

Essay

# The Indispensability of the Humanities for the 21st Century

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**Abstract:** This essay surveys the state of the humanities at this critical time. What will be the role of the humanities at the end of this century and beyond? I discuss the “crisis of the humanities” by examining the current challenges of globalization, economic shifts, and extensive budget cuts. I also discuss the social and political divisions that contribute to a crisis within the humanities. Since the culture wars that began in the 1960’s, the content, scope, and focus of the humanities have changed dramatically, and this has impacted how the humanities are perceived and valued by the general public. The second half of the essay makes the case for the vital importance of the humanities. I argue that the fate of the humanities is inseparable from the future of human beings. I highlight the current problems of war, environmental degradation, and mass surveillance that must be managed before they overwhelm and derail the potential for dramatic progress. Following recent scholarship and research trends, I explain how technological advancements will lead to the most significant evolutionary changes to the human being in aeons. Through technologies such as bionics, transgenesis, robotics, genetic engineering, and artificial intelligence, *Homo sapiens* might be enabled to transcend its former limits and usher in an era of transhumanism. The relevant question is: What do we want to be? I argue that enhancement technologies will make their beneficiaries more robotic and less human, and explain why we must treasure the advantages of our distinctly human capacities and resist the prospect of empowering ourselves to become automatons. My underlying thesis is that developing an understanding of the most insightful ideas and cultivating an appreciation for the greatest creative works that humankind has produced will be crucial for maintaining our humanity. The humanities thus make a unique and indispensable contribution to defining what and who we want our descendants to be.

**Keywords:** technology; universities; utilitarianism; hedonism; liberalism; surveillance; genetic engineering; robotics; transhumanism; simulation

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## 1. Introduction: Nothing New Under the Sun?

The importance of the humanities has been contentiously debated since ancient times.<sup>1</sup> Everyone recognizes that education is a necessity and connects with at least some kinds of music, art, stories,

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<sup>1</sup> For the purposes of this essay, I define “humanities” as subjects for study and expression that are human creations, such as philosophy, art, music, dance, literature, history, languages, and religious studies. My definition includes the creative arts as well as the liberal arts. The humanities are generally contrasted with the natural sciences, which conform to the rigors of scientific method, measurement, and objective investigation. Webster defines the humanities as: “the branches of learning...that investigate human constructs and concerns as opposed to natural processes.” The distinction with the social sciences is not as clear. For example, some approaches to the study of law or history are based on scientific research, and some are cultural creations. Many (myself included) regard the history of science, particularly stories of scientific discoveries to be part of the humanities, as they illustrate the human penchant for creative insight, analysis, synthesis, and problem solving.

architecture, history, ritual, and athleticism. The comparative value contributed by each of these pursuits has always been debated, and there are countless differences of opinion. In a general sense, the humanities differ from the sciences, in that the subject matter is often subjective, and there is greater room for controversy.

While everyone appreciates the humanities to some extent, there are serious disagreements over a broad range of issues. A major perennial debate concerns the allocation of public resources in key areas such as education and patronage of the arts. Everyone understands the importance of practical training and education. Living requires that we have practical intelligence, so as to serve our needs and solve our problems. Not everyone believes that humanities education should be publicly funded (e.g., *laissez-faire* libertarians). Many believe there are higher priorities for limited resources, although people are of many opinions as to which priorities are most necessary. For instance, some argue that more money is needed to support the military, and others argue for the urgency of funding preschools and day care. In this era of ongoing budgetary cutbacks, the humanities, as an educational and cultural enterprise, have been in retreat and their supporters on the defensive. Stanley Fish argues that the humanities in higher education are surviving only by artificial and coercive means, and that attempting to justify the liberal arts on economic or utilitarian grounds is a losing argument [1]. With the exception of the Western liberal democracies, the nations of the world heavily channel their resources into practical education. The humanities are considered more extravagance than necessity [2]. Are there arguments for the practical value of the humanities that would convince the naysayers? In the latter sections, I offer some futuristic arguments to support my claim that the humanities have exceptional value. The opening sections present a wide ranging analysis of the current status of the humanities, broadly construed. My analysis of the contemporary scene comes mainly from an American perspective, but the implications and ramifications of this are of far reaching relevance.

This essay consists of several related shorter essays, which examine the key challenges that confront not just the humanities, but also humanity as a whole. I argue that the humanities make irreplaceable contributions to our lives. Indeed, the humanities are necessary for the survival of humankind. By the end of my essay, I hope to persuade the budget-conscious politicians, administrators and bureaucrats to reconsider the importance of the humanities and to be more generous with funding. I defend the humanities on existential grounds. It is a practical matter at this point in time.

### 1.1. *Old School: The Humanities in a Utilitarian Age*

I begin with a classical utilitarian justification. Societies must of course survive—but they should constantly be striving for improvement. Making progress and flourishing are better than complacency and stagnation. In order to truly flourish, people must cultivate and refine their tastes, talents, and abilities. Education is the key to a society that is geared toward bettering the lives of its citizens. J.S. Mill held that the ultimate good in life is to experience the “higher pleasures” [3–5]. This thesis is akin to what Rawls refers to as the “Aristotelian principle.” We should aim to educate and elevate our distinctly human capacities to appreciate the superior forms of happiness ([6], Section 65). The highest pleasures transcend those which we have in common with animals and the those who are undeveloped. Thus, intellectual and aesthetic pleasures are more valuable than bodily pleasures. This is an unashamedly elitist proposition, but this is also something that is every person’s birthright. It is hardly the unique province of the rich or the beautiful. The utilitarian holds that we should all maximize pleasure and minimize pain. Great works of art uplift the poor and downtrodden. They can ease the pain and bring comfort to the oppressed, as in the negro spiritual and the blues. Humor helps us when times are good or bad. Creative genius often comes from those who suffer and struggle, as well as those who delight and celebrate. The achievement of higher pleasure often comes from a genuine appreciation of a poem or a great work of art or music. We all benefit from having such works illuminate our lives. The humanities are essential for our communication, relationships, well-being, happiness, and quality of life.

A venerable and valid argument for the humanities is that their study is the key to achieving creative, aesthetic, intellectual, and spiritual enrichment. The humanities make us more sensitive, learned, insightful, productive, and happy. They make us more balanced and well-rounded people. The fields of the humanities are the fertile grounds for developing critical thinking skills and becoming better decision makers. I will leave it to others to elaborate and argue for these salient points [2,7-9]. The fields of the humanities comprise the many paths people take to find inspiration. The study of the humanities expose us to great works that enrich our world. They are a means to the end of cultivated pleasures and improvement. It is therefore imperative that we maintain a commitment to humanities education and support for the arts.

### 1.2. *New School: Some Things New under the Sun*

Technology has been transforming our world for thousands of years. Scientific and technological revolutions have shaped the course of history. However, the pace of change today is accelerating dramatically. We have entered into an era of “hyper-change...on a global scale and at a speed with no precedent in human history” ([10], pp. 38–39). Technological progress has become so rapid that it is outpacing our ability to deliberate and act prudently. Our legal system and ethicists cannot keep up new technologies ([11], p. 43). Future shock is upon us.

It is unclear what the world will be like at the end of this century and beyond. We are on the verge of technological advances that will radically redefine what it means to be human. As Yuval Harari sees it, we are at the threshold of a monumental evolutionary change—far greater than when *Homo sapiens* triumphed over Neanderthals and other competing primates, some 70,000 years ago.

You look across 4 billion years of evolution and you don't see anything that even approaches it. Where life is concerned, there are only two points on a cosmic axis of time: There is the appearance of life, 4 billion years ago, and there is us, at the point we are arriving at today, with the ability to engineer life. For a billion years life developed on the basis of the logic of natural selection. Suddenly we have changed the disc [12].

Humans are now able to bypass a foundational law of biology. We will be freeing our species from the course of natural selection and engineer ourselves into an era of supernatural selection. According to many prominent thinkers, the critical moment has arrived. *Homo sapiens* are at a crossroads where no one has gone before. However, before we can arrive at the sci-fi thriller of the future, we must be practical and understand the moment.

## 2. Perfect Storm: The Current Crisis of the Humanities

There is no doubt a crisis atmosphere among those of us in the academy who are dedicated to teaching subjects in the humanities. Even though humanities scholars have been defending and justifying the study of their respective disciplines from time immemorial, we are experiencing a “perfect storm” of cutbacks, criticisms, and unprecedented challenges. The growing dominance of technology in the global economy has led universities to prioritize useful subjects for gainful employment, in particular science, technology, engineering and mathematics (the so-called STEM courses). This emphasis on STEM curricula often comes at the expense of the humanities, and creates the impression that humanities courses are impractical and unimportant. Faculty salaries reflect this, as humanities professors are at the low end of the pay scale.<sup>2</sup>

Even more exploitative, budgetary pressures have led to finding cheaper ways to fill curricular needs. Instead of hiring tenure track professors, American universities increasingly rely on adjuncts

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<sup>2</sup> University salaries are based on competitive market value. Whereas jobs in the humanities are predominantly limited to teaching, scholars in the STEM fields as well as business schools can find higher paying jobs outside of academia, in both the public and private sectors.

and part-timers for teaching. At present they comprise three fourths of the teaching faculty—a threefold increase from when I began my teaching career in the mid 1980s [13].

Globalization has intensified competition for jobs, and it is commonly perceived that American college graduates are not competitive with their international peers. In the global economy, United States technology companies and universities often recruit their highly trained employees overseas. Moreover, many corporations find it advantageous to locate their research and development centers overseas [14]. In the U.S., this has led to calls for education reform to prepare students to compete with their harder-working counterparts in Finland, South Korea, Japan, Hong Kong, and Singapore, among others [15,16].

Another trend that will make jobs scarcer is the growing technology of robotics. Over the next ten years, automation is projected to eliminate some 16% of U.S. jobs [17] (see also [18]).

A decades-long trend toward income inequality is manifest in a shrinking middle class [19–22]. The “American dream” of economic prosperity and rising standards of living is no longer the reality for a generation of university graduates [23,24], many of whom are saddled with massive debt, unemployment, and underemployment. The outstanding student loan balances are nearly \$1.2 trillion, which is higher than the balances owed on auto loans or the total of national credit card debt [24–26]. Loan defaults, and the costs of providing social welfare benefits for growing numbers of people in need, indicates inefficiency within a system that makes higher education accessible, but at the same time, overproduces people who are nonproductive in terms of the work force. The persistent belief that higher education is a ticket to a better, more successful life requires qualification. As a general rule, one must be practical in deciding what to study, and dedicated to hard work, if one hopes to succeed financially. This has led many cultural critics and influential thinkers to argue that attending college is a poor investment, especially for those majoring in the humanities [27].

The rising costs of higher education, along with tax revenues shrunk by economic recession, has led politicians to slash public spending by cutting university budgets. Administrators are eliminating or consolidating humanities departments and programs that are deemed uncompetitive in quantitative terms. Courses are now readily canceled due to insufficient enrollment. I used to encourage my students to pursue teaching as a career. At a time when it is more urgent than ever to recruit quality people to the profession, society is doing the opposite.

The long-term future of the university as we know it is in doubt. One other important trend worth paying attention to is the rapid growth of educational technologies. There are several advantages to online courses for teachers and students, such as the convenience of managing one’s own time and living wherever one wishes. Distance education also appeals to administrators by eliminating infrastructure costs such as classrooms and parking. The technologies of e-learning are here for the long-term and will no doubt develop further. An increasing number of universities are offering fully online degree programs.

One phenomenon that might eventually transform the university will be the massive open online courses (MOOCs) that are free and accessible to anyone anywhere with an Internet connection. Several of the world’s finest universities are offering MOOCs.<sup>3</sup> Critics point out that students miss out on the benefits of interacting with their instructors and that MOOCs have a very low completion rate. Nonetheless, the push for MOOCs offers the promise of unprecedented educational opportunity. As these programs improve and succeed, they will mark a major step toward democratizing higher education. They also take the competition between universities to a dramatically higher level and have the potential of putting many colleges and universities out of business.

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<sup>3</sup> Examples are: Stanford Online; Academic Earth (institutional participants are the University of California at Berkeley, UCLA, University of Michigan, and Oxford); and, edX (participants from MIT, Harvard, Boston University, UC Berkeley, Kyoto University, the Australian National University, Dartmouth, and the India Institute of Technology Bombay). The Technion Israel Institute of Technology is even offering successful MOOCs in the Arabic language.

### 2.1. *The Politics of the Crisis*

These economic pressures are also driven by political and ideological forces. In 2011, Governor Scott Walker of Wisconsin made his reputation by taking collective bargaining rights away from teachers and other public employees. Mass protests from labor unions and their supporters received media attention; however, the public had little sympathy for organized labor. The image of Mr. Walker standing firm and outmaneuvering corrupt union bosses brought him to national prominence [28]. In July, 2015, he passed a budget that effectively eliminated tenure from state law. His controversial moves were popular among the voters. By weakening the job protection of the University of Wisconsin professors, the Governor tapped into a growing resentment against the privileges of the academic elite. Walker tried to parlay his popularity by running an unsuccessful campaign for the Republican nomination to become president of the U.S.

There are reasons why taking tenure away from teachers resonates with a wide audience. Most everyone recalls terrible teachers and civil servants who were protected by tenure. However, there are deeper resentments created by the familiar image of humanities professors promoting an extreme left, anti-American agenda that is harmful to everything from the social fabric to the general welfare [29]. Many voters resent the universities as places where the privileged indulge in a fashionable self-loathing against the very society that has provided them with the security, freedom, opportunity, abundance, and tolerance to become radical ingrates.

There are certainly some outspoken academics espousing highly critical, divisive, radical, or revolutionary views. They have been around for a very long time. We know from the long history of controversial professors that many were wrong or disconnected from reality, and some proved to be keenly insightful or prophetic visionaries. Nonetheless, the geniuses who bring about intellectual, cultural, or scientific revolutions are rare, while the misguided ideologues and idealists are common. Such are the trade-offs of freedom, creativity, and progress. Many jaded voters regard political commentary by ivory tower intellectuals with suspicion. In this age of instant global communication, “click-bait” headlines and sound bites about controversial academics permeate the public consciousness to an unprecedented degree. Radical ideas are commonly perceived as threatening or offensive, and those academics espousing them are perceived as subversives using their positions of influence to indoctrinate and corrupt the youth. Much of the public resents academic elites who belittle religious belief, undermine moral confidence, dismiss national identity, or denounce patriotism as passé. For those who hold God and country as their guiding ideals, the radical critiques are deeply insulting.

Many are disturbed by university cultures that tolerate the bad manners of hecklers, disruptive protesters, and moralistic bullies. Disinviting controversial speakers or preventing their presentations in the name of free speech, undermines freedom of speech and the important educational role of the university. “Freedom of speech for me, but not for thee” is defining of an intolerant insecure authoritarian system, not a liberal institution of higher learning. Tolerating the intolerant is an important principle ([6], Sections 34 and 35); however, university administrators must also recognize this does not call for rewarding bad behavior or capitulating to intimidating demands so as to avoid controversy or negative publicity.

### 2.2. *Honesty Trumps Political Correctness*

The current Republican frontrunner in the U.S. presidential campaign, Donald Trump, gained much traction by specifically denouncing political correctness, and insisting that he would speak his mind honestly, rather than filtering his thoughts, softening his rhetoric, or bothering to check the facts. Trump has broken the PC rulebook and alienated many people, ranging from his fellow Republicans to socialist progressives, not to mention many women, undocumented immigrants, civil libertarians, disabled people, and Muslims. His critics denounce him as radical, crazy, narcissistic, arrogant, ignorant, mean-spirited, sexist, racist, and a bully. Nevertheless, he has won the support of many disaffected voters who believe that political correctness stifles free and honest discussion, and who resent the derogatory labeling and name-calling that inhibit open debate and actually solving

problems. Instead of fearing his critics, Trump goes after them. He has successfully made himself the center of attention, and even his critics have played along. For his staunch supporters, Trump is the alpha leader. Political pundits have had difficulty understanding his success. They did not take him seriously when his campaign began, and their predictions that his poll numbers had peaked, or that his loud mouth and careless pronouncements would destroy his candidacy have not yet happened. Instead, he dominated the news during the “summer of Trump” and continues to dominate as the primary election season approaches. Months before the primary elections, and well over one year before the general election, the first two Republican debates earned Fox News (7 August 2015) and CNN (16 September 2015) their highest ratings ever! In addition to his entertainment value, Trump’s success thus far reflects a widespread public resentment of the political establishment and cultural elite. In terms of his position as a solid member of the business and media elite, he is an unlikely candidate to tap into the frustrations of the anti-elite sentiment in the Republican Party or in American society. With his privileged upbringing, hit TV show, private jet and helicopter, and numerous high profile business enterprises, Trump is hardly a working class hero. Nor is he a role model for evangelical Christian conservatives with his rude name calling, bad manners, arrogant demeanor, and succession of glamorous trophy wives. It is his confidence and willingness to redefine the debate and confound many comfortable assumptions of the political, media, business, and intellectual elites that helps account for his current popularity. To the dismay of his rival Republican candidates and the people he has insulted, Trump understands that stoking controversy puts him in the “hot seat” and this keeps him in the spotlight.

### 3. The Crisis In the Humanities

The humanities have an image problem, partly because of an identity crisis that played out in the universities, but also impacted society in general.<sup>4</sup> It revolves around a longstanding critical debate over the very nature and content of the humanities. Within the fields that comprise the humanities, there has been a generational culture war between the guardians of the Western tradition and those who challenge the Western canon with their own ideas of what to include and exclude. Over the past few decades, there have been bitter disagreements over standards, scholarship and methodology. These disputes have centered on what we learn from the prisms of race, gender and class, as well as the perspectives of the colonized, marginalized, oppressed, and the “other”. New research fields have opened up, and what passed as the “common currency” of the educated is no longer the coin of the realm. As globalization, multiculturalism, diversity, and inclusion have brought comparative studies and critical critiques, the Western canon can no longer assume its “pride of place” in the humanities curriculum. Throughout the U.S., many survey courses in Western civilization have been replaced by global civilization and world history. Although U.S. history remains integral to the curriculum, it is no longer a pretty story. It includes a litany of crimes, unprovoked aggression, land grabs, war, genocide, racism, sexism, subjugation, imperialism, greed and the sins of capitalism. This is not your grandfather’s American history.

At numerous universities, students are required to take at least one humanities course that focuses on non-Western cultures or the critical perspectives of race, class, or gender. The humanities have expanded, and this has diluted the centrality of the traditional curriculum.<sup>5</sup> Overall, it is good that administrators have recognized that the university must prepare students to become global citizens, and it is important to study and understand global perspectives. There is a wealth of great literature,

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<sup>4</sup> This is not to say that the conflicts did not play out within the wider culture as well. For example, major controversies erupted over public funding and support for Andres Serrano’s *Immersion (Piss Christ)* and Chris Ofili’s painting *Holy Virgin Mary*, which were offensive to large segments of the American public. See for example ([30], pp. 50–55).

<sup>5</sup> A newsworthy sign of the times is that English majors at UCLA (and at most major U.S. Universities) can earn their bachelor’s degree without ever taking a course in Chaucer, Shakespeare, Milton, or Dickens [31]. The only remaining top-tier universities that require a course focused on Shakespeare are Harvard, UC Berkeley, Wellesley, and the US Naval Academy.

music, art, and creativity coming from the many cultures of the world that enriches us all. There is also much to learn from the historical experience of humanity. I disagree that expanding the content of learning will produce students who are ignorant of their own tradition. As a general rule, the study of other cultures helps us understand our own.

Most university faculty appreciate this, and recognize the need for greater inclusion. Furthermore, university faculty recognize the essential importance of honest scholarship. However, most university faculty do not go as far as the most radical in our ranks. Passion and conviction matter more than numbers, especially if one is right (or at least believes so), moralistic, persuasive, or able to get attention. The debate over the content and function of the humanities was often articulated by the most opinionated political voices, or at least the voices that made the news. As J.S. Mill put it: “opinion is itself one of the greatest active social forces. One person with a belief is a social power equal to ninety-nine who have only interests” [32].

Some of the most zealous and outspoken participants in this culture war contributed to the image problem under discussion. The sharper controversies that received more attention concerned an antagonistic disdain for the Western tradition due to its numerous moral failings. A small minority agitated a push toward exclusion and replacement, save for its educational value as exemplifying injustice. The revolution would be complete once the hegemonic tradition of “dead white males” was relegated to the hall of shame [33]. A newsworthy sign of the times in 2015, is that the College Board (the nonprofit sponsor for the Advanced Placement testing program and the largest client of the Educational Testing Service) has restored the founding fathers to the AP U.S. history exam. They were excluded in the previous guidelines for study topics. For conservatives, this shift is greeted as a great victory. The pendulum is finally swinging back as the leftists have overplayed their hand [33]. For progressives this retreat constituted a surrender to political pressure from right wingers in conservative states and school districts [34,35]. My own reaction to the episode is to ask how students can understand the seminal U.S. revolutionary period without studying Franklin, Jefferson, Monroe, and Madison from critical and sympathetic perspectives.

The various neo-Marxists, post modernists, post structuralists, post colonialists, deconstructionists, critical theorists, queer theorists, ethnic studies specialists, and English professors enamored by abstruse European philosophers, made their share of alienating and caustic arguments, giving their conservative critics plenty of fodder for claiming that higher education was indeed becoming subversive, demoralizing, revisionist, suspect, and in decline [29].

A related consequence of this culture war was that it weakened the popular importance and educational status of the humanities by invalidating many of its strongest supporters. The liberal traditionalists of the Western and European experience fought to defend the centrality and universality of the “great books” as essential to a liberal arts education and cultural literacy. But they were not able to prevail against those who labeled them reactionary, conservative, narrow-minded, out of date, territorial, or worse: racist and sexist. As the old guard retired and many jobs opened for the new critical fields, the era of patriarchal Eurocentrism has retreated from dominance, and a new generation of academics are redefining, expanding, reconstructing, curating, and narrating the humanities. Unhappily for them, the emerging era is trending toward an increasingly corporate administrative structure. The mission of the university is no longer to serve as custodians of a national or cultural tradition [36]. There is no consensus on which directions the universities should be heading.

The tone of the debate left many alienated in the wider society as well. Some of those who regarded themselves as stakeholders in the Western liberal arts tradition came away insulted, disrespected, and defeated. Others came away infused with guilt. A major casualty of the *kulturkampf* is one of the practical arguments for the value of the liberal arts education. The Western classics are no longer the common core to which educated people routinely refer. Moreover, there is little consensus over what well rounded, well educated people should be expected to know [30]. The popular appeal and value of the humanities have gone down. From the traditionalist perspective, a large measure of the rift and current crisis are self-inflicted wounds. The humanities were left weakened, vulnerable, and

exposed right in time for this era of major budget cuts. As long as there are creative and talented people, the humanities will continue to find expression. Given smart stewardship, time, and much luck, the humanities will be redefined, strengthened and recover, as it has in the past.<sup>6</sup>

These are interesting and pivotal times for the humanities. In the sections that follow, I will argue that much tougher tests and challenges are now upon us, with many more still to come.

#### 4. Brave New World: Existing Existential Perils and the Coming Crises of Humanity

However important, the debates on the content of the humanities and the economics and value of a liberal arts education are mere sideshows in comparison to the looming existential challenges that threaten all of humanity. My argument for the indispensability of the humanities is based on the exigencies of the future.

Before I speculate about the promise of the coming decades, I must briefly touch upon some late 20th century clichés pertaining to the here and now. In order to have a long-term future, we must survive in the short-term more or less intact. The urgent priority for humanity as a whole is to avoid catastrophic war and environmental degradation. If we fail to do so, then we will run out of time.

Existential dangers to our physical existence are nothing new. *Homo sapiens* have proved adept at adapting and problem solving. If humans are to have a future, we must clean up our messes and find ways to prevent and avoid environmental cataclysm. In order to exist, we need an environment that is habitable. It is in everyone's interest to protect the biosphere and provide future generations with a healthy planet [10,37,38]. The "tragedy of the commons" is not just limited to a public space where herders graze sheep. The entire planet is the commons. Deforestation and the destruction of ecosystems, overfishing, species extinction, pollution and environmental degradation threaten us all and must be dealt with effectively for the sake of future generations. Failure to deal with these problems could lead to mass extinction, jeopardizing the existence of humankind [39,40]. Some futurists believe that humans can escape a toxic earth and survive in space ships or on other planets. However, for this to work, we will need to survive far beyond the 21st century in order to develop the numerous technologies that space migration would require.

Another potential threat to human existence is posed by weapons of mass destruction (WMD). We have been living with chemical weapons since World War I and nuclear weapons since World War II. Although humankind has survived so far, technological progress continues to proliferate, making WMD more accessible and increasing their potential harm. It is a certainty that more nations will develop nuclear weapons, and the members of the current nuclear club are highly unlikely to dismantle their arsenals and agree to outlaw these weapons. Additionally, some states (e.g., North Korea) and non-state actors (e.g., Abdul Qadeer Kahn) with the expertise, materials, or product will sell their wares ([10], pp. 133–39; [41]).

Perhaps the more immediate danger comes from chemical and biological weapons, which are much easier to make or acquire, and therefore in abundant supply. The current civil wars in Libya and Syria revealed that the Qaddafi and Assad regimes had vast stockpiles of illegal chemical weapons. The Assad regime used poison gas against its own citizens. This was not unprecedented. During the Iran-Iraq war of the 1980s, both sides used chemical weapons. During the North Yemen civil war in the 1960s, the Egyptian military used them against the Royalists. Nations and their non-state actor proxies have not respected the international laws against the manufacture, possession, and use of chemical and biological weapons. The UN, the International Committee of the Red Cross, and other guardians of international humanitarian law have not treated these issues with the seriousness they deserve. They are distracted and corrupted by power politics [42]. In order to survive this century intact, humanity

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<sup>6</sup> The humanities have healed from much bigger culture wars. For centuries, the humanities were defined as the study of the Ancient Greek and Roman classics. The battles that marked the shift from Greek and Latin to the vernacular, and from Church based theology to secular scientific inquiry left fractures that make the recent and current culture war look like a minor skirmish.

must find ways to resolve, contain, and disallow catastrophic conflicts. We also need worry that war or social disruption might beget opportunities for WMD to fall into irresponsible hands. We cannot assume that weak or unstable regimes can secure their arsenals against seizure by rebels, invaders, terrorists, or profiteering thieves.

If we succeed in preventing nuclear terrorism and avoid a world war, the future remains scary. The military technologies of this century will be revolutionary. A recent open letter petition, signed by over three thousand researchers in robotics and artificial intelligence experts, states that we are only years from reaching “the third revolution in warfare, after gunpowder and nuclear arms” [43].<sup>7</sup> Advances in AI and robotics will soon create fully autonomous killer robots, which will not require the control of a human decision maker or a “just war” for their deployment. The cruise missiles, smart bombs, and remotely piloted attack drones that we have seen deployed, at least require human minders to discriminate among and select targets. The latest upgrades make killing machines more automatic. After all, humans are fallible and unreliable. People with a moral conscience might disobey orders or suffer traumatic stress from carrying out their orders. Operating from a very safe distance can diminish such problems. Drones actually have superior performance records compared with piloted aircraft. Autonomous killing machines will eventually become reliable and efficient at eliminating specific targets, as well as killing indiscriminately within a designated “kill zone”. As machines are built to work, it makes great sense to make machines to do our dirty work. Even if such weaponry does a surgically clean job, this is all the more reason to consider the observation of Robert E. Lee. Upon observing his troops successfully repel a Union Army charge, the top Confederate general stated: “It is well that war is so terrible, otherwise we should grow too fond of it.”<sup>8</sup>

In the future, technology could make wars easier, more frequent, and perhaps even more fun than video games. Further, as technological expertise proliferates, we must also worry about super-empowered individuals with the ability to build and deploy murderous weapons [44].

The future is now. Autonomous, unmanned systems, and robotics weaponry are already on display at military expositions around the world. But these concerns are merely the tip of the iceberg in terms of how military technology poses threats to human existence as we know it. I shall return to possible future military technologies and the ramifications for humanity in [Section five](#).

#### *Big Data is Watching You: Parfit’s Repugnant Realization or the Recreation of the Moral God*

In addition to threats to our physical existence, we face other threats to our independence, liberty, and psychological well-being—to life as we know it. For those who appreciate the foundational importance of living in a liberal democracy, another priority must be to preserve those societies that are the most creative, dynamic, innovative, and progressive. There are many reasons to worry about the future of the liberal democracies during this century. There are serious economic challenges, such as the sustainability of the welfare state. There are serious ideological challenges to those liberties that are necessary for open inquiry, the free exchange of ideas, experimentation, questioning authority, and improving society. Classical liberals appreciate the value of individual liberty, nonconformity, and tolerance. The leading theorists of contemporary liberalism go further, and call for government neutrality on questions of value or lifestyles [45]. Many others—especially those coming from traditional or authoritarian social backgrounds—oppose them.

The opposition to liberal values comes from a variety of perspectives. For those who believe they already have the truth (e.g., religious believers, ideologues), freedom is more likely to lead to serious error rather than discovery of the truth. Truth is not tolerant. Furthermore, even within the liberal societies, there are many who opt to “escape from freedom” ([4], ch. 7; [46]) They prefer to be told how

<sup>7</sup> There are over 17,000 other signatories, including Stephen Hawking, Elon Musk, Steve Wozniak, Eric Horvitz, Daniel Dennett, and Frank Wilczek.

<sup>8</sup> Lee made this comment to James Longstreet at the Battle of Fredericksburg, 13 December 1862.

to live and what to do. Some are happier to have minimal responsibilities. Another tension within the liberal societies is the debate on the proper limits of free speech and tolerance. The debate has shifted, especially after the 2015 terror attacks on the *Charlie Hebdo* office and kosher market in Paris. Some on the left argue that the “*Je Suis Charlie*” demonstrators are the villains [47]. Some now contend that we should disallow speech that offends religious sensitivities or might lead to violent reactions. Since 1999, the UN General Assembly and the UN’s farcical human rights bodies have passed (non-binding) resolutions to combat religious defamation. The main supporters aim to prohibit speech that insults religion, particularly Islam. The liberal democracies are outvoted on these resolutions. In the coming decades, there will be increasing pressure from within and without to criminalize cartoonists, writers, and filmmakers for offending the sensitivities of the humorless, the easily offended, the violent, and the powerful. The European Union states are further down the path to increasing compliance with free speech restrictions than the U.S. If freedom of speech is a *right*, then it should not be undermined by demographics, popular vote, or violent threats. Freedom of speech, to have meaning, must allow citizens to criticize power, be it political, economic, or clerical. Freedom of religion must include freedoms from religion, to change one’s religion, and to criticize religion.

In other societies, there are governance options preferred to democracy. Many accept a Hobbesian bargain with an authoritarian regime that brings stability (e.g., Egypt, Russia) or prosperity (e.g., China, Kuwait). Liberal democracy must exist with a world of cultural difference and recognize that most people do not embrace its system. Some are simply content in following their own traditions and see no reason to change their political culture. Some consider the allure of the liberal democracies to be a threat to their way of life, and so they violently oppose it (e.g., al Qaeda, Boko Haram, the Taliban, and the mullahs ruling Iran). My great concern is when ideological challenges bring on war and the serious security challenges that come with it. This is what happened when the U.S. reacted to terror attacks with the USA PATRIOT Act (October, 2001), which marked a dramatic reduction of civil liberties. One of the tragedies of conflict is that it erodes freedom. For the sake of security, we have accepted or resigned ourselves to an encroaching regime of control. As I shall explain shortly, our rights to freedom and privacy are already in serious jeopardy due to surveillance technology.

At the very conclusion of his *Reasons and Persons*, the moral philosopher Derek Parfit points out that human history and civilization may be just beginning. As far as humanity has come, we could conceivably continue for a billion years or more, as long as we do not blow ourselves up or make the Earth uninhabitable. “Civilization began only a few thousand years ago. If we do not destroy mankind, these few thousand years may be only a tiny fraction of the whole of civilized human history” [48]. Continuing, Parfit warns us that if there is some sort of mass destruction, the greatest tragedy would be if the highest human achievements are lost.

[W]hat matters are what [Henry] Sidgwick called the “ideal goods”—the Sciences, the Arts, and moral progress, or the continued advance towards a wholly just world-wide community. The destruction of mankind would prevent further achievements of these three kinds. This would be extremely bad because what matters most would be the *highest* achievements of these kinds, and these highest achievements would come in future centuries [48].

Figuring out what a just world community would be like, is the promise of the future. Parfit is hopeful that the best is yet to come. He recognizes the major role the sciences and social sciences play in greatly advancing our civilization. He makes a point to tell us that the paths to a more perfect union will require building on the best insights and collected wisdom of history, philosophy, education, and many other fields of the humanities. A key factor in his thinking is that dramatic moral progress will come from the relatively recent field of secular ethics. For Parfit, “Belief in God, or in many gods, prevented the free development of moral reasoning” [48]. He assumes that removing God from the equation will help liberate us from superstition and prejudice, and facilitate major accomplishments in ethics and social theory. His goal is to search for objective moral truths or a “Unified Theory”, and to lead us toward building a just and harmonious world along decidedly secular lines.

We have already entered into a brave new world of surveillance, which, I contend, will have a profound psychological impact on human behavior. The irony, as I shall point out, is that the surveillance technologies will create a virtual omnipresent, omniscient, omnipotent, judgmental entity that will transform how we behave in public and private. The ingredients of the surveillance state were already present when Parfit was finishing his book in 1984. The old, 20th century technology gave us satellite reconnaissance which films the outdoors and the ability to capture all phone communications and radio transmissions. This was justified for reasons of intelligence gathering and national security. Surveillance and criminology technologies have kept pace with the current technology revolution; in fact, they even helped stimulate it.

This is no longer Parfit's era of cold war surveillance. Cell phones add a way to track the user's precise whereabouts and even enable others to listen to the conversations and sounds in the user's vicinity. Personal computers can also be used to eavesdrop. Remote sensing technology has also significantly improved. We can gather data anywhere on the planet and all over our solar system. We can obtain accurate information from great distances that are unavailable to human eyes and ears (e.g., radar, infrared, microwaves, gamma rays, radiation, emission spectra, electric fields, and electron movement). Satellites allow us to observe everything outdoors (and even indoors near windows) recorded in high definition and easily accessed. Biometrics, such as facial recognition technology, voiceprint analyzers, and gait recognition systems make it easier to find and track specific individuals. Photographic surveillance takes place on multiple levels. Video cameras have become cheaper and handier and go everywhere that people with cell phones can go. Persistent episodes of fatal shootings by the police, made known from video, have led to a wider recognition that over-policing and differential treatment of African Americans is a manifestation of racism. They have also led to calls for police reform as well as a push for police officers to wear body cameras as standard equipment [49]. Security cameras taping around the clock are now standard for public places, such as schools, airports, train stations, highways, parking lots, as well as private places, such as markets, businesses, warehouses, and homes. We have come to expect and accept them as signs of security.

The problem is much bigger than government, businesses, and private parties that invade our privacy through video. Many governments and corporations collect or utilize "big data" to process large and complex data sets in order to gain useful information [50]. The tools of predictive analytics, statistical inference, and inductive statistics are becoming increasingly helpful for identifying patterns and trends, predicting behavior and making more informed decisions. Google keeps records of private Internet searches and builds accurate personal profiles on the basis of this information. The range of big data includes medical records, financial records, driving records, insurance records, credit scoring, Internet history, telecommunications, travel, voting patterns, membership rosters, photos, and other things that used to be personal and private. Hackers, working alone or for others are often able to break into secured systems and steal confidential information. There are numerous, easier ways to spy on people than ever before. Moreover, as technology improves, the efficiency of storing, searching, and accessing desired information will improve and proliferate.

The process has been gradual but evident. Edward Snowden's revelations about the extent of National Security Agency's global spying have given us good reasons to question the long term consequences of the international surveillance state [51]. Snowden exposed the tip of a massive American iceberg [50,51]. The greater and deeper problem is that there are many massive icebergs in the sea. Other governments have similar programs. It is ironic that Snowden is protected by Putin. His Russian hosts are themselves a big part of this growing global phenomenon [52]. There are also plenty of other icebergs in the seas, land, and skies. Once we add to the equation corporate data collection, as well as individuals and groups that have the technological skills and power to invade our privacy and do mischief, we need to rethink how we act in public and private.

We have gone from "one nation under God" to one world under surveillance. Most of us have not yet come to terms with how this trend will affect our privacy, personal identities, and freedom. It has happened gradually, but growing security considerations motivated by major terror attacks and

wars have accelerated the process. A majority recognizes the importance of security. There is no reason to suppose that these technologies will go away. They have proven useful in breaking up terror cells and catching criminals. A person determined to do violence can still succeed. Some terrorists and psychopaths are undeterred by the surveillance apparatus because their goal is to attract attention—the more outrageous the act, the better. The undeterred who are willing to get caught remain a problem to preoccupy security personnel, given the current state of technology. However, most people will be deterred from doing anything unlawful, improper, or inappropriate knowing they will likely be caught. The fear of arrest, a speeding ticket, getting fired, or public humiliation is enough to coax most people to conform their behavior. This might constitute a measurable sign of moral progress, perhaps even the kind for which Parfit is hopeful. After all, murder, theft, vandalism, traffic accidents, pilfering, and littering are clearly bad. Making people safer and more honest is clearly good. Many people—especially good people with nothing to hide—would consider the benefits of safety and tranquility to outweigh the loss of some measure of privacy and freedom. As Jeremy Bentham noted, the more strictly people are watched, the better their behavior. His Panopticon was a prison designed to enable the warden to watch any prisoner at any time [53]. The psychological effects of this would be “a mill for grinding rogues honest, and idle men industrious” [54].

Surveillance can have measurable, positive results, which is why these technologies will continue to be developed and implemented, even if we achieve world peace and reduce the crime rate drastically. A wholly just world-wide community would require a significant increase in conformity to law and give people reasons for acting morally. Parfit hopes we will find a “Unified Theory” that will settle many moral disagreements and enable humanity to build on our knowledge of objective moral values [48]. Surveillance technologies can help to achieve this. At the least, we should be aware of what this entails. Because of its power to affect our behavior, surveillance will have a profound impact on freedom, autonomy, and independence.

People will adapt to the new reality and avoid running afoul of the rules. Many will develop coping mechanisms. For example, some who accept (or do not object to) surveillance technologies feel a safety in numbers—that they are too small to attract attention. Unless there are national security factors or a criminal investigation, or one is running for president, high tech scrutiny is unlikely. There is so much data collected that no one will notice, let alone take interest in our pharmacy records or moral shortcomings. Why would anyone care or recall something one posted online ten years ago? There are many reasons for those who can extract value from data to want as much information as is obtainable. Even juvenilia from twenty years ago can aid in targeting a potential customer or embarrassing a rival. As technology proliferates and people internalize the extent and sophistication of intrusive technologies, it will become clearer that we must be careful about what we post, write, say and do, and with whom we associate. Simply making a purchase or applying for a job, travel visa, loan, or insurance policy can be an invitation to governments or corporations to dig into our personal business. Simply catching a tech-savvy individual’s interest can lead to stalking or other invasions of privacy. Even dialing a phone number incorrectly or clicking on some unknown website can open a Pandora’s box of unwanted attention. Any one of us could inadvertently trigger the attention of some government or security agency. “Ubiquitous surveillance means that anyone could be convicted of lawbreaking, once the police set their minds to it. It is incredibly dangerous to live in a world where everything you do can be stored and brought forward as evidence against you at some later date” ([50], p. 92). Even those who live in the freest, most developed societies legitimately fear that their environment is increasingly Kafkaesque.

Once people internalize these ramifications it will alter their behavior. I have learned to take extra care driving through intersections that are identified to have red light surveillance installed.<sup>9</sup> When I

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<sup>9</sup> Red light surveillance is a setup to photograph and clock cars in an intersection when the traffic light turns from yellow to red. A moving violation citation is automatically sent in the mail to the registered owner of the vehicle.

see a police car in my rear view mirror, I will be extra careful not to exceed the speed limit, even if I am in a hurry and the road conditions are excellent. In a behavioral sense, I do not have the free will to speed under the circumstances. In a metaphysical sense, given the near certainty that I will be cited and punished, I choose not to speed, even if I am in a *big* hurry and this is my one and only opportunity to drive a Lamborghini Huracán. It is now feasible to develop technology to deter bad behavior and generally constrain free choice as effectively as the police car in plain sight. I would not doubt that eventually the technology will be in place to catch speeders and send them a ticket in the mail (or deduct the fine directly from their bank account), if I did not expect most cars to be driverless in the next two or three decades. If medical technology could enable Parfit to live another 50 years, I predict that he will regret the loss of the practical free will he did not know he had. As the poet Joni Mitchell sang: “Don’t it always seem to go, that you don’t know what you’ve got ‘til it’s gone.”<sup>10</sup>

I also contend that Parfit would regret the liberal democracies becoming increasingly security minded and authoritarian, and its citizens becoming increasingly conformist and fearful. As Jen gb people’s ability to control what they reveal to a broad public—a critical element of personal identity” [49]. For the majority of the human population already living in authoritarian regimes, the latest surveillance equipment might not be a game changer. They have already learned to keep a low profile, so as to avoid getting the attention of ‘Big Brother.’ As these technologies become more intrusive, this may indeed be a game changer. For example, if the Committees for the Propagation of Virtue and Prevention of Vice<sup>11</sup> start using technology to catch men who failed to attend the mosque or who sneaked a snack during the Ramadan fast, and people know that such technology is widely in use, then the level of repression will rise steeply. For the liberal democracies, the loss of freedom and privacy will be profoundly significant. It will alter the relationship between the individual and the government and with whoever has wide access to surveillance technologies. We will be like the prisoners in Bentham’s Panopticon, but we will know that the unblinking camera will be inspecting us and recording us at all times.

The deeper problem for Parfit, in my opinion, will be the repugnant realization that his hopes for a wholly just world liberated from the strictures of theism will backfire. For much of civilized human existence, people were persuaded to conform (at least much of the time) because they feared an omniscient, omnipresent, omnipotent moral God that monitored and judged their every action. Some believed in an impersonal karmic force that regulated cause and effect. Many still have faith, but most modern people do not believe as strongly as their forebears. Many people are secular, and do not act with assumptions of a personal or impersonal God minding their business or keeping score. The irony is that technology will recreate a virtual all-seeing, all-knowing, moral judge with an eternal memory to rule over us and keep us in line. Even atheists such as Parfit will come to terms with it. Perhaps some will have an option to live off the grid or go underground, or find some safe private place to be free. Overall, in the near future, we will have to accept that we have far less freedom of action. I contend that this is sufficient reason to study the philosophy, history, and culture of liberty. The necessity and benefits of security notwithstanding, it is vital that people remember the value of freedom.

## 5. And Ye Shall Be as Gods: The Brave New World of the Future

The marvelous field of bionics is enabling the blind to see ([55]; [56], p. 405), paraplegics to walk, amputees the use of limbs ([56], pp. 404–7), and the hearing impaired to experience music [57,58]. Helping people to overcome disabilities exemplifies the best of medical technology. Bionics entails a transfer of technology between living things and manufactured or processed things. For example, pacemakers can save the lives of those who suffer from irregular heartbeat. Processed porcine and

<sup>10</sup> Lyrics from Mitchell’s 1970 song “Big Yellow Taxi”.

<sup>11</sup> The CPVPV operate in such places as Afghanistan, Saudi Arabia, and Gaza, and are regarded as “morals police”.

bovine heart valves are examples of organic materials that make valve replacement widely accessible. These are now routine procedures. Replacing faulty body parts will become increasingly practiced in the coming decades. Over time, technologies developed to address medical needs are enabling us to live not only longer, but better.

The potential for greatly enhancing human abilities by implanting mechanical or electronic devices will bring us closer to the development of “cyborgs”, which for now only exist in science fiction stories and films. Should cyborg technology advance, the possibility of enhancing human powers through non-organic implants will eventually be developed for their military applications and commercial value.

Similarly, there are other promising paths toward creating super soldiers and superior beings. Advances in biological and genetic engineering will also be driven by their practicality and the profit motive. With advances in DNA sequencing and unlocking the mysteries of genetic code, the field of transgenesis might eventually be the key to genetic modification of *Homo sapiens*. If this can bear fruit—as it has with the cold weather tomato—then we can imagine soldiers enabled to endure extreme temperatures, along with other super powers [59].<sup>12</sup>

Breakthroughs in germline gene transfer will make it possible to modify an individual’s genome such that the change will be passed on to future generations. *Homo sapiens* is not the final stage of evolution, nor will it remain the crowning glory of creation, if enhancement technologies succeed. It is even entertaining to imagine the possibilities (after all, imagining is a universal of human nature). Soldiers might be engineered to have the eyesight of an eagle for distance and the night vision of a tiger. Athletes could have the gymnastic ability of monkeys. Police trackers could be enhanced with a sense of smell like a bloodhound or bear, and astronauts with the ability to withstand extremely cold temperatures, like cold water fish. We can also imagine all of the above for everyone, *i.e.*, we could all enjoy the upgrades, once the costs come down and the technology proliferates. Or perhaps we can pick and choose. Not everyone will want a sense of smell as powerful as a pig. Or the agility of a monkey might preclude having the size and strength to lift heavy weights or throw a discus or javelin. Enhancement technologies could eventually get us all the way to “transhumanism”, whereby we can overcome and transcend the fundamental natural limitations of the human. We will surely be living longer. We will be far more intelligent, possess superior athletic ability, and be much better looking.

With the concurrent progress in AI, we can become veritable geniuses, by current human standards. Deep Blue and Watson, the computers that defeated the greatest chess and *Jeopardy!* champions, are just the beginning of a burgeoning technology. If super smart future scientists figure out how to transfer vast quantities of factoids, along with a fine search engine to human brains, then AI could transform our descendants to a level of unimaginable super-intelligence. Imagine the factual information at most everyone’s fingertips. If super smart scientists work out all the details in reconstructing human brains, then we can maintain our personal identities and memories and continue existing without a body or beyond death [60]. As Yuval Harari sees it, ordinary humans will be unable to compete with robots or enhanced people.

I think it is likely in the next 200 years or so homo sapiens will upgrade themselves into some idea of a divine being, either through biological manipulation or genetic engineering [or] the creation of cyborgs...It will be the greatest evolution in biology since the appearance of life. But we will be as different from today’s humans as chimps are now from us [61], see also [56].

Slow-thinking *Homo sapiens* will become obsolete. Given enough time, our high-achieving progeny might become superior to us by almost any physical or intellectual measure. However, creativity,

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<sup>12</sup> From identifying, and then splicing the antifreeze protein gene (*afa3*) from the winter flounder onto a tomato plant (as well as potato and tobacco plants), genetic engineers have created plants that can grow in colder climates. See also ([56], pp. 401, 424).

emotion, humor, and a true understanding and appreciation of these human attributes, may be lost, for the greater advantages of super intelligence. On the positive side, our superiors might also have fewer negative traits that humans have displayed throughout our history, such as cruelty, jealousy, temper tantrums, spitefulness, stupidity and hubris. Perhaps, super-smart, super logical posthumans or transhumans will conclude that emotions are far more trouble than they are worth, and therefore engineer future generations to be purely rational, *i.e.*, robotic. Optimists believe that our successors will be smart enough to find solutions to our problems. Harari, among others, predicts that they will discover the secrets of the aging process and control it. (This will make many medical technologies, even ones not yet developed, obsolete.) If future people can overcome the hard-learned lessons of the PC and human rights movements, maybe they will reconsider their aversion to colonialism and conquering nature. As some predict, the morality of survival will call for finding ways to colonize our galaxy, by engineering beings able to withstand the rigorous conditions of space travel and adapted to survive and thrive in a particular climate, atmosphere, or ecosystem. If we can survive far enough into the future, we can reach the era of posthumanism. Human enhancements will inevitably be developed due to global competition, military applications, financial incentives, and popular demand. And if those market forces are not enough, our cultural beliefs in personal freedom and scientific achievement will ensure innovation. Ronald Dworkin gives philosophic justification to proceed cautiously with promising research in genetic engineering. When ethically responsible people look past their prejudices and revise their moral beliefs there will be no turning back.

Playing God is indeed playing with fire. But that is what we mortals have done since Prometheus, the patron saint of dangerous discovery. We play with fire and take the consequences, because the alternative is cowardice in the face of the unknown ([62], p. 446).<sup>13</sup>

For better and for worse, there are enough people out there who are curious, daring, and motivated to push forward.

Of course, genetic engineering will have negative consequences. Dworkin and others anticipate many problems, but they recognize the potential for more good. [62–64]. Others go much further, and warn outright against proceeding down some danger-laden roads [38,65,66]. We will no doubt encounter bad parents, who will make bizarre fateful decisions when designing their children. Perhaps our super smart descendants will instantly retrieve all manner of information, but will be unable to think critically, and do really dumb stuff. At some point soon, enhancement technology might even make us look back fondly at the low levels of inequality that existed in the early 21st century. The rich will be superior and benefit from their ability to afford expensive upgrades. There might be some future working class enhanced for particular tasks, and the inferior simple humans will be exploited, poor, and mistreated. Perhaps this will lead to another round of ruthless subjugation whereby the superhumans enslave or exterminate the inferior *Homo sapiens*. Or perhaps the superior beings will keep some number of humans for scientific experimentation or to have raw genetic material. Steve Wozniak speculates that our robot masters might just keep a small number of humans around for pets. He also thinks humans will be conserved, as we are a part of nature. Maybe humans will be respected like a senile grandparent [67].

Bill Gates warns about the dangers that AI will pose, if left unchecked [68]. Stephen Hawking thinks the development of full AI could “spell the end of the human race” [68]. Elon Musk speculates that unchecked advances in AI will lead to “superintelligence”, whereby robots will have the ability to program and upgrade themselves. If they reach the point of “singularity”, when they soar far beyond humans in intelligence, then they can take control over inferior *Homo sapiens* [69]. Neil deGrasse Tyson raises the fear that robots will breed us to be docile and domesticate us [69]. Musk warns that humans

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<sup>13</sup> The context is the uninformed, low level of the cloning debate and the overreaction of politicians. Cloning technology has since been superseded by stem cell technology, but Dworkin’s insights are still relevant.

will be lucky to be treated as pets. He also gives reasons why AI can also lead to very logical stupidity. In a swipe at ethical hedonism, Musk gives us the telling example of superintelligent robots trying to understand what makes humans happy.

It may conclude that all unhappy humans should be terminated...Or that we should all be captured with dopamine and serotonin directly injected into our brains to maximise happiness because it's concluded that dopamine and serotonin are what cause happiness, therefore maximise it [69].

Harari conjectures that our superior masters will need to limit the numbers of useless humans. Further, he quips that our controllers will keep simple-minded humans happy with drugs and computer games [70], see also [56].

Advances in psychopharmacology and virtual reality might lead to simulations that feel convincingly actual. Further, the experience can be made so enjoyable that humans and superhumans would freely choose to experience superb fantasies and escape reality. This brings us directly to a revealing thought experiment from philosophy and popular culture.

### 5.1. *To Be or Not to Be: Nozick's Experience Machine Revisited*

As I speculate on how the future might unfold with the possibilities of AI and transhumanism, it is time to revisit the question posed by Robert Nozick's "experience machine".

Suppose there were an experience machine that would give you any experience you desired. Superduper neuropsychologist could stimulate your brain so that you would think and feel you were (accomplishing something great)...All the time you would be floating in a tank, with electrodes attached to your brain. Should you plug into this machine for life, preprogramming your life's experiences [71]?

Nozick answers in the negative, and gives compelling reasons to prefer doing and being what we are, rather than become "an indeterminate blob".

I agree with Nozick that it is irrational to opt for a permanent simulation of life, no matter how pleasurable or thrilling. The reality of living an active human life is clearly preferable to a virtual simulation of a pleasurable reality. Dworkin, Sandel, and Parfit all agree. It is better to be active and utilize our human capacities than to be passive. We learn and grow from our mistakes. We get living experience of freedom, friendship, family, and love. We get to smell real roses and taste fine chocolate. There is little dignity in surrendering one's life to an artificial, seductive illusion. I do not want my progeny to be automatons or happy brains in a vat. Nor do I want them to be manipulated by advertising and marketing experts, brainwashed by propagandists, unconsciously duped by scientists who engineer junk food to be addictive [72],<sup>14</sup> or controlled by post-humans. I would encourage them to be engaged in the world and to help others, and discourage them from self-indulgently turning on, tuning in, and dropping out. I want my descendants to be moral beings who think for themselves.

People can still take issue with Nozick, as there may be valid reasons to opt for plugging in. It could be that those living under conditions of harsh imprisonment, might choose the escapist fantasy option. Far more likely, the real and serious challenge to Nozick will happen with end of life issues. I believe that the future experience machines will be immensely popular. It will be quite rational to take the fantasy pleasure of the experience machine when one is ready for hospice care. Ecstatic death would be preferable to other boring, stressful, or messy forms of euthanasia such as a lethal injection or a gunshot. A fun, joyous, grand, glorious exit might also be preferable to the painful process of natural death or the degrading, tragic, slow death of a disease such as Alzheimer's. There will be cases where rational people will choose the machine.

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<sup>14</sup> In *Salt Sugar Fat*, Michael Moss explains how scientists experiment to find the 'bliss point' in the human brain so as to design unhealthy foods to be addictive, thus increasing sales.

So I disagree with Nozick's strong claim that choosing to plug in is undignified or a moral failing.<sup>15</sup> With the example of his life-long (or years long) experience machine, Nozick appears to have dealt a blow to ethical hedonism and utilitarianism. Some things, such as learning, freedom, agency, and dignity are more important than feelings of pleasure, happiness, and even bliss. Real agency is better than the illusion of it. The die-hard hedonist is painted into a corner: she must endorse the position that feelings or sensations of happiness, however derived, are all that matter—or she must concede Nozick's point. If the experience machine could deliver a superior experience that is completely convincing, it would be better to be a brain in a vat, than an able bodied actual person. Significantly, the major philosophical hedonists would not support the die-hard position. The classical hedonist Epicurus held that the cultivated higher pleasures are the end, not the lower bodily pleasures or an illusion of pleasure [73,74]. The classical utilitarian J.S. Mill agreed that refined pleasures are qualitatively superior to the simple, base, animal pleasures, and therefore we need to develop and refine our distinctly human capacities. He writes:

It really is of importance, not only what men do, but also what manner of men they are that do it. Among the works of man, which human life is rightly employed in perfecting and beautifying, the first in importance surely is man himself. Supposing it were possible to get houses built, corn grown, battles fought, causes tried, and even churches erected and prayers said, by machinery—by automatons in human form—it would be a considerable loss to exchange for these automatons even the men and women who at present inhabit the more civilised parts of the world, and who assuredly are but starved specimens of what nature can and will produce. Human nature is not a machine to be built after a model, and set to do exactly the work prescribed for it, but a tree, which requires to grow and develop itself on all sides, according to the tendency of the inward forces which make it a living thing [75].

We should strive to realize the highest forms of happiness, not to be satisfied fools or happy swine [3–5]. The greatest exponents of hedonism support this view. I believe that even Bentham would agree. Bentham would not have advocated a lifetime blissfully spent floating in the experience machine. While he certainly did endorse simple happiness as important, he clearly recognized and gave weight to the qualitative, developmental dimensions of happiness in his felicific calculus. The duration, purity, and fecundity of a pleasure are among the key factors ([76], chapter IV). He often dismissed the happiness derived from unfounded religious assumptions (such as salvation and heavenly reward), drugs (such as opium or alcohol), or fictions (legal and historical).<sup>16</sup> Bentham did not regard illusions of pleasure to have intrinsic value for those with the liberal spirit and energy of a free citizen ([76], chapter XIII, Section 3, IX, 3; [77–81]). However, if the technology of the future produces a powerful, edifying, experiential pleasure machine that would enhance real life rather than substitute for it, Bentham would endorse it, in my opinion. I believe that even Nozick would give it a try and love it. Popular demand and the commercial potential for simulation technologies will lead to their development. My hope is that future generations will appreciate the value of higher pleasures and demand the best use of simulation to elevate rather than negate the user.

The discrepancy between reality and ataraxia need not be mutually exclusive. From a secular point of view, spending one's final weeks plugged in makes for a great way to maximize pleasure and minimize pain. I predict there will come a time when most people who reach ripe old age will opt for the most pleasant dying experience. The exceptional case of death and dying does not negate the

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<sup>15</sup> How else to characterize giving up on reality to become an indeterminate blob? Is there any dignity or moral precept in choosing to be an indeterminate blob [71]?

<sup>16</sup> My claim goes against much of the popular conception of Bentham's hedonism. In addition to J.S. Mill's paraphrase that Bentham believed "pushpin is as good as poetry", the famous quote of Bentham: "Call them soldiers, call them monks, call them machines: so they were but happy ones, I should not care" ([53], p. 64), is taken out of context. The specific context is schools for unruly pupils in need of inspection. The general context is prisoners, lunatics, the very sick, infectious, etc.

general principle that it is better to live one's own, active life. However, it does lead us to reconsider the thought experiment.

For those who posit a traditional religious world view, living one's life is an opportunity for doing good works, serving God and making spiritual progress. Natural death is wondrous and suicide is a sin. Using a fatal experience machine is very bad karma. Many traditional religions maintain that dying one's own natural death, with all its pains, is for the good as a means to a better afterlife and future. Pain and suffering might be purifying or a means to burn up lots of negative karma.

Finally, it is also possible that the last moments of consciousness are the most powerful, such that we do not need a machine or drug or fantasy to tap into the potential of our minds. Extreme danger and the physical act of dying can release a rush of stress hormones such as adrenaline and cortisol, and also high levels of endorphins, noradrenaline, serotonin, and other neurotransmitters in the brain. All of this can bring on an extraordinary exhilarating sense of total primal awareness. This is the allure of death defying extreme sports, combat, drugs, and high stakes gambling for adrenaline junkies. From this perspective, death is the biggest kick of all—that's why they save it for the end [82]. The reality can potentially be more enlightening than a fantasy.

### 5.2. Of Nozick and the Utilitarians: The Promising Future of Hedonism

What do Homer's tale of the Sirens in the Book XII of the *Odyssey*, Nozick's experience machine, David Foster Wallace's *Infinite Jest* "Entertainment" [83]<sup>17</sup> and Morpheus' offer to Neo of the red pill or blue pill in the film "The Matrix" [84] have in common? They present us with an all or nothing, either/or, life or death, or fantasy *versus* reality decision. I propose an alternative thought experiment, which is far more likely to happen in the not too distant future. Instead of contemplating some contrived false dilemma that amounts to a long term pleasant escape from real life, why not contemplate a machine or theater that only requires a matter of minutes or hours for the full experience? Why should using the experience machine be a Faustian bargain for one's soul? In all likelihood, virtual reality experiences enhanced by AI and perhaps the right healthful drug will be developed for educational, experiential, developmental, and enhancement purposes. It can be an evening's uplifting entertainment or a practical, life-saving training exercise in putting out different types of fires or how to escape from a car that fell into a river.

What rational person would refuse to have a higher level of entertainment and experience for a few hours? I would be very willing to practice "Scheherazade" on my violin, if I could play on my choice of Stradivari or Guarneri or Amati instruments (perfectly reproduced by my 3D printer), alongside a great orchestra, with (or without) a lifelike holograph of Itzhak Perlman to play alongside me. Similarly, it would be perfectly rational to spend a relaxing, healing hour floating in a meditative *samadhi* tank experiencing my own higher consciousness in the deep meditative mode of an Advaita Shankaracharya. It would do me good. It might also be worthwhile to take a ten session course in the dhyanas to experience samatha meditation. On auspicious occasions, why not energize myself with the revelatory ecstasy of a Kabbalist connected to the infinite light? The experience machine with an appropriate time setting could likely revolutionize education, training, therapy, sports, recreation, and decision making. Rather than a death trap, such a machine can make us better people on the spot. I believe that future technologies will enshrine the humanities as primary sources of the higher pleasures. Imagine the insights of taking a virtual walk through the streets of Dublin 16 June, 1904, *i.e.*, Bloomsday,<sup>18</sup> or attending the opening night performance of "West Side Story" on Broadway in

<sup>17</sup> Wallace's "infinite jest", denotes a film that is enticing and lethal. Those who watch it are so captivated that they must lose themselves in "The Entertainment". Like the Sirens, it lures people to their death. It is even used by terrorists, who send a cartridge of the film to assassinate people. The infinite jest film is discussed throughout the book. However Wallace does not give the reader any satisfactory explanation as to what it is, or the content of the film, how it kills, or what the "Samizdat" is about. He does clue us in that many of the victims were selected by Quebecois terrorists.

<sup>18</sup> A reference to the setting of James Joyce's modernist novel, *Ulysses* [85].

1957; or sitting in the Abbey Road studio while the Beatles record *Revolver*. I am looking forward to watching (and even performing with) the grand orchestral choral premiere of Beethoven's 9th Symphony, with the deaf composer conducting.<sup>19</sup> There are gold mines of possibilities to be mined from the great works. There is indeed value in exploring, learning, recreating, and growing from the best of our collective wisdom, creativity, and achievement.

## 6. Conclusions

Throughout my analysis, I have pointed out that the components of the current crises of the humanities are nothing new. We humans have faced pivotal, existential problems before. On the other hand, I have also argued that the challenges we face at this point in time are unprecedented, monumental, and daunting. At the risk of appearing contradictory, trite, and ironic, I claim that the stakes have never been higher, as our future depends on it.

The potential is there for a glorious future. But are we sufficiently wise to make such fateful moves? I am hardly optimistic. The forces that drive the technology revolution will not pause for our moral reflection and wisdom to catch up. We are moving into uncharted waters, without a paddle, plan, strategy, or policy for stability and guidance. Is there a way to access our collective wisdom on the best ways to navigate in unpredictable rapids? Can our past inform our present? Can people communicate, cooperate, and work as teams to help avoid or solve our mutual problems? The technological revolution is increasingly a decentralized, competitive process. There is little chance of attaining cooperation or creating rules or regulations that all will follow. Nations, corporations, and super-empowered individuals are likely to follow their own perceived interests. Given the moral failures of the politicized UN, I believe that a one-world government would only make matters worse [42]. Power and politics are a corrupting force, and moral rhetoric is often manipulated to conceal the political and economic interests of the strong or unscrupulous. For all the well intentioned people sincerely dedicated to improving the world, aiding the needy, laboring to cure diseases and help people overcome disabilities, the technology revolution will also be driven by fear, insecurity and war, competition and profit, ego and pride. We are locked into a Greek tragedy, replete with impending danger and doom, brought on by hubris. Can we somehow manage to make the right decisions and move safely through the perilous transition to a better future? Can we improve our critical thinking skills and preserve the art of thinking slow, in a world that increasingly emphasizes thinking fast? [86] What will it take to maintain our humanity in a radically different future? We need to prepare now so as to be readier to face these questions.

The crises and the decisions that people make have the potential to reverse the longstanding trajectory of human progress or worse, lead to major catastrophe. These crises are a matter of concern for all of humankind—and will be for the indefinite future. We may succeed for a good long run, but a single miscalculation could cause us to lose our distinctly human appreciation of life, or even life itself. For all our progress, we are vulnerable to numerous dangers. No doubt, there will be emerging technologies that can solve serious problems and neutralize or minimize certain dangers. However, some technologies will almost certainly have harmful effects, so we must be exceedingly careful proceeding and quick to recognize bad ideas. We all have an interest in approaching those problems as thoughtfully and intelligently as possible.

At the very least, we must make a collective effort to proceed as wisely as we are able. In addition to studying and understanding the technological dimensions of a problem and carefully considering the potential consequences of new technologies, we must also learn from the experiences of our ancestors. How did they deal with their existential crises and their historic decisions? We can certainly

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<sup>19</sup> On 7 May 1824, Beethoven conducted his last symphony alongside the conductor Maestro Michael Umlauf. The finest musicians and singers in Vienna were assembled for this special occasion.

learn something of value and gain perspective from their brilliance and blindness. The bridge from our collective past can be an illuminating guide to our bridge to the future.

Making the humanities an important component of education is not particularly expensive. It is much cheaper to run a humanities course than a science, engineering, or technology course. No need for laboratories and far less need for expensive equipment. If there will be more people living longer with less to do, then humanities education will helpfully fill a need. Why not devote extra time to those things that make us distinctly human, including our ability to appreciate the ideas that bring us joy? In terms of customer satisfaction, students generally love humanities courses far more than STEM courses ([14], Part 2, Table A).

We should prepare our children for their future with the best education we can provide. This calls for technical training as well as education of character.

Finally, the humanities function as a unifying, international, intercultural source for understanding. They comprise a treasure trove of our collective human experience. They belong to us all. Similarly, as technologies emerge that redefine the human being, more people will recognize that the ramifications concern us all. We all have a stake in what will happen. Here, we can begin the earnest process of appealing to our collective best interests and persuade people that it is in their interest to be clear-headed and wise, and not to be reckless, foolish, or greedy. It is necessary that we think in long term consequences, rather than the next election or quarterly report. We can learn from each other. The survival of humanity as we know it, is inextricably intertwined with the value that we place on the humanities

Thus, dear reader: Fasten your seat belt. The road ahead will be bumpy and full of potholes. Be hopeful that we actually are racing into a better century. Pray that we get wiser. However, we must prepare for a disruptive, dangerous future. In order to navigate wisely, we must remain anchored and true to the best of our collected lore and wisdom. We must not let ourselves forget the complex critical thinking, moral reasoning, aesthetic appreciation, and emotional gifts that make us human and our lives worth living. As we gain successes in improving technologies, we must not lose sight of our keenest skills, creativity, of our friendship, kinship, empathy, love, and our individuality. Now, more than ever, we need to cultivate a solid grounding in the humanities to bring out and hold on to “the better angels of our nature”.<sup>20</sup> To secure the blessings of liberty to our posterity calls for recognizing the special contributions that the humanities make to our collective culture. This is necessary for giving our grandchildren and their grandchildren a better future.

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<sup>20</sup> The quotation is from Abraham Lincoln’s First Inaugural Address. Some attribute the term “better angel” to Charles Dickens or William Shakespeare.

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