Title: Technology and the *Tao*: Biotechnological Enhancement and Embodied Humanism: An Interdisciplinary Dialogue

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Discovery, progress, and innovation are the animating forces of the biotechnology project, which continues to follow the non-linear curve of Moore's Law. Thus, we find ourselves in the midst of the greatest revolution in recorded history and one step closer to a possible fracture in humanity. The right hand can no longer ignore what the left hand is doing. If we are to continue to thrive as a species and as centers for intellectual inquiry and discourse, engagement in interdisciplinary thought and meaningful debate are essential. To that end, I endeavor to juxtapose transhumanism's topos of limitless progress through technological enhancement and C. S. Lewis's prizing of objective morality and embodied humanism.

Key words: biotechnology, human enhancement, transhumanism, embodied humanism, C.S. Lewis

Perfection

The very nature of being human reveals a paradoxical ontological status, that of a self-reflexive creature framed towards openness, full of flux, and completely incomplete: We are perfectly imperfect (Hyde, 2010).   Whatever else may be said about human history, it is certainly fair to say that individuals and communities—from both East and West—have strived to come to terms with the beauty and burden of perfection. Whether that ideal took shape and was represented in Egyptian pyramids and obelisks, the intricacies of the Incan emperor's estate, the Confucian form of citizenship, the Samurai's harmonious exactness, the Greeks in their aesthetics, philosophizing and myth-making, the Romans and the magnitude of their empire and might of their architecture, the Polynesian night-sky navigators, the theological treatises of the more recent past, or the emerging techno-centrism of post-modernity, the case can be made that there was and is a theory of perfectibility always at work within us (Chesterton, 1993; Foss, 1946; Hyde, 2010; Lewis, 1974). Burke (1969) goes as far as to say that humans are indeed "rotten with perfection" (p. 14). Hyde (2010) offers the compelling rebuttal that while too much perfection may lead to rottenness, too little leads to decay. In order to reach modern

conceptualizations of perfection and stave off the inevitable process of decline, biotechnology, nanotechnology and artificial intelligence have been offered up as means of human enhancement.

Human Enhancement

Due to the broad and, perhaps, problematic nature of a term like human enhancement, this present essay will limit the use of that term to the definition provided by van Est, Klaassen, Schuijff, & Smits (2008), which simply states that human enhancement is "the use of biomedical technology to achieve goals other than the treatment or prevention of disease" (p. 4). Central to any discussion of biotechnology and its affordances is the indistinct ethical delineation of treatment, therapy, or prevention and that of application for enhancement (Phillips, 2012). From the vantage point of van Est, Klaassen, Schuijff, & Smits (2008), it seems clear that many individuals utilize biotechnology in order to augment their natural state, to improve mood, cognition, physical and intellectual performance, as well as appearance. One needs to look no further than the daily news to see how ubiquitous human enhancement has become. Musicians routinely ingest beta-blockers to improve the quality of their performances (Elliot, 2008). Many athletes, including children, now rely upon biotechnology to increase strength, speed, agility, and recovery (Evans, Ndetan, Perko, Williams, & Walker, 2012). If a person were to develop an unsightly wrinkle, Botox is always an option. If one were inclined to study for an exam or write that pending article, psychostimulants, although illegal without a prescription, might be used to sustain concentration; both scholars and students alike are turning to stimulants for enhanced cognitive performance (DeSantis, Webb, & Noar, 2008; Monastersky, 2008). As this metaphysical desire for perfection, with its propensity embedded in our language, intersects with easily accessible biotechnologies, a new era of human transcendence looms on the horizon.

In light of Darwin's work in the Galapagos, the concept of evolution was applied to the up-till-then rather fixed notion of human being.   This teleological process of constant, if imperceptible, change and continuous emergence allows for a post-modern re-situating of humanity as discursively constructed, autonomous performers of multiple identities (Butler, 1990; Habermas, 2003; Hayles, 1999; Lyotard, 2003). In other words, there is no "once for all" perpetual entity, no Platonic ideal or concrete form, no essential quality that can be called distinctly human. By virtue of its evolutionary heritage, humanity is in the process of becoming: a process which continues to leave definitions indefinite and possibilities for transcendence limitless.[1]

Human Being?

Alvin Toffler (2001) synopsizes the changing landscape by stating, "The biggest question facing the 21st century can be stated in a few words: What does it mean to be 'human?' The answer to that question will affect our most basic values and moral codes" (as cited in van Est, Klaassen, Schuijff, &Smits, 2008, p. 6). Led by influential thinkers like Bostrom (2003), Drexler (1986), Hughes (2004), Moravec (1988), and Kurzweil (2005), transhumanism—an evolutionary conceptualization that would further fuse humanity with emerging technologies like "nano-, bio-, and information technologies and the cognitive sciences"—aims at overcoming the limits of our outdated biological systems (van Est et al., 2008, p. 4). Bostrom (2003), professor of Philosophy at Oxford University, posits that humanity is:

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[1] Until the Enlightenment period, transcendence had largely been considered a spiritual quest and endeavor. While I do not wish to conflate Enlightenment thought, as if it were a homogenous mass, what I do wish to say is that we see movement away from the strict confines of religion towards a progressive, rational-scientific method that was intended to increase the wellbeing of humanity, that is, perfect the world. It is during this same period that much of what Francis Bacon stressed, that is, the merger of scholasticism and technology began to be enacted.

a work-in-progress, a half-baked beginning that we can learn to remold in desirable ways. Current humanity need not be the endpoint of evolution. Transhumanists hope that by responsible use of science, technology, and other rational means we shall eventually manage to become post-human, beings with vastly greater capacities than present human beings have (p. 1-2).

Moreover, Kurzweil (2005) purports that "[w]e will ultimately multiply our intellectual powers by applying and extending the methods of human intelligence" (p. 128) in order to "transform our frail version 1.0 human bodies into their far more durable and capable version 2.0 counterparts" (p. 300). Though pronouncements like these smack of science fiction, those closest to the matter—the likes of Bill Joy,[2] Francis Fukuyama,[3] and Leon Kass[4]—take the transhumanist assertions quite seriously. One of the major reasons for this is due to the accelerating rate of acceleration in the realms of biotechnology (which includes genetics), nanotechnology, and artificial intelligence. A notable example of this trend is seen in the transcribing of the human genome in just fifteen years. Kurzweil notes, "scientists …spent an entire year transcribing a mere one ten-thousandth of the genome. So, even with reasonable anticipated advances, it seemed natural to them that it would take a century, if not longer, before the entire genome could be sequenced" (p. 13). It is not that those projections were wrong, either. Rather, the point Kurzweil makes is that a century's worth of work was completed in far less time, due in large part to the rapid expansion of applicable technologies. In light of this fact, we might do well to pause for a moment and familiarize ourselves with the concept and the

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[2] Bill Joy is the principle designer of the Berkely version of *UNIX*. He helped develop the *Java Programming Language* and was the corporate executive officer of *Sun Microsystems*.
[3] Dr. Francis Fukuyama is an International Political Economist and fellow at Standford University. He has authored a number of works addressing the potential dangers of the biotechnology project.
[4] Leon Kass, M.D., Ph.D. served on the President's Council on Bioethics 2001-2005.

implications of exponential growth or what Kurzweil (2005) calls "the law of accelerating returns" (p. 3).

Exponential Trajectory

Kurzweil (2005), celebrated for his feats of engineering, work in pattern recognition, and consistent ability to accurately forecast technological advancements, explains that most predictions of the future fail to account for the rapidity of change, precisely because they are based on "intuitive linear" models of history (p. 11). However, technological development follows an exponential trajectory (i.e., it increases by repeatedly multiplying by a constant). This concept of exponential growth is easily grasped when considering the fabled history surrounding the game of chess. The old story goes that the inventor of chess demonstrated his novel creation to his king, who so taken with his subject's prodigious efforts, offered the man a reward of his choosing. The inventor simply asked that one grain of rice be placed on the first square of the chess board and that the amount be doubled for each ensuing square. The king, evaluating this request in what Kurzweil calls the "intuitive linear" mode, did not perceive the effects of exponential growth and accepted the offer. The negative repercussions of this decision became all-too-obvious when the amount of rice the king owed to the inventor, doubling each day for 64 days (expressed as 1+2+4+8+16+32 etc.), was greater in sum and worth than his entire kingdom.

In similar fashion, scholars within the humanities and social sciences, as well as society writ large, tend to scoff at transhumanist predictions precisely because perception and unexamined intuition suggest that the future will not be altogether different from the recent past (Kurzweil, 2005). This is in no way meant to suggest that people are unaware of the changing landscape, but is meant to suggest that we rarely stop to connect the dots. Advances in technology open up new avenues of research and design, which reciprocally lead to future

advances. However, the "intuitive linear" view of history is one where we compartmentalize

developments, as if they are isolated from one another. Take the example of Dolly, arguably the

world's most famous sheep: We remember Dolly the cloned sheep because she embodied the

fracturing reality that scientists were actively engaged in cloning. They were not merely

debating the topic, acting and reacting to possible ethical implications; while the world

considered the concept of cloning and went about the practice of everyday life, scientists

shocked the world with a living, breathing, eating, sleeping, woolly clone. It is not that society

failed to believe scientists were capable of such feats, only that we did not intuit, did not expect

to be so quickly confronted by the material reality of the scientific endeavor. Thus, to ignore the

"law of accelerating returns" and its exponential potential is to miss the importance of

Kurzweil's warning, when he states that "we won't experience one hundred years of

technological advance in the twenty-first century; we will witness on the order of twenty

thousand years of progress (again, when measured by *today's* rate of progress), or about one

thousand times greater than what was achieved in the twentieth century" (p. 11, emphasis in the

original).[5] On the surface of things, twenty thousand years of progress sounds promising,

enticing even. But, what do transhumanists' plans for the next few decades entail?

Transcending Biology

*Homo sapiens, the first truly free species, is about to decommission natural selection, the force
that made us…[S]oon we must look deep within ourselves and decide what we wish to become.*

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[5] Whether or not Moore's Law or Kurzweil's law of accelerating returns stands the grand test of time, the important thing here is to understand conceptually how bioengineers, technologists, and transhumanists view the trajectory of innovation. Without comprehending this fundamental notion, even if it is strictly theoretical, it limits the robustness of potential interdisciplinary engagement.

—E. O. Wilson

The program of life—the system of DNA, genes, and genomes that governs every living thing—
was written four billion years ago. It's time to rewrite the program.
—Tom Knight

While there are many proponents of the biotechnological project, each adding his or her

own unique nuances and philosophical departures, transhumanists agree on the core virtues of

transcending our biological limitations. Bostrom (2008) argues that by applying advanced

technology to the human being, we can realize otherwise unrealizable goals not obtainable

through "low-tech means such as education, philosophical contemplation [or] moral selfscrutiny"

(*sic* p. 7). Bostrom (2008) posits that when disease-free bodies and enhanced minds are

combined with radical life-extending techniques, "we shall come to discover values that will

strike us as being of a far higher order than those we can realize as un-enhanced biological

humans beings" (p. 4). But, how realistic is this vision of a disease-free, perpetually youthful,

enhanced being?

Developments in genetics have allowed germline modifications[6] in mice, rats, sheep, and

the rhesus monkey (Phillips, 2012). Kiuru and Crystal's (2008) review of genetic modifications

for the enhancement of appearance, cognition, and physical performance reveals 37 references to

experimental studies performed on animals (as cited in Phillips, 2012, p. 118). Germline genetic

modification may soon be used to target and treat genetic diseases, as well as enhance genetic

outcomes. In a 2009 interview, Kurzweil stated, "I and many other scientists now believe that in

around 20 years we will have the means to reprogram our bodies' stone-age software [through

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[6] Germline genetic engineering is genetic engineering that targets the genes in eggs, sperm, or very early embryos. The alterations affect every cell in the body of the resulting individual, and are passed on to all future generations. Germline engineering is banned in many countries but not in the U.S. Retrieved from: http://www.arhp.org/publications-and-resources/patient-resources/printed-materials/cloning

genetic engineering] so we can halt, then reverse, ageing. Then nano-technology will let us live

forever" (Begg, 2009). Kurzweil continued: "Already, blood cell-sized submarines called

nanobots are being tested in animals. These will soon be used to destroy tumors, unblock clots

and perform operations without scars. Ultimately, nanobots will replace blood cells and do their

work thousands of times more effectively" (Begg, 2009). Renowned gerontologists like Aubrey

de Gray, Cynthia Kenyon, and Michael Rose agree that negligible senescence is just around the

corner. To that end, Kurzweil and Grossman (2009) created a nine step program instructing

others how to utilize medical and biotechnological breakthroughs in order to maximize and

prolong their health long enough to make it to the coming revolution in nano-technology. The

promise of cheating death through incremental scientific and technological breakthroughs hangs

about tranhumanists like an albatross. In the unfortunate event that a person experiences what

Bostrom (2009) calls de-animation, there is always a backup plan: cryogenics.[7]

Kurzweil (2005) predicts that by 2045 we will have successfully transcended "our

biological bodies and brains. We will gain power over our fates. Our mortality will be in our

own hands" (p. 9). He calls this point in time the Singularity, which is the "culmination of the

merger of our biological thinking and existence with our technology, resulting in a world…that

transcends our biological roots. There will be no distinction post-Singularity between human

and machine or between physical and virtual reality" (p. 9). What remains of humanity 1.0 or

what Yeats described as "that aged man…a paltry thing/ A tattered coat upon a stick (Yeats,

1926, lines 9-10)? Kurzweil believes that we, humanity 1.0, leave behind a legacy of

overcoming limitations. This conceptualization of the future leaves something to be desired

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[7] Cryogenics is the process of vitrifying a cadaver in liquid nitrogen so that it can ostensibly be thawed at a future date and re-animated.

though. If one were to accept the transhumanist proposition that humans will transcend our biology and live forever, what is the I or me that remains distinctly me?

For transhumanists, the essence of personhood and identity is to be found in the realm of the mind, and intelligence more specifically. Intelligence itself is "more important than the materials," the bodies, or the processes that give rise to it (Kurzweil, p. 478). Human intelligence is understood to be evolution's greatest achievement and the corner stone for transcendence. Kurzweil sees a day quickly approaching where successful reverse engineering of the human brain will allow us to develop the "software of intelligence" (p. 146) that can then be placed in "more powerful computational substrates" (p. 145). At present, though, humanity is stuck with its ground-breaking work with the body. Neural implants, such as those used to help restore hearing and those used for deep-brain stimulation in Parkinson's patients, continue demonstrating how versatile and adaptive the human brain is—suggesting that brain to machine communication is possible. In 2005, the government was already spending $24 million per year on computer to brain interfaces (Kurzweil, p. 194). The practical implications for these developments are potentially staggering: Those suffering from paralysis might well be able to regain use of their limbs (p. 195). There is little arguing with the transhumanist prerogative to cure humanity of its ills and maladies. This movement would see the end of all disease and suffering, but it would also see the end of the human.

Looking Back to Lewis

It is here at this tenuous, controversial intersection of humanity 1.0 and 2.0 that I wish to re-engage the thoughts of C. S. Lewis. For audiences today, Lewis is a bit of an anachronism, a repository for old books, humanistic philosophy and objective morality that safely guided and restrained the world of men, we sons of Adam. For the purpose of this paper, I wish to focus on

Lewis's works *The Abolition of Man* and *That Hideous Strength*, as the arguments he presents there serve as an interdisciplinary counter-balance to the fervor of the overly technologized, post-human perspective.

First presented as a series of lectures at the University of Durham in 1943, *The Abolition of Man* is Lewis's defense of "Natural Law or Traditional Morality or the First Principles of Practical Reason or the First Platitudes" (Lewis, 1974, p. 43). Before delving into the heart of the work itself, I would be remiss if I failed to say a brief word about the unique circumstances surrounding those talks. The Nazi blitzkrieg had been raining down terror on England for years, and, in some respects, there was no foreseeable end to the destruction. Against the backdrop of war, massive casualties, and eugenics, Lewis was asked to deliver the Riddell Memorial Lectures. The purpose for the Riddell lectureship was to investigate the relationship between religion and contemporary thought.[8] Lewis's sense of urgency and style of argumentation can be more easily understood in light of those exigencies, as *The Abolition of Man* was a direct response to them.

Also, lest Lewis fall under post-modernity's condemning charge of *Christian* and *The Abolition of Man* be ignored as narrow apologetics, he explains that "though I myself am a Theist, and indeed a Christian, I am not here attempting any indirect argument for Theism" (p. 48). The particular, positional argument of Christianity or even of spiritual origins for objective values is not taken up in this work. Rather, Lewis (1974) asserts, "I am simply arguing that if we are to have values at all we must accept the ultimate platitudes of Practical Reason as having

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[8] For more contextual information, see J. R. Lucas, "Restoration of Man: A Lecture given in Durham on Thursday, October 22nd, 1992, to mark the Fiftieth Anniversary of C. S. Lewis's The Abolition of Man." Retrieved from: http://users.ox.ac.uk/~jrlucas/lewis.html

absolute validity: that any attempt, having become skeptical about these, to reintroduce value

lower down on some supposedly more 'realistic basis, is doomed" (p. 49).

That Hideous Strength is the third and final work in Lewis's celebrated "Ransom

Trilogy." Germane to our discussion here, *That Hideous Strength* serves as a fictional expansion

of the solemn "point" that Lewis makes in *The Abolition of Man*. It is essentially *The Abolition*

of Man told in a narrative fashion so that it might reach and resonate with more readers. Lewis

(1996), recognizing the importance of linking the narrative to the quotidian, writes, "the

story…had to be shown touching the life of some ordinary and respectable profession" (p. 7).

After all, in the world of humanity 1.0, it is regular people who do the living, working, and

dying. Lewis's work clearly honors the embodiment of the humanist tradition by reverencing the

mundaneness of our experience. With that said, let us leap into his works and see what can be

gleaned.

The Green Book

The launching point for *The Abolition of Man* is to be found in the harbor of education.

When we think of high school, that is if we think of it, we tend to reminisce about our own

experiences. Nostalgia takes over, as we recount pleasant memories. The face hues red and our

blood pressure increases slightly as we re-examine our hardships. This is well and good, but it is

not the kind of 'thinking about' that we will be discussing here. Lewis (1974) writes, "I doubt

whether we are sufficiently attentive to the importance of elementary text books" (p. 1) or to the

education of youth in general. It is precisely here in the realm of education and in reference to an

English composition text book that Lewis (1974) begins to argue that "the actual tendency of

their work" (p. 1-2) is not to instruct children in the proper use of language but to recklessly

inculcate them with a philosophy of absurdity. For the sake of anonymity, Lewis refers to the

English text as *The Green Book* and states that when children read its passages, they "will believe two propositions: firstly, that all sentences containing a predicate of value are statements about the emotional state of the speaker, and secondly that all such statements are unimportant" (p. 4). Furthermore, it is because the student thinks she is learning about English composition that the philosophical assumptions of Gaius and Titius, the names given to the authors of *The Green Book*, will effectively go unchallenged. Lewis argues that assumptions in *The Green Book*, that is, *that statements about values are merely subjective feelings or preferences and cannot be treated as true or false and are, therefore, ultimately unimportant* become unconsciously embedded within the student. A student finds himself, "ten years hence" conditioned "to take one side in a controversy which he has never recognized as a controversy at all" (p. 5). This theme is carried forward in *That Hideous Strength* as well, ultimately sounding like an odd mixture of *The Abolition of Man* and a prefigurement of transhumanist ideology; Lewis (1996) writes:

> then [begins] the real education, including pre-natal education. By real education I mean one that has no 'take-it-or-leave-it nonsense. A real education makes the patient what it wants infallibly: whatever he or his parents try to do about it. Of course, it'll have to be mainly psychological at first. But we'll get on to biochemical conditioning in the end and direct manipulation of the brain….(p. 40).

Those who favor rapid acceleration of the biotechnology project, many of the writers aforementioned, are actively engaged in priming, that is, framing stories in ways that more easily access areas of the brain responsible for formulating and encouraging attitudes. Transhumanists appeal to the psychological first, but as Bostrom (2003) notes, enhancements of the brain may need to be enforced at some point.

From *The Green Book*, the student learns to become an indiscriminate critic, comfortable discrediting anything that stirs emotions as "contrary to reason and contemptible" (p. 9). Education, rather than opening up doors for future experiences is, in this context, a means of excising the soul of the student. In short, education is possible of producing "the trousered ape" and "the urban blockhead" (p. 11). The trousered ape is emblematic of what George MacDonald, G. K. Chesterton and C. S. Lewis considered the baseness of existence: eating, drinking, and copulating without thought of anything higher. The mantra of transhumanism is *you can have whatever you wish, whenever you wish, as often as you wish.*[9] But, the urban blockhead fares no better, as he refuses to think anything higher than himself. Kurzweil also falls within this latter category, as he shares that there is no god because we have not yet become him.

Lewis (1974) shares that in his experience as an educator, most students "need to be awakened from the slumber of cold vulgarity" (p. 13). He therefore admonishes educators to look for the desert places in the souls of pupils and to irrigate them with "just sentiments" (p. 14). The point in so doing is that it (1) protects them from unjust sentiments and (2) prepares them for later encounters with the principles of ethics. Mark Studduck, the protagonist in *That Hideous Strength* is emblematic of all that Lewis tries to communicate on this point. "His education had been neither scientific nor classical—merely 'Modern,'" writes Lewis (1996, p. 182). As such, Mark lacked both "peasant shrewdness" and "aristocratic honor" (p. 182). Mark is also representative of the post-modern pupil of today; worse than being unprepared for ethical conduct, post-modernity requires the problematizing of ethics and conduct. In other words, our

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[9] Kurzweil, (1999) in *The Age of Spiritual Machines* and in (2005) *The Singularity is Near,* repeatedly states that in the coming years humans will choose to have sex with machines whenever and however they want, as well as take part in mass virtual orgies with other humans. .

training does not teach students to ask whether something is right or wrong but to question the presupposition that there ever was anything truly right or wrong.

Lewis (1974), drawing from the well of Western philosophy, urges educators to keep in mind that small doors open into much larger rooms; children need to be taught to how to rightly esteem the good, the true, the beautiful, "so that when Reason at length comes to him," he will respond in right action (*Abolition*, p. 17). It is Lewis's estimation of history that women and men both believed and taught, until quite recently, (1) that there was such a thing as objective morality and (2) that there were "'just', or 'ordinate', or 'appropriate'" orientations to this higher ordering principle or Way of life (p. 15). Frost, one of the villains in *That Hideous Strength* disregards Aristotle's teaching as a mere "iron-age" conjecture, a waste of time. Frost informs Mark that when he attains "real objectivity you will recognize, not *some* motives, but *all* motives as merely animal, subjective epiphenomenona" (*Strength* p. 293). Brostrom (2008) similarly boasts that transhumanism "hopes to go further" than the "classical philosophers with perfectionistic leanings, including Plato, Aristotle, and Nietzsche" (p. 7). In other words, their teachings were fine for the human beings who were animals (humanity 1.0) but not the transcendent beings of post-humanity (humanity 2.0).

Lewis, borrowing from the centuries old Chinese conceptualization of the *Tao*, defends the overarching principles of practical reason and universal truth that have both informed and shaped human conscience across time and place. The *Tao* represents "the doctrine of objective value, the belief that certain attitudes are really true, and others really false…the kind of thing the universe is and the kind of things we are" (*Abolition* p. 18). The *Tao*, for Lewis, includes Hinduism's *Rta,* Plato's Good 'beyond existence,' Wordsworth's understanding "that through virtue the stars were strong" (*Abolition* p. 17), the Jewish Law, Confucian harmony, and Lao

Tzu's "Way which every man should tread" (*Abolition* p. 18).[10] By showing points of cultural

convergence, Lewis is demonstrating that (what we in the West typically refer to as) Natural Law

actually exists: It is real: *It* is reality. Lewis's *Tao* stands as a bulwark against the tide of

transhumanist thought that challenges objective truth, morality and even coherent reality. In

Lewisonian thought, anyone denying the *Tao* is irrational and therefore stands outside of the real.

They fail to qualify as men without chests because they fail to qualify as men at all.

     Like Plato and Alanus, the medieval theologian, Lewis believes the chest to be "the seat

of Magnanimity," the place where values and just sentiments reside (*Abolition* p. 24). As such,

the chest mediates reason (represented by the head) and appetites (represented by the belly) by

adjusting itself to the *Tao. The Green Book* and its authors, however, stand outside the *Tao* in

opposition to it, producing "Men without chests" (*Abolition* p. 25). There is no argument that

could propel men without chests towards the virtues of the *Tao*, but were one able to convince

them, "[i]t still remains true that no justification of virtue will enable a man to be virtuous"

(*Abolition* p. 24). One must also have stable sentiments, objective values, without which "the

intellect is powerless against the animal organism" (*Abolition* p. 24). In a rather damning

indictment against society, Lewis concludes that the very things we need more of in this world,

such as selflessness and courage, are the very things we will not have because, outside of the

Tao, there is no justification for them. He laments, "[w]e make men without chests and expect of

them virtue and enterprise. We laugh at honor and are shocked to find traitors in our midst"

(*Abolition* p. 26). We educate our youth to believe the self-refuting absurdity of post-modernity

and wonder at the steady decay of civil society. The logical conclusion for any people who step

outside the *Tao* and go about debunking objective morality is cultural and spiritual erosion. *That*

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[10] Lewis also includes an appendix (pages 83-102) with additional "Illustrations of the *Tao*."

Hideous Strength offers a narrative realization of this, as Belbury, the fictional setting, is shown spiraling downward. The members of the National Institute of Co-ordinated Experiments (N.I.C.E) cannot change because they will not change; they simply do not have the heart but do have sunken chests. Wrath is not, therefore, simply poured out upon the N.I.C.E, they pull it down upon themselves.

The *Tao*

Despite the fact that Gaius and Titius decry objective values, Lewis demonstrates the contradictory nature of their claim, noting that "there must be some other values about which they are not subjective," else they would not have written *The Green Book* in the first place (*Abolition* p. 27). We need not deduce from the authors their exact purpose in order to know that they had written a book that could persuade students to think as they do, which they must have approved of or thought "valid or correct" (*Abolition* p. 29). Thus, in writing the book, they confirm that there is something objective, something good, something objectively good for its own sake. Far from being against absolute values, Gaius and Titius are absolutely against values that do not align with their own. Lewis states that "this phenomenon is very usual. A great many of those who 'debunk' traditional (or as they would say) 'sentimental values have in the background values of their own which they believe to be immune from the debunking process" (*Abolition* p. 29). They offer to do society a service by eliminating morality, ordinate emotions and cultural restraints. Modern day transhumanist ideology follows suit, wishing to replace embodied humanity and all of the values that correspond to embodied reality as out-of-date-software. Transhumanists not only desire to decommission evolution but also the human being and its long-held philosophical, religious, psychological, and metaphysical traditions. While refuting the *Tao*, they hope to set up a post-human framework of non-biologically based values.

For Lewis, this is impossible because "as we have seen, all the values which [one] uses in attacking the *Tao*, and even claim to be substituting for it, are themselves derived from the *Tao*" (*Strength* p. 41). Transhumanists believe that non-biological values are decidedly better than those of unenhanced humanity, to which Lewis responds with a series of questions: (1) How come you to know that something is better? (2) In saying that some values are better than others, are you not admitting an objective standard? (3) What right do you have to select for yourself what portions of the *Tao* you wish to keep (i.e., values) or toss away? Lewis simply does not offer wiggle room on this point. He remains fixed in the face of post-modernity and says you cannot have it both ways. If you reject any portion of the *Tao*, you must reject the entirety of the *Tao*. If you keep any portion of the *Tao*, you must keep all of it.

The transhumanist cannot escape the dialectic. Starting outside of traditional values allows you no entrance into them. If the *Tao* falls, all conceptions of value fall with it. As human beings, it is true that we are unique; we also share languages, cultures, genetic heritage, contexts, and perspectives through which we see the world. By virtue of our symbolic interactions and shared meaning-making, to say something entirely new and to value something entirely new is rather impossible. If one were to say something new, it would need to be said in a manner that is otherwise incomprehensible because if it is comprehensible, it is necessarily built upon existing structures of knowledge and is therefore not new. Similarly, if one were to value something new, it would need to be something that does not exist, else it would not be new. And how can one value something that does not exist? This is precisely why the biotechnological project and transhumanists who subscribe so strongly to it have difficulty articulating a coherent philosophy. They cannot say what they value, only that they, still as humans, do not value what humans value; and once they become post-human, which they are

not, they will not value what humans value, which is impossible to know. Ostensibly what they

are saying is that when they enhance themselves through technology, they will then value the

things that they experience—irrespective of their valuableness. Lewis adeptly refutes this

notion, stating: "There has never been, and never will be, a radically new judgment of value in

the history of the world" (*Abolition*, p. 43). The transhumanist's response is "then we will make

a new world and remake ourselves." This line of argument is taken up by Lewis in the final

chapter of *The Abolition of Man* and throughout passages in *That Hideous Strength*. I wish to

turn our attention to those salient points and then offer a conclusion.

Abolishing Humanity

Lewis (1974) is careful to give honor where honor is due, noting that humanity has

benefited from the scientific endeavor. Science itself is not the enemy, but a particular way of

viewing the world—with science and technology used as instruments to aid and assist the

remaking of man. "Let us decide for ourselves what man is to be," Lewis writes, "and make him

into that…because we want him to be such. Having mastered our environment, let us now

master ourselves and our own destiny" (*Abolition,* p. 51). The boisterousness of pronouncements

like this often generate at least three types of responses: outright disbelief, frenzied excitement,

and detached ambivalence.

This first response is typified in a passage from *That Hideous Strength*:

was there a single doctrine practiced at Belbury which hadn't been preached by

some lecturer at Edestow? Oh, of course, they never thought anyone would *act*

on their theories! No one was more astonished than they when what they'd been

talking of for years suddenly took on reality. But it was their own child coming

back to them: grown up and unrecognizable, but their own (p. 369-70).

One of the primary purposes of this essay is to draw attention to the fact that we live in an era of unprecedented technological advances but fail to take seriously the claims of those developing the technologies and those accelerating the innovations. We view the world through an "intuitive linear" perspective that is incompatible with exponential growth. In short, we do not believe the world as we know it will end because it has not. As Paul Virillio (2003) implores, if we are not careful, "[o]ne day the day will come when the day will not come" (p. 1). This is the essence of Kurzweil's singularity; he wants to see past the event horizon of humanity and is helping speed us in that direction.

Transhumanists enact the second type of response, that is, frenzied excitement. Throughout this essay, I have attempted to point out that this particular ideology is at work within the transhumanist movement, a movement that also holds with it the momentum of accelerating technology. There is such overlap between *That Hideous Strength* and transhumanist literature, specifically Kurzweil's works, that you could easily exchange certain passages and end up with the same themes. Whereas Lewis means his to be a cautionary tale, Kurzweil means his to be an explication of an ideology. Lewis writes,

> "[i]n us organic life has produced Mind. It has done its work. After that we want no more of it. […] We must get rid of it. By little and little, of course. Slowly we learn how. Learn to make our brains live with less and less body: learn to build our bodies directly with chemicals, no longer have to stuff them full of dead brutes and weeds (*Strength*, p. 170).

Compare Lewis's thoughts to one of the many passages that Kurzweil (2005) incorporates in his vision of the future—all the while keeping in mind that billions of dollars are being spent to actualize these proposals:

As we learn the operating principles of the human body and brain, we will soon

be in a position to design vastly superior systems that will last longer and perform

better, without susceptibility to breakdown, disease, and aging. One example of a

conceptual design for such a system […] envisions features such as a metabrain

for global-net connection with a prosthetic neocortex of AI [artificial intelligence]

interwoven with nanobots, solar-protected smart skin that has biosensors for tone

and texture changeability, and high acuity senses. Although version 2.0 of the

human body is an ongoing grand project that will ultimately result in the radical

upgrading of all of our physical and mental systems, we will implement it one

small, benign step at a time (p. 302-3).

In contrast to the excitement of transhumanists is the ambivalence of John and Jane Q

Public. Hyde and King (2010), two experts in the bioethics debate, suggest that the general

public enacts a rather passive, wait-and-see approach to matters such as the ones discussed here.

In fact, there is a conspicuous lack of public discourse centered on these issues. As a result, what

we have in America is a kind of circular immobility: Due to public ambivalence, the government

has very few policies in place that limit what kinds of alterations, augmentations, or

enhancements people can apply to their own or their children's bodies. Due to governmental

inaction, those with the means to enhance do so, while the general public watches to see what

will happen.

Ethical Considerations

Ambivalence is problematic for many reasons, but for the sake of time, I will mention

just two. If we do not have regulations in place to protect the public, especially children, citizens

may suffer from negative side-effects or even unintended consequences that have not yet been

realized. We need look no further than what is considered routine medicine and how 100,000 Americans die each year from properly prescribed and properly administered medications (Perdomo, 2010). This is something that is highly regulated, yet there is a large segment of the population who are killed by means of governmentally reviewed and sanctioned therapies. My point is that by waiting for detrimental outcomes and public outcry before instituting policies that will protect citizens, a considerable amount lives may be lost in the process—some of them possibly infants and children.

The second is simply that if there are no negative side-effects and the project to enhance the mind and body goes exceedingly well, we have an altogether different problem on our hands. Namely, those wealthy enough to afford enhancing technologies will have access to all that these developments afford, while the poor will not. On the surface this might sound like similar arguments of stratification, the difference being that in this instance we have not just a social or economic differentiation—which is challenging enough— but a genetic or biological differentiation. How then do you regulate policies to equally accommodate what might be considered a lower class (humanity 1.0) and an upper class (humanity 2.0)? This last question leads us right back to the crux of *The Abolition of Man*.

When proponents of the biotechnology project and transhumanism state that we will wrest power from nature and overcome our limitations, what that actually means is "[m]an's power is, in reality, a power possessed by some men which they may, or may not, allow other men to profit by" (Lewis, 1974, p. 54). Far from egalitarian, the endeavor to transcend humanity is actually a descent into slavery because, "the power of Man to make himself what he pleases means, as we have seen, the power of some men to make other men what *they* please (Lewis, p. 59). The leaders of the biotechnology project and transhumanism instruct others as to what it

means to be enhanced, how to become the post-human ideal, and are responsible for those technologies that will be used in the coming months and years.

Washington (2011) echoes Lewis's warning by informing the public of what can only be called the ownership of life. Advances in biotechnologies and synthetic biology are allowing corporations to acquire patents for their "discoveries," which happen to be the essential processes of life (Washington, 2011). Kurzweil (2005) also notes that intelligence has yet to be "copyrighted or patented," but that will change as "patent applications have already been filed based on brain reverse engineering" (p. 146). What we are talking about here is unprecedented in scope. The new powers of bio-colonialism will quite literally be able to make people in their own image or as they so desire. No civilization has ever possessed or owned the very right to life in this fashion. It is not difficult to imagine the coming days when we will, if we do not rethink our current trajectory, have to go through corporations in order to purchase elements of life, as we now purchase software. If the exponential advances in technology continue following the S-curve, and regular people do nothing, we will no longer reproduce children because companies will own the rights of reproduction.

Artificial intelligence expert Jürgen Schmidhuber (2012) states that by 2040 intelligent machines will far surpass the 40,000 year reign of human beings.[11] These machines are being created today, based off of reversed engineered human biology and intelligence, which, according to Kurzweil (2005), will cause them to hold humans in positive regard.[12] But, this is not knowable. What will keep them [intelligent machines] from making life miserable for us or even obliterating us? Why should they wish to see our species preserved? If they wish to

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[11] Full transcript can be retrieved from: http://www.kurzweilai.net/when-creative-machines-overtake-man
[12] Kurzweil discusses emulating the human body in order to conceptualize new technologies in chapter 3, p. 111-142.

liquidate humanity, as humans have done to other humans, it will not make them bad men, for they are not men at all. Schmidhuber (2012) advises: "don't think of us, the humans, versus them, those future über-robots. Instead view yourself, and humankind in general, as a stepping stone (not the last one) on the path of the universe towards more and more unfathomable complexity. Be content with that little role in the grand scheme of things." Based upon Schmidhuber's declaration, Lewis, as one valuing embodied humanism, would argue that we have stepped outside of the *Tao* and "into the void" (Lewis, p. 64).

Conclusion

Although certainly incomplete, what I have attempted to do in this essay is juxtapose transhumanism's *topos* of limitless progress through technological enhancement and C. S. Lewis's prizing of objective morality and embodied humanism. As science and technology continue accelerating and expanding in scope, moving ever-forward toward *new discoveries* and *new possibilities* (humanity 2.0), it is more important than ever that the humanities engage in robust interdisciplinary dialogue—serving as a reminder of the richness of being (humanity 1.0). As Freud (2002), McLuhan (2002), Postman (1992), Arendt (1992) and countless others remind us, technological innovation often creates its own new set of problems, euphemistically deemed unintended consequences. The "intuitive linear" mode of thinking assumes that life will continue as it has in the past. The exponential model demonstrates that fractures can occur seemingly out of nowhere and carry with them life-altering implications.

We find ourselves at the intersection of humanity 1.0 and humanity 2.0, at the intersection of being and becoming. This is a contemporary moment that affords the humanities and social sciences a great opportunity to do ourselves and the world a bit of good. Failure to take the growing transhumanist movement seriously would be a grave error on our parts and,

perhaps our last. With each new technological advancement, it seems as though the window of opportunity closes a bit more. Though Kurzweil (2005) estimates that the singularity, which is the point at which human and machine intelligence have completely merged, will not occur for another three decades, it does not necessarily follow that life, as we know it, will remain unchanged until that time. We need look no further than our campuses and the growing number of student cyborgs—those constantly attached to their cellular phones, iPads, and laptops—to see that change is imminent. For Lewis, it is not simply money, power, or a particular group of people who hang in the balance. It is everything that we call human, that we call home.

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