

**Julie Angarone**

**Professor Kimmelman**

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**The Consciousness Of Humanity:  
Why Disembodiment Of The Mind Will Fail**

**Introduction**

Technology is exponentially increasing our ability to understand the world and ourselves. It has not just infiltrated science and our quest to learn absolutely everything, technology has also found a niche in entertainment. Entertainment and science are coming together as virtual reality gains popularity in the gaming industry. However, it is the scientific side of virtual reality and artificial intelligence that is leading us down untrodden paths enroute to discovering the intricacies that make our own brains function. Virtual reality and artificial intelligence are combining to form what is being referred to as a “virtual environment” or “artificial reality” which will take humans beyond their current states of being into an unnatural but perhaps preferred plane of existence with the intent to bypass or reinvent evolution in order to cheat mortality by finding the hypothetical Holy Grail in which the disembodiment of human consciousness into a virtual environment will result in a “Neo-Realism,” free from disease and even death; yet it is my position that not only will disembodiment be rejected by the general population who will be unwilling to trade their physical life for an omniscient immortal existence, but also consciousness, as we know it, cannot be duplicated or simulated, and neither can it exist without the carbon-based life form that exists today in human form, and therefore disembodiment and Neo-Realism will ultimately fail.

I will begin my argument by demonstrating characteristics of virtual reality - including its limitations - and continue with an introduction to artificial intelligence, where I will show that artificial intelligence has evolved from imitating human abilities to attempting to reverse engineer the brain. I will then explain that the ideal artificial intelligence will complement virtual reality by adding the necessary element of unpredictability. Raymond Kurzweil details the computer processing power needed to emulate a human brain and shows how humans have already succeeded in generating enough of this processing power to simulate the processes of the human brain (“The Singularity is Near” 122). In this paper I will show how that processing power is making the combination of virtual reality and artificial intelligence form a new technology called a “virtual environment” or “artificial reality”. In *The Age of Intelligent Machines*, Raymond Kurzweil likens intelligence to evolution and evolution to intelligence (18-20). I will explore various theories to describe how evolution continues to play a part in our intellectual capabilities and how we are using principles of evolution to understand how our intelligence has evolved. Such an understanding of evolution is necessary to go the distance in becoming creators of intelligent, albeit silicone-based, “life”. If we are ever to be able to create intelligent life forms we must have a complete understanding of intelligence and consciousness. Robert Pepperell feels that it is impossible to know everything, for if there was even one tiny thing that we do not know or that we think we know but are incorrect about, then we have failed (31). I will agree with Pepperell’s reservations. Then I shall visit the theoretical ability to disembodiment the brain. From there I explain that the drive to accomplish disembodiment is actually the desire to increase longevity, even to the point of immortality. I will show how disembodiment will join

with artificial environments and create what I call Neo-Realism. According to Pepperell, consciousness is a global effect, a result of the existence of all the processes in the body (100). Therefore I will contend that disembodiment and Neo-Realism will be unsuccessful, as I show that consciousness is not limited to the cranial cavity, and therefore cannot realistically be duplicated or simulated.

### **Virtual Reality**

Since the very beginning of theater in ancient Greece, the audience makes an agreement when they come to watch the entertainment. The audience agrees to pretend. They pretend that the props are real enough to imagine that they are watching a scene from a different place and time. They agree to believe that the actors are feeling the emotions they are portraying. Currently virtual reality users need to make that same agreement. They need to pretend that what they are doing is real. They need to agree to forget they are wearing awkward gear. They need to pretend that the colors and shapes and sounds in the video game atmosphere of virtual reality are really part of a different world. Only then can the users enjoy the virtual reality experience (Pimentel and Teixeira 154). According to opponents of virtual reality, reality is the physical world that we notice by way of our senses. Through our eyes, ears, nose, tongue, and skin we experience the real world (Heim, 37).

Virtual reality attempts to mimic reality through tricking the senses. It works by eliminating all outside influences. Sight and sound are found in a helmet that includes screens and speakers connected to a computer. Similar to blinders that have been used for centuries on horses to keep away distractions, the helmet not only thrusts the wearer

into a different dimension, it also keeps the outside world from interfering. The sense of touch is found in gloves, or a full body suit that sends and receives feedback from a computer. These accessories simulate tactile experiences. This quasi-immersion works because humans are essentially “spatial creatures” who use their senses to, above all else, locate themselves (Pimentel and Teixeira, 152). Virtual reality takes advantage of this human trait by immersing the senses in a new environment.

Virtual reality is “a science, a technology, and a business, supported by significant funding from the computer, communication, design, and entertainment industries worldwide” (Rheingold, 17). Such a diverse group of supporters for a technology is distinctive. Each has their own reason for being interested. Virtual reality has the potential to influence each group in different ways. Doctors can use virtual reality to practice delicate procedures. Pilots can be trained in virtual reality systems rather than incurring the expense and danger of real flying. Design and entertainment industries look to capitalize on the new technology by making their current life blood of video gaming and movies more credible and marketable. While these purposes are of a positive nature, for the most part, they could be leading the way to a more ominous future.

Even though the possibilities of virtual reality are astounding, it needs another layer of sophistication in order to be more believable and rise to the next level. Virtual reality needs intelligence. If intelligence is, “effectively perceiving, interpreting and responding to the environment,” (Bennet) then virtual reality must include an intelligent response from the environment. For example, if the user in the virtual environment throws a ball at a wall or at a pool of water, he or she expects a specific sound. An intelligent virtual environment will make the expected sound. A designer of a pure

virtual reality system is not necessarily capable of allowing the environment to intelligently respond to every whim of the user. Intelligence implies the ability to act and react independently of any driving force. In the case of virtual reality, the environment needs to respond independently of the predetermined set of routines programmed by a person with their own ideas of what the fantasy should include. That is where artificial intelligence must come in to complete the illusion.

### **Artificial Intelligence**

Humans have all but proven that every single phenomenon can be measured and computed (Woolley 119). Hurricanes, for example, previously a mystery, an act of God that could not be avoided, are now discernable on radar and their paths can be projected with a high degree of certainty. Science has come a long way.

Artificial intelligence seeks to prove that all human brain activity is computable, definable, and reproducible by a machine created by none other than humans. Artificial intelligence started out in one direction and is now working from a different angle. Early artificial intelligence worked on logic. Current artificial intelligence looks to reverse engineer the brain, by first mapping its functions.

Benjamin Woolley describes science as the explanation of the material world; the mapping of the laws of nature that are taken to be unequivocally true. Science studies material. The laws of nature, as discovered by science, apply to material, while consciousness and mental capabilities do not follow the same rules. The human brain has free will to make decisions (Woolley, 101). Artificial intelligence started out trying to mimic human functions. The Turing Test, for example, sought to show that a machine

was intelligent and could think; instead it proved that a machine could be programmed to mimic human traits. Deep Blue, the machine that beat the world champion chess player Garry Kasparov in 1997, used logic and calculations. It is worth noting that Kasparov won 2.5 of the 6 games in the match (Pein), so Deep Blue was not infallible after all. Deep Blue was built to mimic a human playing chess, a very specific purpose with a specialized function. Lately though, artificial intelligence scientists have switched their focus from building machines that mimic human functions, to mapping the complexities of the physical brain. Apparently it is easier to program complex calculations involved in such things as calculus, than it is to teach a computer or robot things that little children naturally learn and discover as part of their normal development. For example: a block is square, but it can also be hard, and it can also be smooth, but it also has corners. This diverse description of a block, taken as common sense by adults, but perhaps very involved in growing a brain, is not as easy to program as a complex mathematical equation. In fact children learn such things in different ways and at their own pace (“The Age of Intelligent Machines” 216). If science can succeed at reproducing the complexity of the brain with the millions of neurons and the folded gray matter, the resulting entity, a robot with a computerized brain perhaps, might be capable of actually thinking (Woolley, 110). In this way, computers will be able to simulate intelligence rather than simply imitate it (114) and the resulting artificial intelligence could be used in virtual environments by intelligently acting, reacting, and responding to user interaction. In spite of this, Woolley is skeptical about the possibility of reproducing human intelligence as well as human consciousness. In fact, he feels that the efforts being spent on creating artificial intelligence are futile in that neither intelligence nor consciousness can really be

measured or defined despite the claims of those who swear by IQ tests (119). To that end, perhaps human intelligence and consciousness cannot be “created” by humans....but a different, undetermined, unimaginable, level of consciousness might emerge in its stead.

Backing up a bit, one of the most important steps in creating artificial intelligence is to first determine what intelligence really is. Kurzweil believes that intelligence can be broken down into the ability to recognize patterns – a phenomenon that is innately human and yet easily programmable into a computer. He further defines intelligent processes as a combination of “intelligent and unintelligent processes influencing each other.” Kurzweil gets around this apparent self-referencing definition by saying that intelligent processes build upon intelligent processes in an infinite string of intelligences. The only way out of the intelligence strings is to assume that the lowest level of processes is an unintelligent process (“The Age of Intelligent Machines” 145).

Kurzweil notes that our current rate of progress in creating intelligence is exponential, we are at the “knee of the curve” at which point the line will rise sharply and quickly. The computing power we have already achieved will also increase exponentially. (“The Singularity is Near”, 10). Moore’s Law states that the number of transistors on a chip doubles about every two years (“A Prediction”). Since 1965 this law has rung true and is the basis for the calculations of future computing power. The ultimate artificial intelligence is within reach. But when reached will it still be artificial? Or will it be a clone of, or superior to the current level of human intelligence? Dare we find out?

## **Artificial Intelligence & Virtual Reality Meet**

Contemporary artificial intelligence is already enhancing virtual reality and combining with it to form a “virtual environment” or “artificial reality”. In straight virtual reality, the whole system relies on the imagination and ability of the designer. In a virtual environment/artificial reality (VE/AR) system, the system responds to the user in intelligent yet unpredictable ways- as unpredictable as an interaction with another person. While reality has a certain level of predictability dictated by civility and manners, it always has the potential to be unpredictable; such is the goal of VE/AR. An example of such an application is the Mission Rehearsal Program that trains soldiers in warfare and uses animated autonomous agents to interact with the trainees who come out feeling as if they were actually experiencing the warfare (“Here Comes the Holodeck”).

In order for artificial intelligence to succeed in its efforts to complement virtual reality, it must first be compatible with human intelligence. Kurzweil predicts that by the year 2029 reverse engineering of the human brain will have been completed (“Our Bodies, Our Technologies”). A VE/AR scenario would be the ideal place to build Kurzweil’s reverse engineered brain experiment. Couple a virtual reality environment with an artificial intelligence that is an exact duplicate of the functioning neurons and synapses of the human brain and the result is a virtual world. A simulation of a human brain could be tested in a virtual world in a modern day rendition of the Turing Test. If the simulated brain could fool a person into thinking they were interacting in person with a real human, then the experiment would be a success. But, have we then created a new being, one with consciousness and free will; a being in our own likeness? There is an eerily familiar ring to that. With the knowledge and power to create a simulation of the

human mind, the next step in this technical evolution will be to download a human brain, including memories, intelligence, and conscience, onto a computer, into the virtual world.

## **Evolution**

*“The evolution of the brain not only overshoot the needs of prehistoric man, it is the only example of evolution providing a species with an organ which it does not know how to use” – Arthur Koestler*

Raymond Kurzweil says that evolution is an intelligent force. It is the result of giving a swirling mass of nothing enough time to make a difference. He points out that biological evolution can only make small changes over time and is only capable of rearranging the material it has to work with, namely the intricate folds of protein that it has spent millions of years perfecting (“The Singularity is Near”, 309). Kurzweil justifies his overzealous take on the next version of the human body which he claims to be more non-biological than biological, by saying that evolution is in fact in play because it is evolution that created an able species capable of manipulating its environment and itself. (310).

The Panasonic Professor of Robotics at MIT, Rodney Brooks, approaches evolution a little bit differently, and has used it as a basis for his study of robotics. Brooks came up with the idea that the evolution of a robot should be the same as the evolution of a biological species. Evolution is all about adding processes. There is little or no subtraction. For example, a fish brain may be encapsulated in a monkey brain which is encapsulated in our brain – the tiny processes that make up the fish brain were built upon, by evolution, and eventually have added on enough to become human. Such

is the process of building robots: get a process to work, add a process. Get that process to work, add another process. As Brooks says, “If you analyze it too much it becomes meaningless” (Morris). In “Fast Cheap, and Out of Control,” Brooks tells us how evolution took billions of years to produce traits like chasing and independent movement. Those traits are the hard things, other things fall into place after that. He uses this idea with his robots. Once he gets the moving part down, coordination comes easier (Morris). But are the tedious improvements of evolution all working towards one goal? Is that goal perfection of a species, and if so are humans the “chosen” species? Does perfection of a species automatically imply immortality?

### **Consciousness & Disembodiment**

Joe Strout, a software engineer for REAL Software, Inc. states the obvious when he says, “the question of exactly *how* consciousness arises from unconscious matter is a nontrivial problem” (Strout). Dr. Ian Pearson, futurologist at BT Labs in England, argues that consciousness is simply one of our human senses. He further explains that Playstation 3 is a supercomputer in comparison to computers from a decade ago. Playstation 3 is currently one percent as powerful as the human brain. Pearson claims that with the exponential increase in technology, as per Moore’s Law, Playstation 5 will be as powerful as the human brain (“Digital Immortality”). If we are in fact at the knee of the curve as Kurzweil claims, that power will rise exponentially to realize Pearson’s prediction of being able to download human consciousness onto a computer by 2050 (“Digital Immortality”), though Kurzweil predicts 2029 as a more likely date at which the brain will be disembodied (“Our Bodies, Our Technology”). Hans Moravec shares this

vision in that he feels it will be possible to remove consciousness from the human body and encapsulate it in a robot (Hayles, 1). In such a case, death would no longer be a part of reality. A dawning of what I call Neo-Realism would take over the human race resulting in the theorized “posthuman”, currently a concept so removed that it has not yet fully permeated even our science fiction movies. Consider that science fiction has visited intelligent robots, it has even put people inside video games, but it has not replaced humanity as a whole with posthumans or cyborgs; in fact, the humans in science fiction are often pitted against intelligent life forms of their own making. There is always a rogue band of rebel humans out to save humanity as we know it from annihilation at our own hands.

Kurzweil has made many predictions for the near future based on the present. Kurzweil’s vision is to increase life expectancy, not by just five or ten years at a time as modern science has been doing for over a century, but he deems it possible to live indefinitely simply by having the technology to fix everything that could go wrong (“Reprogramming Your Biochemistry”). His vision of a disembodied brain encapsulated in a non-biological body specifically engineered to be robust and virtually indestructible could actually make it possible to live indefinitely. But what kind of life would we have? We would not need to eat, and probably would not need to sleep. What would we need? Electricity perhaps? The economy would go into a tailspin as it tried to keep up with all the things that a population of disembodied brains would no longer need and therefore would not buy!

I’m curious as to which brain the artificial intelligence scientists are trying to reverse engineer. I assume that the goal of reverse engineering is to simulate a human

brain, complete with both intelligence and consciousness. We all know that each personality is different, intelligence levels vary, and consciousness is not the same as intelligence. If intelligence differs from person to person, and people have different ideas of what is funny, different capabilities to make people laugh, different talents to sing, to act, to imagine, to invent, to interact, how then can any one brain be chosen as an example to reverse engineer? How dangerous would it be to take a sample of the population, map their brains, and then average the differences in order to create the first successful reverse engineered brain?

I will concede, based on Kurzweil's superior authority in the area of artificial intelligence, that it is plausible that intelligence can be simulated. But the human personality encompasses so much more than mere intelligence. Intelligence cannot make a mother cry when she watches her child sing in a school play. As philosopher Philip Zhai tells us, an unintelligent person is not more or less conscious than an intelligent person. A three year old, for example, has undeniable consciousness and an underdeveloped intelligence (108). Zhai proclaims that "from the silicon chip and lines of code no mind can be produced" (109).

Howard Rheingold, a professor of communication at Stanford University, says that the maintenance of human civilizations for years to come will "require both minds and computers". Every technology has a human interface. Examples range from a doorknob interface between a human and a door, a mouse interface between a human and a computer, a steering wheel interface between a human and a car, a remote control interface between a human and a television (70).

Rodney Brooks has spent much of his professional life building robots. He likens his building process to that of evolution. He gets one simple process to work, then he adds to it, and builds upon it. His studies of evolution have shown him that human consciousness is a latecomer. Consciousness is “an emergent property that increases the functionality of the system but is not part of the system’s essential architecture” (Hayles 238).

Pepperell states that we may “never be able to locate a seat of consciousness in the brain or anywhere else, since consciousness is a function distributed [...] via sense organs, to stimuli from the environment” (100). Should Kurzweil’s reverse engineering result in a non-biological mass of synapses and neurons piled in a heap, upon turning it “on,” I expect that, while it may be intelligent as defined by Kurzweil, it will not be conscious, nor will it be capable of independent thought and emotion. I have been very liberal in my criticism of Kurzweil’s ideas, yet he has not overlooked the very objections that I raise. He finds irony in consciousness in that “no matter how hard a mind may try, it can never make very much sense of itself,” (“The Age of Intelligent Machines” 217). He looks to the way a child “learns” commonsense as a mysterious and possibly impossible process to duplicate. Therefore, he, like Rodney Brooks, looks not to fly like a bird, but rather fly like a man. Rodney noted that as man finally built a flying machine so that he can share the sky with the birds, the resulting machine is very discernable from birds, it looks nothing like them, it functions nothing like them, yet it flies (“Fast, Cheap, and Out of Control”). Kurzweil tells us that spindle cells, which might be linked to consciousness, have been found to exist in humans and a few other primates exclusively. Dogs and cats don’t have spindle cells, yet, he acknowledges, dogs and cats have a

consciousness, a personality. His main argument for a computer being able to acquire a consciousness is that there is no barrier to what we can discover and implement (“The Singularity is Near” 469). I find that to be an empty argument. The idea of: “of course we can do it because we can’t fathom a reason why we can’t” is hardly convincing.

### **Immortality**

*Millions long for immortality who do not know what to do with themselves on a rainy Sunday afternoon. – Susan Ertz (Anger in the Sky, 1943)*

The necessity of autonomous agents in order to make virtual environments seem believable is just one more step towards the omniscience that humans seek (Aylett and Luck 7-8). Interestingly, humans are fallible. Not only are we fallible, but although we are autonomous, we are also only aware of our general environment. The work to create artificial intelligence, in our own image, copying the intricacies of our own brains, is not aiming for imperfection. It is aiming to perfect our weaknesses. The uses envisioned by leading scientists featured on KurzweilAI.net include using intelligent nanobots to infiltrate our blood and brains in order to fix genetics, diseases, and similar imperfections. What are the ramifications of an imperfect being creating a perfect entity? Can something be perfect if it knows nothing of imperfection? If we are to liken omniscience to perfection, can one be “all knowing” without knowing what it is like to have questions?

“Applying Artificial Intelligence to Virtual Reality: Intelligent Virtual Environments,” by Aylett and Luck, researches the feasibility of what the authors call “virtual agents” that will populate the coming virtual environments. They adamantly

declare the need to include human traits that do not necessarily denote intelligence, but rather mere humanism, such as body language, emotion, the simple act and thought behind hugging to name a few. To ignore these traits would be to fall short of creating believable virtual agents, which if some have their way will one day encapsulate the consciousness of upcoming generations

Let us not forget how humans have treated animals and even each other throughout history. Humans who deem themselves superior have always caused oppression for those assumed to be weaker or less intelligent. According to Aylett and Luck:

If virtual agents are to behave in a way that is convincing to the user and sustains the feeling of presence in a virtual world, they ought to appear to have the same limitations as agents in the real world. They ought to seem to collect information as it becomes available to them and to interact with objects — noticing, avoiding and manipulating —. (7)

Apparently the reservations that I have for creating a convincing virtual environment have not been overlooked by people in the field. Facial expressions, body language, and gaze have all been taken into account as to being necessary factors in what I call the Neo-Realism that will result from the downloading of the mind into a virtual environment/artificial reality scenario. In fact I would suggest that the next great test of artificial intelligence not be the logic involved in winning chess, but rather the bluffing and facial expressions involved in playing poker. The machines in Atlantic City play poker with gamblers and rely on chance. The tables, where face-to-face poker is played,

provide gaming in which wins and losses depend on the ability to fool your opponents. Make a machine that can lie and bluff and then I will be impressed – and scared.

Even the leaders and proponents of artificial intelligence are wary of the ramifications. J. Storrs Hall, a leader in the field of nanotechnology, concedes that the realization of creating the ultimate artificial intelligence system means the “development of a program that learns and extends itself” which will most likely include the ability to circumvent any rules or boundaries set by humans (Hall). The Garden of Eden represents such a phenomenon if we are to believe that God created man in his own image, set a boundary in declaring the fruit of the tree in the center of the garden to be off limits, only to have His trust broken, in what we humans know to be an inescapable human trait, seen even in the most innocent child: the desire to know why, and what will happen “if”. Even if the Garden of Eden scenario never actually happened, someone thought of it and wrote it down as an omen of our desire to know everything.

Kurzweil’s vision of the future includes the melding of technology and body. He writes of nanobots that can infiltrate the blood and brain cells to learn about, fix, and/ or control parts of the body (“The Singularity is Near” 163-165). But if we are to play God by creating intelligence how then will we control it? If humans were created by a higher being, did that higher being envision a population of seven billion people, many of whom are involved in war, killing, raping, and stealing? If we are to learn anything from evolution why haven’t the leaders in artificial intelligence noticed the undeniable law of survival of the fittest? Humans believe themselves to be the fittest. So fit in fact that we

will soon be able to create life in our own image. The new breed, the posthuman will become the fittest and will unequivocally replace the human species as we know it.

Ihde points out that although plastic surgery is popular, as are steroids and makeup, and anything else that can aid in perfecting appearance and strength, few would be willing to go through with a total transformation of self that included a mechanical heart, liver, and kidney, just to become more perfect. Those transformations would only occur if death were impending. (“Technology and the Lifeworld” 117). Ihde thinks it is strange that we would even consider trading in our bodies for a perfect robotic facsimile (118). I agree with him, for in my mind, the disembodied brain that Kurzweil dreams of bodes a new dark world where, while there may still be emotion, tactile feeling at the level we currently experience it will be only a memory. Presumably, Kurzweil seeks to completely eliminate not just death and disease, but pain as well. Pain is a necessary part of life. Pain indicates when we have reached our physical limit during strength training for example. Soreness indicates muscles are growing.

Kurzweil’s ideal human body, Human Body 2.0 as he likes to call it (“Human Body”), is a bad idea for many different reasons. It may not take something as drastic as evolution or nature to bury Human Body 2.0 and return to the fallible body that we currently know. It may simply be a rejection by the masses who are not willing to embrace Kurzweil’s vision.

Consider these ramifications. A robotic body which can only be considered human due to its knowledge and consciousness will not have the same pursuits as we do. There will be no competition. What would the point be if all “people” were equal in every way, even intellectually? Obviously the ability to port intelligence into a

computerized or robotic body also means that every bit of intelligence would be available to every single being through what is currently known as the internet, but at the time of fruition could be some other type of network. If everyone were equal, what would the point of schools be? What pleasure would be available? Would a robotic body really want to go on a vacation that included a water park or sunbathing? Nothing would be as it is, and then what? The life expectancy as we now know it can already be considered too high. We are strapped with taking care of elderly people who, in many cases, would be better off dead.

While the aim is admirable in wanting to extend life and improve upon our fragile bodies, what we will really be creating is the possibility of a collective consciousness reminiscent of The Borg from Star Trek: The Next Generation. The Borg were known to travel from place to place consuming all the life forms they could find. So if Kurzweil's predictions are to come true, I envision a Borg-like entity floating around consuming all of humanity in order to gain more intellect. I further predict that such an entity will have the same motto as the Borg: "Resistance is Futile" (Borg).

In Kurzweil's mind, his outlook of the future is positive. His vision of the next 30 years includes non-biological agents being used as substitutes for all of our biological functions - all of them. He feels that food will be something we enjoy, that will pass right through our bodies since we really won't need it. He envisions super-fast neurons controlling our brain activity. Again I ask, where is the uniqueness? Where is the individuality? Presumably the ability to have our consciousness downloaded or uploaded at will means that every single bit of knowledge available won't need to be studied and learned, it will be available for immediate download. What then are we to do? There

will be no diversity. Will black people choose a black colored robotic body in order to maintain their heritage? It all seems ridiculous to me.

It is generally believed that there are unused areas of our brain. Nature has shown that it can create every single being with uniqueness. Will the posthuman society have that capability? Will there be a system similar to DNA and fingerprint identification in order to differentiate each being? Or will we all have a serial number stamped on our behind? If human consciousness can be downloaded onto a computer, thereby bypassing death, how then will new life be formed and what initial form will it take? Will human bodies be used simply to cultivate a consciousness that will only be downloaded to survive? How many immortals will the world be able to support?

Kurzweil and those like him want us to see the immortality he is aiming at as a good thing, an inevitable thing that nature has actually molded people to transcend to. However I need to point out that in all Kurzweil's genius, and I do admit that he makes a wonderful argument that is as alluring as it is unfathomable, he fails to mention nature as an outside force. He constantly talks about immortality based on creating a body that will not be subject to the disease we know today. I have several different problems with this.

First, he is pretending that we, in our new non-biological, smarter, invincible bodies, will all get along. Our species has always fought amongst itself. Smarter bodies will find new ways to torture each other. Humans are currently the most dangerous, heinous creatures to ever evolve. We kill animals for sport, we displace our fellow earth inhabitants (Native Americans, forest animals etc.) simply because we can. How can Kurzweil be so naïve to think that we will become invincible to ourselves?

Another unrelated problem I see with Kurzweil's theories is that of nature herself. Kurzweil acts as though human existence is an island as if we are alone and that by simply making ourselves over everything will be fine. But we aren't an island. Nature has wiped out civilizations before. We would go from a biological being that depended on and gave back to nature to a non-biological being very independent of nature. Currently our waste products, (whether feces, or dead bodies) add to the nutrients in the soil. Our needs for nutrients would dwindle and therefore our desire to cultivate nature would decrease as well. One can only wonder what kind of waste products our new non-biological bodies would produce. Every form of energy has waste products. Would our new, smarter, invincible bodies have the ability to address the serious problems that would be created at a pace that would make the growing ozone hole look like a snails pace? We are looking at not only changing ourselves, but changing the world and everything in it. We have all heard of the ripple effect. We only have to overlook one little thing in order for everything to come crashing down.

And what of the joys of our current lives? Are we to forgo the joy of parenting so that we may be immortal? Are we to remove ourselves so much from a biological body that we don't feel a tingle of "warm fuzzies" throughout our body when we share a touching moment with a friend, or see someone we love do something astounding? Are we to lose the ability to be proud, to be scared, to feel the breeze in our hair, to take a deep breath, to feel the adrenaline running through our bodies, to feel our heart race before jumping out of an airplane. Immortality is a nice thought, but if everything there is to enjoy about life is no longer enjoyable because our immortality deems that our entire beings have different senses, what good is it?

Give people immortality and suddenly they will change the way they live. The phrase “life’s too short....” will become meaningless. If we currently live our lives trying to fit in everything we want to accomplish on a time line with goals, goals like an education, a family, children, financial stability, travel, how then will our time line change if we know that we will “live” forever? To that end, what will our dreams consist of?

I consider Kurzweil’s predictions, which presumably are his goals as well, to be selfish. To feel that immortality is the savior to mankind is inaccurate. Immortality may seem like a goal worth striving for, but I predict that once immortal, man would seek to find ways to kill himself. There would be an entire population of “people” who would become bored and restless, longing for the feelings and emotions they had in their biological predecessors.

## **Conclusion**

Consciousness is not something that we can just create. Even if Kurzweil is successful at duplicating every single tangible piece of the brain, consciousness is bigger than the sum of its parts. It lives inside our brains as well as outside our brains. It is responsible for goose bumps of excitement, tears of joy, and the pain we feel in our chest when we lose a loved one. I can certainly concede that technology is and will continue to be capable of some amazing things. Even if disembodiment becomes *possible* it would still be impractical and incomplete. I recently told a Professor at Princeton University as I was fixing her computer problem that anyone who can read could do my job. She replied that was as ridiculous as saying that anyone who can read a recipe can cook as

well as Julia Childs. What she was telling me is that while intelligence is ability, consciousness requires intuition – a natural ability to excel in specific areas. Intuition is intangible and un-teachable. If we can't teach it to each other, how then will we ever be able to build it, replicate it, or download it?

Perhaps we are doomed though, doomed by our own willingness to reach farther and farther out for technology. Stock says “To forgo the powerful technologies [...] would be as out of character for humanity as it would be to use them without concern for the dangers they pose”. He is not giving us enough credit. I believe that the biggest obstacle to Kurzweil's visions is humanity itself. The medical world and those who need medical services may embrace nanobot technologies that will fix afflictions that seem unfair and untimely, such as cancer and Parkinson's disease. But as a whole, mankind will prefer to live in our own bodies not just existing in the world, but actually living in it.

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