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Abstract

Transhumanists argue that advancements in technological and scientific endeavours will soon produce emerging technologies capable of causing a radical transformation of humanity in the physical, psychological, and moral domains. Buddhist philosophy also aims to transform humanity psychologically and morally, although both schools of thought attempt to solve the problem of human suffering through distinct but converging means. This essay compares Transhumanism and Buddhist philosophy to investigate humanity's biological condition and the potential of human enhancement to shape our technological and moral future.

Defining Transhumanism

Transhumanist philosophy is difficult to clearly define. The word "transhumanism" is an umbrella term that captures a wide range of different philosophical views and ideas that share common themes. Transhumanism is so challenging to define because there is currently no absolutely agreed upon definition of the term given the large

number of different ideas associated with this word.[1] Upon examination of some transhumanist ideas and philosophers it is clear that there are just as many versions of transhumanism as there are transhumanist thinkers. For example, there are transhumanist Christians such as Pierre Teilhard de Chardin;[2] Transhumanist inventors and engineers like Ray Kurzweil,[3] even though he rejects the term; and even Transhumanist Buddhists like Masahiro Mori.[4] The fact that the transhumanist school of thought contains Christians, scientists, and Buddhists ought to generate some intrigue considering that a significant number of people from various religious and philosophical traditions are all taking an interest in this school of thought

Although the concept "transhumanism" was first invented by the philosopher Franklin Merrell-Wolff in the 1930s, according to Michael LaTorra it took on its contemporary meaning when the biologist Julian Huxley brought the term to a wider audience when he used it in 1957.[5] Huxley wrote, "the human species can [...] transcend itself [...] in its entirety, as humanity. We need a name for this belief. Perhaps transhumanism will serve: man remaining man, but transcending himself, by realizing new possibilities of and for his human nature."[6] Although this definition is rather vague, it indicates that humanity will retain several of its characteristics and yet will have the potential to become something greater than just human.

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[1] M. J. McNamee and S. D. Edwards, "Transhumanism Medical Technology and Slippery Slopes," *Journal of Medical Ethics* 32, no. 2 (2006): 513-518.
[2] Pierre Teilhard De Chardin, *The Phenomenon of Man* (London: Collins Sons & Co., 1959).
[3] Ray Kurzweil, *The Singularity is Near, When Humans Transcend Biology* (New York: Penguin Books, 2005).
[4] Wayne Borody, "The Japanese Roboticist Masahiro Mori's Buddhist Inspired Concept of 'The Uncanny Valley,'" *Journal of Evolution & Technology* 23 (2013).
[5] Michael LaTorra, "What is Buddhist Transhumanism?" *Theology and Science,* 13 (2015): 225.
[6] Michael LaTorra, "What is Buddhist Transhumanism?" *Theology and Science* 13, no. 2 (2015): 223.

Given that various transhumanist philosophers take diverging approaches on transhumanism, it can be said that transhumanists hold different and sometimes even contradictory visions about what could be considered transhumanism and what the future of humanity might look like. For example, Buddhist transhumanist Masahiro Mori envisions a world where human beings live and work alongside robots who may be just as capable of attaining enlightenment as human beings.[7] Kurzweil argues technological advancements in genetics, nanotechnology, and computing will culminate in a future event called the singularity, which will irreversibly change humanity and the universe forever as according to Kurzweil, "the universe becomes sublimely intelligent and wakes up."[8] Despite these contrasting views on transhumanism that make the concept difficult to define, there are several ideas and common themes that unite the vast majority of transhumanists, even if transhumanism as a doctrine remains difficult to fully define. Broadly speaking, transhumanists aim to use science and emerging technologies to solve what transhumanists consider to be problems of the human condition, such as the biological condition of human beings and the problems that come with being an embodied being in an environment that poses many threats to our survival, like aging and illness. Transhumanist ideology is oriented towards the future and optimistically looks forward to a brighter future when technology can be used to address many of the problems that human beings face as biological individuals, as well as external threats that may pose problems for the survival of humanity and our societies. Essentially, for the transhumanist, humanity's salvation will come through transformative innovations in science and technology. As transhumanist Nick Bostrom describes it, transhumanism

> promotes an interdisciplinary approach to understanding and evaluating the opportunities for enhancing the human condition and the human organism opened up by the advancement

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[7] Borody, *The Japanese Roboticist*.

[8] Kurzweil, *The Singularity is Near*, 390.

> of technology. Attention is given to both present technologies like genetic engineering and information technology, and anticipated future ones, such as molecular nanotechnology and artificial intelligence. The enhancement options being discussed include radical extension of human health-span, eradication of disease, elimination of unnecessary suffering, and augmentation of human intellectual, physical, and emotional capacities.[9]

There are of course a wide variety of different interpretations as to which problems of the human condition need to be solved and what humanity's technological salvation might look like. However, generally speaking, proponents of the transhumanist philosophical movement argue that technology can be used to enhance and even transcend the human condition to allow human beings to live longer, become smarter, and ultimately lead happier, more enjoyable, and more fulfilling lives than what the biological human condition naturally provides. Regardless of what the specifics of the transhumanist vision of the future may actually look like, it is interesting to note that transhumanist ideology carries with it many religious tropes. As Hava Tirosh-Samuelson writes:

> Even a superficial look at transhumanism indicates that it shares several features with traditional religions: the pursuit of perfection and the focus on human improvement; the concern for the betterment of society by eliminating social ills such as poverty, sickness, and suffering; the progressive understanding of human history that sees the future as necessarily better than the past; and the preoccupation with transcendence.[10]

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[9] Nick Bostrom, "Transhumanist Values," in *Ethical Issues for the 21st Century, ed. Frederick Adams* (Charlottesville, VA: Philosophical Documentation Center Press, 2003), 3.

[10] Hava Tirosh-Samuelson, "Transhumanism as a Secularist Faith," *Zygon,* no. 4 (2012): 721.

The transhumanist dreams of future salvation and the abolition of suffering delivered to humanity through our own efforts and technological ingenuity. If one considers the impact technological development has had on transforming daily life from the early days of the industrial revolution to today, technological change has rapidly transformed human societies and drastically altered our natural environment in the process. It is not hard to understand why the transhumanist movement is attracting significant attention since so many people have directly experienced the positive effects technological change can bring and transhumanist proponents argue that even bigger and better changes are on the horizon. Thinkers like Kurzweil suggest that many major technological revolutions are imminent—from cancer fighting nanobots to sentient machines—and that the process of technological evolution itself will become a new kind of savior, one that moves humanity closer to a better future with each technological leap.[11] Although transhumanist thinking comes in a wide variety of flavours, transhumanist thinking is also united by a few key themes. These include reducing human suffering through technological development, bettering society through benevolent action, and improving the physical, intellectual, and emotional capabilities of human beings to surpass biological limitations, and ultimately evolve into a "better version" of our species.

Although these transhumanist ideas may appear novel and unique, one particular philosophy shares some striking similarities and even compatibilities with certain elements of the transhumanist project; that philosophy is Buddhism. Although Buddhist philosophy has a variety of distinct schools (each with their own philosophical emphasis and practices), this paper examines transhumanist ideology through the lens of the Theravada tradition. The Theravada tradition is distinct from other Buddhist schools as it contains the only complete canon in a South Asian language, one that is held by many to

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[11] Kurzweil, *The Singularity is Near*, 388-389.

contain some of the oldest remnants of the Buddhist texts. The Theravada school's Pali Canon is useful to examine when discussing Buddhist philosophy because it serves as an authoritative and complete collection of texts utilized by a contemporary Buddhist school.[12] The teachings of the Buddha contained in these writings emphasize directly confronting the problems associated with the human condition and promote the idea that these problems can be overcome through human effort.[13] Buddhists claim that the human condition is an endless cycle of birth, death, and rebirth called samsara that is full of physical and psychological suffering. Human beings remain trapped in this cycle due to ignorance leading to the accumulation of karma (defined as intentional doing or ethical action). In the Buddhist context, an individual's intentions and actions determine the conditions of one's rebirth in samsara. Within Buddhism is offered a clear pathway for individuals who accept this view of life to escape samsara by bringing about a transformation and changing the way an individual views themselves and the world. In order to promote happiness, ethical action, and encourage the extinction of suffering, the Buddha proclaimed the Four Noble Truths, namely "that there is suffering, that it has a cause, that it can be supressed, and that there is a way to accomplish this."[14] In order to help others accomplish this goal, the Buddha prescribed the Eightfold Path to his followers so that they could experience the same freedom from suffering that the Buddha himself is said to have attained. The Buddha taught that this cycle of suffering could be broken through a combination of moral conduct (involving right speech, right action, and right livelihood); mental discipline (involving right effort, right mindfulness, and right concentration); along with the cultivation of wisdom and insight into the

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[12] Bhikkhu Bodhi, trans., *In the Buddha's Words: An Anthology of Discourses from the*
Pali Canon (Somerville: Wisdom Publications, 2005), 9-10.
[13] *Sarvepalli Radhakrishnan and Charles Moore, eds., A Sourcebook in Indian Philosophy (*New Jersey: Princeton University Press, 1989), 273.
[14] *Radhakrishnan and Moore, A Sourcebook in Indian Philosophy,* 272.

human condition though right views and right resolve.[15] By following the Eightfold Path and simultaneously cultivating all eight components, the Buddha and his followers claim that a practitioner would be able to free themselves from suffering through one's own efforts and thereupon attain enlightenment, a state of liberation from suffering called *nibbāna* in Pali and *nirvāṇa* in Sanskrit.

The Problems of the Human Condition

Both Buddhists and Transhumanists provide descriptions of the human condition. One of the most obvious clues to the stance of transhumanists on the human condition is in the word "transhumanism" itself. To be transhuman according to Huxley means to have moved beyond the human condition while retaining elements of one's humanity. This definition is telling because it implies that the human condition is somehow inadequate and needs to be transcended. Identifying what is wrong with the human condition is key to understanding why transhumanists seek to transcend it. Many transhumanists view the human biological condition as unnecessarily restrictive. Transhumanist Nick Bostrom writes that, "the range of thoughts, feelings, experiences, and activities accessible to human organisms presumably constitute only a tiny part of what is possible. There is no reason to think that the human mode of being is any more free of limitations imposed by our biological nature than are those of other animals."[16] Bostrom argues that the biological nature of human beings places limitations on what we can achieve as individuals and as a species. Our average lifespan of approximately seven or eight decades places a hard limit on what we can accomplish in such a short period of time. Human projects like learning multiple languages or cultivating our moral character get cut short as a result of the process

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[15] Walpola Rahula, *What the Buddha Taught* (New York: Grove Press, 1974), 45-46.

[16] Bostrom, *Transhumanist Values, 4*.

of aging and death. Human physiology restricts the kind of information we can perceive by limiting us to only vision, hearing, taste, smell, and touch. Human biology even places limits on intellectual capacity as the physiology of the human brain is responsible for the kinds of cognitive and emotional capabilities and limitations that human beings experience. Therefore, the transhumanist views the human condition as an unsatisfactory state that leaves much to be desired and as a direct cause of human suffering since transhumanist thinkers consider these limitations to be distressing. This is why the transhumanist seeks to overcome these kinds of physiological limitations through methods and technologies created through human effort, rather than accepting these limits as immutable.

Buddhist philosophy can be characterized as offering a realistic and direct analysis of the human condition. The Buddhist understanding of the human condition can best be understood in terms of the first noble truth, that all life involves *dukkha,* or existential suffering, and is therefore unsatisfactory. To those unfamiliar with Buddhist thought, this statement may be quite jarring. To say that all life is suffering is not to pessimistically declare that life is miserable and not worth living. Rather, Buddhists are simply drawing attention to some unavoidable facts about life and the human experience. Buddhists point out two easily observable facts about life that cannot be avoided. One of these harsh facts is that life is full of physical and psychological suffering. For Buddhists, suffering exists in various degrees and takes on all kinds of forms. Physical suffering ranges in severity from mildly unpleasant mosquito bites to severe illness and injury. Likewise, psychological suffering also comes in a variety of forms, from not getting what one wants, to the existential horror of realizing one's own transience, to the kinds of serious psychological disturbances and illnesses that tragically drive individuals to suicide. Whether one is a Buddhist or not, suffering is a significant and undeniable part of life, an inevitability that is directly tied to the human condition. The Buddha recognized this truth about life but instead of running from it, he built his entire philosophy around addressing and

overcoming this harsh aspect of mortality. Likewise, transhumanists aim to solve the problem of human suffering but through technological means as opposed to the Eightfold Path.

Although life may be full of suffering, Buddhists do not say that all life is unsatisfactory. There are of course all sorts of fantastic and pleasant experiences in life. Life is full of wonderful things, such as sharing good food with friends, or fully experiencing the beauty of nature. However, from a Buddhist perspective even these pleasurable experiences have some problems because even when one is experiencing the heights of some sort of transcendent bliss after a pleasant experience, that experience and feeling eventually end. In one Pali *sutta* (*Before My Enlightenment Sutta),* the Buddha said, "Whatever pleasure and joy there is in the world, this is the gratification in the world; that the world is impermanent, bound up with suffering, and subject to change, this is the danger in the world."[17] This is the second easily observable fact of human experience, *anicca* or impermanence. The observation is that all entities, experiences, and beings in the world are subject to change and decay. The universe is in a constant state of flux and things in life are always changing. Nothing ever stays the same for long as a result of the dynamic natural processes of the world. Human beings are born, mature, grow old, and die. Likewise, all entities and objects in the world arise and in time dissolve, from the smallest particles to the largest cosmic structures.

The impermanent and dynamic nature of all beings and entities is one of the major causes of suffering according to Buddhists. When referring to a man experiencing anxiety caused by impermanence, the Buddha said in another Pali *sutta* (*The Anxiety Due to Change Sutta*) that, "with the change and alteration in form, his consciousness becomes preoccupied with the change of form. Agitation and a constellation of mental states born of preoccupation with the

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[17] Bhikkhu Bodhi, *In the Buddha's Words*, 192.

change of form remain obsessing his mind. Because his mind is obsessed, he is frightened, distressed, and anxious, and through clinging he becomes agitated."[18] In general, Buddhist philosophy recognizes that when human beings become attached to ever changing objects and entities, they then suffer. Human beings suffer when experiencing the death of a loved one. Human beings suffer when a prized object degrades or is destroyed. Human beings suffer when they realize that although they may want to live forever, they too will eventually meet their own mortality just like all other beings and objects in the world. This harsh but honest analysis of the human condition can be unsettling because the Buddha's analysis demonstrates that the conditions of human life simply do not provide people with the lasting satisfaction that people want. Human beings crave permanence and pleasurable experiences, and this is why Buddhists claim that human beings constantly find themselves frustrated; complete satisfaction is always out of reach. The Buddhist point is that the world is impermanent, humanity is impermanent, and although humanity tends to want permanence, all human beings are condemned to the same fate of suffering, old age, sickness, and death.

It is evident that Transhumanist philosophers and Buddhists share a common point of view when discussing the limitations of the human condition. Like Buddhists, those interested in transhumanist ideology must have some degree of dissatisfaction with their situation and humanity's biological condition. Otherwise, they would not attempt to try and alter it or even hope for a future where one day they could transcend the limitations of embodied existence. Transhumanist philosophers like Nick Bostrom frequently deplore the limitations of human life (such as the biological tendency to die early), and view human nature as, "a work-in-progress, a half-baked beginning that we can learn to remold in desirable ways. Current humanity need not be the endpoint of evolution."[19] This is why transhumanists

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[18] Bhikkhu Bodhi, *In the Buddha's Words, 34.*
[19] Nick Bostrom, *Transhumanist Values*, 4.

theorize that human suffering can be reduced, by using controversial strategies and technologies such as genetic editing, cybernetics, and other anticipated technologies to enhance the human condition. The transhumanist aims to eliminate the kind of suffering that afflicts human beings because of the changing nature of the world and its processes. Some transhumanists like the futurist Ray Kurzweil even hope to one day be able to create technologies to enable one to upload one's mind to a computer in order to secure immortality in a digital realm.[20] By striving to use technology to conquer aging and even death, transhumanists are attempting to challenge these realities of the human biological condition and push humanity towards a future of exciting technological possibilities.

The Potential of Human Enhancement

As the Buddha pointed out more than 2500 years ago, there are plenty of problems with having a human body. The body is not invincible; it wears out with use. It is prone to getting sick or injured, and once the body stops working there is currently no way of getting it up and running again. In order to counteract these issues, human beings have developed medicines to fight illnesses, and scientists spend a great deal of time researching what promotes longevity and what produces illness, all in order to secure our health and prolong our lives. Some researchers are even investigating if there are ways in which human beings can alter and enhance themselves and their bodies in order to achieve certain ends, such as a longer life, increased strength, or increased intelligence. Theoretically, human enhancement can be achieved in a few different ways. Enhancing a human being can be done through genetic modification, pharmacological or surgical treatments, and cybernetics. Given the ethical debate around genetic editing and eugenics, these issues will be set aside

[20] Kurzweil, *The Singularity is Near*, 198-199.

for this analysis.[21] However, transhumanists are interested in these kinds of technologies because they argue that using pharmacological, surgical, or cybernetic methods to provide enhancements for those who want them or need them may provide significant benefits and serve to reduce human suffering.

Transhumanists argue that human enhancement has the potential to significantly improve one's quality of life and can grant people opportunities and abilities that may not naturally be possible because of the limits of human biology. Transhumanist thinkers provide plenty of speculation about the benefits that these emerging technologies could bring. For example, new and emerging technologies could do wonders in a therapeutic setting. Hypothetically if cybernetic devices such as artificial organs are developed, then these technologies can be used to ease the suffering of others, extend life expectancies, or provide certain improvements over their original biological organs.[22] Cybernetic limbs have been developed to assist amputees. Artificial eyes or ears could be used to help vision- or hearing-impaired people recover their senses, or to enable people to expand the current range of their senses. Artificial hearts and lungs could be developed to make our organs more durable, efficient, and disease resistant. There is serious potential in these kinds of technologies for both therapeutic use and for human enhancement. Even modifications to the human brain are part of the transhumanist agenda.

Consider neuroenhancement, a type of enhancement that includes anything that aims to improve the cognitive function of the

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[21] For further discussion on these debates, see Julie Aultman, "Eugenomics: Eugenics in the 21st Century," *Geonomics, Society and Policy* 2, no. 2 (2006).
[22] Roni Caryn Rabin, "Patient in Ground-breaking Heart Transplant Dies," *The New York Times*, March 9, 2022.

human brain.[23] Increasing one's cognitive ability is an appealing goal for billions of people and it is the reason education plays such an important role in human societies. Transhumanists argue that should surgical, pharmacological, or cybernetic tools be developed that would help with either cognitive improvement or physiological improvement, then it would be morally appropriate for individuals to use them even if they do not serve a strictly therapeutic purpose. For example, neuroenhancing drugs already exist like Adderall, which has been found to improve cognitive focus, and Provigil, which enhances memory. However, these neuroenhancing drugs do have some serious side effects and are currently only prescribed for therapeutic purposes.[24] Granted that reliably safe neuroenhancers or cybernetic organs are not available yet, transhumanists remain interested in the potential of these technologies to one day be able to improve human cognitive and biological capabilities as a means of self-upgrading, should such pharmaceutical, surgical or cybernetic devices become relatively safe to use. While many of these technologies for human improvement are still under development, this fact has already encouraged some transhumanists to make significant lifestyle changes, like adopting a vegetarian diet in order to help them live long enough to be able to make use of these highly anticipated technological advancements in the future.[25] Transhumanists do not seem to care too much about the specific means that can bring about improvement, as evidenced by the wide variety of both technological and traditional means of self-improvement, like lifestyle changes, that they endorse. Rather, they just want to do whatever they can to improve the physiological and mental faculties of their choosing in a

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[23] For more information on neuroenhancment, see Nick Bostrom and Anders Sandberg, "Cognitive Enhancement: Methods, Ethics, Regulatory Challenges" *Science and Engineering Ethics* 15, (2009).

[24] For further discussion on pharmacological neuroenhancment, see Janet A. Kourany, "Human Enhancement: Making the Debate More Productive," *Erkenntnis* 79, no, suppl 5 (2013).

[25] George Dvorsky, "Better Living Through Transhumanism," *Journal of Evolution and Technology* 19, no. 1 (2008): 9.

safe and convenient way, since they believe that humanity's current condition should not be the end of our species' evolutionary journey.[26] Transhumanists believe that by using these technologies for self-improvement, they will be able to move humanity closer to their vision of perfection while enjoying a higher quality of life. As Richard Dees puts it,

> a world in which people have greater intellectual skills, have sharper memories, and can control their moods is a world in which people are more productive and happier. Because they are more productive, they may be able to accomplish more things in their lives, either by securing a better job or by pursuing other activities that they find rewarding. Thus, the quality of their own lives can be expected to be higher.[27]

The interest in the potential for human enhancement is not necessarily driven by an egoic desire to be better than others. For many it is driven by a desire to get the most out of their lives without the constraints of what their naturally inherited biology might allow. Should these life-extending,[28] memory enhancing,[29] or mood boosting technologies[30] (just to name a few) become available, then many transhumanists will want to gain access to these technologies for the perceived quality of life improvements that they might bring. After all, there are already all kinds of different forms of human enhancement available, such as cosmetic surgery; and for many transhumanists, these are not that impressive compared to the possibilities of increased longevity or intelligence. Transhumanists are simply

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[26] Nick Bostrom, *Transhumanist Values*.
[27] Richard Dees, "Better Brains, Better Selves? The Ethics of Neuroenhancements," *Kennedy Institute of Ethics Journal* 17, no. 4 (2008): 373.
[28] Walter Glannon, "Extending the Human Lifespan," *Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine* 27, no. 3 (2002).
[29] Maxwell Mehlman, "Cognition Enhancing Drugs," *The Milbank Quarterly* 82 (2004).
[30] Nick Bostrom, *Transhumanist Values*.

looking for more tools to assist them in pursuing their goals and making their lives easier, more meaningful, and happier.

Although transhumanists are proponents of human enhancement, not everyone is convinced of the benefits. Critics of human enhancement raise many concerns, such as whether such technologies will be equitably distributed. One concern is that only the rich will be able to benefit from these technologies and that these technologies will not be distributed in an equitable way due to human greed, which will deepen inequities.[31] There are some legitimate concerns about the use of these technologies leaving many to speculate that they may not be all they are hyped up to be. One novel way of countering these concerns, however, lies in an interesting potential application of these technologies: moral enhancement.

This is where the aims of transhumanism and Buddhist philosophy begin to overlap in the service of human enhancement. Both transhumanists and Buddhists seek to combat problems of the human condition and suffering. While human enhancement does have significant potential to assist with these aims, Derek Maher notes that

> much of transhumanist thought is directed to the prolongation of life, the enhancement of normal capacities, and the introduction of new ones. But Buddhists would not willingly accept any of these augmentations of the body as useful goals in themselves. Instead, they would only be accepted if they helped to advance particularly Buddhist aims. Do they advance kindness, love, compassion, altruism, and the service of other beings?[32]

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[31] Vincent Clark, "The Ethical, Moral, and Pragmatic Rationale for Brain Augmentation," *Frontiers in Systems Neuroscience* 8, (2014).

[32] Derek Maher, "The Transformed Body in Buddhism," in *Transhumanism and the Body: The World Religions Speak,* ed. Derek Maher and Calvin R. Mercer (New York: Palgrave Macmillan, 2014) 31-32.

Living a longer life and improving the faculties of the human body are not important ends for Buddhists in and of themselves. Although it is true that enhancing technologies may help alleviate some of the suffering associated with human embodiment, the reality is that a longer life or a stronger memory do little to solve what Buddhists consider to be the root causes of suffering, namely, ignorance and craving. For Buddhists, these issues can only be solved through the adoption of the Eightfold Path, the Buddha's prescribed antidote to the problem of human suffering. Modifications to the state of the human body are not necessary for the cultivation of wisdom and compassion. Therefore, human enhancement via technology is not a key component of following the Eightfold Path for the Buddhist practitioner. However, this does not mean that human enhancement is entirely without utility, even in terms of Buddhist practice.

As part of the Eightfold Path, meditation is performed in order to bring about a self-transformation and to provide insight into the Four Noble Truths and the nature of reality. Meditation plays a key role in Buddhist practice and there are multiple forms, such as *samatha* (serenity), *vipassanā* (insight), and meditations on loving kindness (*mettā-bhāvanā*) and compassion (*karuṇā-bhāvanā*). Although these meditation techniques have a moral component, their effects on a practitioner are not just ethical. For example, scientific studies have found that meditation is correlated with observable changes in the brain structure of practitioners,[33] in addition to the number of other positive benefits that meditation provides, such as stress reduction and greater empathy.[34] Buddhist meditative practices not only have a positive impact on an individual's behaviour and mindset, but these techniques may be related to changes in the structure of

[33] Peter Vestergaard-Poulsen et al., "Long-term Meditation is Associated with Increased Gray Matter Density in the Brain Stem," *Neuroreport* 20, no. 2 (2009): 170-174.

[34] Monica Leppma and Mike Young, "Loving-Kindness Meditation and Empathy: A Wellness Group Intervention for Counselling Students," *Journal of Counselling and Development* 94, no. 3 (2016).

the brain. These scientific findings have led thinkers such as James Hughes to theorize that

> [i]f specific, consistent moral behavioral orientations [of] truthfulness, compassion, and so on can be identified, and our likelihood of manifesting them is strongly influenced by inherited genetic predispositions or persistent neurochemistry, then it might be possible to use future neurotechnologies to systematically make ourselves more truthful or compassionate. The use of neurotechnologies to consistently avoid vices and practice virtues would be useful in cleansing the mind of *kleśas* or mental impurities.[35]

Since meditation may have an effect on brain structure and is used in Buddhist practice as a way to cultivate compassion and virtue, then perhaps neuroscientists could develop ways to induce similar changes in the brain through other means, such as a neurological cybernetic implant or neuropharmacology.

Using new kinds of technology for the purposes of cultivating compassion and ethical behavior may be life changing for certain individuals and for society as a whole. Buddhist philosophy maintains that enlightenment and the cultivation of compassion and wisdom is theoretically available to everyone. However, it does recognize that different people are at different stages of development when it comes to moral development and their ability to renounce worldly life in order to pursue enlightenment. It is possible that one of the reasons some individuals struggle with moral development is neurological in nature. For example, certain individuals who have been diagnosed with antisocial personality disorder can display a tendency towards violent behaviours (and other behaviours considered

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[35] James Hughes, "Using Neurotechnologies to Develop Virtues: A Buddhist Approach to Cognitive Enhancement," *Accountability in Research* 20, no. 1 (2013): 38.

immoral) that causes these individuals trouble with law enforcement. Psychologists studying individuals with this disorder have found that they have noticeable differences in brain structure compared to the general population. One study found that individuals with antisocial personality disorder have reduced grey matter volume in areas of the brain that are associated with empathetic processing and moral reasoning.[36] These findings led the authors of this study to speculate that these differences in brain structure may contribute to the behavioural abnormalities that afflict individuals with antisocial personality disorder. Such findings, in addition to various studies on the effects of meditation, open the possibility that at least some of our moral and ethical actions may have a strong biological basis in the brain. If Buddhist meditation techniques can induce changes in brain structure (alongside positive cognitive and behavioural changes), then perhaps other means (such as pharmaceuticals or cybernetics) could achieve similar results, resulting in a radical moral transformation of humanity. As James Hughes argues:

> Buddhists may embrace future neurotechnologies to suppress unskillful impulses and behaviors, and to enhance our practice of the virtues. Depression and other mental maladies can be smoothed out, and [...] neurotechnologies may be seen as temporary spiritual training wheels, helping to create a solid foundation of moral behavior, concentration, and mental clarity.[37]

If such a foundation can be built with these technologies, then human-enhancement technologies may be viewed as another tool or method to assist an individual in following the Buddha's teachings. If these technologies can be used for promoting compassion and

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[36] Sarah Gregory et al., "The Antisocial Brain: Psychopathy Matters: A Structural MRI Investigation of Antisocial Male Violent Offenders," *Arch Gen Psychiatry 69, no. 9 (2012)*.

[37] James Hughes, "Buddhism and Our Posthuman Future," *Sophia* 58 (2019): 660.

virtues, then they could certainly be used alongside traditional Buddhist practices.

Thus, the goals of Buddhist practice and the aims of transhumanist ideology have some overlap. Both transhumanists and Buddhists aim to bring about self-transformation, though they seek to do so through different means. The Buddhist practitioner aims at mental and moral transformation whereas the transhumanist aims at physiological enhancement. These goals do not have to be mutually exclusive. As the Buddhist scholar Soraj Hongladarom points out,

> Buddhism is not completely opposed to human enhancement or increased lifespan. It is only opposed to performing these out of wrong or unwholesome motivations. When these technologies are used on humans for altruistic purposes, then they can do really good things for both individuals and their societies. The hard part lies in how to consider the use of these technologies for altruistic purposes.[38]

Buddhists may thus have no qualm in using human enhancing technologies for therapeutic purposes, or to eliminate human suffering, so long as the motivation behind this is for the benefit of other beings. Certain elements of the transhumanist project can certainly be used to benefit individuals and their societies. There is no reason per se why Buddhists could not adopt human enhancing technologies for therapeutic purposes or to assist with the cultivation of virtue and wisdom. New and emerging technologies—such as neurological implants, pharmacological intervention, or other alternative treatments—should not be ruled out for those who might benefit from their use, since moral enhancing technologies may prove to be life changing for certain individuals who would otherwise struggle with the cultivation of wisdom and compassion. For these reasons, the

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[38] Soraj Hongladarom, "A Buddhist Perspective on Human Enhancement and Extension of Human Lifespan," *Prajna Vihara* 16 (2015): 4.

Buddhist practitioner could accommodate elements of human enhancement and transhumanism into their practice, assuming they are conducive to the attainment of Buddhist aims. If these technologies lead others to become more compassionate, generous, and kind, then the world could certainly become a happier and more peaceful place.

Some Brief Criticisms

Buddhist ethics may permit human enhancement, but this is not to say that all transhumanist ideas are compatible with Buddhist philosophy. In fact, there are certain aspects that Buddhists would find disturbing. For example, even when it comes to human enhancement there are significant differences between the motivations of transhumanists for wanting these types of technologies. Many transhumanist thinkers want to use human enhancing technologies in order to make themselves better in an egoic way (such as clinging to their own existence), which Buddhists certainty would not endorse.[39] For Buddhists, there is a major difference between this and using human enhancing technologies in a therapeutic sense to ease the suffering of patients, or using neuroenhancement for the purposes of moral development and the cultivation of compassion.

In the case of futurists like Ray Kurzweil, many transhumanists are hoping that technology will reach a point where they will be able to upload their minds to computers to secure immortality in a digital realm or in a robotic body.[40] From a Buddhist perspective, these motivations are troubling because they demonstrate a serious attachment to the self, which the Buddhists argue is a hindrance that needs to be overcome. Wanting to put resources into preserving the illusion of the self would not only be a waste of time, but also highly

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[39] Hughes, "Using Neurotechnologies to Develop Virtues," 29.
[40] Kurzweil, *The Singularity is Near*, 198.

problematic, since this illusion creates barriers to wisdom and ethical action. Even if such feats become possible, the ability to upload one's mind into a robotic body or digital world would ultimately do very little to solve the existential condition of the being who desires to escape death through these means. Even if one's mind is uploaded and preserved for eons, the mortal being whose mind is uploaded will still have to face their own biological death. Hence, whether or not a digital replication of that being exists on a computer somewhere in the future, it will likely do little to aid an organic being in dealing with the inescapable fact of their biological mortality and all of its attendant existential anxieties. No matter what happens with the development of these technologies, impermanence afflicts all beings in samsara.

From a Buddhist perspective, it remains highly unlikely that human enhancement alone will be able to completely solve the problems associated with the human condition. Even if human beings become creatures that can live for thousands of years with incredible memories and unwavering compassion for all beings in a digital realm, they may still suffer from the delusions of selfhood, attachment to experience, and the constant craving for (re-)becoming. These technologies are unlikely to render the Buddha's teachings obsolete, hence before a Buddhist uses these technologies, they ought to ask themselves if the desire to use these technologies for radical self-improvement comes from a wish to alleviate suffering for oneself and others, or from a desire to be better than one's present self or others. Does the desire for a longer life or even immortality prevent one from recognizing the reality of the human condition and inhibit the cultivation of wisdom and compassion? These are questions that transhumanists with a Buddhist bent should be asking themselves when investigating whether or not these kinds of technologies will really bring about the salvation they promise.

There also remains the possibility that human beings will misuse these emerging technologies. Although transhumanists retain an abundance of optimism regarding humanity's ability to use

technology to build a better world, this optimism alone does not negate the possibility that the imagined transhumanist utopia could quickly turn into a dystopia. For example, promoting human enhancement to help people become more moral is one thing, but if governments or other powerful entities and organizations begin to force these sorts of technologies onto individuals who do not want them, society could easily move in a dangerous and illiberal direction. These technologies could be imposed on political dissidents or other social malcontents to forcibly change their values to those more in line with those of governments. People could be required to get certain technologies implanted into them in order to qualify for certain careers or be able to access services. Furthermore, if there develops an acceptance of altering individuals in these ways, then society could be willing to force these technological upgrades onto everyone, starting with children. While there may be good reasons for transhumanists to be optimistic about the future, these darker alternative outcomes should be enough to force acknowledgement that some real dangers do come with these technologies. Likewise, Buddhists ought to be concerned about the improper use of these technologies given the substantial amount of harm that the misuse of these theoretical technologies could cause.

Conclusion

The question remains as to whether or not it is possible to be both a Buddhist and a transhumanist; my answer would be yes, but with qualifications. Many of the fantastic claims that transhumanists make can seem outlandish or unrealistic. With the transhumanist project arguing for the imminence of sentient AI, cyborgs, and mind uploading, it can be easy to dismiss their claims and arguments as sounding more like the plots of science fiction stories than serious social or philosophical endeavours. But philosophers and scientists ought not to dismiss the claims of transhumanists on that basis alone. Rather, researchers and philosophers from various backgrounds should take

transhumanists seriously and engage with them, since they seem to honestly believe that the best way forward to help solve many of the problems associated with the human condition is through technology and humanity's ability to merge with it. Many of these transhumanists currently hold (and continue to gain) power in both technology and academic sectors, as the number of people holding transhumanist views is on the rise.[41]

Although transhumanism may at first glance appear to have little in common with Buddhist philosophy, there are many similarities. Both transhumanism and Buddhism recognize and present solutions to the problems associated with the human condition. The transhumanist hopes that one day they will be able to alleviate human suffering by using technology to transform bodies and minds. On the other hand, the Buddhist approach to the problem of suffering involves looking inward to understand the Four Noble Truths in order to bring about a self-transformation and the end of suffering through the Eightfold Path. Although these two approaches differ in terms of methodology, they aim at similar goals that do not necessarily conflict with one another.

For the transhumanist, human enhancement can reduce certain forms of suffering and help people to live longer and happier lives. Buddhist practices also aim at these goals along with the cultivation of compassion and wisdom. Moral enhancement and other forms of human enhancement technologies, such as those that increase lifespans, may be significant aids for individuals in practicing the *dharma* and may be potential tools to help cultivate virtue alongside traditional Buddhist practices like meditation. Buddhists have no reason to necessarily fear human enhancement because human enhancement could also be used to advance some Buddhist aims,

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[41] Zoltan Istvan, "A New Generation of Transhumanists is Emerging," *Interalia Magazine* 9 (2015).

including helping an individual cultivate greater compassion or improve meditative concentration.

As for some of the more fantastical claims made by the transhumanists regarding the possibilities of mind uploading or other ways to attempt to cling to and preserve individual consciousness and secure immortality in a digital realm, Buddhists have several reasons to object to and be skeptical of both the possibility of attaining such goals and the flawed psychology behind pursuing such ends. Although Buddhists and transhumanists have similar goals, both schools of thought offer a potential solution through very different means. A Buddhist can look forward to some technological developments from the transhumanists, should their visions of the future be realized. It is thus possible to be both a Buddhist and a transhumanist, and the methods involved with both schools of thought could be used to simultaneously bring about progress for humanity in the technological, spiritual, and ethical domains. Therefore, in the future, a Buddhist transhumanism could prove to be humanity's best bet to promote happiness and finally solve the problem of suffering for all sentient beings, whether biological, technological, or otherwise.

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