly, Nietzsche also questions the validity of Sandel's distinction between the (good) appreciation of what is naturally given and the (evil) quest for mastery. For example, Sandel argues that medical technology is good because it seeks only to restore the normal functioning of the human organism, whereas proposals for more radical genetic enhancement are dangerous because they are animated by a

desire for mastery (Sandel, 2009). Yet, much of the medical technology we now take for granted, and which therefore appears to us as a modest intervention in the normal human organism only emerged because of a prior quest for mastery that took place in some earlier time, now forgotten. From vaccines to modern agricultural techniques, we must recognize that an enormous part of the "normal functioning" of modern humans is the product of a long quest for scientific power. The simple distinction between mastery and respect for the gift of life is not as easy to uphold as Sandel suggests. The two are bound up together in the human predicament. Such is the tragedy of life.

These debates are going to become more important in the decades ahead, when there is a good chance that they will migrate from the pages of speculative science fiction to party platforms and campaign slogans. If scientific innovation continues at its current pace (and there is every reason to believe that it will, barring some major global catastrophe) emergent technologies will virtually ensure that the future will be unlike the past in ways we can hardly fathom today. The ways that humans live, die, fight, love, and rule could be remade in any number of ways, and the mere potential for such radical change would transform politics out of all recognition.

Since 1789, the crucial fault line of modern politics has been the one that runs between the party of progress and equality, otherwise known as the Left, and the party of (neo)reaction and natural hierarchies, generally called the Right (Bobbio, 1996, pp. 60 -75). At its core, as Carl Schmitt and countless others have observed, this dispute has always been about human nature (Schmitt, 1996, p. 58). What will happen if people like Enriquez and Gullans are correct and the life-sciences are soon to show us in real time that human nature is far more plastic than either the Left or the Right ever thought possible?

One possibility is that the entire debate ceases to be intelligible and political contestation moves on to some other, as yet undiscovered, issue. This might be the happiest outcome, because the alternative is that enhancement technologies intensify the growing divide between Left and Right by bringing entirely new social formations within arm's reach. Fukuyama voices at certain moments the fear that future democracies will face pressures to move towards, not just economic equality, but what he calls a "genetically egalitarian society" in which genes are seen as a common pool of resources to be redistributed (2003, 158). In truth, we must recognize that even a moderate liberal democracy might be forced, partly by external technological trends but also owing to the implications of its own best moral impulses, to go in this direction. How can we ensure equal opportunity when we know that some are handicapped for life by a bad draw in the genetic lottery? This is a gnawing question, and it will only become harder to avoid. Even a liberal as temperate as John Rawls argues in *A Theory of Justice* that because it is, "in the interest of each to have greater natural assets" the parties to any just social contract necessarily, "want to ensure for their descendants the best genetic endowment," and this will require that society will, "take steps at least to preserve the general level of natural abilities and prevent the diffusion of serious defects" (quoted in Sandel, 2007, p. 77). How closely does this passing remark come to the genetically egalitarian world of Fukuyama's fears? It is hard to say. Nor is this the only, or even the most perilous, vision of future humanity in circulation. On the Right, disturbing visions of techno-racialism, eugenically constructed social hierarchies, and renewed political empires are already beginning to percolate (see Faye, 2010).

To truly question human nature with the intention of changing it is to open a Pandora's Box that no one alive today can fully comprehend. Nonetheless, I suspect that Nietzsche

would encourage us to seriously (and playfully) ask whether some fundamental changes in human nature might be necessary in the years to come, for reasons that range from mere survival to the sheer joy of experimentation. To this extent, his openness to the future places him closer to the transhumanists on the question of whether *in principle* human nature should be deliberately altered. At the same time, Nietzsche, who is too often read as a crude Promethean radical, also lets us see how the overt providentialism of transhumanism carries enormous risks and dangers of which its proponents seem blissfully unaware.

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The Environmental Humanities: A Critical Introduction

Authors: Robert S. Emmett and David E. Nye
Cambridge: MIT Press, 2017. ISBN: 9780262534208, 236 pp., $27.00

Reviewed by Ryan Marnane, Lecturer of English and Cultural Studies, Bryant University

Scientific proposals for reengineering human DNA, the body, the earth, the atmosphere, or outer space are themselves a form of technological socialization that accustoms people to radical intervention in the structures of the earth and the forms of life. The environmental humanities interrogate such radical interventions, recognizing that some of them might be necessary or useful, while maintaining a critical distance from technological fixes and looking for less drastic alternatives. To many, geoengineering, species extinction, and artificial DNA suggest not progress but dark visions of the Anthropocene.
— *The Environmental Humanities: A Critical Introduction*

"One of the penalties of an ecological education," Aldo Leopold once declared, "is that one lives alone in a world of wounds." Let me be clear: Reading Robert S. Emmett and David E. Nye's, *The Environmental Humanities: A Critical Introduction*, published in 2017 with MIT Press, does not provide the academic panacea to Leopoldian laments, nor does it offer scholarly bandages to mend the wounds of an

ecological awareness. The book does, however, provide a critical and constructive overview of how the environmental humanities evolved into a growing interdisciplinary academic field of study amid an increasingly threatened, fragile, and distressed world. At its core, *The Environmental Humanities* explores "key concepts, influential theories, and central debates of a rapidly evolving field," the writers tell us, and functions as "an introduction, not a catalog" (2) to the field. Published on October 6, 2017, one year and two days before the Intergovernmental Panel on Climate Change released their harrowing report on the impacts of global warming of 1.5 °C above pre-industrial levels by 2040, Emmett and Nye's work challenges scholars to redefine inherited disciplines and methodologies in light of increasing pernicious environmental conditions and, moreover, functions as a useful springboard for students and scholars alike to build bridges between seemingly incongruent areas of study as they relate to the human condition's relationship to, stance toward, and role within the environment.

"Since the beginning of the twenty-first century," Emmett and Nye begin their account, "a new academic field has emerged" (1). As a multi-disciplinary area of study, the environmental humanities is "a global intellectual movement that reconceives the relationship between scientific and technical disciplines and the humanities, which are essential to understanding and resolving dilemmas that have been created by industrial society" (4) and, I'll add, further exacerbated by carbon-based global capitalism of 20th and 21st century society. By way of example, just as "rising levels of energy consumption became indicators of progress" and "the development and exploitation of oil, coal, natural gas, and hydropower seemed crucial to prosperity," (48) these very vehicles of progress have become a global-scale example of the law of diminishing returns: our successes have, in turn, become our collective downfall. Emmett and Nye, framing the

multifaceted roles that literature, history, philosophy, economics, and anthropology have in tandem with one another, *The Environmental Humanities* functions as a rallying call for a "fundamental reorientation," our authors posit, "from overspecialization in the academy to new forms of teamwork and interdisciplinarity" (176). Just as the environmental humanities are "a new formation in the ongoing development of universities," similar to the cultural studies movement in the late 20th century, the environmental humanities "may also represent a deeper shift in the organization of knowledge practices" (164). We're not merely in need of a shift in energy production and consumption to counter global warming but, rather, and more broadly conceived, we're in need of new ideas—new conceptions of what it might mean to be human amid the Anthropocene.

Following a detailed history of the emergence of the environmental humanities as an academic discipline—from Thoreau to Carson to McKibben, mapping the evolution of nature writing to environmental literature—the authors begin their first chapter with a close examination of one of the most complex yet seemingly simple ideas of the humanities: PLACE. "For centuries," Emmett and Nye write, "Western surveying practices and property markets have encouraged people to think of land as a commodity—as an investment to be manipulated for profit" (23). By "treating land as a mere commodity"—as raw material to be mined, farmed, or built on—Emmett and Nye argue that this relationship to the earth "implicitly says that human beings stand outside nature" (23). Connecting Martin Heidegger's "discussion of how modern society tends to treat nature as 'Standing Reserve'" (129) to questions concerning sustainability studies, species extinction, and varying second-order effects of global warming, Emmett and Nye persuasively argue that "it is impossible to separate environmental analysis from discussions of industrialization and western imperialism,

which together accelerated resource extraction, consumption, pollution growth, species extinction, and global warming" (2-3). In other words, just as the study of existence is also, by mere necessity, the study of coexistence, engagements in the environmental humanities are also engagements in critiques of western imperialism and capital. By way of example, from comparisons between primitive place and western place to imperial powers and displacement studies, Emmett and Nye connect the history of western colonialism with contemporary ecotourism, a reflection prompting readers to question their sense of place—not only domestic and abroad but also virtual—as well as how current mental and physical landscapes depend upon and reconstitute colonialist mindsets. Globally, as a second-order effect of western imperialism, habitat destruction and global warming continue unabated, what has now been popularized as "The Sixth Extinction" demands environmental humanists "attend to the losses of meaning and culture that accompany [the] loss of ecological diversity," an ecological diversity loss that some ethicists have argued is the primary challenge of this century (82-83).

Uniquely suited for readers of *HTR*, Emmett and Nye lean heavily on crucial thinkers within the fields of philosophy and history of science and technology to frame varying sub-disciplines within the ever-expanding field of the environmental humanities. Thinkers such as Donna Harroway, Aldous Huxley, R. Buckminster Fuller, Lewis Mumford, Martin Heidegger, Bruno Latour, Kevin Kelly, Jane Bennett, and Michel Foucault (to name a few), their presence is most palpable in Chapter 4, "Promises and Dangers of Science." Bookended by Chapter 5, "The Anthropocene's Dark Visions" and Chapter 3, "Energy, Consumption, and Sustainable Cities," Chapter 4 begins with a brief history of industrial development and swiftly transitions into close examinations of biotechnology, the rising rates of species extinction, and proposals for large-scale

modification of the earth and its atmosphere through geoengineering (71).

While new concepts and practices are at the forefront of Emmett and Nye's engagements with science and technology, half a century ago disciplinary contributions to the field of the environmental humanities mostly included literature, cultural geography, anthropology, and history. Yet new theories, in addition to aforementioned scientific and technological advancements, are explored in Chapter 7, "Unsettling the Human," including new materialism, indigenous and postcolonial studies, animal studies, and queer ecology. "These approaches," the authors write, akin to previous reflections of the university and disciplinary expansion (if not outright extinguishment of departments), "all demand a radical redefinition of the relationship between human beings and nature" (140). This redefinition grounds itself in not what has been or is but rather, and most importantly, what could be otherwise insofar as the environmental humanities is simultaneously descriptive and normative: "describ[ing] the world not merely as it is, but as it could be" (59).

The Environmental Humanities: A Critical Introduction, as framed in this review's introduction, is not a field guide to mending the collective wounds that industrial society has inflicted upon earth and its inhabitants. Why? Because it does not set out to do so (see Roy Scranton's *Learning How to Die in the Anthropocene* for a harrowingly poignant and pragmatic how-to guide). And while the alternative to Leopold's ecological education is to "remain oblivious to the signs of damaging human activities, which in Leopold's day might still pass unnoticed," (93) with today's 24-hour global news cycle in tandem with the intensification of climate-related crises, it is becoming increasingly difficult to live in the world and not also suffer alongside with it—to suffer in and for it. Nye and Emmett's work, as an introduction

of key concepts and emerging ideas rather than an extensive catalogue, offers readers—both teachers and students alike—an imperative window into an ecologically threatened world while also pointing to the blinds that conceal our place and destructive force within it. I wish you all way more than luck.

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William Robinson, A New Perspective

Author: Nick Earls
Brisbane: QUT William Robinson Gallery, 2018. 90 pp.
AUD $25.00

Reviewed by Michael Scully, CIF Sessional Academic,
Queensland University of Technology

In his latest offering, Australian novelist Nick Earls has authored a nonfiction biography about Queensland landscape painter William Robinson. The book was commissioned by the Williams Robinson Gallery, which is located on the Brisbane campus of Queensland University of Technology, and presented to mark the culmination of the collective works by the artist at the venue.

Because the book was written by Earls, one of Australia's more successful fiction writers, the work reads like a novella. The language is colorful and light and yet the author does a wonderful job tracing through Robinson's career first as an art instructor and later as a celebrated landscape painter. The real success in the book comes when Earls captures Robinson talking about the creation process. Almost coincidentally Earls quotes Robinson about his creative process and the quotes read like a how-to for the aspirational.

> With each choice, he faces the knowledge that paint in a tube is paint, but on a canvas it has some living to do. As he wrote in his commentaries for [Lou] Kelpac, "There is always a struggle with the substance of paint from the moment it is released from the tube. Its physical presence must be changed into the breath and heartbeat of a painting." (p. 44).

For those unfamiliar with the painter, Robinson, now in his 80s, has been actively painting surrealist portraits and landscapes for sixty years. During this time, he has twice won the Archibald Prize, Australia's top award for portraiture, elevating his reputation globally. At least three of his paintings appear in the Metropolitan Museum of Art in New York City.

In the book, Earls opens with a simple story about an important moment in Robinson's life. Robinson, a university professor, was living with his family in Brisbane and a neighbor—a teenager—had just taken up playing electric guitar. The noise of the guitar coupled with the creeping urban sprawl invading Brisbane in the 1970s was enough to encourage Robinson and his wife to buy a farmhouse in the country. It was in this rural setting that he found his inspiration. First, he began painting images of farm animals—chickens and cows—before turning to images of landscapes. His landscapes are astounding, huge and sweeping, fluid with greens, blues and earth tones, which swirl with a mythical quality lost in time.

> He learned about the "particular lights" of mist, bushfire, impending storms and the way shafts of sunlight break through cloud to fall on a distant slope. In the mountains, storms roll in, high stacks of cumulus, crashing rain, darkness falling, surprising light breaking through. Fires race up the slopes in the dry season. Change happens everywhere and we all witness it but, Robinson realized, the moment you begin to turn it into art, the simple square or rectangle

> of the plein-air painter is not enough for it. Time is happening, several scales of time (p. 37).

Earls then moves through the chronology of Robinson's life mixing elements of the painter's biography with explanation of his creative development. Throughout, he includes insights into the artist's creative process:

> After more preliminary sketches in the studio, he would go to work with charcoal or oil paint on the canvas. Then came the time to paint.
>
> Robinson had always had an interest in color, but his landscapes drew him to refine his understanding further. He has been quoted as saying, "I think it takes a lifetime to start to discover colour," and lives up to that by, even sixty years into his career as an exhibited artist, saying, "I haven't finished learning about it. I still learn about it now." He is still discovering new colour possibilities, and added lapis lazuli to his palette in 2016 (p. 43).

Throughout the book, there is a fluid architecture that marries together elements of Robinson's life on the farm with his work in the classroom. Earls places some emphasis on Robinson's career, marking highlights in his artistic work and the awards he gathered along the way. Robinson comes off as both seasoned and self-deprecating.

In 1987, he was in the Archibald again, this time with *Equestrian self-portrait.* On the day of the announcement of the winner, he drove from Beechmont to Kelvin Grove to work as usual, only to get a phone call at 10 a.m. telling him he had won and that he needed to be in Sydney that evening. He had no time to drive back to Beechmont and change.

> I said, "I've got the goats to milk,'" he recalls. "Of course, that's just about the only thing they put in the newspaper. So here's this country hick arriving in Sydney, the big smoke, but he's got his goats to milk." (p. 47).

Robinson's body of work is heavily surrealist with elements of Paul Cezanne, Henri Matisse and Paul Gauguin; Robinson's color palette appears strongly influenced by Paul Klee; and one can see hints of Salvador Dali throughout.

Still, Robinson's work seems also uniquely Australian given that his subject matter includes images of the bushlands and the Queensland landscape: one cannot help but compare Robinson's work to the other top Australian painters including Sidney Nolan and Russell Drysdale without taking away from Robinson's originality.

Eileen Chanin, in her book entitled *Contemporary Australian Painting* (1990), summarized Robinson's appeal this way:

> Robinson is also conscious of there being no fixed point of interest, but has used this observation as a basis for imparting a hallucinatory quality to his landscapes which has no parallel (Chanin, p. 123).

Earls takes that interpretation a step further, writing that "In his landscapes, William Robinson managed to create a sense of vast space, while at the same time filling it, drawing the viewer into it as though we're watching with trees at each elbow" (Earls, 2018, p. 79).

Earls' book doesn't include any photographs of the work. Instead, there are slight drawings and etchings of barnyard animals in the margins by Robinson. Still, the collective work succeeds as a dialog between two artists—one an author, the other a painter—and Earls' writing can be rather reflective.

> Robinson's place is assured, but posterity is something negotiated away from artists, far from the studio. An artist just keeps painting. Robinson still feels the nag and the gnaw and the pull of the next unfinished idea. He is still drawn by the mystery, the discovery, that each new painting offers (p. 86).

In the end of the book, Earls makes no conclusions. He leaves the reader watching as Robinson considers his next project. Throughout, Earls never breaks from his novella form and the language of the work is sweet and mellifluent. The book presents itself as a handy addition to the William Robinson Gallery and as a keepsake for visitors to the Garden Point location along the Brisbane River. That aside, the success of the work comes in the conversation, the shared discussion between two artists, each at the top of their game.

To his credit, Nick Earls has written 26 works of fiction—most take place in his hometown, Brisbane—and this book is his first piece of nonfiction writing.

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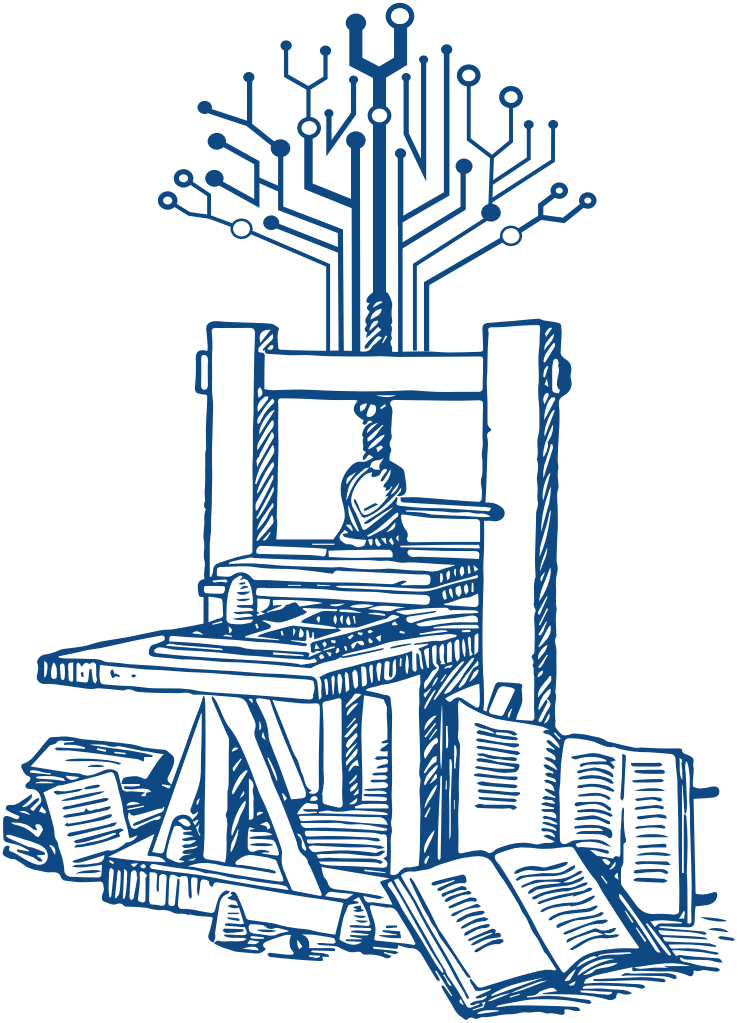

REVIEW

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About the Review

The *Humanities and Technology Review (HTR)* is an annual publication of the *Humanities & Technology Association* (HTA). *HTR* offers a publication outlet for interdisciplinary articles on a broad range of themes addressing the interface between the humanities and technology. *HTR* is a refereed journal, and all decisions about the acceptance of articles for publication will be made by the editors. The production and printing of the current issue of HTR has been funded by the *Humanities & Technology Association.*

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The HTA was founded in October 1978 to promote understanding of the cultural interaction of the humanities, science and technology and to help define how humanistic concerns interface with technological advances.

Contact Information

For information concerning the HTA contact:

Dr. Darrell Arnold, President, *HTA*
Assistant Professor of Philosophy
Arts and Philosophy Department
Miami Dade College
11380 NW 27th Ave., Room 5226
Miami, FL 33167
Email: darnold@mdc.edu

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On Dying for and Dying from Education: A Polemic Drawn from Plato's *Apology*

Michael Kelly
University of San Diego

The beginning of the second decade of the twenty-first century featured this controversial number by Columbia University professor, Mark C. Taylor, *Crisis on Campus: A Bold Plan for Reforming our Colleges and Universities* (2010). It was predated by the no less telling *Saving Higher Education in the Age of Money* (2005), *University Inc.: The Corporate Corruption of Higher Education* (also 2005), and other turn of the century criticisms.[1]

We hear a lot of talk today on campuses about higher education being in a state of crisis. And technology understood as *technē* – the efficiency of means over ends – occupies the center and circumference of such talk. As my former teacher and mentor, Dominic Balestra, noted, the contemporary university is dominated by *technē* such that the efficiency of teaching and scholarship means is not just prioritized but is prioritized precisely by separating the means from the final end or purpose they were meant to serve. The

technē (art, skill, technique) of teaching – since that is all I'll have time to present – has been reduced to a series of measurable assessments of the "outcomes" and the means that higher education now serves, some of the most prominent among these "outcomes" and means being those catalogued by bloated career services departments that keep records of alumni placement and upward mobility.

While in deep sympathy with all that tends to be said regarding our flawed model or broken system of higher education, my claim in what follows is that this is not a crisis but, instead, perhaps an enduring tragedy or catastrophe. In presenting my reasons for why this situation in turn of the century United States higher education is undesirable but not a crisis, I offer a polemic drawn from pages 19b – 22e of Plato's "Apology." In the pages of this classic of Ancient philosophy, I suggest that Plato already expressed the concern regarding the construal of education as a mere *technē*, a mere means to achieving the type of professional lives that the many popularly believe education should prepare them to pursue – lives that enable those who occupy them to achieve a particular view of the good life, namely, a view of the good life subordinated to the acquisition of means. Whether or not one agrees that such similarities between Plato's time and our own exist, I hope to provoke critical inquiry into the consequences of higher education when professional training is made the model of University education.

1. The Efficiency of Means in Contemporary United States Higher Education

Perhaps we can identify 1869 as the year when higher education in the United States ceased to be about formation and became entirely about professional preparation. In 1869, Charles Elliot published an essay called "The New Education" in the *Atlantic*. It began by recounting the lament of a parent

that college didn't fit his boy, because his boy wasn't going to be a preacher or a professor and yet he wasn't learning any skills that would translate into a professional life. Eliot's essay basically agreed with dad and suggested remaking colleges to provide professional training. Eliot became president of Harvard in October 1869 and began to put his ideas into place. He gutted the core and tried to make the college entirely elective (later, majors and distribution requirements would be introduced to bring some order to the anarchy). He also created professional schools like Law and Medicine that required a BA to enter (prior to that, you could study law or medicine right out of high school) and so on. Even Elliot's deep commitment to research was understood by him as a kind of pre-professional training for future professionals.[2]

Regardless of whether one prefers this speculative dating or another, a kind of parasitic relationship governs this prioritization of the efficiency of means in higher education. Our culture increasingly views education as a means to achieving the means tacitly believed to reflect (a view of) the good life, and our universities increasingly capitulate to that common view of the good life held by the many. As the aforementioned books convey through their titles, such capitulation is evidenced as universities and colleges more and more overtly become corporations. Universities increasingly consider students as consumers while students (they and their paying parents) increasingly view the university as a place that provides the skills and credentials for getting on in the material and economic world, which they see as the same as achieving (a view of) the good life.

Two general dimensions of the prioritization of the *efficiency of means* in higher education emerged into prominence. First, the corporation increasingly prioritizes

efficiency in the transmission of knowledge; it replaces tenure-track professor positions with adjuncts and on-ground classes with online classes, retracts departments for which there is less and less student demand, redirects those funds, and so on. Cutting costs devoted to good education, stable sources of advising and mentoring, etc., allows money to be redirected to enhance already quite sophisticated amenities and professional programs.[3] Second and correlatively, universities market themselves to their consumer base via these amenities and practical professional programs rather than the humanities. In William Deresiewicz's words, from his recent and rightly lauded *Excellent Sheep*:

> But the worst effect of the commercialization of higher education is the way that it has changed how institutions see their students. Now they think of them as 'customers,' people to be pandered to instead of challenged … The customer service mentality is also responsible for the profusion of swanky new dorms, gyms, and student centers – a building boom that … was financed by a mountain of debt and that has been a major factor in tuition growth. Colleges now sell themselves to kids in terms of what they can give them, not what they plan to expect of them … Instead of humanities, students are getting amenities.[4]

Programs of studies are themselves a means for the university to attract students. Programs of studies thus also become means in the form of degrees that represent skill sets that will make students employable. And, having giving the consumers what they paid for, programs of studies supply the market with the forces that themselves hold sway over this parasitic relation governing contemporary higher education.

It is now such common knowledge that we no longer need statistical evidence to defend the claim that greater and

greater numbers of students enter into and graduate with STEM oriented majors, while fewer and fewer students enter into and graduate with traditional humanities majors.[5] In order to "assess" how successfully colleges and their programs deliver the promised goods, the ethos of *technē* as the prioritization of the efficiency of means over ends touches program and curriculum development directly. Accreditations agencies such as The Western Association of Schools and Colleges (WASC) and The New England Association of Schools and Colleges (NEASC) hold colleges and universities accountable (to the efficiency of means paradigm) by conducting reviews of program and core curriculum models and the learning outcomes that govern the courses serving some program or some part of the core curriculum. The curriculums themselves reflect the broader view of the university as the place that provides the means to market viability of and for graduates. Hence, the accreditation agencies ensure that education aligns with the market viability of and for the graduate. In short, curriculums and universities fashion themselves in line with the market forces they reflect.

These features of higher education are distinguishable but inseparable because the learning outcomes are aimed toward purportedly providing students the requisite skills or papers needed to be chosen to fill the market – to get a job. Universities and programs that can be shown to fill the markets with their products (or students) will become, themselves, more marketable and, thus, more desirable commodities. As Deresiewicz aptly writes, "education isn't something you consume; it is an experience that you have to give yourself over to. But colleges don't think like that anymore. They see themselves as supplying a market, not guarding a public trust."[6] The industry of higher education increasingly treats education as a mere means to achieving some means that itself enables graduates to achieve social and

material means. But to what end? Some notion of happiness conflated with pleasure? A return to the university on its investment after it has given the student a means by which to get a return on her or his investment?[7] In any case, it seems to be increasingly safe to say that the point of this *technē* of higher education – this prioritization of the efficiency of means – is that more consumers means more money for the corporation; more money means fancier dorms, fitness centers, food-courts, science and technology centers; more amenities means more customers, more students trained to excel in financially lucrative endeavors means more able donors, and so the cycle of efficient means – *technē* – goes on.

But, is this state of higher education in the twenty-first century really a state of crisis? Doubtless, the institutions of higher education have capitulated to a view of themselves as a means to the narrow materialistic view of the good life. But even if a prioritization of the efficiency of means permeates and dominates the university culture; and even as institutes of higher education appear to accept the view of themselves as but a tool – an instrumental means or *technē* to achieve professionalism – do we really have a system in crisis?

My suggestion is perhaps less sanguine. The conditions just described present problematic features of contemporary models of higher education. But they're not new problems and the situation isn't a crisis.

If we take crisis to mean an impending potential shift with an expected or suspected negative outcome, then I think that we are not witnessing a crisis of higher education today. Part of my claim is motivated by a conceptual consideration about whether or not crisis can conceptually entail a past. I do not think a crisis can have a past; a crisis can extend over a limited amount of time but either it resolves favorably or leaves behind an aftermath – sometimes catastrophic or tragic.

The situation regarding contemporary fretting over the state of higher education is justified not because we're in crisis, but because the details of today are manifestations of a centuries old tragic or catastrophic view of education as a *technē* divorced from the ends it was meant to serve. Leaving aside the view of education as *ex ducere* (leading forth) or *educare* (rearing or bringing up children to hold new affections and understandings),[8] educational systems long have simply reflected a pandering to the common view of the good-life and its correlative expectations for education and what the system of higher education should provide. And insofar as the common view imitates the view of those with wealth and power, it is no surprise that most public figures in the United States (such as Marco Rubio and Betsy DeVos) decry university culture beyond the vocational benefits one draws from contemporary higher education.

2. A Culture of "Calliases"

Plato's "Apology" recounts Socrates' defense of his practice of philosophy against the accusations that he, Socrates, "does injustice and is meddlesome … by making the weaker argument the stronger and by teaching others the same things" (19b). In these few pages of Plato's "Apology," Socrates calls the charge "slander" no fewer than six times; after noting that he cannot find any one person in particular to question about this trumped up charge, he makes two moves at the beginning of his *apologia* or defense. First, he distances himself from the practice of sophistry that he finds implied in the charge. Second, Socrates traces the source of this slander to his engagement with the sources of power and respect in Athenian society – the occupants of those paradigmatic professions thought to indicate an achievement of a certain view of the good life and, thus, a certain kind of wisdom.

Plato presents the sophists according to their characteristic activity of teaching young people how to excel

in the correct use of words, to make the weaker argument the stronger. That is their art (here *technē* in the sense of *technique*). They're concerned not with the truth of whatever matter is under consideration; they're concerned with winning an argument for the purposes of acquiring or preserving power, glory, or riches. The famous sophist, Protagoras, marketed himself and his skills this way.[9] So Plato's characterization is apt. Socrates notes clearly that the claim that he makes the weaker argument the stronger and teaches that art (*technē*) for a fee equates to the claim that he is a sophist. Socrates, however, neither undertakes to teach people nor charges a fee for dialoguing with another. As such, he's not a sophist – by definition.[10]

Socrates' counterargument begins, interestingly, with the claim that it is, "a fine thing to be able to teach people" (19e). While Socrates notes that it's, "a fine thing to be able to teach people," he subtly and quickly shifts the topic by raising an important nest of questions: Who is teaching what to whom and how? The manner in which he raises the question seems to be a bit of a throw away – a story perhaps thought to be included for dramatic plot development. But perhaps this story is quite central and maybe even *the* framing issue of Plato's "Apology."

Seemingly mixed with his reasons for asserting that he's not, by definition, a sophist, Socrates trails off into an anecdote about having heard that there's a man visiting Athens – a "wise man from Paros." This wise man from Paros – itself a place known to have been a large financial contributor to the Athenian confederacy[11] – had been spending time with the notoriously wealthy Athenian, Callias. Of Callias, we're further told that he has two sons and that, "he has spent more money on sophists than all the others [in Athens]" (20a). With the anecdote set up and the listener distracted, Plato delivers the nest of questions (Who is

teaching what to whom and how?) in the form of the questions Socrates puts to Callias:

> Callias, … if your two sons had been born colts or calves, we would have been able to get … an overseer for them who could make the two of them noble and good in their appropriate virtue [excellence], and he would have been someone … skilled with horses or skilled in farming. But, as it is, since they are two human beings, whom do you have in mind to get as an overseer for the two of them? Who is knowledgeable in such virtue [excellence], that of human being and citizen? For I think you must have given thought to this since you have two sons. Is there such a person? (20b)

Callias replies unequivocally that there is such a person, "Evenus … from Paros, and his fee is five minas" (20b). Callias has just committed himself to two claims. First, he identifies Evenus as a sophist, for he teaches people for a fee. Evenus charges, in fact, a hefty fee, for at that time a mina equated to 100 drachmas and a day-laborer would earn a drachma a day.[12] Second, and most importantly, Callias has claimed that Evenus teaches one how to become noble and good according to the appropriate virtue of human being and being a citizen (for that was Socrates' question). Putting the claims together, the sophists are believed commonly by the many to be teachers paid to oversee the development of people toward the noble and good for human being and citizen.

Socrates' response to Callias' answer seems a tad curious at first. Socrates describes Evenus' exorbitant tuition as a "moderate fee," thus signaling (and beyond sarcasm) his belief that the art [*technē*] of teaching young people how to become noble and good human beings and citizens is paramount. However, Socrates places one condition on this

assessment of Evenus' fee, namely, that Evenus "really possess this art [*technē*]" (20c). Indeed, Socrates goes so far as to say that if he, Socrates, possessed such a skill [*technē*] that he would be happy and proud and that Evenus, too, must be happy and proud – assuming he really possesses this skill. The question concerns less, I think, whether or not Evenus or any sophist in general competently or expertly conveys information and a skill set. Rather, the issue concerns whether or not Evenus, or any sophist in general, has the correct pedagogical end or goal in view, i.e., has a worthwhile understanding of the noble and good for human being and citizen. Put better, the issue concerns whether or not a sophist has not divorced his *technē*, i.e., art of teaching, from its very goal or the purpose of education, namely, providing the noble and good for human being and citizen.

Without developing any of these claims beyond this apparently anecdotal story, Socrates appears again to change topics, noting that a member of his audience might interrupt his anecdote and ask, understandably, "Socrates, what is your affair? … For surely if you were in fact practicing nothing more uncommon than others, such a report … would not … have arisen, unless you were doing something different from the many" (20c2-5)? Socrates in effect reveals to the audience their assumptions not just about him, but also about their views of education in (and in relation to) the noble and the good for human being and citizen.

His audience appears to believe that if Socrates were doing what the sophist does, i.e., if Socrates were doing what was commonly done, then no slander would be brought against him. But, since slander has been brought against him, it seems to suggest that he was doing something "uncommon" and "something different from the many" (20c5). What Socrates does that is "uncommon" and "different from the many" is this: He focuses the art of education toward – orients it to and permits it to be determined by – the aim of achieving

the noble and the good for the human being in a way that is not concerned primarily or even equally with the goals the sophist wants to help Athenians achieve. The many appear to believe that the sophists both enjoy the goods (of glory, power, and riches) and can teach others and their children how to attain such goods themselves considered the noble and the good for human being and citizen. The sophist, Evenus, represents these beliefs of the many, for he's shown – despite being a foreigner – to enjoy reputation, influence, and wealth (or honor, power, and money). And Callias, himself a wealthy Athenian who presumably wants these goods for his sons, spends a lot of money on this sophist considered to be able, through his *technē,* to give his sons the tools (the skill or *technē*) to acquire those goods the sophists possess and promises their tutees will be, in turn, in a position to possess.

I cannot resist proposing here a hypothesis concerning the profound similarity between Callias and the contemporary parenting activity of the many as it relates to today's educational industry. Like Callias, contemporary parents make large expenditures in order that their children may be taught the skills needed to access that profession that provides the means needed for the other goods. We hardly need to mention the massive expenditure that is the cost of a four-year college. We should mention, though, the large expenditures parents undertake just to get the child into the best four-year college in the first place. The arms race for gaining admittance to the most prestigious universities reaches, today, all the way back into grade school.[13] With an aim toward getting any advantage in the competitive college admissions process – with an aim toward arming children with the credentialing that positions them for admission into the most prestigious university that will, in turn, credential them in the only way that we think will be relevant – parents today spend large sums of money on private schooling, tutors, training coaches in the

arts or sports, SAT and AP exam preparation, books and courses, etc.

Deresiewicz trenchantly criticizes the corporatization of the college admission process that spoils childhood and leads the institution of higher education to pander to the view of the instrumental value of education, a good valuable not in itself but only as a tool to financial and social power. But consider, too, Socrates' rhetorical remark to Callias. As Socrates said to Callias when asking him about the existence of a teacher of the noble and good for the human being – and in Callias' case his two sons – presumably we have "given thought to this."

Today, the answer is yes and no. We've given thought to the means. We've haven't given thought to the end or purpose – mostly because we conflate the means with the end or take the end to be the means (29d-30a-b).[14] We remain a culture of Calliases. And that may be a tragedy, but it is not a crisis. As a culture of Calliases, it is no surprise that – as any pre-major advisor of undeclared college students will tell you – students only see a very narrow set of possibilities for their studies, their majors, their loves, and their lives.[15] It is to this phenomenon – the narrowing of our culture's and students' standard world view and view of education – that I now turn my attention in my attempt to read Plato's "Apology" in the context of contemporary higher education.

3. The Human Being Higher Education Wants to Produce

Allan Bloom claimed, "every educational system wants to produce a certain kind of human being."[16] That seems, perhaps, too general in our American context. Every educational system wants to produce the certain kind of human being that is elite and enjoys wealth, power, and reputation. We might add another wrinkle: Reared within such a system, those people not elite imitate the elites and, so, most colleges are going to imitate what the elite schools do (call it

"trickle down" or mimetic education). It could seem that all of American higher education strives towards making people elite, or to provide the same educational experience as at elite schools. But perhaps that is just a veneer, because the funding isn't there to make the imitation anything more than skin deep. But, also, I doubt that Harvard provides offerings for one to major in dental hygiene or food and hotel management, both of which one can do at any number of respectable state institutions and middling liberal arts colleges.

So maybe the rhetoric is "elite" but the actual choice of majors and degree programs is "work for the elite" and enabling oneself, like Ivan Illych, to have things that look like things that the elite have.[17] And elite education nowadays is all about power and money. As we've seen Deresiewicz note, more Ivy League grads major in finance than anything else. So, the idea of education as involving any kind of character formation is long gone, and since the "elites" will run the show, we are being run by money-grubbers with no higher goals than pleasure (money as a means for pleasure). I think that this is one of the effects of "democracy" (or whatever). Without something pushing the majority of people towards virtue, there is a kind of regression to the lowest common denominator, i.e., pleasure.[18] There will always be some people, even at the elite level or at the other levels, that self-motivate, or maybe something like religion or whatever pushes them towards higher goods, but as a general public, people don't progress unless pushed, and the general culture doesn't push.

Every educational system, then, fashions itself to fit the interests of this cultural view of human being and the correlative expectations the many have for what education should be, do, or provide (here taking the aspirations of the many to be the achievement of what they see in the elite in Deresiewicz's sense). That, I think, is a finer point we could put on Bloom's telling observation. It is not as if educational

systems have an uncommon view of the noble and good for human being, a view that is – as Socrates' was – "different from the many." Indeed, educational systems (with the exception of the spiritually oriented ones) always have reflected the common view of the noble and the good for human beings and citizens. Socrates believes his divergence from this model led to the slander brought against him. We now learn more precisely that Socrates believes his bad reputation comes from having *humiliated* those the many think wise, namely, the politicians, the poets, and the manual artisans who reflect a class of person who has achieved the common view of the good life for human being (21c). These professions, I'll suggest, analogously represent those to which higher education students still aspire today – the big four industries mentioned below in my conclusion – for these professions still represent paradigmatically the common view of the good and noble for human being.[19]

As Socrates begins his explanation for why he's being slandered, he tells the audience that it's because he possesses a certain kind of "human wisdom" or a wisdom regarding what is noble and good for the human being (if we're to connect this cryptic claim back to Socrates' question to Callias). This famous part of the dialogue – in which Socrates tells the audience that his vocation to philosophize is a "reluctant" service to the god at Delphi – reveals Socrates' motive to do something "uncommon" and "different from the many," namely, examine these classes of persons (politicians, poets, craftsmen). Since Socrates wanted to understand why the Oracle declared him the wisest human being, he decided to visit with "those reputed to be wise" (21c). In a brief scene, Socrates tells us that while the many think the politicians or public officials are wise, it turns out that they "don't know *anything* noble and good" (21d, my italics). The question put to Callias returns: Who can teach the specific human virtue or the noble and good for human being and citizen?[20] Is there,

Socrates asks, a teacher who can make our children noble and good in their appropriate virtue as human being and citizen? The many presumably believe the public officials can do this. This makes some sense insofar as public officials make policies and laws that fashion the lives of human beings and citizens. Hence, public officials seem to have this knowledge regarding the noble and the good for the human being and citizen. But, "different from the many," Socrates holds that the public officials, "don't know *anything* noble and good," i.e., that they do not have the knowledge to teach the young how to achieve their appropriate virtue as human beings. We want laws and policies to provide, for example, equality of access or protection. But what is the human good we will pursue with these conditions once achieved or provided by public policy? Presumably, we have given this some thought. Presumably.

For my polemical purposes, a reason could be given for why the politicians lack the knowledge they and the many seem to believe the former possess, namely, that they prioritize the efficiency of means divorced from the end or the end reduced to the means. As the many during Socrates' time believed such lives worthy of aspiration, the sophists proved valuable. Today, as people still consider various kinds of public office positions worthy of aspiration, colleges and universities pander. Colleges offer more and more pre-professional courses of study designed to bring students to these positions responsible for making laws and policies that fashion the lives of humans and citizens: prelaw, public policy, urban planning, political science with internships, etc. remain in demand.

In his quest to find someone with more human wisdom than himself, Socrates leaves behind his examination of the public officials to consider the group thought next most likely to possess human wisdom or the ability to teach the noble and good with respect to human being and citizen. In the dialogue,

he specifically turns to the poets, "those of tragedies and dithyrambs, and the others" (22a/b). The qualifier Socrates includes in describing the class of poets is important for us. Plato doesn't just mean poets as we understand that specialized discipline today. Tragedies were often dramatic plays or writings reflecting on timeless human issues about meaning in human life. Dithyrambs were often more like songs – and we know songs, too, often aim at such human issues. The others that Socrates mentions would, I think, include the visual arts, who, unlike manual artisans, depict human themes in painting, sculpture and the like. I take the class of poets, then, to represent a class of literature and arts in general (and at the very least poets, playwrights, and the actors, directors, etc., who carry out the performance).[21] In short, we might consider the class of poets the creative geniuses most broadly construed and who today occupy – as they seem also to have during Socrates's time – a place of celebrity, honor, and influence.

This class of poets, Socrates thinks, says "many noble things" (22c). That's an interesting improvement over the public officials, for they "didn't know *anything* noble and good" (21d). Still, this group cannot explain itself, i.e., "know[s] nothing of what they speak" (22c). The class of creative artists cannot explain or convey the meaning of their art (which nevertheless may express meaningful views of the noble and good for human being).[22] We need think, of course, no further than listening to an artist try to explain the meaning of his painting or musical score, or an actor explaining how she "got into character" or tried to capture the human significance of the profound role she was honored to play, or why he holds the political or moral opinions that he does (e.g., Alec Baldwin, Robert DeNiro, Clint Eastwood, and so on, bloviating to awkward effect about their preference for this or that party or policy). The celebrity of the class of poets is due to the admiration of the many, and it grants this class an

authority to which they cannot live up. And, yet, the class of poets influences dominant images of the good and noble life for human being and citizen even when they're not saying noble things. At any rate, all great poets – indeed all great artists – "say many noble things" that can give us insight into the noble and good for human being, but they cannot teach the meaning they intuit and present. A place exists for this group in the contemporary university menu of choices, but I shall defer for a moment my hypothesis about how this group gets integrated in a world and educational culture where we often believe the arts are being squeezed out by the social, material, and technical sciences.

The final group Socrates examines is the group rising to greater prominence today, namely, the craftsman or "manual artisans" (22d). This group during Socrates' time probably included blacksmiths, masons, tailors, cobblers, carpenters, etc. We could extend the group, today, to include plumbers, electricians, mechanics, and so on. Interestingly, manual artisans construed in this way are rarely thought by the many as wise or capable of teaching the noble and good of human being and citizen. We find such blue-collar folks very useful and valuable to that extent, but (and perhaps foolishly on our part) not wise. Such was the case in Socrates' day, too, for here Socrates has left the realm of common opinion in his quest to discover if there is a class of people who possess more human wisdom than he does. The manual artisans differ from the poet class in two ways. First, the manual artisans can explain their craft and, indeed, Socrates holds, "they at least had knowledge of many noble and good things" (22da-2). Second, however, it is not clear that they say "many noble and good things" regarding the noble and good for human beings, for they "did have knowledge of things which I didn't have knowledge of" (22d3-4). So, they're both better and worse than the poets. The craftsmen can explain what they know but

what they know isn't connected to the noble and the good for human being and citizen. The manual artisans nevertheless share with the class of public officials and the class of poets the flaw of thinking that because they have a skill in one area that they're also wise in other things, namely, the noble and good for human being and citizen (22d6-e1).

Socrates' reservation about the craftsman moves quickly, but his criticism seems at least as relevant today if we recast the category of "manual artisans" as STEM, which dominates today's culture and the landscape of higher education. Students flock to the money and power that is found in the *technē* that can be learned in the applied, material, and technical sciences – included here are nurses, medical doctors, physicians, big pharmaceutical production, technology, engineering, and math. Even the mathematical studies considered in STEM are now in the service of craft or *technē*. Such math is valuable *as* applicable to conducting economic affairs such as finance, accounting, consulting, or the mathematics useful for the statistical analyses needed by scientific and engineering studies. The math thought valuable today is the math not of the divided line but the math of and for those who return to the cave. There's no shortage of figures in the contemporary class of "manual artisans" who believe themselves authorized to speak and to speak legitimately on matters related to the noble and the good for human being and citizen (e.g., Bill Gates, Steve Jobs, Mark Zuckerberg, Warren Buffet, George Soros, etc.). As there is big money and much power to be gained from these professions, colleges and universities dump big money and resources into building up the disciplines and departments that provide instruction required for becoming credentialed in them.

My claim is not that this is not a problem. My claim – and my reason for plodding through Plato's "Apology" in this

polemic – is that this is not a *new* problem. It is not a state of crisis. But it *is* certainly an undesirable state.

Folks in higher education increasingly talk about students being oriented toward professionalism and colleges pandering to this orientation. There is much hand-wringing over the reduction of higher education to a mere means that teaches us not how to think but what to know so that we can acquire the skills that credential students so that they can acquire the means of wealth, power, and reputation. This problem seems at least as old as Plato's "Apology." There's no crisis of higher education or new threat to higher education by the seeming monolith of STEM. At best, on this score, we have a difference in degree – and not in kind – between our world and the one of Socrates. The young have always aspired to these so-called practical positions and professions because these "practical" courses of study and the professions they feed paradigmatically seem to represent a particular – and particularly dominant and enduring – view of the noble and good for the human being and citizen. The so-called crisis in higher education targets the effect rather than the cause, the symptom rather than the disease. Current structures and practices in higher education simply reflect the cultural catastrophe of an increasingly narrowing of interests and values, which is better described as an increasing reduction of the noble and the good for human being and citizen to just that which the sophists promised Callias his children would achieve (glory, power, riches).[23]

Conclusion: The Children of Callias?

What's interesting to me, further, is that these three paradigm ways of living critiqued by Socrates roughly map onto the lives of contemporary university students at least in the United States. Students feel enormous pressure to enter the world of public policy (that now intrinsically includes legal studies) or STEM. These groups – these professions that

represent the public officials and manual artisans – influence what we believe valuable and who we want to be or what we want to do with our lives. Such dominant models of life restrict our view of the noble and good and narrow our view of what we (think we) can or want to become. The menu on offer by universities looks appetizing because these professions tend to raise our income and status, and income and status are thought by the common and the many to be the noble and good for human being (as Evenus and Callias represent). Deresiewicz presents a staggering statistic related to this aspiration of students in the U.S. and their increasing entry into STEM studies and careers:

> With credentialism comes a narrow practicality that is capable of understanding education only in terms of immediate utility and that marches … beneath a single banner: economics. In 1995, economics was the most popular major at three of the top ten universities or top ten liberal arts colleges … In 2013, it was biggest at a minimum of eight and as many as fourteen. … It was the biggest at four of the top ten liberal arts colleges … It was almost as popular among the next ten schools on each list, the rest of the top twenty, representing the largest major at as many as six of the universities and six more of the colleges for a grand total of 26 of the 40 schools on the two lists combined. Sixty-five percent, for just a single major: a stunning convergence.

Not surprisingly, careers in finance followed "naturally." Deresiewicz continues:

> In 2007, about half of Harvard seniors who had full-time jobs lined up … were going into one of [finance or consulting]. … By 2010, nearly half of Harvard

> graduates were still going into one of those fields, as well as more than half of those at Penn and more than a third at Cornell, Stanford, and MIT. In 2011, 36 percent of Princeton graduates went into finance alone.

Deresiewicz astutely observes along with Ezra Klein that consulting firms and Wall-Street alike have figured out something about contemporary students from "elite" colleges and universities – and exploited it. They've figured out that

> colleges are producing a large number of very smart, completely confused graduates. Kids who have ample mental horsepower, incredible work ethics, and no idea what to do next … We have constructed an educational system that produces highly intelligent, accomplished twenty-two-year-olds who have no idea what they want to do with their lives: no sense of purpose and, what is worse, no understanding of how to go about finding one. (20, 25)

Where, however, does the class of the "poets" fit with our students today? This group seems to undermine my hypothesis precisely because they are widely considered today to be victims of this system. Isn't it said – lamented – that studies related to the class of poets get squeezed out by studies related to the class of public officials and manual artisans? Isn't this dying off of the class of the poets furnished as evidence of the crisis – itself a symptom of that which we mistakenly consider the disease – of higher education? I noted earlier that it's commonplace today to note that fewer students choose majors outside public policy or STEM and that university development and offerings reflect that demand in the allocation of resources.

But a place exists for the class of the poets, since the market that privileges the efficiency of means – *technē* – must provide menu options for those who question, oppose, or shun the practical life. And there always will be young people, who, for whatever reason, favor the "enlightened" worldview of the artist, creative genius, and the humanist. As Francois Cusset has put the matter in the context of explaining the attractiveness of postmodern literary and cultural studies – a major contemporary class of the poets in Plato's sense (22c2-3) – universities need to offer, "an alternative to the conventional world of career oriented choices," i.e., they must market themselves to that small but enduring class of consumers who, "choose the more personal and committed choice of a 'calling' instead of a selfish 'career'."[24]

According to Cusset, the flowering of the "learn to earn" era started in earnest in the United States in the 1970s. During this time, the university began to see itself "on the model of the new service economy." Also during this time, the new class of poets, in the form of postmodern humanities and cultural studies, indeed resisted the practical programs offered by public policy and STEM. A very invisible hand of the university market thus reached out and pulled toward itself these studies that challenged the university system's prioritization of practical and professional programs. It is Cusset's provocative assessment that

> in its new capacity to absorb what in the past would have threatened its 'values', [the contemporary] university is the very one that would soon develop feminist studies in order to attract female students and research on ethnic or sexual minorities in order to win points with these new fringes of the student clientele … For it was necessary to develop the products that would sell best. The absorption of the enemy for the purpose of turning its energy to profit.[25]

What Socrates was doing that was "uncommon" and "different from the many" was using the *technē* of teaching in connection with and in the service of the end it was meant to perform, namely, developing the good and noble for the human being. But Socrates' view of education required a rejection of the world view of the many – the sophists, the classes of public officials, poets, and craftsmen, as well as the sports hero, who, as Socrates put it, "[only] makes you think yourself happy" (37e). We at least should want to demand that education makes our students more informed about their choices and the implications of those choices.

Socrates' view of the art [*technē*] of education was that it aimed at an end that required putting ethics and character first (the noble and the good for human being and citizen). The development of the appropriate human excellence should not be reduced to a learning outcome, should not be made servile to a core curriculum or reduced to a mere veneer of a business or engineering school degree. The noble and the good for human being is not an "efficient means" but the end itself. As Socrates is said to have said, and I quote at length:

> Men of Athens, … I am your friend … and as long as I draw breath and am able I shall not cease … to exhort you and in my usual way to point out to any one of you whom I happen to meet: Good Sir, … are you not ashamed of your eagerness to possess as much wealth, reputation, and honors as possible while you do not care for nor give thought to wisdom or truth or the best possible state of your soul. … [If] I do not think he has attained the goodness that he says he has, … I shall reproach him because he *attaches little importance to the most important things and greater importance to inferior things* … I go around doing nothing but persuading both young and old among you not to care

> for your body or your wealth in preference to or as strongly as for the best possible state of your soul, as I say to you: "Wealth does not bring about excellence (*arête*) but excellence makes wealth and everything else good for men, both individually and collectively." … I say that it is the greatest good for a man to discuss virtue every day and those other things about which you hear me conversing and testing myself and others, for the unexamined life is not worth living for men… (Apology 29d-30a-b, 38a).

This is the goal of education, according to Socrates. This is the reason Socrates earlier said that it was "a fine thing to be able to teach people."

Socrates died for his view of education. Perhaps something of us is dying from ours.

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was to be found precisely in its unconventional way of promoting conversation about the consequences of higher education made subordinate to professional training.

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[1] A. Delbanco, *College: What it was, is, and Should Be* (Princeton: Princeton University Press, 2012), pp. 142-43.
[2] I thank my friend and colleague, Brian Harding, for bringing this historical date and narrative to my attention. That piece can be found here: C. Elliot, "The New Education," *The Atlantic*, February 1869 issue. https://www.theatlantic.com/magazine/archive/1869/02/the-new-education/309049/
[3] As William Deresiewicz writes, "Higher education increasingly resembles any business now. What pays is in; what doesn't is under the gun. Instruction is regarded as a drain on resources. 'Efficiency' in the transmission of knowledge, not the unsaleable craft of teaching, has become the cardinal value. Professors are being replaced with adjuncts and other temporary, low-wage workers, the cost to educational quality be damned. Academic units are seen as 'revenue centers'; the one's that can't pull their weight – much of the liberal arts – are slated for downsizing or outright elimination. Science is king, but not just any science … The holy grail is technology transfer: scientific investigation … that is capable of being parlayed into profit." W. Deresiewicz, *Excellent Sheep: The Miseducation of the American Elite and the Way to a Meaningful Life* (New York: The Free Press, 2014), p. 67.
[4] Ibid., p. 69.
[5] Ibid., pp. 20-25. The details regarding Dersiewicz's claims are included below in the conclusion to this essay.
[6] Ibid., p.70.
[7] Deresiewicz writes, "The fact is that elite schools have strong incentives *not* to produce too many seekers and thinkers, too many poets, teachers, ministers, public-interest

lawyers, nonprofit workers … – too much selflessness, creativity, intellectuality, or idealism. … They do nothing … to challenge the values of a society that equates virtue, dignity, and happiness with material success … Nor do they do much to help kids find their way to alternative careers. I've been told again and again at school after school that career service offices have little or nothing to say to students interested in something other than the big four of law, medicine, finance, and consulting. … And some schools go even further. Stanford offers companies special access to its students for a fee of ten thousand dollars – and it's hard to believe that Stanford is the only one. … Of course, colleges do nothing to discourage students from pursuing lucrative careers, no matter how personally unfulfilling or socially destructive. … Now schools can have it both ways: the meritocrates *are* the future donors, as long as you select and train them right." Ibid., pp. 71-2.

[8] A. Deblanco, *College*, p. 46.

[9] Carol Poster, notes that Protagoras proceeded in precisely this way, using a *technē* known as *orthoepeia* or the correct use of words. She writes, "Protagoras was interested in "orthoepeia" (the correct use of words). Later sources describe him as one of the first to write on grammar (in the modern sense of syntax) and he seems interested in the correct meaning of words, a specialty often associated with another sophist, Prodicus, as well. In the "Protagoras," the Platonic dialogue named after the famous sophist which has both Protagoras and Prodicus as participants, Protagoras is shown interpreting a poem of Simonides, with special concern for the issue of the relationship between the writer's intent and the literal meanings of the words. This method of interpretation was one which would be especially useful in interpreting laws and other written witnesses (contracts, wills, and so forth) in the courtroom. Unfortunately, we don't have any actual writings by Protagoras on the topic." C. Poster, "Protagoras,"

Internet Encyclopedia of Philosophy https://www.iep.utm.edu/protagor/

[10] The rejection of sophistry is often taken to be philosophically important by philosophical commentators on Plato's "Apology." And it *is* important. But there's more to his refutation of the slander, which I'll explore below.

[11] https://www.ancient.eu/Paros/

[12] Plato, *The Five Dialogues*, trans. G. M. A. Grube (Indianapolis: Hackett Publishing, 2002), p. 25n6.

[13] W. Deresiewicz, *Excellent Sheep*, especially chapter two.

[14] As a colleague of mine noted on review of this paper, perhaps not having a determined answer to that question is inseparable from being a democracy? Recall book VIII of *The Republic*. There, Socrates talks about how in a democracy people are free to live any life they wish and educate their children however they see fit and independently of any "thick" conception of the good. Instead, there is only the thin and vague good of freedom but a cultural silence regarding what one should do with that freedom. We have something similar in America; there is no thick conception of the good other than freedom or absence of interference. Our Bill of Rights, for example, presents a list of what congress can't do. But we have no Bill of Obligations listing what citizens should or must do. In a way, our first amendment enshrines this "thin" view of the good in law.

[15] See note 5 above.

[16] Cited in W. Deresiewicz, *Excellent Sheep*, p. 15.

[17] "Essentially, though, it was the same as with all people who are not exactly rich, but who want to resemble the rich, and for that reason only resemble each other: damasks, ebony, flowers, carpets, and bronzes, dark and gleaming – all that all people of a certain kind acquire in order to resemble all people of a certain kind." Tolstoy, *Death of Ivan Illych*, p 57. Sourced on Thursday 7 February 2019 from

https://web.stanford.edu/~jsabol/existentialism/materials/tolstoy_death_ilyich.pdf

[18] Deresiewicz, *Excellent Sheep*, p. 4. He writes, "A word on what I mean when I speak of the elite. I don't intend the term as it is often now deployed as a slur against liberals, intellectuals, or anyone who disagrees with Bill O'Reilly, but simply as a name for those who occupy the upper echelons of our society: conservatives as well as liberals, businesspeople as well as professionals, the upper and the upper middle classes both - the managers, the winners, the whole cohort of people who went to selective colleges and are running society for their exclusive benefit."

[19] In what follows, my claim is not that the analogies that I draw with these classes maps one-to-one onto our contemporary context.

[20] West, *Plato's Apology of Socrates: An Interpretation, With New Translation* (Ithaca: Cornell University Press, 1979), p. 109.

[21] A. Nehamas, "Plato and The Mass Media," *The Monist*, 71.2 (April 1988), pp. 214-234: p. 223.

[22] A real exception exists to Plato's characterization and brief dismissal of the poets (about whom he speaks more directly and critically in his "Republic"). My friend and colleague, Malachi Black provides a very good example to the contrary in his contribution to the session, "The Language of Goodness," in The University of San Diego's three semester series examining "Beauty, Goodness, and Truth." https://www.youtube.com/watch?v=sYzC8TWzH3Y

[23] See note 7 above.

[24] F. Cusset, *French Theory: How, Foucault, Derrida, Deleuze, & Co. Transformed the Intellectual Life of the United States*, trans. J. Fort (Minneapolis: University of Minnesota Press, 2008), p. 226.

[25] Ibid., p. 44-5.

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Life 3.0 – Being Human in the Age of Artificial Intelligence

Author: Max Tegmark
New York: Alfred A. Knopf, 2017. ISBN: 978-110196596, 335 pp, $28.00

Reviewed by Christina de Vreeze, Ph.D. Candidate, Salve Regina University

Human beings are not born, *tabula rasa*, as the philosopher Locke purported. We come to this life with a set of brain structures that are optimized for certain tasks. This fact is at the center of the neuroscience that studies AI.

Max Tegmark posits in, *Life 3.0 – Being Human in the Age of Artificial Intelligence*, that AI will transform every aspect of our lives, from our own bodies and minds to political and economic structures, and this transformation will occur at an unforeseeable time and on an unpredicted scale. Therefore, contemporary society has the responsibility to decide *now* how, in what form and to what extent AI will play a role. While the engineering world moves forward at a faster and faster pace, the political quarter remains ignorant and inactive with respect to the developments of the technology. Machine

learning, deep learning and artificial intelligence are still concepts unknown to the large majority of the citizenry while its impact on the economy as well as its employment in military action and political systems will be of paramount importance. The writer provides an extensive overview of terminology, current scientific debates and, as a physicist and cosmologist, he gives the reader abundant sets of examples, hypotheses, definitions and technical principles related to AI.

The book opens with a fable describing a hypothetical future world inhabited by humans where the Omega Team, working for a corporation focused on creating artificial intelligence, builds an AI nicknamed Prometheus. On the first day, the main computer's AI is launched and astounds the Omegas by successfully earning 1M$ daily succeeded by 10M$ monthly, successfully disrupting established companies like Amazon Mechanical Turk, Time Warner Disney, Comcast and Fox while emulating Amazon, Google or Microsoft. Backed up by the Omegas, the AI establishes shell companies, deploying disinformation campaigns and employing real lawyers to divert documents fed into the AI. During this process, as anticipated, Prometheus learns to improve its own hardware. To avoid a breakout that might lead to escalation through self-modification and replication, the Omegas prevent Prometheus from controlling robotic construction facilities by hiring world-class scientists and engineers to do that. Furthermore, it is strictly prohibited to connect Prometheus to the internet. Instead files are directly inputted to provide it information.

What the world does notice, however, is the high-tech boom that disrupts the economic balance and accelerates the

diminishing manual labor workforce. At this stage the Omegas master the global economic order, including the spheres of media and education. They implement a plan that employs psychological behavioral strategies in several phases. Their intention is to seize the world's existing power structures and achieve global human equality by providing a basic universal income to combat the unemployment caused by the technological surge.

A non-governmental organization called the Humanitarian Alliance composed of a group of international companies initiates a set of projects that provide for education, health, infrastructure and high quality social services. Military spending under those conditions becomes redundant and social holistic equality eradicates all sorts of conflicts. As the Alliance implements its perfectly balanced system, national governments become obsolete. Under the guidance of the Omegas, AI has made it possible to establish a universal peaceful balance on earth. And so humanity gives birth to AI but without having engineered cognitive abilities into the system.

This fable is a portrait of the ideal world Tegmark portrays and it provides a framework for the essential themes discussed in his book. He then goes on to approach the subject from the viewpoint of both the physicist and cosmologist and examines AI as it is now. In a conversational style, Tegmark repeatedly questions when and how artificial general intelligence (AGI) will be a reality. He claims that AI is the logical evolutionary next step in life on planet earth and builds his theory around its development. As life in the universe started 13.8 billion years ago with only 4 billion of those years

on earth, he posits that the first phase – Life 1.0 – contained only bacteria that sought merely to replicate and survive. Life 2.0 is comprised of humans who possess culture and employ myth to communicate and use their minds to eventually design their own software. And Life 3.0 corresponds to the phase that designs its own hardware and is, therefore, "the master of its own destiny."

According to Tegmark – who simplifies many technical definitions for the sake of reaching the widest readership possible – the definition of intelligence is the ability to accomplish complex goals. This definition raises the question how we, as human beings, differ from machines, especially when AI has shown its capacity to win at complex games such as Go or chess, navigate roadways with driverless cars and instantaneously translate over a hundred world languages. Natural language processing is highlighted as the fastest developing field in AI. To execute these tasks, AI appears to employ *intuition*, *creativity* and *strategy*, characteristics typically tagged as human-specific.

Tegmark also postulates that biological memory is present in the brain while in AI it is imbedded in computation. Thus both human beings and AI systems have the ability to learn. The learning that takes place in biological systems occurs through interaction with the environment and through the production of myths that employ heuristic methods. AI's deep reinforcement learning system employs machine learning and mimics how humans learn. Those practices stem from the scientific discipline of behaviorist psychology that focuses on how software agents can be trained to perform in order to obtain a cumulative reward.

Tegmark goes on to discuss five broad categories: AI-safety research, law, legislation, the military and the employment–income sector. He explains how AI can be made safer by having it employ better decision making criteria within existing socio-economic models and discusses, among other topics, the *ethics* of machine responsibility, the disbursement of AI for military purposes, the advent of small AI-powered killer drones and the possibility of a universal basic income to address technology driven inequality.

Critical Analysis

Tegmark's book forcefully argues that AI is a critical component of today's *Zeitgeist*. Overall, Tegmark's work refrains from shedding light on the philosophical and religious foundations that have explained the development of mankind together with technology. This theme has been examined under the prism of the humanities from the time of the Indian Upanishads and the Greek Milesian philosophers through to today's modern humanism.

The title under review seems to promise an answer to the question of what it means to be human in the age of artificial intelligence, but it does not analyze, to the fullest possible extent, basic topics such as objectivity, free will, the soul, privacy issues, understanding, consciousness, agency and personhood. Max Tegmark describes mankind's intimacy with technology. Despite the absence of serious philosophical argumentation, Tegmark's text remains an informative read cast in an original conversational style that effectively shed light on an uncertain future.