Genetic Enhancement, Hyperagency, and Humanity. An Investigation of the Implications.

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Abstract

The use of modern science to genetically enhance the human genome would be humanity's most extreme attempt in the quest for hyperagency, and will have negative implications for our sense of humanity. Hyperagency is an extreme over-expression of our own human agency; everything is transparent, subject to our control and manipulation, and in accordance with our own interests. Modern era philosophical theories in subjectivity and agency have developed, evolved, and responded to advancements in science and technology over the past few centuries, and have all contributed to the current shift in understanding of our own humanity, influencing the rise of hyperagency in the postmodern world. In July 2017, the MIT Technology Review published an online article announcing the the first successful creation of a genetically modified human embryo in the United States using a technique called germline engineering. The act of manipulating an organism's genetic material for the purposes of changing and modifying its characteristics is referred to as genetic engineering or genetic modification. The term genetic enhancement is more specifically indicative of the process of modifying nonpathological, or non-disease related genes. Genetic enhancement, in the form of germline engineering especially, exhibits a dangerous attitude of hyperagency that will have negative consequences for humanity as a whole. Hyperagency not only disrupts our sense of reverence before mystery and depth but also threatens our sense of morality in relating to the world. If continued, practices in hyperagency such as genetic enhancement will lead us to lose our sense of humanity altogether.

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Introduction

The Titan Prometheus first appears in ancient Greek mythology in Hesiod's *Theogony* (c.700 bce). Consequently regarded as a great benefactor to humanity, Prometheus tricked and stole fire from the Olympian god, Zeus, and gifted it to mankind. Zeus, however, angered by such deceit, chained the immortal "to a column so that an eagle may daily devour his constantly regenerating liver,"[1] and the great Prometheus was thus forced to endure eternal punishment. By introducing fire, a very ancient form of technology, to man, Prometheus alleviates much of the suffering of humanity. The consequences of his benefaction, however, cause him great suffering in return. Though associated with varying interpretations, the story of Prometheus is often regarded as a warning by presenting a relevant and troubling paradox: technological innovation can apparently both cause and alleviate suffering. In a modern sense, the myth implies that those who employ technology for seemingly beneficial reasons could later face devastating consequences. Though science and technology seem to benefit humanity in extraordinary ways, the myth of Prometheus reminds us that there are often repercussions to even the most advantageous of actions.

In 1818, Mary W. Shelley published *Frankenstein*, the story of an ambitious scientist and the consequences of his unorthodox experiment. The original title of the famous work is not just *Frankenstein*, but actually *Frankenstein, or The Modern Prometheus*. Shelley similarly

[1] Michael Gagarin, *The Oxford Encyclopedia of Ancient Greece and Rome* (Oxford University Press, 2010), http://www.oxfordreference.com/view/10.1093/acref/9780195170726.001.0001/acref-9780195170726-e-1050?rskey=5UHMJu&result=5.

exemplifies the underlying warning of the myth of Prometheus in comparing him to the scientist, Victor Frankenstein. Frankenstein miraculously discovers the technology to create a living being, but later finds that he is horrified of and disgusted by his own monstrous creation. The creature comes to despise his creator as well, and haunts and torments Frankenstein to his death. Though the inventor of a brilliant and cutting-edge experiment, Frankenstein pays a great price for his extreme ambition, and must face the frightening consequences.[2] The story urges man to recognize his place in the world as no more than man, even when technology allows him god-like power. The Prometheus comparison specifically makes the story a warning against not just the disadvantages, but also the danger and suffering associated with technological advancement. Through unrestrained technological innovation, man becomes a modern Prometheus, and therefore puts himself in grave danger of facing similar consequences of suffering.

Although well exemplified in *Frankenstein*, the idea of a "modern prometheus" was first developed and made famous by Immanuel Kant. In his 1755 essay "Succinct Exposition of Some Meditations on Fire," Kant mentions Benjamin Franklin's discovery of electricity and invention of the lightning rod. In 1750, Franklin proposed that a metal rod could collect lightning during a storm. The experiment was successfully performed a few years later in France by Thomas François Dalibard.[3] Franklin further performed a famous kite experiment in which he attempted

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[2] Mary W. Shelley, *Frankenstein, Or, The Modern Prometheus* (Boston and Cambridge: Sever, Francis, & Co., 1869), https://books.google.com/books?id=2Zc3AAAAYAAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false.

[3] John L. Heilbron, *The Oxford Companion to the History of Modern Science* (Oxford University Press, 2003), http://www.oxfordreference.com/view/10.1093/acref/9780195112290.001.0001/acref-9780195112290-e-0417?rskey=1jFyzF&result=9.

to conduct electricity through a kite during a lightning storm. Kant asserted that these efforts and discoveries made Franklin a modern Prometheus:

> From the Prometheus of modern times, Herr Franklin, who sought to disarm the thunder, to that man who sought to extinguish the fire in Vulcan's workshop, all such endeavors are proofs of the boldness of man, allied with a capacity which stands in a very modest relationship to it, and ultimately they lead him to the humbling reminder, which is where he ought to properly start, that he is never anything more than a human being.[4]

In harnessing the power of lighting, Franklin quite literally embodies Prometheus, stealing fire from the heavens for the use and prosperity of mankind. Kant, however, argues that the experiment merely exemplifies man's modest capacity to perform what his boldness intends, and thus serves as a reminder of his limits. Kant ultimately maintains that it would be of great misinterpretation to believe that the power of science disturbs man's place in the natural order of the world.

The problem with unchecked scientific and technological advancement in our era is that it is causing us to misunderstand how to relate to our own agency as humans. Because of the philosophical and technological successes of the modern era, and their corresponding emphases on the power and importance of human consciousness and agency, we are beginning to think that the way in which we exist in the world has drastically changed. In *The Case Against Perfection,*

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[4] Immanuel Kant, "Succinct Exposition of Some Meditations on Fire*,"* in *Natural Science.* (Cambridge University Press, 2015): 1:472.

for example, Michael Sandel specifically focuses on the way genetic engineering technology can and will alter our sense of being in the world and affect the way in which we relate to nature and ourselves. Sandel explicitly states that the greatest danger of genetic enhancement is that it represents a "kind of hyperagency—a Promethean aspiration to remake nature, including human nature, to serve our purposes and satisfy our desires."[5] Inspired by this thought in addition to recent news of current genetic engineering research and success, this thesis will not only develop, explore, and expand on this notion of hyperagency in depth, especially in regards genetic enhancement, but will also investigate its implications in society today.

Science and technology have allowed us to control and manipulate so much of our lives, and modern philosophy has emphasized the importance and significance of human agency and consciousness so much, that we are not only beginning to think we can control everything, but we are also becoming increasingly uncomfortable with anything out of our control. Both our desire for the power to remake the world and our growing discomfort with things out of our control drive us to hyperagency: the need and pursuit to master everything. Instead of enjoying that which we cannot understand as wonderous and exciting, we fear the unknown. It is the unknown, though, that inspires philosophical inquiry, an intrinsic human ability specific only to us. If we seek to understand and control every aspect of our being in the world, then we fail to let the world appear to us. We lose our sense of reverence before mystery, our understanding of the depth of human existence, and our sense of morality in relating to both nature and ourselves. We

[5] Michael Sandel, *The Case Against Perfection* (Belknap Press of Harvard University Press, 2007).

lose our capacity to think, wonder, and imagine. We lose much of what contributes to our sense of humanity at all.

Instead, we maintain a hubristic worldview in which excessive pride, overconfidence, and arrogance take over. In the context of ancient Greek mythology, hubris represents a foolish defiance of the gods. Our hubris is the misunderstanding and ignorance of our limits as human beings. In over-expressing our human agency to an extreme, we suggest that we are in complete control of everything that makes up our humanity; there are no limits to our control, and nothing is left to chance. We are, as some would say, "playing God." The dangers of this attitude are vast and great, and are heightened and therefore necessary to address in the wake of recent scientific advancements such as genetic enhancement. Hyperagency as demonstrated by the Promethean urge of the modern, hubristic human to innovate and master threatens to exemplify the paradox of suffering as presented in the myth itself. Just as the myth of Prometheus and story of Victor Frankenstein represent instances of attempted hyperagency, so too does the extreme use of modern scientific knowledge and power. Though a god-like endeavor, Frankenstein was merely a proud, ambitious scientist who sought to create something novel and beautiful and enhance scientific understanding. However hubristic the attempt, Prometheus simply wanted to help mankind and allow them the opportunity to be more than just simple beasts. They both nonetheless suffered extreme consequences. What consequences will we suffer in our "drive to mastery?"[6] How far will we let human agency exceed human bounds?

[6] Michael Sandel, *The Case Against Perfection* (Belknap Press of Harvard University Press, 2007).

Part I
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Hyperagency

"For it is not enough to have a good mind; the main thing is to apply it well. The greatest souls are capable of the greatest vices as well as of the greatest virtues. And those who proceed only very slowly can make much greater progress, provided they always follow the right path, than do those who hurry and stray from it."

— René Descartes, Discourse on Method[7]

Chapter One
Hyperagency Defined

As humans, we have the luxury of being agents of our own actions. Agency is defined as the capacity to act in a given situation, and as humans we experience a particular type of agency unique to only our species in that it involves a sense of morality, intentionality, and expression of free will in addition to the simply physical capability to act.[8] We are gifted in our ability to reflect on our own agency as humans, a capacity singular to us. We utilize our agency in nearly every aspect of our lives, as we are constantly acting and reacting independently. We experience our human agency in being aware of how we act and what we think. Philosophers have contemplated the concept of human agency since the days of Aristotle, and continue to explore

[7] René Descartes, *Discourse on Method,* trans. Donald A. Cress (Hackett Publishing Company, 1998).
[8] Markus Schlosser, "Agency," *Stanford Encyclopedia of Philosophy,* August 10, 2015, https://plato.stanford.edu/entries/agency/.

its meanings and implications. Especially in response to more recent developments in neuroscience and psychology, debates regarding human agency are prominent and extensive. The extent of our agency as humans is not entirely clear or agreed upon, and is therefore an important point of discussion in the philosophical community.

In the *Oxford Dictionary of Philosophy*, an agent is defined as "one who acts."[9] Action taken by an agent is considered as anything an agent does, as opposed to anything that happens to an agent.[10] The problem of agency comes with understanding the distinction between our passive and active existence. As humans, we exist both passively and actively as beings to which things happen and as beings which act, respectively. However, this distinction is often muddled with respect to the concepts of causation and free will. Philosophers have debated the implications of these concepts on our understanding of the nature of agency throughout history, especially in the modern era as technological advancements have helped us know more about the science of causality and free will. To understand the true causes of our physical actions and whether or not we have any control over them helps us better understand our human agency. Different theories on causation imply that we still do not fully understand the causal interaction between the mind and the body.[11] This implies that maybe we do not fully understand the extent of our control over our bodily actions. How we act in the world could be technically pre-determined by our mental biology. The problem of free will explores the extent of our

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[9] Simon Blackburn, *Oxford Dictionary of Philosophy* (Oxford University Press, 2016), http://www.oxfordreference.com/view/10.1093/acref/9780198735304.001.0001/acref-9780198735304-e-85?rskey=E4TOt9&result=2.

[10] Simon Blackburn, *Oxford Dictionary of Philosophy* (Oxford University Press, 2016), http://www.oxfordreference.com/view/10.1093/acref/9780198735304.001.0001/acref-9780198735304-e-36#.

[11] Simon Blackburn, *Oxford Dictionary of Philosophy* (Oxford University Press, 2016), http://www.oxfordreference.com/view/10.1093/acref/9780198735304.001.0001/acref-9780198735304-e-523#.

actions as either results of uncontrollable factors or as manifestations of our will. To accept free will is to believe that we have complete control over our agency as humans. This means that though we cannot always control what happens to us, free will allows us to at least control how we respond to and act in the world. Though it indicates a certain power and capacity to control the way in which we interact with nature and the world, it is important to realize that agency does not necessarily include the power or capacity to control every aspect of ourselves and our lives.

I would like to focus, however, on an extreme over-expression of our own human agency, or, as I will refer to it, hyperagency. To exhibit hyperagency is to believe that every aspect of nature and ourselves is subject to our control and manipulation. We are aware of our agency as humans, as we have a capacity to control how we act according to our wills and desires. However, we must admit that we are not entirely in control of or responsible for our being in the world. In denying this fact, the virtue that is agency turns into vice. Agency becomes hyperagency when we refuse to accept that agency only allows us the power to control our own actions, and we instead attempt to also manipulate every way we passively exist. Our passive existence includes the things that happen to us that are not directly in our physical control, and is included in the life of an agent only as the environment to which he responds and reacts. Hyperagency, however, is the attitude that our agency allows us to control everything, not only over our active, but also our passive existence. It means that we seek complete control over everything that happen to us in life. It encourages an outlook on life that lacks a sense of mystery, finitude, and humility. In the world of a hyperagent, everything is transparent, and in

accordance with his own interests. In relating things simply to his own will, he fails to see the immensity, mystery, and wonder of the world.

Not only due to scientific and technological advancement, but also in response to the focus on human subjectivity in modern era philosophy, an increase in hyperagency has been apparent in society. Since the scientific revolution, science has consistently made the impossible, possible. Because of the immensity of our success in harnessing both the scientific power of technology and philosophical power of our special human agency, we begin to believe we actually may have a capacity to truly remake all of the world as we desire, and control every way in which it acts on us. The increased prevalence and significance of philosophical theories regarding human consciousness and agency have contributed to the magnified emphasis on the subject. In realizing the power and capability of our consciousness and agency, and how it is strengthened by the scientific advancements of the modern era, we try to bring everything under our control and manipulation. With the remarkable technologies of modernity has come not only a novel and undisputable power, but also a discomfort with the things out of our control. No longer do we simply accept that which we cannot control, but we instead believe in the power of the science and technology of the new world to grant us the complete control we seek. We constantly strive to upgrade and improve science and technology so that it can accommodate and answer and control that which we do not yet understand. In a world of hyperagency, we struggle to understand the limits of our own humanity. Hyperagency threatens to disrupt and reduce our capacity to participate in the world in the historically human way.

Chapter Two

Being Human in the Modern Era and the Growth and Development of Hyperagency

So what even is the "historically human way" in which we participate in the world? The concept of subjectivity, or being human, involves what it means to have personhood, have consciousness, and have agency. Our understanding of being human, which I will also refer to as subjectivity, has drastically evolved and transformed throughout numerous shifts in our history, but has always been a focal point of philosophical theory. Being human has specifically changed with the developments of science, technology, and the answering theories of modern philosophy. The era of modern philosophy saw several movements in subjectivity as responses to developments including but not limited to the renaissance, the protestant reformation, the scientific revolution, the industrial revolution, capitalism, and theories in rationalism, individualism, empiricism, idealism, romanticism, and existentialism, to name a few. Modern era philosophy can be defined not only by an explosion of novel and influential philosophical thought, but also by a general inversion of beliefs on many pre-existing philosophical concepts, including human subjectivity. As these modern era theories in subjectivity have developed, evolved, and responded to modern era science over the past few centuries, they have all contributed to the current postmodern shift in understanding of our own humanity. The growth and development of being human in the modern era has influenced the rise and possibility of hyperagency in the postmodern world.

The 17th century roughly marks the beginning of modern philosophy. Since then, as mentioned, a major focal point of philosophical inquiry has been that of human consciousness.

Multiple societal changes during this time contributed to the development of modern philosophy and this shift of focus towards human subjectivity. Starting in Italy and spreading through Europe from there, humanist ideals especially bloomed during the Renaissance, a cultural movement that favored a revival of classical antiquity.[12] The Renaissance directly preceded the modern era, and its emphasis on humanism, in addition to the recovery of ancient Greek and Roman works, greatly impacted the philosophy of the time. Renaissance humanism is represented by an ideology that believes in the "supreme importance of human beings and human values"[13] and especially a focus on the *studia humanitatis*, or the study of the humanities.[14] The study of the humanities in this time was specifically centered around "a cycle of five subjects: grammar, rhetoric, poetry, history and moral philosophy, all based on the Greek and Latin classics."[15] The movement not only stressed the great value and importance of human beings, but also emphasized rhetoric and eloquence of speaking and writing in particular, and in those ways greatly impacted philosophy and its attention to human subjectivity. Also occurring in Europe around the same time was a period of religious unrest and unhappiness with the Catholic Church, culminating in a schism of Christianity known as the Reformation. The term "Reformation" generally applies to the "series of religious protests and reforms that swept Europe during the sixteenth century," but the protests and reforms were more of a collective movement to "reform the Western church in ways that went well beyond previous reform movements within Western

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[12] Gordon Campbell, *The Oxford Dictionary of the Renaissance* (Oxford University Press, 2005), http://www.oxfordreference.com/view/10.1093/acref/9780198601753.001.0001/acref-9780198601753-e-3013?rskey=ai94Q5&result=2.

[13] *Oxford World Encyclopedia* (Philip's, 2004), http://www.oxfordreference.com/view/10.1093/acref/9780199546091.001.0001/acref-9780199546091-e-5541?rskey=o3IaCw&result=1.

[14] John Monfasani, "Humanism, Renaissance," Routledge Encyclopedia of Philosophy, (1998), https://www.rep.routledge.com/articles/thematic/humanism-renaissance/v-1.

[15] John Monfasani, "Humanism, Renaissance," in *Routledge Encyclopedia of Philosophy,* (Taylor and Francis, 1998), https://www.rep.routledge.com/articles/thematic/humanism-renaissance/v-1.

Christendom in both degree and kind," rather than a truly disparate series.[16] The Reformation contributed to philosophy and specifically an emphasis on and shift in understanding of human subjectivity in that it encouraged an appreciation for the privacy and freedom of an individual. Additionally, both the Renaissance and the Reformation contributed to the creation of an intellectual community outside of the church, which allowed for more freedom of thought and opinion for everyone. This encouraged not just the few professionals in the field, but everyone to expand their knowledge and strengthen their communication skills, fostering a community more apt to participate in philosophical inquiry and express individuality. Lastly, the Scientific Revolution greatly contributed to the philosophical focal shift towards human subjectivity and consciousness. Mostly defined by occurrences during the 17th century, the Scientific Revolution was a period of significant scientific development that marked the beginning of modern science. The Scientific Revolution encouraged a more mechanical approach to nature, and favored methods utilizing experience and induction for knowledge rather than previous methods of deduction.[17] For these reasons, the Scientific Revolution had a significant impact on philosophical inquiry, and directly affected the development of modern era theories regarding human consciousness and subjectivity. Modern era philosophical movements in subjectivity were undoubtedly not only made possible but deeply influenced by these societal shifts that occurred both directly before and during the beginning of the period.

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[16] Hans J. Hillebrand, *The Oxford Encyclopedia of the Reformation* (Oxford University Press, 1996), http://www.oxfordreference.com/view/10.1093/acref/9780195064933.001.0001/acref-9780195064933-e-1172?rskey=ZFj6fa&result=1.

[17] Noel Castree, Rob Kitchin, and Alisdair Rogers, *A Dictionary of Human Geography* (Oxford University Press, 2013), http://www.oxfordreference.com/view/10.1093/acref/9780199599868.001.0001/acref-9780199599868-e-1639?rskey=M8fXnL&result=2.

In the wake of the the Renaissance, the Reformation, and especially the Scientific Revolution, early modern philosophy signified the emergence of two conflicting modes of thought: rationalism and empiricism. Rationalism, traditionally associated with the work of René Descartes, claims that knowledge can be gained through reason, indepently from experience.[18] René Descartes was both a mathematician and philosopher.[19] In his *Meditations on First Philosophy*, Descartes attempts to restructure philosophical thought, specifically metaphysics, in challenging his understanding of knowledge, truth, the existence of God, the nature of the self, and mind-body duality: "Several years have now passed since I first realized how numerous were the false opinions that in my youth I had taken to be true, and thus how doubtful were all those that I had subsequently built upon them. And thus I realized that once in my life I had to raze everything to the ground and begin again from original foundations, if I wanted to establish anything firm and lasting in the sciences."[20] His famous dictum, "I think, therefore I am," first appearing in French in his *Discourse on Method* but expressed as a sentiment in *Meditations* as well, establishes Descartes's stance that the existence of the self can be known for certain as true through the intellect alone, independent of the senses. He also asserts that the mind is born with innate ideas that require no previous sense or experience to exist. Part of what makes Descartes's philosophy specifically so important for the development of human subjectivity is his focus on "the knower as a means to determine the scope and possibilities of human knowledge."[21] This study of human consciousness as foundational to knowledge and understanding is an idea that

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[18] Peter Markie, "Rationalism vs. Empiricism," Stanford Encyclopedia of Philosophy, July 06, 2017, https://plato.stanford.edu/entries/rationalism-empiricism/.
[19] Gary Hatfield, "René Descartes," Stanford Encyclopedia of Philosophy, January 16, 2014, https://plato.stanford.edu/entries/descartes/.
[20] René Descartes, *Meditations on First Philosophy* (Cambridge University Press, 1996), 13.
[21] Gary Hatfield, "René Descartes," Stanford Encyclopedia of Philosophy, January 16, 2014, https://plato.stanford.edu/entries/descartes/.

was adopted by modern philosophers succeeding Descartes. Though many challenged and expanded his rationalist beliefs, the focus on the knower remained essential to modern philosophy. Empiricism is one such theory that challenged rationalism, but preserved the role of human consciousness in the acquisition of all knowledge. While rationalism asserts that reason and human intellect alone can provide knowledge, empiricism argues that knowledge can be acquired only through sense experience.[22] Empiricists deny that we have any innate ideas, and instead hold that the mind is a "blank slate" prior to experience. Though they differ in belief regarding the source of our ideas and knowledge, both rationalism and empiricism emphasize the importance of the subject, or knower, and his mind as crucial to knowledge, whether it is through his innate understanding or his experiences.

In the 18th century, Immanuel Kant illustriously expanded on both rationalist and empiricist ideals by presenting a set of doctrines that he felt surpassed the dilemma between the two, called transcendental idealism. This idealism further emphasizes the significance of human consciousness in that it is defined by a "group of philosophical doctrines which suggest that what we know as the 'external world' or the 'material universe' is in some important sense created by the mind or mind dependent."[23] Kant's theory of idealism specifically as asserted in his *Critique of Pure Reason* is defined by a set of claims that, in summary, state that space and time are subjective, and that objects and mental states as we experience them are mere appearances and representations rather than things in themselves, which exist independently of the mind and

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[22] Peter Markie, "Rationalism vs. Empiricism," Stanford Encyclopedia of Philosophy, July 06, 2017, https://plato.stanford.edu/entries/rationalism-empiricism/.

[23] Richard L. Gregory, *The Oxford Companion to the Mind* (Oxford University Press, 2004), http://www.oxfordreference.com/view/10.1093/acref/9780198662242.001.0001/acref-9780198662242-e-439?rskey=PHzV3r&result=7.

cannot be known.[24] In his own words, Kant encapsulates his interpretation of transcendental idealism as follows: "By transcendental idealism I mean the doctrine that all appearances are regarded as mere representations, not as things in themselves, and that space and time, therefore, are only sensible forms of our intuitions, not determinations given independently by themselves, or conditions of objects taken as things in themselves."[25] To put it basically, Kant allows for knowledge both independent and dependent of experience. Our intuition of space and time is independent of experience, or as Kant refers to it, *a priori* knowledge. This *a priori* knowledge is necessary to the accumulation of *a posteriori* knowledge, or knowledge that is dependent upon experience. *A posteriori* knowledge is a result of experience as shaped first by an *a priori* intuition of space and time and secondly by the appearance of a thing-in-itself as gained through the senses and constructed in the mind. Logistics aside, Kant's transcendental idealism incorporates the possibility of knowledge both inside and outside the realm of experience, and stresses the importance of human consciousness in the attaining any sort of knowledge at all. The notion of human subjectivity not only gained footing in the modern era but was at the heart of these three major and extremely influential philosophical ideologies. Being human began to take on and entirely different meaning and importance as theories in philosophy continued to emphasize the essentiality of consciousness and experience to knowledge and understanding. René Descartes and Immanuel Kant remain as two of the most significant philosophers of the time, and their works continue to be recognized and utilized today.

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[24] Immanuel Kant, *Critique of Pure Reason,* trans. Marcus Weigelt (Penguin Classics, 2007), A26, A33, A37-38, A42.

[25] Immanuel Kant, *Critique of Pure Reason,* trans. Marcus Weigelt (Penguin Classics, 2007), A369.

The rise of existentialism in the 19th century additionally highlighted the increasing importance and prevalence of human subjectivity in the modern era. Existentialists claim that the meaning of human existence requires more than a mere grasp of natural science and morality. Existentialism can be defined as "the philosophical theory which holds that a further set of categories, governed by the norm of authenticity, is necessary to grasp human existence."[26] Authenticity here refers to the way in which we engage with our actions as our own, and requires a conscious awareness of both what we do and why we do.[27] Founded on the works of Søren Kierkegaard, Friedrich Nietzsche, and Jean-Paul Sartre, to name a few, the attitude of existentialism is commonly associated with themes of meaninglessness, dread, alienation, absurdity, and nothingness in confronting the meaning of human existence. Sartre's famous phrase "existence precedes essence" demonstrates a central and fundamental point of existentialist belief. It argues that there is no inherent meaning to the world and our existence beyond the meaning we assign to our experiences. Any meaning in the world is conjured in our human consciousness upon experience, and thus requires existence to be determined. According to existentialism, therefore, human consciousness is essential to both our authenticity and understanding of meaning in the world. Though it is still a popular and prevalent ideology today, the initial introduction of existentialism in the 19th century especially affected the growth and development of being human in modern philosophy, and contributed to the rise in significance of human subjectivity in the modern era.

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[26] Steven Cowell, "Existentialism," Stanford Encyclopedia of Philosophy, March 09, 2015, https://plato.stanford.edu/entries/existentialism/.

[27] Ian Buchanan, *A Dictionary of Critical Theory* (Oxford University Press, 2018), http://www.oxfordreference.com/view/10.1093/acref/9780199532919.001.0001/acref-9780199532919-e-56?rskey=LcDMUv&result=1.

The evolution of being human in the modern era has obviously been deeply affected by several philosophical movements and theories in subjectivity over the past few centuries. Human consciousness and agency, focal points of modern philosophical inquiry, have become more relevant and essential to our understanding of our own humanity and being in the world. Both during and near the end of the modern period, increased scientific and technological success additionally augmented and enhanced the notion and prevalence of subjectivity. Later movements in industry, consumerism, capitalism, and politics also magnified the importance of individuality during the time period. The growth and development of our understanding of being human in the modern era has proved both successful and beneficial to society. This enhanced notion of subjectivity, however, is so strong that it is clouding our judgement today. Cartesian, Kantian, and existentialist philosophy have grown and developed together to formulate an extreme view of the subject. The modern move toward increasing emphasis on subject and self-determination in knowledge becomes, in existentialism, radicalized in the idea that a subject is free and self-determining in all things, not only knowing, but even in being. It seems that modern theories regarding human consciousness and subjectivity may be advancing and culminating to the point of exaggeration. We are turning towards the subject too intensely, and relying on our consciousness and agency too heavily. We are participating in the world hyper-actively, taking on the role of being human in the world to vast extremes. As we continue to discover and unveil the power of human consciousness and agency in our knowledge and understanding of the world, we are allowing ourselves a heightened but misguided sense of confidence in our human abilities. The attitude of hyperagency that is so apparent today is, it seems, a product of both this enhanced human subjectivity and rapidly advancing science and

technology. The understanding of human subjectivity that has been so powerfully and successfully developed in the modern era is being intensified and skewed by science and technology in such a way that is encouraging and allowing for the rise of hyperagency in our world. This rise of hyperagency, as made possible by enhanced notions of subjectivity that were in large part already due to scientific advancement, can and will only be additionally magnified by the rapid pace at which science and technology continue to innovate and develop. In a paradoxical sense, notions of human subjectivity are so amplified in the convergence of hyperagency and advanced technology that they actually threaten to destroy the human subject altogether. The immense power of human consciousness and agency so cultivated in the modern era, when expressed concurrently with cutting-edge science and technology, becomes inverted by hyperagency and its intellectual consequences, and our sense of humanity instead lingers on the edge of extinction. In order to be a force in maintaining our sense of humanity, philosophy, rather than continuing this futile overemphasis of the subject, must instead move to address the intellectual losses and technological dangers associated with hyperagency, or it will risk being completely overshadowed and outpaced by hyperagency altogether.

Part II
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Genetic Enhancement as an Expression of Hyperagency

"O, wonder!

How many goodly creatures are there here!

How beauteous mankind is!

O brave new world, That has such people in't!"

— William Shakespeare, The Tempest (V, i)[28]

Chapter Three
A Brief History of Genetic Enhancement

In his 1859 *On the Origin of Species*, Charles Darwin presented to the world his theory of natural selection. Though the concept of evolution already existed and was widely accepted, as most agreed that species obviously changed over time, Darwin's natural selection theory provided a mechanism by which such change could occur. Natural selection is by definition the process whereby organisms better adapted to their environment tend to survive and produce more offspring. Organisms that possess better genes in relation to environmental factors are much more likely to survive and reproduce. The valuable genes are thus passed to offspring, and

[28] William Shakespeare, *The Tempest*, V, i.

by this system each generation of a species continues to specialize and evolve. Biologically, organisms are wired to choose mates that will provide them with the most genetically perfect offspring as to successfully proliferate their species. The evolution of all species has always been genetically driven. Even in modern society, it is obvious that humans are more attracted to those who physically demonstrate good genes. By evolutionary standards, it is not shallow or superficial for humans to desire good looking, intelligent, and successful partners. Evolution, however, is a natural, slow, and lengthy process. The natural selection of beneficial traits in a species takes time. Unfortunately for some, our genetic makeups are not under our immediate control and the overall improvement of the human genome can only be seen on a multi-generational, if not greater, scale. For now.

Beginning with Gregor Mendel's studies on inheritance, the field of genetics has rapidly become one of the most prominent and significant in biology. Though mostly forgotten until years later, the results of Mendel's ten year study as presented in 1865 accurately explained the variability and heredity found in species. In observing patterns of inheritance in the offspring of pea plants, he was able to determine a series of laws that governed the way in which traits were passed from generation to generation. When rediscovered in 1900, Mendel's findings were accepted as laws of heredity and he became later known as the "Father of Genetics."[29] In the 1950s, the separate studies and findings of Rosalind Franklin, James Watson, and Francis Crick together were used in the discovery of the double helix structure of DNA, a huge breakthrough in

[29] Mark Pagel, *Encyclopedia of Evolution* (Oxford University Press, 2002), http://www.oxfordreference.com/view/10.1093/acref/9780195122008.001.0001/acref-9780195122008-e-265?rskey=nVj8Cs&result=2.

genetic understanding.[30] Only 50 years later, scientists sought to and succeeded in mapping and sequencing all of the three billion nucleotides making up all of human DNA, a program known as the Human Genome Project. The human genome is a complete set of the DNA that constitutes our genes and is present in every nucleus-containing cell. The HGP provides a "genetic blueprint" for the building of all that is a human being.[31] As it is today, our genomes are the results of millions of years of evolution; millions of years of natural selection and the survival of beneficial genes by reproductive means. Advances in technology have allowed for a vast increase in genetic knowledge, and an opening of many previously closed doors. The possibility for gene manipulation has become possible with the advancing genetic understanding and technology, and with it comes implications for both the scientific and ethical communities. Just as the atom is for physics, DNA and the gene are at the very foundation of all of biology, and represent the very most basic and crucial building block for all of life. With the power that is genetic understanding comes great responsibility.

The act of manipulating an organism's genetic material for the purposes of changing and modifying its characteristics is called genetic modification. Even before more direct technologies existed, the human species has historically attempted to alter not its own genome, but the genomes of other organisms. Selective breeding, also known as artificial selection, is the process by which humans develop controlled conditions for reproduction among animals and plants. Dog breeding, for example, is selective in that we choose parent dogs with particular traits in order to

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[30] Mark Pagel, *Encyclopedia of Evolution* (Oxford University Press, 2002), http://www.oxfordreference.com/view/10.1093/acref/9780195122008.001.0001/acref-9780195122008-e-148?rskey=hgzGpf&result=2.

[31] "All About The Human Genome Project (HGP)," National Human Genome Research Institute (NHGRI), https://www.genome.gov/10001772/all-about-the--human-genome-project-hgp/.

produce the puppy we desire. The ability to directly alter DNA for the purposes of genetic modification did not exist until the late 20th century, and is known differently as genetic engineering. Genetic engineering is accomplished using a variety of methods, all involving the manipulation of DNA. The methods by which DNA can be altered involve "removing, modifying, or adding genes to a chromosome in order to change the information it contains" enabling "cells or organisms to make new or different substances (proteins) or perform new functions"[32] Genetic engineering has become both popular and controversial in the last few decades regarding its agricultural use and commercial benefits. In 1973, Stanley Cohen and Herbert Boyer made genetic engineering possible when they "accomplished the first recombinant DNA experiment."[33] Recombinant DNA is artificially created in a lab, and is formed through a process of combining gene sequences from different sources.[34] Boyer and Cohen specifically "joined together two independent pieces of DNA" and inserted it into an *E. coli* bacterium, where it was taken up "as part of the bacterium's genetic material" and was therefore expressed along with the rest of the bacterium's genes.[35] Founded in 1976, Genentech became the first genetic engineering company and began what came to be known as the biotechnology industry.[36] Genentech "cloned the gene for human insulin into bacteria" and "marketed human insulin

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[32] Chris Park and Michael Allaby, *A Dictionary of Environment and Conservation* (Oxford University Press, 2007), http://www.oxfordreference.com/view/10.1093/acref/9780191826320.001.0001/acref-9780191826320-e-3292?rskey=zxAc8m&result=16.

[33] Paul Boyer, "Biotechnology Industry," in *The Oxford Companion to United States History,* (Oxford University Press, 2004), http://www.oxfordreference.com/view/10.1093/acref/9780195082098.001.0001/acref-9780195082098-e-0175?rskey=51sO7v&result=3.

[34] John Lackie, *A Dictionary of Biomedicine* (Oxford University Press, 2010), http://www.oxfordreference.com/view/10.1093/acref/9780199549351.001.0001/acref-9780199549351-e-8015?rskey=l2pJdF&result=1.

[35] Paul Boyer, "Biotechnology Industry," in *The Oxford Companion to United States History,* (Oxford University Press, 2004), http://www.oxfordreference.com/view/10.1093/acref/9780195082098.001.0001/acref-9780195082098-e-0175?rskey=51sO7v&result=3.

[36] Paul Boyer, "Biotechnology Industry," in *The Oxford Companion to United States History,* (Oxford University Press, 2004), http://www.oxfordreference.com/view/10.1093/acref/9780195082098.001.0001/acref-9780195082098-e-0175?rskey=51sO7v&result=3.

purified from the genetically engineered bacteria as the first recombinant DNA technology-based drug."[37] The drug was approved by the FDA in 1982. Over the course of the next decade, multiple biotech companies were founded. Though initially met with severe criticism in 1983, another biotech company became the first to produce genetically modified crops.[38] The first genetically modified food was introduced for human consumption in 1994.[39] The genetic alteration of both crops and livestock to increase product yield has become increasingly prevalent in modern society, but the use of such technologies has not stopped there. In 1997, Dolly the sheep became the first mammal to be successfully cloned and produced asexually.[40] As advancements in genetic modification progress, humanity has begun dabbling with the prospect of using such technologies on more than just plants and animals. The possibility of genetically modifying humans has been on the horizon for some time, but has rightly been a cause for pause in both the scientific and ethical communities.

Developments in genetic engineering technology have introduced potential for huge advancements in medical treatment. With the ability to genetically modify comes the possibility to cure genetic disease and enhance and repair damaged genes even in adult cells. As discussed by Michael Sandel in his work *The Case Against Perfection*, however, genetic engineering

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[37] Paul Boyer, "Biotechnology Industry," in *The Oxford Companion to United States History,* (Oxford University Press, 2004), http://www.oxfordreference.com/view/10.1093/acref/9780195082098.001.0001/acref-9780195082098-e-0175?rskey=51sO7v&result=3.
[38] Paul Boyer, "Biotechnology Industry," in *The Oxford Companion to United States History,* (Oxford University Press, 2004), http://www.oxfordreference.com/view/10.1093/acref/9780195082098.001.0001/acref-9780195082098-e-0175?rskey=51sO7v&result=3.
[39] Paul Boyer, "Biotechnology Industry," in *The Oxford Companion to United States History,* (Oxford University Press, 2004), http://www.oxfordreference.com/view/10.1093/acref/9780195082098.001.0001/acref-9780195082098-e-0175?rskey=51sO7v&result=3.
[40] Paul Boyer, "Biotechnology Industry," in *The Oxford Companion to United States History,* (Oxford University Press, 2004), http://www.oxfordreference.com/view/10.1093/acref/9780195082098.001.0001/acref-9780195082098-e-0175?rskey=51sO7v&result=3.

advancements entertain other possibilities beyond the realm of medicine and health. I would like to note here the slight but significant difference in connotation between the terms genetic modification and genetic enhancement. The use of the term genetic enhancement implies more than just the modification of genes. Though, technically, genes that are altered for the medical purpose of fixing mutations or curing genetic diseases are technically "enhancements," they do not necessarily qualify as the type of enhancements that the term genetic enhancement is more appropriately associated with in the scientific community. According to the National Human Genome Research Institute, "The term commonly is used to describe efforts to make someone not just well, but better than well, by optimizing attributes or capabilities."[41] The use of the term genetic enhancement is more indicative of the process of modifying nonpathological, or non-disease related genes. Sandel discusses multiple realms of enhancement quickly being approached by bioengineering technology: three of which being muscle enhancement, memory enhancement, and sex selection. He begins his discussion of muscle enhancement by observing that "researchers have developed a synthetic gene that, when injected into the muscle cells of mice, makes muscles grow and prevents them from deteriorating with age."[42] Though this breakthrough seems to be incredibly beneficial to simply those that experience muscle weakness and immobility especially in old age, it is important to also note that "the gene not only repairs injured muscles but also strengthens healthy ones."[43] It is not unreasonable to think that anyone, especially athletes, could seek this type of enhancement for the purposes of increasing strength and ability. Similarly, researchers have also made strides in manipulating genes related to memory. Not only were modified mice able to "learn more quickly and remember things longer

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[41] "Genetic Enhancement," *National Human Genome Research Institute*, https://www.genome.gov/10004767/.
[42] Michael Sandel, *The Case Against Perfection* (Belknap Press of Harvard University Press, 2007), 10.
[43] Michael Sandel, *The Case Against Perfection* (Belknap Press of Harvard University Press, 2007), 11.

than normal mice" by "inserting extra copies of a memory related-gene into mouse embryos," but they were also passing the genetic improvement onto their offspring.[44] Though an enhancement that could be dramatically valuable in the medical world as a treatment for memory-related disease and impairments, even healthy individuals could seek memory strengthening. Sex selection presents a different enhancement perspective in that it would occur before birth. Human societies have consistently attempted to manipulate the sexes of their offspring throughout history. Genetic enhancement seems to offer one of the least controversial means by which parents can choose the sex of their children as it avoids some cause for abortion. However, sex selection raises other important objections as it could be seen not only as an "instrument of sex discrimination" but also a gateway practice for the choosing of other desirable traits.[45] Obviously, the advancements in technology have developed a platform for possible genetic modification and enhancement practices. Though not yet applicable to real, human life, there is no denying the definite possibility of genetically enhanced humans in the near future. The most recent research in the field has proved that we may have to address the accompanying moral and ethical quandaries even sooner than anticipated.

In July, 2017, the MIT Technology Review published an online article announcing the "First Human Embryos Edited in the U.S." Though a feat already accomplished internationally, the first successful creation of a genetically modified human embryo in the United States is a momentous leap in the genetic community. "The effort, led by Shoukhrat Mitalipov of Oregon Health and Science University, involved changing the DNA of a large number of one-cell

[44] Michael Sandel, *The Case Against Perfection* (Belknap Press of Harvard University Press, 2007), 13.
[45] Michael Sandel, *The Case Against Perfection* (Belknap Press of Harvard University Press, 2007), 22.

embryos with the gene-editing technique CRISPR."[46] Though only allowed to grow for a few days and never intended to be brought to to term, the research team found that "it is possible to safely and efficiently correct defective genes that cause inherited diseases" in a human embryo. This type of experimentation is specifically defined as "germline engineering," because the germ cells of genetically modified children would possess the alterations and therefore pass them along to following generations. Though still only scratching the surface of human genetic enhancement, this research is a cause for both wonder and trepidation. As Michael Sandel puts it, "When science moves faster than moral understanding, as it does today, men and women struggle to articulate their unease."[47] Without proper technology in existence, it has been historically easy for scientists and bioethicists alike to ignore the implications of possible human genetic modification. That is obviously no longer the case. It is becoming increasingly important for society to address this scientific advancement, as humanity cannot allow science to move so fast that it simply bypasses morality and ethics altogether. Genetic enhancement practices exhibit an attitude of hyperagency that will prove more devastating than beneficial. The implications of the science must be realized in order to thoughtfully and cautiously determine society's next steps.

Additionally, as what was once science fiction becomes reality, it is impossible to avoid the spirit of eugenics mingled with genetic modification technology. Deemed by some to be the "new eugenics," genetic enhancement presents serious ethical and social implications that are all

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[46] Steve Connor, "First Human Embryos Edited in U.S., Using CRISPR," MIT Technology Review, December 29, 2017, https://www.technologyreview.com/s/608350/first-human-embryos-edited-in-us/.
[47] Michael Sandel, *The Case Against Perfection* (Belknap Press of Harvard University Press, 2007), 9.

too familiar. It is no secret that the "historical connotations" of eugenics "tie it to it to the selective breeding programs, horrifying concentration camps, medical experiments, and mass exterminations promoted by Germany's Nazi regime in World War II."[48] Some argue, though, that the old eugenics of the first half of the 20th century gave the practice an unnecessarily bad name. The United States even observed and allowed for eugenic legislation in the early 1900s before the horrors of World War II and the Holocaust. The problem with the old eugenics, as some would claim, is that it involved coercive practices, such as those that were evident in Nazi Germany. In removing the coercion, it seems then that eugenics could be permissible. Many political philosophers are calling for a new, "liberal eugenics, by which they mean noncoercive genetic enhancements."[49] The argument is that in removing coercive practices typically associated with eugenics, the concept itself does not seem to be a problem. Parents would have the freedom to choose the traits of their children without government interference. Another difference lies "between the kind and quality of the science underlying the reproductive policies."[50] The science behind the new, liberal eugenics is much more advanced and biologically based, providing a more solid foundation for its acceptance. Perhaps acceptable in theory, the practice of eugenics sits atop a slippery slope to the return of an unwelcome past. Many philosophers are not convinced that a "liberal eugenics" would stay very liberal for long.

It is impossible to deny that this sort of technology is cause for genuine enthusiasm in the scientific and medical community. Genetic manipulation can contribute to the treatment and

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[48] Sara Goering, "Eugenics," Stanford Encyclopedia of Philosophy, July 02, 2014, https://plato.stanford.edu/entries/eugenics/.
[49] Michael Sandel, *The Case Against Perfection* (Belknap Press of Harvard University Press, 2007), 75.
[50] Sara Goering, "Eugenics," Stanford Encyclopedia of Philosophy, July 02, 2014, https://plato.stanford.edu/entries/eugenics/.

prevention of so many currently life-threatening and untreatable diseases and conditions. Eric Lander, a Harvard Medical School and MIT professor, published an article in 2015 in the New England Medical Journal discussing new genetic engineering technology. Before exploring the "more troubling" possibilities related to genetic engineering, he explains some of the most promising aspects of the new technology. He mentions multiple diseases that could be completely eradicated using genetic engineering technology including HIV, some forms of genetic blindness, familial hypercholesterolemia, sickle-cell anemia, and hemophilia. For example, "to treat human immunodeficiency virus (HIV) infection, physicians might edit a patient's immune cells to delete the CCR5 gene, conferring the resistance to HIV carried by the 1% of the U.S. population lacking functional copies of this gene."[51] The treatment of genetic blindness could be achieved through the inactivation a "mutant allele in retinal cells."[52] Liver cells could be restored to have a functional copy of the defective gene causing familial hypercholesterolemia, an inherited condition that causes extremely high levels of bad cholesterol and heart attacks in younger people. The "editing of blood stem cells might cure sickle cell anemia and hemophilia."[53] These treatment and prevention options for otherwise incurable conditions are different from germline engineering in that they only target somatic cells rather than reproductive cells. Germline engineering, as previously discussed, targets reproductive cells of patients and therefore can lead to permanent and heritable disease treatment. The targets of germline engineering would include genetic diseases such as Huntington's disease, heart disease,

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[51] Eric S. Lander, Ph.D., "Brave New Genome," The New England Journal of Medicine, July 02, 2015, https://www.nejm.org/doi/full/10.1056/NEJMp1506446.
[52] Eric S. Lander, Ph.D., "Brave New Genome," The New England Journal of Medicine, July 02, 2015, https://www.nejm.org/doi/full/10.1056/NEJMp1506446.
[53] Eric S. Lander, Ph.D., "Brave New Genome," The New England Journal of Medicine, July 02, 2015, https://www.nejm.org/doi/full/10.1056/NEJMp1506446.

cancer, diabetes, and multiple sclerosis.[54] Though there are still technological limits and ethical issues related to genetic engineering, it is undeniably the future of disease treatment and prevention. Genetic engineering may be the only available technique in the treatment of certain life-threatening conditions, and is a necessary development in the advancement of medicine.

It would be useless to deny the benefits and advantages to such technology. The development of science in the modern era has allowed for amazing advancements of the human race. Especially regarding advancements in the medical field, doctors and researchers are constantly finding ways to limit suffering in the world. I do not think that it is wrong to manipulate genes for the purpose of preventing and treating illness. Yet, what concerns me is the opportunity for genetic manipulation outside of medical reason that comes with the development of genetic engineering technology, which I will refer to from this point forward as genetic enhancement. The ability to alter defective or harmful genes in human DNA means that there is also an ability to alter healthy and normal ones. I do not wish to condemn the practice of genetic engineering in light of the amazing recent advancements made using CRISPR technology, but I wish to consider the moral implications and inspire caution. Advancements in science seem to occur at such a pace that they race past any moments of moral questioning or caution. Over the past century, science fiction writers have written countless dystopian books and movies cautioning against the manipulation and exploitation of technology and science. Aldous Huxley's 1931 *Brave New World* and the 1997 film *Gattaca*, go so far as to identify the dangers specifically associated with genetic engineering technology. Just because this technology is

[54] Eric S. Lander, Ph.D., "Brave New Genome," The New England Journal of Medicine, July 02, 2015, https://www.nejm.org/doi/full/10.1056/NEJMp1506446.

available for enhancement outside of medicine, does not mean that it should be used. However, I fear that our desire for complete control, and our tendency towards hyperagency, will drive us to use this technology to its total extent.

Chapter Four
Genetic Enhancement as an Example of Hyperagency

Since the start of the modern era, philosophers have frequently discussed and warned against the implications of rapidly advancing science and technologies. Francis Bacon and René Descartes, however, were among the first and most influential philosophers to challenge ancient Greek philosophy and eagerly incorporate scientific methods into their own philosophies. Though in significantly different ways, both attempted to redefine reason in accordance with the novel methods and findings of science. They were hardly alone in this. In response to advancing technology and the shifting of scientific knowledge and method in the 17th century, philosophy, too, was shifting. Many philosophers recognized the importance and necessity of keeping up with rapidly evolving scientific knowledge. In *The New Organon*, released in the year 1620, Francis Bacon makes clear that he is in no way attempting to undermine the philosophies of the ancient Greeks, but instead proposing an entirely new method, from scratch, that is more scientifically involved: "The honour of the ancient authors stands firm, and so does everyone's honour; we are not introducing a comparison of minds or talents but a comparison of ways; and we are not taking the role of a judge but a guide."[55] Through a series of aphorisms, Bacon argues that scientific method up to that point had been inadequate, and he proposes that a stronger method of induction and an emphasis on experimentation would do better to reveal truth in the world. According to Bacon, his new method of scientific inquiry is important to philosophy in that "Our design is to discover whether in truth we can lay firmer foundations for human power

[55] Francis Bacon, *The New Organon*, ed. Lisa Jardine and Michael Silverthorne (Cambridge University Press, 2000), 39.

and human greatness, and extend their limits more widely."[56] Previous philosophies as founded by the ancient Greeks could not sufficiently utilize concrete data, and relied too heavily on the working of the human mind alone. Concrete data, though, became available and could be accessed through the modern scientific method and experimentation of Bacon's time. Science, Bacon argued, could now be used only to further human understanding of the truth: "And again the very wealth of mechanical experiments reveals the supreme poverty of things which most help and assist the information of the understanding...the hope of future progress in the sciences will be well founded only when natural history shall acquire and accumulate many experiments...For since they are used not to make a product but to reveal the natural cause in something, they equally answer to their intention, however they turn out; since they put an end to the question."[57] Bacon was convinced that induction and experimentation were necessary components of a new scientific method. His introduction of empiricist thought shaped the way in which we approach the truth about nature today. Bacon altered the course of scientific method in arguing that the current philosophies of the mind were simply not enough, and that both philosophy and concrete scientific data were necessary in revealing the truth of the world.

> We are laying the foundations in the human understanding of a true model of the world, as it is and not as any man's own reason tells him it is. But this can be done only by performing a most careful dissection and anatomy of the world. We declare that the inept models of the world… which men's fancies have constructed in philosophies, have to be

[56] Francis Bacon, *The New Organon*, ed. Lisa Jardine and Michael Silverthorne (Cambridge University Press, 2000), 90.
[57] Francis Bacon, *The New Organon*, ed. Lisa Jardine and Michael Silverthorne (Cambridge University Press, 2000), 81.

> smashed. And so men should be aware how great is the distance between the illusions of men's minds and the ideas of God's mind. The former are simply fanciful abstraction; the latter are the true marks of the Creator on his creatures as they are impressed and printed on matter in true and meticulous lines. Therefore truth and usefulness are (in this kind) the very same things, and the works themselves are of greater value as pledges of truth than for the benefits they bring human life.[58]

So, according to Bacon, not only would the use of a new scientific and philosophical method involving experimentation greatly benefit human life but it would also reveal greater truths than the pre-existing understanding of philosophy at the time. This sets the tone for much of what has followed in regards to philosophical inquiry. Francis Bacon's views were very significant in the field of scientific philosophy for years to come, and markedly influenced many of the great modern philosophers who succeeded him. In the wake of Bacon's work and the Scientific Revolution came the dawn of both philosophical empiricism, skepticism, and rationalism with the works of John Locke, David Hume, and René Descartes, who, as previously discussed, further studied human consciousness and understanding from a more scientific perspective.

However, this has not proceeded without significant resistance, or at least concern. By the time that modern science had yielded modern technology, a considerable reservation was developing. It was not evident that science, especially in its appeal to technology, necessarily brought us only good and truth. Martin Heidegger, for example, argued in his 1954 essay "The

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[58] Francis Bacon, *The New Organon*, ed. Lisa Jardine and Michael Silverthorne (Cambridge University Press, 2000), 96.

Question Concerning Technology," that technology may actually blind us from the truth of the world and threaten our relationship with ourselves and the world. Heidegger's approach is deep and sophisticated. He begins by emphasizing the difference between technology in previous ages and the new, modern technology of his era. He explains that the essence of technology is a means of revealing truth, or, in reference to the greek word *poiesi*s, a "bringing-forth" of the truth. Modern technology, though, which is based on more exact science and concrete data, represents a more extreme bringing-forth of the truth that Heidegger describes as "challenging-forth" and "enframing." Enframing here is essentially a gathering together and ordering of everything in the world, including man himself, so that it can be held on call to be utilized in a sort of "standing-reserve."[59] Enframing, according to Heidegger, is the method of revealing that "holds sway in the essence of technology," but it is a threat to humanity because it conceals the mode of bringing-forth, and therefore "blocks the holding sway of truth."[60] [61] This mode of enframing limits man to only experience the sort of revealing that is already ordered and destined, and eliminates all other sorts of revealing in the world: "The threat to man does not come in the first instance from the potentially lethal machines and apparatus of technology. The actual threat has already afflicted man in his essence. The rule of enframing threatens man with the possibility that it could be denied to him to enter into a more original revealing and hence to experience the call of a more primal truth."[62] Technology simply as scientific advancement,

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[59] Martin Heidegger, "The Question Concerning Technology," in *Martin Heidegger: Basic Writings*, ed. David Krell (San Francisco: Harper, 1993), 322.
[60] Martin Heidegger, "The Question Concerning Technology," in *Martin Heidegger: Basic Writings*, ed. David Krell (San Francisco: Harper, 1993), 325.
[61] Martin Heidegger, "The Question Concerning Technology," in *Martin Heidegger: Basic Writings*, ed. David Krell (San Francisco: Harper, 1993), 333.
[62] Martin Heidegger, "The Question Concerning Technology," in *Martin Heidegger: Basic Writings*, ed. David Krell (San Francisco: Harper, 1993), 333.

exemplified by Heidegger as lethal machines and apparatuses, is not what is truly threatening to mankind, as terrible as they are. The more serious, lasting problem with modern technology is, instead, the way that it threatens the mode in which the world appears and reveals itself to us, and the way in which we relate to this revealing. In his words, "the question concerning the essence of technology confronts the supreme danger, which is that this one way of revealing beings may overwhelm man and being and all other possible ways of revealing. Such danger is impacted in the essence of technology, which is an ordering of, or setting-upon, both nature and man, a defiant challenging of beings that aims at total and exclusive mastery."[63] Modern technology, according to Heidegger, is dangerous in that it allows man to drive for complete mastery of humanity and nature, and therefore blinds him to the way in which the world naturally reveals truth. It is my proposal, here, that this drive to mastery that is heightened and propagated by modern technology entails and encourages an attitude of hyperagency in us. So, this hyperagency must also be considered or suspected of belonging to the blindness that Heidegger detects in the technological age.

To maintain an attitude of hyperagency is to believe that everything in the world can be known absolutely and indeed manipulated as one may wish. Previously, human agency and action have been present only in how we physically act in and on the world and not in how the world acts on us. It is easy to imagine the ways in which the world can act on us that are out of our control. Our genes, for example, have always acted on us in a way that has previously been physically uncontrollable to us. Accepting this notion is crucial to maintaining a proper sense of

[63] Martin Heidegger, "The Question Concerning Technology," in *Martin Heidegger: Basic Writings*, ed. David Krell (San Francisco: Harper, 1993), 310.

humanity and being in the world. As stated by Michael Sandel, "the awareness that our talents and abilities are not wholly our own doing restrains our tendency towards hubris."[64] Thanks to advancements in science and technology, however, hyperagency ignores the notion that we exist passively at all, and inspires a hubristic mentality that rejects any concept of our limits as human beings. Instead letting the world to appear to us, or at least recognizing this is a precondition of any acting on the world, we attempt to instead control how it appears, and we lose touch with the truth of things in their original conditions. Anything that is considered as a way in which the world acts on us, including our genetic code, becomes a possible candidate for control and manipulation.

Perhaps this attitude has been coming for a long time. Wherever and whenever we attempt to capitalize on the power of advancing science and technology, we move closer to the premise that we can and should act on nature as if fully outside of and in control of it. This tendency has certainly intensified over the course of the last century. Though genetic enhancement is only one such example of hyperagency, it is arguably one of the most extreme, and alarming, to date. No scientific discovery has threatened to affect humanity at a level as deep and intrinsic as the level of our genetic makeup. Our DNA is the very foundation of what makes us human. To utilize our scientific ability to manipulate healthy and natural DNA ultimately changes who we are as humans, and what it means to be human. It is the destructively bold, and perhaps hubristic attitude of modern times to encourage us to take a practical, scientific, and disenchanted view of the world. In accordance with this mentality, the genetic enhancement of

[64] Michael Sandel, *The Case Against Perfection* (Belknap Press of Harvard University Press, 2007), 86.

the human race is one of the greatest achievements in the history of our species. This technology is undoubtedly miraculous for the medical community. But this much can be said while also worrying that hyperagency inspires an attitude that dangerously assumes omnipotence with regard to nature - an attitude that would be entirely new and unfamiliar to us. Even if it were to prove coherent, one may wonder about its moral condition as well.

This concern must be greatest with regard to germline engineering for the use of human genetic enhancement. As we have seen, germline engineering targets the DNA of a recipient's reproductive cells specifically. This means that the DNA that one would pass on to their offspring would contain the genetic enhancements they received. Not only does this type of modification change the DNA of the person who receives the treatment, but it alters the gene pool of the entire human species by changing the DNA that gets passed on to following generations. For humanity to undertake this practice would be like not only taking evolution into our own hands, but also dramatically speeding up the process of what we know as natural selection. Certain undesirable genes could effectively be completely artificially eradicated from the human race using this sort of technology. This is the type of technology that has given rise to infamous terms and phrases such as "designer babies" and "genetically modified humans." But, this type of gene editing is not merely far-reaching. It is also permanent. It cannot be reversed. A change made in the reproductive cells of a human being today permanently alters the DNA of every individual in all subsequent generations. It hardly needs saying that this needs to be taken very seriously. This kind of power should give us pause. If we are not careful, we could lose touch of what it means to even be human at all.

Part III
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The Consequences

"Remember, that I am thy creature: I ought to be thy Adam; but I am rather the fallen angel, whom thou drivest from joy for no misdeed."

— Mary W. Shelley, Frankenstein, Or, The Modern Prometheus[65]

Chapter Five
Loss of Mystery and Depth

The physically apparent implications of the genetic enhancement of the human race are significant and vast. As discussed, genetic engineering can be used to alter and enhance the genetic code of both defective and healthy cells, including those of an unborn embryo. Giving rise to infamous terms such as "designer babies" and "genetically modified humans," these genetic alterations could cause physical changes in those who utilize the practice. In addition to being used for medical purposes, this kind of technology could technically not only allow parents to specifically choose for their children's physical traits, but could also allow for adults to physically enhance their preexisting cells. If administered, genetic enhancement, therefore, will be physically apparent. Small change at the microscopic level will have real and tangible effects in even the physical appearance of the human race. The physical results of genetic engineering

[65] Mary W. Shelley, *Frankenstein, Or, The Modern Prometheus* (Boston and Cambridge: Sever, Francis, & Co., 1869), https://books.google.com/books?id=2Zc3AAAAYAAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false, 78.

will, therefore, be obvious and immediately apparent. Practices in hyperagency such as genetic enhancement, however, will give rise to intellectual and emotional losses that are not as evident, and could therefore easily be disregarded or go unnoticed. I would argue that these intellectual and emotional losses, however, will be more damaging and impactful. In disrupting our sense of existential mystery and depth and endangering our sense of morality in relating to both nature and ourselves, hyperagency as exemplified by genetic enhancement encourages a mentality that threatens to diminish our sense of humanity and being in the world.

The world acts on us in uncontrollable ways. There are things that we do not understand, and things that remain mysterious to us. Nature continues to amaze, surprise, and confound us every day. Hyperagency, however, is threatening our appreciation of the uncontrollable and mysterious wonders of the world. As discussed, hyperagency has developed in response to advancing technology and shifting theories in subjectivity in the modern era. Hyperagency rejects the way in which the world appears and reveals itself to us. Because of this shifting attitude, the mystery of the world is not as revered as it once was. Artists, poets, writers, and philosophers alike have held the mysteries and wonders of nature and the world in great esteem since the beginning of time. As much of the inspiration for philosophical and religious thought, the uncontrollable world has historically been deeply respected and admired. However, as what was once mysterious to humanity becomes increasingly understandable thanks to science and technology, our sense of reverence before mystery loses its importance and significance in our society. Proportionately, society has also seen a shift in popularity and respect from the subjects of art, poetry, philosophy, and religion towards more practical and useful subjects such as

science, technology, and business. Understanding and appreciating the mysterious aspects of our existence is already not as important to humanity as it once was, and the rise of hyperagency will continue to dissolve our sense of reverence before mystery.

Other than a sense of reverence before mystery, an understanding of the depth of our existence is also important in understanding our humanity and being in the world. The depth of our existence, I think, is the dimension of nature and ourselves that exceeds any capacity to alter or shape it according to our own wishes. An appreciation and respect for the mysterious and uncontrollable aspects of the world is one thing, but to also understand that there is an aspect of the world that completely transcends our ability to manipulate or change it indicates a depth of human existence that hyperagency threatens to ignore. In addition to rejecting the ways in which the world appears to and acts on us, hyperagency also inspires a discomfort with the unknown, and a desire to manipulate that which was previously out of our control. This ignores the dimension of our existence that exceed our own abilities. Without acknowledging this dimension, humanity will lose an appreciation and understanding of its own depth and purpose. This is how hyperagency influences a “mini-god” mentality, and misleads people to believe they are omniscient and omnipotent. This desire to master the world and hyper-express our human agency and individuality is already becoming evident in our society. The misunderstanding of our place and power in the world practiced concurrently with advancing technology has given rise to dramatic consequences such as deforestation, global warming, ocean destruction, climate change, and increasingly destructive weapons and wars. To reject our limits and ignore the true

depth of our existence as humans is a direct result of hyperagency in the modern era, and will prove to be an ignorant and dangerous endeavor.

Philosophy and religion exist to explain the mystery of the world and the depth of our existence. So it is understandable that as our appreciation and acceptance of these things disappears, so too does the importance and significance of philosophy and religion. It is already obvious that both philosophy and religion have fallen out of favor with our modern society in many ways. Philosophy, once a respected and revered field, is viewed by many as irrelevant and obsolete in our increasingly scientific and pragmatic society. Philosophy is considered by many to be unnecessary in order to participate in the professional world, and is therefore rendered by many a generally useless study. It seems to me, at least, that this lack of philosophical respect and discussion is already plaguing our society by putting severe pressure on our moral and ethical standards. The results of this are evident to me in modern politics and business practices especially. Religion, which is, in my opinion, simply a mode or special sect of committed philosophical thought, has increasingly become a source of conflict rather than a method of understanding. As society has become more detached and disenchanted with the world, the true purpose and sense of religion is being misunderstood and forgotten. Fewer and fewer people are identifying with any specific religion, to a point where it is almost trendy, and many prefer to refer to themselves as either atheist or agnostic. Philosophy and religion are the methods and results of humanity's attempt to wonder about and explain the mysteries and uncanniness of ourselves, the world, and how everything relates and evolves. The less we wonder, and the more

we singularly rely on our technology and agency to not only understand but also control and manipulate the world, the more philosophy and religion will fade into extinction.

The lack of philosophical thought and appreciation that could from a lost sense of reverence before mystery and lost understanding of existential depth will be harmful to humanity in many ways. Philosophy and religion generally outline human ethics and morality, and a lack of these qualities in society will cause momentous and unimaginable damage. A significant problem, additionally, is that philosophical inquiry is a skill related to an intrinsic human quality specific only to us. Part of what makes us human, and what makes humanity different from all other species, is that we have the capacity to think, wonder, and contemplate our existence. Philosophical and religious wonder are essential to the human condition as they are part of a unique intellect that separates us and our intelligence from all other beings. Philosophy and religion are critical to our human understanding, as they are the foundations of our ethical and moral standards, and attempt to aid our grasp of that which cannot necessarily be wholly understood. To risk this aspect of humanity is to risk a retreat back to the purely animal view of things, in which everything is pragmatic and practical only. The more we reject our sense of reverence before mystery and depth of human existence, the further we stray from philosophical and religious wonder, and the further we are from what even makes us human at all. In losing a sense of reverence before mystery and an understanding of the depth of human existence, we lose the capacity to imagine, create, and hope. If we lose touch with our ability to think, wonder, and contemplate, then we lose touch with our humanity completely.

Chapter Six
Moral and Ethical Loss

As briefly mentioned in the previous chapter, in addition to threatening our appreciation of mystery, positive relation to the depth of existence, and ability to think philosophically, practices in hyperagency such as genetic engineering will have consequences for our ethical and moral boundaries. Human morality and ethics will be affected both indirectly through the loss of reverence before mystery and the misunderstanding of existential depth as discussed, but also more directly through an abuse of the consequential power that hyperagency will allow us to feel. The last chapter explained that the loss of an appreciation for mystery and depth will eventually lead to a lack of philosophical wonder and inquiry, which will obviously negatively impact our ethical foundations. This chapter will explain the severe pressure that hyperagency directly places on the moral compass that we use in relating to each other, ourselves, and the world. In accepting and practicing hyperagency, we drive to master the world, and control and manipulate all that is the world. What increasingly comes to power is our own power. If we can bend and change anything, including human nature itself, to our own will, then the power of that willing will be very difficult to resist. Hyperagency encourages a desire for and demonstration of power that calls our morals and ethics into question. It could cause us to misunderstand our place in the world, and our own human nature.

As science and technology have made it possible to utilize the world's resources to our benefit over the past couple of centuries, our morals and ethics in approaching and relating to nature have been tested and demonstrated. A main component of hyperagency is the belief that

everything is subject to our will and power, and therefore under our complete control and manipulation. In this sense, we attempt to own, rather than appreciate, the world. It is obvious that our lack of morality, respect, and appreciation of the world is already apparent in how we have exploited nature and taken extreme advantage of all it has to offer. For a long time, we enjoyed our successes in blissful ignorance of the consequences of our actions. When the results of our actions finally began coming to light, we remained irresponsible. Now, our world is facing natural crises, mostly beyond repair. Our deforestation practices have destroyed and displaced innumerable species of animals, insects, and plants alike. Our excessive carbon dioxide emissions have rapidly contributed to global warming, making us responsible for melting ice caps, rising sea levels, and the increase in strength and occurrence of storms. Our trash accumulation and reckless disposal system have not only put countless land and ocean species at risk, but have damaged ground soil and water beyond repair. Our desire for oil has led to irresponsible drilling practices and accidents with devastating and irreversible consequences. The concept of hyperagency has led us to believe that nature is ours to manipulate and exploit, but we are already paying the price for such an attitude. Our home, the only home that we have, is suffering as a result of our drive to own and master all that we can. Hyperagency forgets and disrespects the depth of existence, the excitement and wonder of mystery, and the fact that there is a dimension of nature that exceeds and transcends our capacity to change and manipulate. Hyperagency ignores our moral responsibility to keep nature safe and respected, and in that way jeopardizes not only the natural world but all who live in it.

Not only does hyperagency allow us to misunderstand our power over nature, but it also obscures our understanding of our place among the rest of humanity. The potential of genetic enhancement specifically calls to question our method of morally and ethically relating to each other. For example, as genetic engineering technology advances and eventually becomes available for public use, a possibility that is becoming increasingly probable, our society will face the problem of the availability and cost of the practice. It seems that, like many modern day commodities, the opportunity to genetically engineer or enhance will only be available to the wealthy. This likelihood has ethical implications, in that it questions whether or not the process is fair and just. It is easy to imagine the ways in which providing genetic enhancement for only the wealthy is immoral and unethical, because it is an advantageous and sometimes life-saving opportunity that would be unevenly distributed. Additionally, on the subject of genetic enhancement, it is to be expected that parents with the opportunity to enhance their unborn children will generally choose for more beautiful and more advantageous traits. This not only makes parents responsible, and therefore blameworthy, for how their children turn out, but it also places children without genetic enhancements at a severe disadvantage in society. These sort of genetic engineering circumstances obviously have momentous moral implications, and can easily generate huge ethical issues in society. Such significant ethical implications could foster a seriously difficult struggle in how humans relate to one another. Furthermore, advancing methods of war and weapon development also exemplify how practices in hyperagency disrupt the ways in which we morally relate to each other. As previously discussed, hyperagency encourages a sense of immeasurable power. That desire for power and drive to mastery can easily lead to moral and ethical neglect. The development and use of nuclear weaponry, for

example, demonstrates an attitude of hyperagency. To believe that we have the power and control to rightfully utilize such devastating and catastrophic weapons on other humans is shockingly absurd. It completely misunderstands our place in the world and in humanity and lacks all moral and ethical orientation.

The limitation of being human has been historically common to all of humanity. Feeling limited in our humanity is a sentiment that we all share and understand. As mentioned, hyperagency threatens to disrespect these limits. So not only do we forget how to morally and ethically participate in the world, but we lose a sense of similarity and commonality with others. Hyperagency encourages a complete turning inward of the human mind, and a sort of hyper-individuality. If every person views himself in the sense of a hyperagent, then he will understand himself as completely in charge of his own destiny, and unlimited by the world and others. He will lose about him the things that make him human, such as his appreciation of mystery, nature, depth, philosophical thought, and sense of limitation, and will therefore not share much in common with other individuals. It could result in a complete loss of understanding how to participate in the world with others. In a sense, a hyperagent human will experience complete emotional isolation, a condition that could have severe mental effects on the human mind. Consequently, in being strained in the ability to relate to others, a hyperagent human will struggle with how to morally and ethically treat others.

Lastly, hyperagency most seriously endangers our ability to morally relate to and understand our being in the world by possibly allowing us the power to manipulate our own

human natures. Genetic engineering is a specific practice in hyperagency that would truly give us the power to alter our own human nature at the very deepest level of our DNA. The power to perform such a feat threatens to disrupt how we relate to ourselves as human beings. To misunderstand our place in the world is to overestimate our power, no matter the science and technology we have. To morally relate to the world, on the other hand, is to not only understand but also accept and respect the boundaries intrinsic to our human nature. Genetic enhancement presents an opportunity and ability that would push the boundary of respecting our innate nature, and will therefore affect our moral compass in understanding ourselves, our limits, our purpose, and our power. A strong sense of morality will be necessary to balance out the power that is the manipulation and alteration of our own human nature, but the attitude of hyperagency that brought us the power in the first place will threaten to unhinge our moral compass and lose touch with our moral relation to ourselves and the world.

Obviously, our moral compass for how to relate to nature and ourselves is already being pressured by our scientifically and technologically advanced society. With the addition of the discussed consequences of hyperagency, such as a misinterpretation of our power and place in the world, our moral and ethical standards will be severely questioned and strained. A world of hyperagency threatens our reverence before mystery, our positive relation to the depth of human existence, philosophical and religious thought, and also our sense of morality in relating to both nature and ourselves. These consequences are vast, ominous, and intimidating, but for these same reasons, and for the sake of humanity, cannot be ignored.

Conclusion
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What Now?

In summary, the rise of an attitude of hyperagency is becoming more and more evident in society, and will cause severe consequences for humanity if continued at such a rate. Though the negative implications of the rise of hyperagency in society can be clearly foreseen, it has not yet advanced entirely to the point of no return. Modern science and technology present evidence that promises a future in which we we may one day be truly able to harness complete control and mastery over ourselves and the world, but those days are still far off, and much of the science and technology involved is still so new. For the genetic engineering and enhancement of human beings specifically, science is still only scratching the surface and performing extremely preliminary experiments. Though humanity must face the currently occurring consequences of early practices in hyperagency, such as climate change and the prospect of nuclear war, there are ways to not only properly address those existing ramifications but also limit and prevent future ones, especially those related to genetic enhancement.

The execution of extreme practices in hyperagency, such as genetic enhancement or any activity that contributes to a drive to mastery and ignores our limits as human beings, threatens to disturb our sense of humanity and being in the world. The main human qualities that contribute to our understanding of our humanity and being in the world that hyperagency specifically targets are our sense of reverence before mystery, our understanding of the depth of human existence, and our morality in relating to nature and ourselves. In exploring these qualities of

humanity in more depth, it is clear that what they all share is an appreciation and regard for philosophical thought, understanding, and wonder. I must therefore conclude that the solution to avoiding the negative consequences of hyperagency in the future will be to recover a general sense of importance and significance for philosophy as soon as possible. Since the rise of hyperagency, philosophy, along with our sense of humanity, has since been overshadowed and dissipated by our highly scientific and practical society. Though in part founded on and made possible by philosophical theory, hyperagency can be thwarted by a reintroduction and necessary redirection of philosophy. In order to salvage our humanity, philosophy today must cease in its now futile emphasis of the subject and instead reemerge with a shifted focus toward addressing the things that hyperagency, technology, and our generally pragmatic society have put at risk, such as our reverence before mystery, appreciation for the depth of existence, and morality in relating to nature and ourselves.

The recovery of philosophy and religion in society would undoubtedly strengthen our sense of mystery and depth as positive. A sense of reverence before mystery and an understanding of the depth of our existence rely heavily on philosophical thought and inquiry, just as the the presence of philosophical thought in society relies on an appreciation of the mystery and depth of nature and existence. These qualities of human intellectuality simultaneously rely on each other to maintain standing and importance. Philosophy and religion have long been forces in defense of mystery and depth, and are necessary in maintaining their presence in humanity. In the same way, an acceptance of the mystery and depth of the world is foundational to philosophical and religious thought. Because hyperagency specifically threatens

our appreciation and acceptance of mystery in the world and the depth of human existence, the place of philosophy and religion in society relatively suffers. However, because they are thus connected, this means that the recovery of philosophy and religion will comparatively re-establish our sense of mystery and depth in the face of hyperagency. Philosophical inquiry and religious exploration aid in understanding mystery and depth in that they are the modes by which humanity attempts to understand and explain that which is mysterious and wondrous in the world. They are methods of thought by which humanity can contemplate and accept aspects of the world and ourselves that are uncontrollable, and exceed any capacity to be altered or changed. Philosophy and religion inspire the toughest of questions that often remain mysterious and unanswerable, as they often aim to explain that which cannot be visually or experientially proved. Being human is defined by the ability to ask these puzzling and introspective questions about our sometimes transcendental and enigmatic experiences. Being human is about the ability to wonder and reflect. Without a sense of appreciation for mystery and also positive relation to the depth of existence, philosophical inquiry loses its purpose and importance. Without philosophical wonder and inquiry, we lose our sense of humanity.

A re-establishment of the importance and significance of philosophy and religion in society will additionally strengthen our sense of morality in relating to nature and ourselves. Firstly, philosophy and religion are foundational to human ethics and morality. Since the era of the Ancient Greeks, philosophy has been defined and shaped by discussion involving right versus wrong and good versus evil. A comprehensive study of morality includes the questioning and defining of the meaning of right and wrong, a line of inquiry that is inherently always

philosophical in nature. Similarly, organized religions generally involve guidance to what is right and wrong. They often present specific moral rules and standards to those who believe and practice. Secondly, philosophy and religion frequently contemplate human nature and our place in the world, and therefore remind us of our limits. Whether it be that we are subject to the limits of our will (or lack thereof), our experience (or lack thereof), our suffering, or, in a religious sense, God's will, much of philosophy and religion acknowledges that we are, indeed, limited. To act morally in the world involves accepting those limits that are intrinsic to our human nature. In recovering the importance of philosophy and religion in society, humanity would more easily understand the foundational concepts of right and wrong, embrace its limits, and salvage a moral compass.

So, what does the revival of philosophy entail? I believe that the answer is through education. More recently, universities have encouraged philosophical understanding and discussion by including philosophy classes as part of a required core. It is obvious that philosophy can be applicable to all careers and lifestyles, in that it is foundational to ethical and moral action. I believe that even the briefest introduction to philosophy is enough to remind students of its importance, and can be especially effective for students at an age when they are preparing to enter the professional world. Those who enter the professional world with even the slightest background in philosophy are those that I believe will be essential to recovering its sense of importance and significance. Additionally, I believe that it is long past time for society to modify its view of religion. Just as humanity has evolved, so too must our interpretation and analysis of religion. If a general trend of acceptance were the standard, then religion would be

not only more appealing but also more inclusive. Being religious should be allowed to mean something different for every person, and in that way could even be applicable to every person. This sort of acceptance would also require education, in that we must learn that being religious can be defined by so much more than just a label of Catholic, Jew, Muslim, Buddhist, or Hindu, to name a few. In encouraging education and fostering tolerance, society may begin to reconsider and re-establish the importance and significance of philosophy and religion, and would be better equipped to confront and prevent hyperagency and its negative implications.

In regards to how to address the rapid advance of science and technology that is at the root of the rise of hyperagency, I believe that professional intervention is specifically required. Professionals in science and technology, as well as in philosophy, have not only the most knowledge but also the power in society to make their opinions known. It is up to them to warn and caution humanity in endeavors indicative of hyperagency, as humanity will hear, trust, and respect their voices. Specifically in regards to the practice of genetic enhancement, I propose that professionals who work in the field take some sort of pledge modeled after the Hippocratic Oath, an oath historically taken by physicians to uphold certain ethical standards and proper conduct in their practice. Perhaps not just physicians, but also scientists involved in genetic engineering should also be required to swear to abide by certain ethical and moral principles. This sort of oath should be decided by the scientific community, maybe in the form of an international conference or committee, so that it can be mutually respected and upheld on a global scale. I have discussed that I do not wish to condemn all practices in genetic engineering, but I feel that some sort of oath is necessary in regards to the possibility for genetic enhancement specifically.

Genetic enhancement exemplifies the most concerning and questionable aspects of genetic engineering in that it is generally used to optimize already healthy and normal cells, and can be applied to a person's germline, meaning it can permanently alter not only the generations succeeding that person but also the entire human genome. It is for these reasons that genetic enhancement is so indicative of an attitude of hyperagency, and any type of oath taken by scientists in genetic engineering must address these specific issues. I feel, therefore, that the sort of moral and ethical promise that an oath must include would be to altogether avoid any practice of genetic engineering that qualifies as enhancement, such as those that alter and enhance normal and nonpathological human or embryonic genes. To further this point, and emphasize the need for such an oath, I refer to United States history, and the Manhattan Project. In 1938, German scientists discovered that the splitting of a uranium atom resulted in a massive release of energy, indicating the possibility of a uranium bomb.[66] Concerned by this German discovery during a time of war with Germany, the United States launched a scientific and military endeavor to develop such a bomb, called the Manhattan Project.[67] The famous, award-winning theoretical physicist, Albert Einstein, catalyzed the project by signing and sending the "Einstein-Szilard Letter" to President Roosevelt in 1939. The letter, signed by Albert Einstein but drafted by his fellow physicist, Leo Szilard, warned that the Nazis may soon have an atomic bomb and urged the United States to develop a nuclear program in order to create one first.[68] In August of 1945, six years later, the United States dropped two atomic bombs on Japan, killing hundreds of

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[66] "The Manhattan Project," *American Museum of Natural History,* https://www.amnh.org/exhibitions/einstein/peace-and-war/the-manhattan-project/.
[67] "The Manhattan Project," *American Museum of Natural History,* https://www.amnh.org/exhibitions/einstein/peace-and-war/the-manhattan-project/.
[68] Lulu Morris, "The Einstein-Szilard Letter that Warned the USA of Nazi Atomic Weaponry," *National Geographic*, April 2017.

thousands of people, mostly civilians. Though excluded from actually taking part in the scientific development of the first atomic bomb, Einstein admitted that he came to regret even his slight involvement.[69] Knowing well the tremendously destructive power of an atomic bomb, Einstein encouraged the production of one rather than warning and cautioning against its use. Upon hearing of the atomic bomb drop on Hiroshima in 1945, Einstein, one of the greatest scientists of his time and possibly of all human history, responded with a simple but powerful sentiment: "Woe is me."[70] Let us not come to regret and despair today's actions by making his same mistake.

Genetic enhancement is but one extreme instance of hyperagency. We continue to demonstrate the modern belief that we are limitless, god-like, masters of the universe in many other ways as well, so much so that it seems to be the dominant attitude of the time. If the majority of our actions become primarily founded on this mentality, we are in grave danger of losing ourselves. Our sense of wonder, depth, hope, morality, and drive to think philosophically will all be lost, and we will be doomed to a disenchanted world. Hyperagency endangers specific human qualities that are absolutely essential to our sense of humanity, and will thus destroy much of what it means to even be human at all. We must find a way to restrain our modern tendency toward hyperagency before it is too late, and we have nothing left to know or face in this world but its consequences.

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[69] "The Manhattan Project," *American Museum of Natural History,* https://www.amnh.org/exhibitions/einstein/peace-and-war/the-manhattan-project/.
[70] "The Manhattan Project," *American Museum of Natural History,* https://www.amnh.org/exhibitions/einstein/peace-and-war/the-manhattan-project/.

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