Transhumanism and the Meaning of Life

Anders Sandberg

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Transhumanism, broadly speaking,[1] is the view that the human condition is not unchanging and that it can and should be questioned. Further, the human condition can and should be changed using applied reason.[2] As Max More explained, transhumanism includes life philosophies that seek the evolution of intelligent life beyond its current human form and limitations using science and technology.[3]

Nick Bostrom emphasizes the importance to transhumanism of exploring transhuman and posthuman modes of existence.[4] This exploration is desirable since there are reasons to believe some states in this realm hold great value, nearly regardless of the value theory to which one subscribes.[5] Transhumanism, in his conception, has this exploration as its core value and then derives other values from it.

Sebastian Seung, an outsider to transhumanism, described it as having accepted the post-Enlightenment critique of reason, yet not giving up on using reason to achieve grand ends that could give meaning to life individually or collectively:

> The "meaning of life" includes both universal and personal dimensions. We can ask both "Are we here for a reason?" and "Am *I* here for a reason?" Transhumanism answers these questions as follows. First, it's the destiny of humankind to transcend the human condition. This is not merely what will happen, but what should happen. Second, it can be a personal goal to sign up for Alcor[6], dream about uploading, or use technology to otherwise improve oneself. In both of these ways, transhumanism lends meaning to lives that were robbed of it by science.
>
> The bible said that God made man in his own image. The German philosopher Ludwig Feuerbach said that man made God in his own image. The transhumanists say that humanity will make itself into God.[7]

Is this view correct? In what follows, I will show that Seung neatly summed up three strands of transhumanism: transhumanism as a way of improving one's own life (what I call "individual transhumanism"), transhumanism as a project dedicated to the betterment of humanity ("terrestrial transhumanism"), and transhumanism as a

project with the purpose of achieving the potential of life in the universe ("cosmist transhumanism").

By considering the possibility of creating or becoming something superhuman, transhumanism forces meaning of life questions to the foreground as engineering targets.[8] This leads to an interesting intersection between transhumanism and questions concerning universal values: how is the meaning of life understood in transhumanist thought? In the following, I survey thinkers in the three strands that I have identified and examine how they approach questions of meaning. In particular, I am concerned with how meaning can be constructed when the human condition, life or even the universe itself may become a cultural artefact.

Individual Transhumanism

The individual transhumanist story is typically described as ambition to live a life supported by enhancements in order to achieve better health and mental capacity, refined emotions, new abilities, longevity, and perhaps become a posthuman. People differ on whether this is merely about overcoming everyday limitations, becoming something akin to a Greek god, or an ambition to totally escape the human condition.

When informally asking self-described transhumanists on the extropy-chat mailing list[9] about their views on the meaning of life, the answers I received were for the most part firmly in a naturalistic subjectivist camp. For these transhumanists there was no supernatural world imbuing meaning to existence, but all believed that thinking beings can experience meaningful states – if only meaningful to themselves. In fact, many of the respondents were clearly existentialist in outlook. Some sample comments illustrate this point:

> OR: "We give our own meaning to life in the context of ourselves and our surroundings."
>
> BZ: "The meaning of life is... You decide."
>
> GP: "The question "what's the meaning of life?" assumes that there is a unique answer valid for everyone. But I don't think there is one. It's up to everyone to give meaning to their life."

Some were more theoretical, placing the question within a larger narrative. One respondent explained that the meaning of human life is to decide on actions based on perceived value. But there is a choice to improve this human decision-making function, which might be called acquiring wisdom:

> KA: "Now, if acquiring wisdom is the meaning of human life, then in transhumanism the goal could be stated as "acquire more wisdom than is currently humanly possible."

However, the respondents also clearly expressed many things they *experienced* as meaningful:

> GP: "I find meaning in being a small part of something very big - humanity on its way to become [sic] a cosmic civilization that will achieve the dreams of Fedorov and Tipler…"

One respondent privately pointed out that he regarded the greatest challenge in life as coming to terms with the limitations of life, including its finitude. He saw transhumanism, at least in its most radical forms, as an attempt to retreat from this existential challenge. This is not an uncommon criticism of transhumanism from outside, but it is worth noting that it also exists within the transhumanist community.

Religious Transhumanism

The naturalism of these responses is not surprising. A World Transhumanist Association (now named Humanity+) survey of members[10] found that 87% of respondents agreed that their "concept of 'the meaning of life' [was] derived from human responsibility and opportunity rather than divine revelation" and 93% agreed that they "expect[ed] human progress to result from human accomplishment rather than divine intervention, grace, or redemption." The majority (64%) of survey respondents were secular but there were notable religious minorities subscribing to transhumanism, including Buddhists, Christians and various self-described spiritual members.

Transhumanism is sometimes described as a religion but while it overlaps with religion in being concerned with escaping the current human condition for a more transcendent condition[11] and can share many metaphysical, soteriological and eschatological interests,[12] there are clear divergences both in practices (for example, the lack of transhumanist prayer) and underlying theory. Indeed, transhumanism in general may *lack* key parts of a belief system. Transhumanism might simply be in favour of a set of instrumental methods of achieving ambitious aims, but not provide any real value theory or purpose. While the more existentialist or postmodern transhumanists might regard this as a *merit* (since they are sceptical about objective values), many people see value as necessary for being able to live a meaningful life. Hopkins points out:

> If we take it as essential to religion that it provides some sort of ultimate answer for the meaning of life, as the World Transhumanist Association seems to in its statement, then transhumanism still isn't a religion. Transhumanists argue for the right to attempt to surpass the current limitations of human biology. They do not argue that this is a goal in itself, only that it is a condition under which other goals and experiences might be

> even more widely, permanently, or expansively pursued. Without some other meaning, goal, or belief, even a posthuman could sit around bored, depressed, or awash in angst.

Transhumanism can, however, be combined with a religious belief that holds its own values. For example, in a provocative essay[13] Micah Redding expresses a Christian transhumanist view that "Christianity *is* transhumanism. It's not just that they are compatible. Christianity is a distinctly transhumanist viewpoint that sprung up in the first century, and set out to reshape both the world and human nature." Humanity being divinely created for a purpose gives a meaning to human life: to do the works of God. In this perspective Christianity is a form of transhumanism that believes that divine power and grace are necessary 'technologies' of human empowerment and transcendence; the Christian transhumanist merely sees naturalistic technology as a useful complement.

Deliberately constructed transhumanist religious systems also exist. For example, the Terasem movement claims to be a 'transreligion': "a movement which can be combined with any existing religion, without having to leave a previous religion." This is similar to the view that transhumanism can be combined with many value systems; although just as for transhumanism there might be some compatibility problems. In fact, the Terasem core belief that "god is technological" and a future human-created entity makes it incompatible with most mainstream religions. From a meaning perspective it is explicit: "Life is purposeful: the purpose of life is to create diversity, unity and joyful immortality everywhere." Various technological projects are motivated from these core beliefs.[14]

While a meaning provided by an external system of belief might be emotionally satisfying, the potential arbitrariness is not philosophically satisfying. Hence some transhumanists dissatisfied with both subjectivism and traditional meanings have attempted to construct pure transhumanist concepts of meaning.

Extropianism

The ideas developed and spread by the Extropy Institute in the early 1990s influenced much of contemporary transhumanism. The Extropian Principles 2.5 state:[15]

> Extropy: A measure of intelligence, information, energy, vitality, experience, diversity, opportunity, and growth. Extropianism: The philosophy that seeks to increase extropy.

According to Max More, Extropianism aimed to provide "an inspiring and uplifting meaning and direction to our lives, while remaining flexible and firmly founded in science, reason, and the boundless search for improvement."[16] Note the psychological rather than ethical or teleological use of the word 'meaning': it is not a moral meaning derived from somehow breaching the is-ought boundary, but a sense

of meaning compatible with what is. This is very much in line with Seung's diagnosis.

However, further down in the manifesto this meaning becomes linked to a more explicit notion of global progress:

> Extropians recognize the unique place of our species, and our opportunity to advance nature's evolution to new peaks. Beginning as mindless matter, parts of nature developed in a slow evolutionary ascendence, leading to progressively more powerful brains. Chemical reactions generated tropistic behavior, which was superseded by instinctual and Skinnerian stimulus-response behavior, and then by conscious learning and experimentation. With the advent of the conceptual awareness of humankind, the rate of advancement sharply accelerated as intelligence, technology, and the scientific method were applied to our condition. We seek to sustain and quicken this evolutionary process of expanding extropy, transcending biological and psychological limits into posthumanity.

The reasons why this is desirable depends on one's interpretation of extropy. If one sees evolution as a meaningful and value-creating process, then supporting it is desirable. Even if evolution is not itself meaningful it may create things or states of value, and hence amplifying this ability to evolve would be meaningful and enable deeper exploration of the posthuman realm.

While the above section speaks to progress on a species level, the Extropian Principles largely dealt with individual growth and societal progress.[17] Extropianism as described in the principles does not include an explicit notion of the meaning of life, but its clear emphasis on intelligence, wisdom, effectiveness, creativity, removal of limits to self-actualisation and autonomy is not far from a naturalist objectivist or hybrid account of meaning.

Enhancements and the Meaning of Life

Most of the bioethical debate about human enhancement has not centred on meanings of life. Instead, it has focused on the permissibility or desirability of enhancements using bioethical principles of autonomy, justice, welfare and risk of harms. As often noted the term 'enhancement' implies some kind of value scale, but a value scale is itself not enough to provide meaning. Top-down arguments from a meaning of life to enhancement permissibility/desirability are rare, perhaps because of the reluctance of postmodern academia to engage with "great stories" that provide an overarching explanation of life or give universal moral principles. The closest the debate gets to meaning is usually considerations about human dignity and discussions of under what conditions enhancement could rob a human life of meaning.[18]

One area where enhancement discussions run in parallel with meaning of life discussions is life extension. Arguments that immortality would make life meaningless often hinge on the fact that the finitude of life somehow imbues it with meaning.[19] Besides causing problems for theists hoping for everlasting life,[20] they have problems with the arbitrariness of the length. While one can argue that certain lifespans are too short or too long, the actual length does not matter for the finitude argument. That means that even eon-long lifespans can be meaningful, since they are still finite. In fact, our current understanding of the universe does not allow for truly indefinitely long lifespans: even a non-ageing entity with multiple dispersed backup-copies will eventually have to face the heat-death of the universe or a case of bad luck.

A somewhat related argument is that indefinite lifespans would become boring. This is used both in bioethics and in discussions about the meaning of life.[21] However, leaving aside the empirical question whether this has to be the case for all people, it is not clear that a boring life is meaningless. There is a host of arguments that happiness may not be the necessary or sufficient condition for a meaningful life (consider Nozick's experience machine). Similarly a boring life might still be meaningful. Many important tasks are dull yet ought to be done: some such tasks might even be of indefinite duration.

Conversely there is Leo Tolstoy's argument[22] that in order for life to be meaningful there must be something worth doing, but actions with impermanent effects on the world do not eventually matter, so for life to have meaning it requires some ability to have permanent effects. This is sometimes seen as an argument for an immortal soul (or God's eternal remembrance).[23] However, transhumanism can claim that the argument merely shows that we should aim for an infinite lifespan: souls may not be needed. Indeed, one could see it as an argument for why we *must* strive for vastly extended lifespans and expanding into the universe for our lives to have any meaning. Transhumanism might be what enables us to lead truly meaningful lives in a physical universe.[24]

Terrestrial Transhumanism

The terrestrial transhumanism story is a story about humanity, or perhaps our own current civilization. A typical version is expressed as a story of technological progress, either occurring automatically or as a result of deliberate effort, leading to a series of human condition-changing technologies, e.g., life extension, cognitive enhancement, nanotechnology, artificial intelligence, brain-computer symbiosis, whole brain emulation, space colonization. In any case, the new technological capabilities enable humans to become enhanced transhumans and eventually posthumans, beings largely liberated from the constraints imposed by natural evolution. Ray Kurzweil[25] and Hans Moravec[26] are well-known exponents of this form of transhumanism. In the following I will look at three thinkers influential

inside transhumanism and how they approach the meaning of life from the species level.

In *Man into Superman* R.C.W. Ettinger, the father of cryonics, argues for human enhancement and faith in technological progress, but almost as an aside delivers a theory of the meaning of life:[27]

> At last one of the central questions can be dealt with: What is the purpose of life? Answer: To discover the purpose of life. This is not a play on words, but a recognition of the obvious truth that since ultimate answers are not within view we must make do, for the foreseeable future, with uncovering and pursuing a succession of intermediate goals, and that this requires a program of growth and development.

Given the need for long-term empirical research and the likelihood that mere human intelligence is not enough, we need to develop human enhancement just to do our proper work.

This view is echoed in some of Nick Bostrom's work. Basically, the deep problems of philosophy have shown themselves to be very hard to solve, and we should expect that they will remain unsolved for a long time (requiring life extension if we are keen on learning the answers) or they will not yield at all until we can develop minds (posthuman or artificial) smart enough to handle them. In either case, we should focus on earlier and perhaps lesser problems that allow us to get to this state, such as life extension or cognitive enhancement, but also reducing existential risk so that we have a future where they can be solved. In this case transhumanism is merely instrumental for finding out what the real, non-instrumental values are.

David Pearce takes a strong hedonistic and negative utilitarian stance, arguing that pleasure is the real (multidimensional) value and pain the real-disvalue. Focusing on reducing pain, his abolitionist project aims at eventually eradicating aversive experience – first from humans, later from all sentient life. This requires a fairly deep neural restructuring of the motivation system, but is intensely worthwhile. The very nature of pain makes it something to avoid, and intelligent beings have the power to save themselves from pain as well as a moral obligation to save other organisms too.[28] The abolitionist approach exemplifies the species-independence of much philosophical transhumanism. What matters is the lives of sentient beings, not what kind of beings they are or what relationship they hold with humanity.

Pearce does not, however, speak of this project as conveying a meaning of life. In his writings meaning is very much a non-propositional feeling, and hence also amenable to enhancement like other feelings:[29] "Authentic happiness" doesn't need to be strived for. Like a sense of meaning and purpose, it can be innate." He notes that depressive and unmotivated "healthy" people find life meaningless, absurd or

futile, while hyperthymic or hypomanic people tend to find life intensely meaningful. By enhancing happiness we can enhance meaning: "If our happiness is taken care of - whether genetically, pharmacologically, or electrosurgically - then the meaning of life seems to take care of itself."

Elizer Yudkowsky is an interesting case of an influential transhumanist whose thinking about meaning has strongly evolved over time. Starting from I.J. Good's "intelligence explosion" idea,[30] Yudkowsky became a strong proponent for technological singularity and the benefit of constructing AI (artificial intelligence) to reach it as soon as possible. In his earliest writings the motivation for striving towards the singularity is to solve the world problems (including rising existential risks) through superintelligence.[31]

Seeing the situation as the practical engineering problem of triggering an intelligence explosion, he set out to discover a solution and promote the approach. This soon led to a version of the discovery motivation for enhancement, the "the interim meaning of life" being to create superhuman AI. He developed a formal argument that even an artificial intelligence with no given goals would also deduce the desirability of finding out what was meaningful to do.[32]

However, at this point the project of pursuing powerful AI began to run into trouble. A superintelligent entity is supremely able to achieve its goals, but there is no guarantee that it will have human-friendly or even sane goals.[33] Yudkowsky recognized that designing AI is hence not just a matter of achieving great intelligence that can grow, but also inserting goals or values that make it safe and human-friendly.

The "friendly AI" project can be seen as an attempt to figure out how to design a "god" that has positive properties. It turns theist assumptions around: not only would god be created in the image of humans, but the values it embodies would be defined by humans. As contributors to the research have found, this leads to profound ethical and logical problems. Indeed, his lasting legacy may be to have open a fruitful field between ethics and theoretical computer science.

When Ray Kurzweil suggests solving the problem by teaching AI the golden rule,[34] he assumes that this will unfold into a proper morality rather than the AI choosing to interpret it simplemindedly like a child would. However, as the friendliness researchers have shown, converting human-type values and instructions into code or instructions is exceedingly hard. Even a correct moral system might have a flawed implementation, and we should not be too confident that we even have the right starting point.[35]

As "friendliness" was explored it became increasingly clear that one of the key problems was that human value is complex, fragile and hard to articulate, let alone formalize. At present Eliezer's tentative conclusion about meaning is "fun

theory",[36] essentially a sprawling analysis of human value and enjoyment. We know many things about what makes lives generally go well, yet formalizing all of it into a computable package is troublesome. At its core the theory is utilitarian, but acknowledging the possibility that neat, compact theories of value might be impossible.

Meaning for Posthumans

Does a posthuman have the same meaning of its life as a human? We might impute that posthumans might have experiences and modes of cognition that we cannot conceive of, yet bear on a meaning of life for them. Either (1) humans have reached some form of philosophical, cognitive or emotional threshold to experience or perceive the meaning of life and posthumans will also agree on this meaning, (2) posthumans will have a different kind of meaning of their lives than humans, or (3) only posthumans (but not humans) are able to live truly meaningful lives.

If posthumans have a different kind of meaning than humans, then there may be no human meaning-related reason for humans to want to become posthumans. If only posthumans have meaning, then the best humans can aspire to in terms of meaning is to become posthuman enough to perceive for what they then need to strive.

It is worth remarking here on the contested links between Nietzsche and transhumanism. Nick Bostrom explicitly rejected any deeper connection than found in superficial quotation.[37] However, while there are differences between Nietzsche's philosophy and transhumanism, Stefan Sorgner showed significant overlap between them.[38] Max More explained how Nietzsche had influenced his own development of extropianism.[39] The eternal return is very different from the progressive view of transhumanism, and Nietzsche would not have approved of the utilitarian branches of transhumanism. But as Sorgner points out, Nietzsche can also provide a meaning to transhumanism through his concept of the overhuman:

> The overhuman represents the meaning of the earth. The overhuman is supposed to represent the meaning-giving concept within Nietzsche's worldview which is supposed to replace the basically Christian worldview. It is in the interest of higher humans to permanently overcome themselves. The ultimate kind of overcoming can be seen in the overcoming of the human species, and whoever has been keen on permanently overcoming himself can regard himself as an ancestor of the overhuman. In this way, the overhuman is supposed to give meaning to human beings. It is not a transcendent meaning but an earthy, immanent one which is appropriate for scientifically minded people who have abandoned their belief in an after world.

If one identifies the overhuman and posthuman with each other, then a Nietzschean transhumanist would indeed find meaning in life by aiming to become at least the ancestor of the overhuman/posthuman. Loeb has argued that this requires affirming

eternal recurrence (which also provides a peculiar solution to how to achieve infinite consequences and hence meaning)[40], while Sorgner and More seem open to a more selective reading. This can be contrasted with Bostrom's neutral definition of transhumanism as merely a chance to explore the posthuman realm. While there might be great value 'out there', it does not necessarily produce a strong individual obligation to explore it.[41] A utilitarian ethics is still needed to make a search meaningful.

Existential Risk

While often seen by outsiders as naively optimistic, many transhumanists tend to emphasize that the future may be more *extreme* than is commonly thought. While there might be posthuman states of great value, there are also potential existential risks threatening futures with no or extremely negative value. Insofar as we can influence what future we might reach, we may have a *far* greater moral responsibility than is commonly envisioned because the stakes are higher.[42]

The existential risk issue is not so much an issue about the meaning of life as it is an issue about the prevention of the loss of meaning. If humanity becomes extinct, at the very least the loss is equivalent to the loss of all living individuals and the thwarting of their individual goals. But the loss would likely be far greater: extinction means the loss of all future generations (even modest assumptions lead to an astronomical number of future lives[43]), all the value they might have been able to create, and maybe the meaning generated by past generations as well. But it is also possible to argue that value requires a valuer. If consciousness or intelligence is lost, it might mean that value itself becomes absent from the universe.

The immortality discussion earlier in this chapter can be applied here regarding the mortality of the human species. On one hand, the Tolstoy argument suggests that unless our species persists indefinitely (perhaps evolving into new things) there is no meaning to its current existence. Species matter because they are parts of the tree of life, leading to new forms. Pro-finitude arguments would on the other hand lead us to not wish to prolong the stay of our species on Earth. However, when applied to humanity as a whole the counterpart to boredom would be stagnation, and the counterpart to giving space for new people would be to leave space for new species. These arguments merely show that we should wish for more evolution and eventual replacement, not that our *lineage* ends.

The Simulation Argument

Nick Bostrom's simulation argument is that unless the human species goes extinct before becoming posthuman, there will emerge capabilities to run enormous numbers of historical simulations including virtual people. So unless posthuman civilizations are extremely unlikely to run a significant number of simulations (either because of impossibility or some extremely strong and unlikely consistent unwillingness), there will be a vast number of simulated people, far greater than the

number of real people. So we are almost certainly going to be living in a computer simulation, at least given common transhumanist assumptions.[44] How does extensive simulation affect the meaning of life?

Simulation may give a purpose to our world, but that does not necessarily give a purpose to individual life. Only simulations created for the purpose of having inhabitants with lives worth living can be said to give some purpose to their lives. But in this case the simulated lives only have the same meaning (i.e. to have a life worth living) as lives in the outside universe.

Mere teleology may not always give meaning, just as noted in the philosophical debate about what objective factors would give human life meaning. The hybrid view of meaning argues that meaning arises when one does projects that are judged to be worthwhile and actually *are* worthwhile.[45] Caring about things that are not worthwhile or failing to see the importance of what one is doing can preclude meaning in one's life. A worthwhile simulation does not mean that simulated lives have meaning. They did not have a choice to participate, they do not know about it, and the value of the simulation might only relate to something existing outside it.

How would thinking we live in a simulation impact us? Hanson suggests that, given typical human desires, we would live more for today (since the world could be shut down at any moment), care less for other people, aim to be entertaining and praiseworthy, mingle with famous people, and participate in pivotal events.[46] If we had a better idea of what the creator wanted to achieve, other behaviours might be more appropriate. Insofar that the creator of a simulation is morally responsible for the behaviour of the beings inside, there is a moral obligation for the creator to give the right information to the simulated people in order for them to behave well and to minimize their suffering. Running simulations with sentient inhabitants poses significant ethical problems.[47] In a sense this is a theodicy problem, but there is no assumption in the simulation argument the creator is omniscient or benevolent.

A directly theological take on the simulation argument is offered by Eric Steinhart.[48] In his somewhat neoplatonic approach, Steinhart suggests that the ultimate simulator of a set of nested simulations should be regarded as God who acts as the ground of being. He posits an aesthetic theodicy, where the suffering and evil inside the simulations is vindicated by the overall creative aim:

> Why are we being simulated? And why are there any simulations rather than none? We have three answers: at every level, the designers are interested in the evolution of complexity; in knowledge; and in dramatic beauty. Obviously, these three concepts overlap. They share a common core. It's reasonable to refer to this common core as *interestingness*. … At the risk of

> sounding circular, the simulationist can say that we are being simulated because every creative intelligence is *interested in interestingness*.

Evolution of complexity, knowledge and dramatic beauty sounds suspiciously similar to extropy. In this case the goal of the whole project is worthwhile interestingness, and all intelligent entities should both find the whole worthwhile and experience interest in their own worlds and the simulations they run, so here there would indeed be a meaning of life.

Cosmist Transhumanism

The cosmist transhumanist story occurs at the largest scale: first life, then intelligence, emerges on Earth. Intelligence becomes technological, masters the natural world, and eventually begins to colonize space. As intelligence spreads it converts resources in its environment into things of value to it: both instrumentally useful tools for further expansion and protection (spacecraft, backups), and also intrinsically valuable things, such as biospheres, cultures, or minds.

The expansion is essentially unlimited. A civilization that has learned to use standard astronomical resources has a vast amount of material available. If it is able to make the jump over interplanetary and interstellar distances once, it can repeat it. Even inter*galactic* jumps are likely feasible to a civilization that can spread between the stars.[49] There is likely no intrinsic limitation on the scales of activities of technological civilisations beyond those imposed by the laws of nature and available resources.

The cosmist view is about physics. Dead matter is metastable and can, under the right conditions, convert to a different organisation (i.e., life/intelligence). Just as super-cooled water freezes outward from a seed ice crystal, if intelligent life emerges anywhere it is likely to nucleate a "technosphere" bubble where matter is reorganised according to the dictates of mind.

The cosmist story has multiple endings. One ending is that the entire universe becomes intelligent, i.e., "wakes up" as per Kurzweil.[50] Another scenario envisions intelligence becoming increasingly interconnected and coordinated, ending in a single super-mind or super-social organisation.[51] In either case the intelligence-dominated universe will be filled with minds protecting life and intelligence, controlling the contents of the universe in order to survive or reach unification.

Mere matter lacks inherent value and meaning, whereas life and mind have potential for meaning. The expansion of life into the universe and the gradual conversion of matter into mind can be a way of providing the universe with meaning.[52] Is spreading life meaningful? While there are theories of value wherein objects have intrinsic value even when never observed, value is typically assumed to require someone or something that values. While human observers are the usual

example, it is not hard to imagine that at least some form of valuing is done by other life forms. In the future, software and other artificial systems may also be valuers. Most of these entities do not simply passively measure value but are agents; their actions can be best described as attempts to increase value as they understand it. Some systems have enough internal degrees of freedom to learn and change their value estimates and action patterns, in some cases as deliberate internal actions (in which case we may even call them moral agents). In this account, systems are able to experience value and act to increase it. If there is some true value and these systems converge towards seeking it, they would increase true value in the world. If value is agent-relative or instrumental, agents could potentially (but not necessarily) increase the amount of subjective value. Conversely, a universe with fewer valuers has less potential for a drive towards more value (unless the value lies in no *deliberate* change). So there seem to be at least some *prima facie* reasons to believe a universe rich in life and mind to have more value.

Besides the potential for adding value, there is the potential for creating diversity. Living beings are foremost contingent, individual and shaped by a unique life story (and evolutionary path) that make them impossible to recreate if they are lost. As expressed by Ramez Naam[53]:

> We are, if we choose to be, the seed from which wondrous new kinds of life can grow. We are the prospective parents of new and unimaginable creatures. We are the tiny metazoan from which a new Cambrian can spring. I can think of no more beautiful destiny for any species, no more privileged place in history, than to be the initiators of this new genesis.

Cosmist expansion is a way of responding to our apparent insignificance.[54] We may be small and contingent, yet potentially important by triggering the great Cambrian explosion of future species.

Edward Abbey famously wrote "Growth for the sake of growth is the ideology of the cancer cell."[55] Might not this focus on growth and progress lead to devaluation of what we have, and destabilization of the natural world? Even if interstellar expansion is begun for the best reasons, evolutionary pressures might promote a mode of expansion where nearly all resources are devoted to rapid expansion rather than creating value.[56] But growth is also the ideology of the orchid. Replicating and evolving systems tend to fill their niches, use the available resources and constantly poke the edges. The problem with growth is when it causes loss of value, typically seen as loss of diversity, intrinsic harmony or long-term sustainability. So spreading life into the universe could be a great boon. The vast scales in space, time and environment types lead to diversity, and interstellar life would have a chance to outlast the inevitable end of Earth's biosphere.

Our real stewardship might be in avoiding early existential risk that threatens the cosmic blossoming, and in preventing pathologies from burning away value.

Both would require coordination *before* we leave our earthly seed site, turning the cosmist possibilities and risks into an issue for present generations. As Yudkowsky put it[57]:

> If you occupy the incredibly rare and leverage-privileged position of being born into Ancient Earth, the origin of all life… Your most fundamental responsibility as a *Homo sapiens* is to the process whereby the reachable universe is converted into QALYs[58].

Universal Immortalism

Nikolai Fedorov ranks as one of the pioneering and perhaps most original forerunner of transhumanism. A Russian philosopher, he formulated a bold worldview based on slavophilia, orthodox Christianity and belief in science.[59] In his system the core problem is the disunity and lack of love among people. His solution is the doctrine of kinship; we must strive to reach the kind of unity a loving family (and the trinity) embodies. This includes not just brotherhood with our present peers, but also lineage kinship where parents care for their descendants, and they in turn acknowledge their debt and gratitude. In order to unite humankind a great project is needed, the "Common Task" that all people can agree on. This involves regulating nature and perfecting it, the colonization ("spiritualization") of the universe, improving the human body, and the eventual resurrection of the dead. This is a task of completing creation entrusted to humanity by God.[60]

Fedorov's cosmism appears to have influenced many notable intellectuals, including Tolstoy, Dostoyevsky, and Tsiolkovsky.[61] Tsiolkovsky founded the space movement, contributing to the shedding of its theological components and to it becoming a manifest destiny of spreading life and intelligence across the universe.

Hans Moravec speculated about future computers being powerful enough to generate history simulations (partially motivating the simulation argument) that could be used to reconstruct past people[62]: "Resurrecting one small planet should be child's play long before our civilization has colonized its first galaxy." The computational requirements do appear feasible given known physics[63], although they would require computing on a literally planetary scale. In addition to resurrecting historical people, possible people would (and maybe should) also be given the gift of life.

Several transhumanists, such as Mike Perry, have gone from possibility to ought. Since life, lived well, is an end in itself, it should be extended.[64] He outlines a moral case for life extension, cryonics and universal immortalism. This is a naturalist objectivist concept of a meaning of life, but clearly aligned with Fedorov's Common Task[65]: "The immortalization of humans and other life-forms is seen as a great moral

project and labor of love that will unite us in a common cause and provide a meaningful destiny."

Omega Points

Many transhumanists consider the possibility of God or gods emerging through a naturalistic process. Superintelligent AI or posthumans may appear god-like to humans, but where is the *upper* limit? Ray Kurzweil suggests that intelligence will spread and awaken the universe, producing something akin to a pantheistic deity in the future.[66]

The most extreme form of both universal immortalism and life taking control of the universe is represented by the Omega Point cosmology of Frank J. Tipler,[67] who borrowed the term from Teilhard de Chardin.[68] Tipler describes a scenario where intelligence expands across the universe, gains control over most matter and energy, and during a future phase of cosmological implosion exploits these to maintain its order and structure, ultimately achieving *infinite* information and processing power.

In its original form[69] this was an exercise along the lines of Freeman Dyson's classical 1979 paper[70] that laid the groundwork for 'physical eschatology,' i.e., the study of the future evolution of the universe based on known physics. Physical eschatology looks at the long-term survival of structure and analysis of what roles life and intelligence may play in the various large-scale scenarios.[71]

Tipler's scenario soon took on a distinctly theological character. The Omega Point moved beyond a limited state of infinite information and processing power and took on the character of God. Tipler argued that the Omega Point will be a benevolent time in which all the dead are resurrected, producing an endless virtual afterlife. The Omega Point was also defined, in his physical theology, as the boundary condition of space-time. In a very real sense it was understood as the future physical *cause* of the universe. While individual beings had free will their actions would eventually lead to the emergence of the Omega Point. Universes where this failed would be self-contradictory and hence have zero probability of occurring. Acting to bring about the Omega Point is the meaning of the world.

Omega Point theology has been rather coolly received among physicists and theologians, in some cases leading them to take the whole physical eschatology program to task for Tipler's excesses. For example, why does the boundary condition have to be benevolent infinite information rather than (say) zero information? The theory also had the fatal problem of requiring a closed universe; observations have now demonstrated an accelerating open universe where this particular model of infinite information processing will not work. Nevertheless, the Omega Point, while not something many transhumanists believe in, could be something we might eventually aspire to at least *approximate*.

Conclusion

Transhumanism does not have a unified theory of the meaning of life, but certain themes recur again and again, linked to the different strands.

While individual respondents tended towards subjectivism, transhumanist theorists have often approached meaning from a hybrid view: there are objective values or goals that can make transhuman life meaningful, and there is a great deal of individual subjective choice in setting goals and determining how to reach them. Typical objectives are reducing suffering and unnecessary limitations and achieving well-being, wisdom, life, diversity and an open future. While not unique to the strand, this is the most common approach within individual transhumanism.

The idea of "doing God's work" in perfecting creation or humanity shows up repeatedly, both in an explicit theist context and in secular versions. The secular versions recognize how nature has produced value-experiencing beings that are now beginning to be free and powerful enough to direct further change in a value-creating direction. The scepticism of transhumanism both towards traditional philosophy and our ability to solve problems with merely human reason also lends itself to the interim goal of becoming able to fully discover meaning by creating greater forms of intelligence. This provides a meaning for the ambitions of terrestrial transhumanism.

Finally, in the cosmist strand, the Tolstoy argument about infinite lasting consequences can be applied to posthumanity: if we can bring about the enormous future envisioned, our lives will at least instrumentally have meaning. Even if this future is finite it may be immeasurably larger than any ordinary future, and this still makes the pursuit meaningful. The transhumanist, whether secular or theistic, is embedded in a meaningful worldview unique because of its enormous ambition and scope. It attempts to link our current microscopic state with the grandness of the universe unveiled by modern science. As the universe becomes vaster, the transhumanist will experience meaning as *increasing* rather than decreasing.

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I wish to thank the participants on the extropy-chat mailing list for responding to my queries – and once upon a time, in the early 1990s, setting me on the path towards philosophy.

[1] Transhumanism is not a doctrinal movement or philosophy. In this chapter I will hence use transhumanism in a broad sense of thinkers that agree on the changeability of the current human condition, rather than in the narrow sense of people calling themselves transhumanists.

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