

## 22B THE IMAGE OF GOD AND TRANSHUMANISM

### WHAT DOES IT MEAN TO BE HUMAN?

1. Being human means being similar to, but clearly different from, animals.

In exploring this, we don't want to sell animals short. God created all the animals and gave them remarkable abilities. Many animals are able to take action towards a goal, to communicate at some level, and to experience some strong emotions.

Animals do not, however, philosophize about life, meaning, and the Creator. They don't deal with the distant past or distant future. While some are aware of disobeying their master, they don't develop moral codes. While curious, they don't set up zoos and experiments to study other animals.

2. Being human means being different from machines.
3. Being human means being created in the *imago Dei*, the image of God.
4. Being human means God relates to us.
5. Being human, based on the Scriptural narrative, means we are specially created, damaged by the Fall, and capable of redemption by Christ.

"In Creation the image is bestowed. In the Fall, the image was distorted. In Redemption, the image is restored." [1]

Louis Janssens described eight dimensions of human personhood, some of which we share with animals and some of which are uniquely human: [2]

1. The human person is a subject, not an object as are the things of the world. We exist as creatures under God's rule.
2. The human person is a subject in corporeality, an embodied subject. Body and mind/spirit are intrinsically united.
3. Because of the materiality of our body, our being is a being-in-the-world. We are clearly part of the material world.
4. Human persons are essentially directed toward each other. We are inter-related with other persons.
5. We are social beings. We need to live in social groups with appropriate structures and institutions.
6. Human persons are historical beings, characterized by historicity. We are defined within a historical framework and we are involved in a cultural history.
7. All human persons are fundamentally equal, but at the same time each is original, a totally unique subject.
8. Human persons are fundamentally directed toward (called to know and worship) God.

## MADE IN GOD'S IMAGE

Like animals, according to Genesis, we are created beings, we were formed from the ground, from the materials of the earth, and we are living creatures. Unlike animals we seek meaning, significance, and deep loving relationships. We share physical traits with animals (a fact that made medicine and surgery possible), and yet we are much more than animals.

According to Genesis 1, we were “made in the image of God.”

*Then God said, “Let us make man in our image, after our likeness. And let them have dominion over the fish of the sea and over the birds of the heavens and over the livestock and over all the earth and over every creeping thing that creeps on the earth.” So God created man in his own image, in the image of God he created him; male and female he created them.*

(Genesis 1:26-27)

In Genesis 9, God forbids murder (before the 10 Commandments) based on what humans are:

“Whoever sheds men’s blood, his blood shall be shed, because God made men in His image.” (Genesis 9:6)

“With [the tongue] we bless our Lord and Father, and with it we curse people who are made in the likeness of God.” (James 3:9)

What does this “image of God” entail?

We don’t look like God in appearance, since God is a Spirit. We share certain non-tangible aspects with God.

“A statue has the shape of a man but is not alive. In the same way, man has...the ‘shape’ or likeness of God, but he has not got the kind of life God has. Let us take the first point (man’s resemblance to God) first. Everything God has made has some likeness to Himself. Space is like Him in its hugeness: not that the greatness of space is the same kind of greatness as God’s, but it is a sort of symbol of it, or a translation of it into non-spiritual terms. Matter is like God in having energy: though, again, of course, physical energy is a different kind of thing from the power of God. The vegetable world is like Him because it is alive, and He is the ‘living God’. But life, in this biological sense, is not the same as the life there is in God: it is only a kind of symbol or shadow of it.” [3]

Theologians have differed on the primary aspects of the image. Three approaches have been suggested: (1) aspects of the soul itself, (2) aspects of the relationship with God, and (3) aspects of the assignment we are given.

Humans have (to a much lesser degree) certain God-like capabilities: [4]

- Consciousness
- Deep self-awareness
- Complex rationality
- Abstract thinking (ideas like love, meaning, and beauty)
- Relational ability

- Ability to love in a giving way
- High level communication
- Purpose
- Creativity –able to turn ideas into objects
- Moral capacity

In addition, humans exhibit these traits:

- Desire for significance
- Love relationships
- Freedom of choice, understanding consequences
- Awareness of and fear of death
- Philosophizing
- Remembering details of the past
- Planning details of the future
- Studying nature and the universe

According to Arthur Koestler, “The emergence of symbolic language, first spoken, then written represents the sharpest break between animal and man.” [5]

Chuck Swindoll adds-

*God made Adam and Eve like Himself. And what would that include? He gave them intellectual ability—which is often referred to in the Scriptures as the mind. He also gave them emotional capabilities—which is frequently called the heart. And He gave them volitional capacity—which is the will. His desire was that they would use their minds to know God . . . and from their hearts, they would love God . . . and with their wills, they would obey God.* [6]

We are image-bearers in that we bear the “stamp” of our maker.

“Man is like God and represents God.” [7]

*God made a portion of creation different from the rest to be like himself. The very word “image” suggests an important distinction between humans and other portions of creation. This is the mannishness of man. This is what distinguishes us from everything else...The fulfilling of the purpose of our existence is to have fellowship, communication and love - first to God, and then to those who are our kind - all mankind.* [8]

There is something special about humanity that distinguishes persons from the rest of creation, something Francis Schaeffer called the “mannishness of man.”: “If man is not made in the image of God, nothing then stands in the way of inhumanity. There is no good reason why mankind should be perceived as special. Human life is cheapened.”

Vernon Grounds writes:

*Man was created not only by God and for God but like God he was created a finite person reflecting the being of infinite Personhood. Qualitatively different from God and absolutely dependent upon his Creator, man was endowed with the capacity of responding to the divine Person in love and obedience and trust, enjoying a fellowship of unimaginable beatitude.* [9]

In addition, humans were given “dominion” over creation (Gen. 1:28).

R.C. Sproul considers what it means to be made in God's image: [10]

- We are made in God's image and God's likeness (Hebrew parallelism, not two different things).
- The Fall marred, but did not obliterate the image of God.
- Our thinking is often faulty, but we are still capable of thinking at a high level.
- We often make selfish choices, but we still have volition (will).
- Our emotions may move towards anger and sorrow rather than compassion and joyfulness, but we still have emotions.

The Biblical understanding of humans includes these ideas :

- We are more than animals, but far less than God.
- We are not machines, not merely a "bag of chemicals."
- We can know part of the world in a real way.
- We were made for a purpose (to glorify God).
- We share many aspects with all of humanity.
- We are incredibly valuable, yet damaged by sin.
- God desires all persons to know Him and experience His love and forgiveness.

The implications are enormous:

- ALL humans bear God's image, regardless of size or ability.
- We are always creatures, never the Creator.
- Humans are persons-from the earliest moment of conception.
- There is a majesty and dignity to mankind.
- ALL humans are valuable, including babies and those with disabilities.
- ALL humans should be protected and treated with dignity.

### Human flourishing

We are created beings, and part of the natural world. We are more than simply matter or animals. We flourish when we understand our place.

- We are made in God's image. We flourish when we live out the IMAGO DEI.
- We are made mortal (at least after the Fall). We flourish when we live in the light of our mortality. (Ecclesiastes).
- We are made a body-soul unity. We flourish when we see ourselves as whole beings.
- We are creative beings, as God is creative. We flourish when we exercise our creativity.
- We are dependent beings (presentation by Jonathan Lett). We flourish when we live in dependence upon God and interdependence with nature and with others.
- We are personal beings. We flourish when we relate properly to others.
- We are made to worship our Creator. We flourish when we worship the one true God.
- We are given work to do. We flourish when we are engaged in meaningful work.
- We are given dominion over nature. We flourish when we properly exercise that dominion.
- Adam was given instructions to use AND protect the garden. We flourish when we do both in our world.
- We are created male and female. We flourish when we live out our roles as male or female.

## HUMANS AND MACHINES

Humans are not Machines

Three trends, expressed as truths, have recently been emerging in our culture:

1. Animals are smarter and more valuable than humans.
2. Intelligent machines are becoming smarter than humans.
3. Humans are becoming more machine-like, merging with machines.

The conclusion seems to be that intelligent machines are the next “species” to arise, and, as such, may compete with humans for the earth. The solution, or parallel trend, would be to upload human brains to computers, in this way creating the humans of the future.

The primary assumptions behind plans for uploading brains are that (1) humans are primarily biological machines and (2) our brains mostly resemble a computer CPU (central processing unit) with logic, program execution, and memory.

How similar are we to machines?

- We (usually) follow logical steps.
- We have sophisticated memory.
- We have complex sensors (senses) to the external world.

How different are we from machines?

- We recognize and identify with other humans as being “just like us.”
- We respond to animals and to other humans with affinity or, possibly, with aversion.
- We exhibit a sense of wonder towards things that are grand or inexplicable (We are slowly losing this.)
- We exhibit a sense of worship towards God (or towards whatever we esteem).
- We feel protective towards the young and vulnerable.
- We feel sadness when someone we care about leaves or dies.
- We may exhibit spontaneity in behavior; humans are never totally predictable.
- We have a capacity for creativity that can take off in many different directions (a new feature on a car may lead to a new style of guitar or a new phone app.)
- We sometimes have “gut feelings” and personal uneasiness that can’t be quantified.
- Our strongest memories are often tied to the emotions associated with them.
- Our mind and body are strongly inter-related. Our mental state can affect our health and behavior. Our body image shapes how we think of ourselves.
- We are consciously self-aware.
- We ask philosophical questions: “Why am I here?”; “Why did this happen to me?”
- We anticipate events with emotions (hope, joy, concern, fear).

Dehumanizing Actions

“I am a human being... Do not fold, spindle, or mutilate.” So read some T-shirts back in the days when computers were programmed with punched cards printed with the warning. How much more today do we need to preserve the value of humanity? People are valuable not simply for what they can do but because they are made in God’s own image.

What parts of our culture dehumanize individuals?

1. Technology misused can dehumanize people.  
You exist to push a button on an assembly line.
2. Conflict and war usually dehumanizes the enemy.  
“They” are monsters, incapable of feeling, who don’t deserve to live.
3. False philosophes dehumanize us.  
You are simply an insignificant dot on an insignificant planet in an insignificant galaxy (according to Richard Dawkins.)
4. Pro-abortion rhetoric dehumanizes babies.  
If the unborn child is not wanted it is categorized merely as tissue inside the mother.
5. Scientific reductionism dehumanizes persons.  
Our bodies function with proteins and carbohydrates and nerve impulses are responsible for spinal cord and brain function, but we are far more than a collection of biochemical and nerve impulses.
6. Representing a person simply as a data profile dehumanizes him or her.  
You are not your income or your batting average or your college GPA.  
To firms working with shopping statistics, you may only be a Wednesday afternoon shopper who always buys disposable diapers, diet Coke, and dog food.

It is essential that we think about how we view others. May the Lord help us to see people as He sees them.

## TRANSHUMANISM

### Definition

Transhumanism is a philosophical and scientific movement aimed at transforming or enhancing human beings through technology, essentially redefining what it means to be human. Philosopher Nick Bostrom defines transhumanism this way: “The intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by developing and making widely available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities.” [11]

Transhumanist goals:

- End human suffering

- Enhance human mental ability
- Enhance human abilities
- Abolish death

Transhumanists see our major limitations as disease, ultimate death, and limited intellectual capacity. While proposed techniques have included cloning and genetic modification, the most popular forms involve future uploading the mind to a computer (as part of the “Singularity”). The end result will be a “posthuman” being, the futuristic concept of a person who exists in a state “beyond the human”. The transhumanist, then, is an enhanced human on the way to becoming totally posthuman.

*Transhumanism builds on the assumptions of human evolution and argues that we have the chance—or perhaps the responsibility—to take control of our species’ evolution, using everything at our disposal, including technology, to overcome whatever we decide to define as a problem. [12]*

Five pieces are key to transhumanism/posthumanism:

1. Inevitable human evolution towards some end
2. Artificial intelligence
3. Moore’s law, summarized as the amazing advances in computing and technology
4. Human enhancement
5. The Singularity

## **Human -> Cyborg -> Singularity Event -> Transhuman -> Posthuman**

*While posthumanism comes out of postmodernism, transhumanism seeks its origins in science and technology, especially early ideas about human evolution. It recognizes the Enlightenment as one of its sources, and thus it does not expropriate rational humanism. The concept of posthuman itself is interpreted in a specific transhumanist way. In order to greatly enhance human abilities, transhumanism opts for a radical transformation of the human condition by existing, emerging and speculative technologies (as in the case of regenerative medicine, radical life extension, mind uploading and cryonics); it suggests that diversity and multiplicity will replace the notion of existing within a single system, such as a biological body. For transhumanists, human beings may eventually transform themselves so radically as to become “posthuman.” [13]*

Philosopher Nick Bostrom offers these insights on the background of transhumanist thought:

*The human desire to acquire new capacities is as ancient as our species itself. We have always sought to expand the boundaries of our existence, be it socially, geographically, or mentally. There is a tendency in at least some individuals always to search for a way around every obstacle and limitation to human life and happiness...*

*Transhumanism has roots in rational humanism. In the 18th and 19th centuries we catch glimpses of the idea that humans themselves can be developed through the application of science. Condorcet speculated about extending human life span by means of medical science.*

*In the postwar era, many optimistic futurists who had become suspicious of collectively orchestrated social change found a new home for their hopes in scientific and technological progress. Space travel, medicine, and computers seemed to offer a path to a better world. The shift of attention also reflected the*

*breathhtaking pace of development in these fields. Science had begun to catch up with speculation. Transhumanist themes during this period were discussed and analyzed chiefly in the science fiction literature...*

*(T)ranshumanists emphasize the enormous potential for genuine improvements in human well-being and human flourishing that are attainable only via technological transformation, and bioconservatives could try to be more appreciative of the possibility that we could realize great values by venturing beyond our current biological limitations. [14]*

#### Assumptions of transhumanism

1. Humans are (only) material creatures.
2. Human bodies and brains have arisen by accident and will continue to evolve.
3. Humans are primarily our brains.
4. Consciousness resides in the brain.
5. Human limitations, including death, are unacceptable.
6. The posthuman is the next stage in human evolution.
7. Computing power is rapidly expanding and chip size is shrinking (Moore's Law).
8. Following the Singularity, it will be possible to upload our brains to computers.
9. The result will be a technologically-mediated immortality.

#### The Singularity (Vernor Vinge)

In 1973, Computer Science professor and science fiction author Vernor Vinge coined the idea of the Singularity, a singular event where computer technology makes a quantum leap ahead, where the exponential growth of computing power causes technological changes so immense that "it represents a rupture in the fabric of human history." Vinge relates that event to the posthuman.

*Within thirty years, we will have the technological means to create superhuman intelligence. Shortly after, the human era will be ended...*

*What are the consequences of this event? When greater-than-human intelligence drives progress, that progress will be much more rapid. In fact, there seems no reason why progress itself would not involve the creation of still more intelligent entities -- on a still-shorter time scale. The best analogy that I see is with the evolutionary past: Animals can adapt to problems and make inventions, but often no faster than natural selection can do its work -- the world acts as its own simulator in the case of natural selection. We humans have the ability to internalize the world and conduct "what if's" in our heads; we can solve many problems thousands of times faster than natural selection. Now, by creating the means to execute those simulations at much higher speeds, we are entering a regime as radically different from our human past as we humans are from the lower animals.*

*From the human point of view this change will be a throwing away of all the previous rules, perhaps in the blink of an eye, an exponential runaway beyond any hope of control. Developments that before were thought might only happen in "a million years" (if ever) will likely happen in the next century.*

*And what of the arrival of the Singularity itself? What can be said of its actual appearance? Since it involves an intellectual runaway, it will probably occur faster than any technical revolution seen so far. The precipitating event will likely be unexpected --perhaps even to the researchers involved...*

*And what happens a month or two (or a day or two) after that? I have only analogies to point to: The rise of humankind. We will be in the Post-Human era. [15]*

## Merging with Computers

It is a small step (for some) from the inevitability of the Singularity to the age of the new human, brought about by merging human brains with computers.

Ray Kurzweil, scientist and inventor, is one of the most prolific and optimistic champions of transhumanism. For Kurzweil, merging with computers is inevitable. In *The Age of Spiritual Machines* Kurzweil examines the progress to date in computing and offers his theory of human progress:

Somehow life arose (out of chaos) on planet earth, and order increases exponentially. “The next threshold is the evolution of a species of life-forms that in turn creates ‘technology.’...Once technology emerges, it also appears inevitable that computation...will subsequently emerge...The Law of Accelerating Returns [his paradigm] predicts that both the species and the computational technology will progress at an exponential rate.” Computation is the essence of order in technology. [16]

By 2099, suggests Kurzweil, full merging should be possible:

*Human thinking is merging with the world of machine intelligence that the human species initially created. The reverse-engineering of the brain appears to be complete...machine-based intelligences derived entirely from these extended models of human intelligence claim to be human, although their brains are not based on carbon-based cellular processes, but rather electronic and photonic “equivalents” ... [17]*

Langdon Winner adds-

*Central to Kurzweil’s prophecy is an experience increasingly familiar to those who use personal computers and other digital equipment, that is, the continuing replacement of computing systems by newer, faster, more powerful ones in ever shortening cycles. With each successive upgrade, people transfer valuable information from the older system to the newer one. In the not-too-distant future this sequence of replacement, download, and renewal will, according to Kurzweil, include not just Pentium chips and personal digital assistants, but human beings themselves. “Initially,” Kurzweil opines, “there will be partial porting—replacing memory circuits, extending pattern-recognition and reasoning circuits through neural implants. Ultimately, and well before the twenty-first century is completed, people will port their entire mind file to the new thinking technology.” Before long, humans and machines will totally merge, and the new creature’s artificial features (in contrast to its biological ones) will be universally recognized as superior. [18]*

In *How to Create a Mind* [19], Kurzweil explored what was known about the brain and human intelligence, noting how far these fields had advanced in the past fifty years. Kurzweil thinks it is feasible to

*...scan someone’s brain to map the locations, interactions, and contents of the somas, axons, dendrites, presynaptic vesicles, and other neural components. Its entire organization could then be re-created on a neural computer of sufficient capacity, including the contents of its memory...we need only to literally copy it, connection, by connection, synapse by synapse, neurotransmitter by neurotransmitter. [20]*

## Ideas that set the stage for Transhumanism

1. In 1957 Julian Huxley (1887-1975) wrote this:

*The human species can, if it wishes, transcend itself – not just sporadically, an individual here in one way, an individual there in another way – but in its entirety, as humanity. We need a name for this new belief. Perhaps transhumanism will serve: man remaining man, but transcending himself, by realizing new possibilities of and for his human nature. [21]*

2. Carl Jung (1875-1961) was a Swiss psychiatrist and student of Sigmund Freud. Jung envisioned a new humanity based on transcending human limits by liberating the consciousness/psyche (which is imprisoned in the body). Jung was influenced by

- Pagan myths
- Hinduism
- General spirituality
- Gnosticism
- Occult and paranormal experiences
- Relativism of good and evil
- The “collective unconscious” [22]

3. Pierre Teilhard de Chardin (1881-1955) was a French Jesuit priest, scientist, and philosopher.

Teilhard promoted the idea of evolving consciousness and ultimate convergence to a singularity which he termed “the Omega Point.” [23] Some think he predicted the internet and the coming singularity.

His unorthodox theories included these:

- Humanity will evolve towards Christ.
- All will be unified.
- We will escape from this universe.
- We will avoid the heat death of the universe.

*Teilhard de Chardin spoke of “some sort of Trans-Human at the ultimate heart of things” in his 1950 essay “From the Pre-Human to the Ultra-Human: The Phases of a Living Planet”. His “Trans-Human” was an evolutionary concept linked with spiritual/human futures. [24]*

4. Frank Tipler (b. 1947) is a contemporary mathematical physicist/cosmologist at Tulane University who was strongly influenced by Teilhard de Chardin. Tipler co-authored *The Anthropic Cosmological Principle* with John Barrow. Tipler later authored the book *The Physics of Christianity* [25], where he attempted to express Christian/Catholic beliefs with concepts from modern physics. The results are often bizarre:

- The Father and the Holy Spirit are singularities.
- Jesus was a XX chromosome male.
- The star of Bethlehem was an exploding supernova.
- Jesus’ resurrection involved the action of neutrinos.
- Miracles are based on the “many-worlds” interpretation of quantum mechanics.
- Our society has only 50 more years to exist, but minds may be uploaded to computers.

Bostrom was not an advocate of the ideas of Teilhard or Tipler:

*The singularity idea also comes in a somewhat different eschatological version, which traces its lineage to the writings of Pierre Teilhard de Chardin, a paleontologist and Jesuit theologian who saw an evolutionary telos in the development of an encompassing noosphere (a global consciousness) – via physicist Frank Tipler, who argued that advanced civilizations might come to have a defining influence on the future evolution of the cosmos, and, in the final moments of the Big Crunch, might manage to extract an infinite number of computations by harnessing the sheer energy of the collapsing matter.*

*However, while these ideas might appeal to those who fancy a marriage between mysticism and science, they have not caught on either among transhumanists or the larger scientific community. Current cosmological theories indicate that the universe will continue to expand forever (falsifying Tipler's prediction). [26]*

Key individuals in the development of transhumanism include:

1. Marvin Minsky- computer scientist, pioneering work on artificial intelligence, Society of Mind
2. Vernor Vinge –computer scientist, coined the concept of The Singularity
3. Nick Bostrom – philosophy professor at Oxford University
4. Kevin Warwick- Cybernetics professor at University of Reading- “world's first cyborg”
5. Ray Kurzweil –chief scientist at Google
6. Hans Moravec –Robotics professor at Carnegie Mellon – author, *Mind Children* – in the future intelligent robots will surpass us and we will become their pets.
7. Max More-philosopher and humanist – “The future belongs to posthumanity.”
8. Zoltan Istvan – futurist, entrepreneur –expects technology to overcome death
9. Yuval Harari –historian, philosopher –author, *Homo Deus* –expects future humans to achieve God-like powers
10. Aubrey de Grey – biogerontologist- desires to overcome human aging

#### Transhumanist Declaration

This declaration was originally drafted in 1998 at the founding of the World Transhumanist Association by Nick Bostrom and David Pearce. [27]

*1. Humanity stands to be profoundly affected by science and technology in the future. We envision the possibility of broadening human potential by overcoming aging, cognitive shortcomings, involuntary suffering, and our confinement to planet Earth.*

*2. We believe that humanity's potential is still mostly unrealized. There are possible scenarios that lead to wonderful and exceedingly worthwhile enhanced human conditions.*

*3. We recognize that humanity faces serious risks, especially from the misuse of new technologies. There are possible realistic scenarios that lead to the loss of most, or even all, of what we hold valuable. Some of these scenarios are drastic, others are subtle. Although all progress is change, not all change is progress.*

*4. Research effort needs to be invested into understanding these prospects. We need to carefully deliberate how best to reduce risks and expedite beneficial applications...*

*5. Reduction of existential risks, and development of means for the preservation of life and health, the alleviation of grave suffering, and the improvement of human foresight and wisdom should be pursued as urgent priorities, and heavily funded.*

*6. Policy making ought to be guided by responsible and inclusive moral vision, taking seriously both opportunities and risks, respecting autonomy and individual rights, and showing solidarity with and concern for the interests and dignity of all people around the globe...*

*7. We advocate the well-being of all sentience, including humans, non-human animals, and any future artificial intellects, modified life forms, or other intelligences to which technological and scientific advance may give rise.*

*8. We favor allowing individuals wide personal choice over how they enable their lives. This includes use of techniques that may be developed to assist memory, concentration, and mental energy; life extension therapies; reproductive choice technologies; cryonics procedures; and many other possible human modification and enhancement technologies.*

### Christian Transhumanism

A confusing mix has recently appeared known as CTA, the Christian Transhumanist Association. "Christian transhumanists seek to use science and technology to participate in the work of God, to cultivate life and renew creation." [28] On the one hand, transhumanists want to end or lessen human suffering, which is a noble goal. On the other hand, Christian transhumanists seem to believe that physical death may be eliminated by physical means. They would be better to shed all use of the term "transhuman," use science for good, and seek to extend the Kingdom of God.

Jacob Shatzer states:-

*Transhumanism began as a purely secular movement. It is connected so closely with an atheistic, "pull-yourself-up-by-your-own-bootstraps" worldview that it can be tough to pick and choose which pieces to align with as Christians. Christian Transhumanists think that work is promising and worth doing. I'm not convinced, because I think transhumanism tends more and more toward a deficient worldview with no room for a personal God, a worldview that places its hope in human ingenuity rather than a crucified and risen Savior.[29]*

### Neuroengineering and the Brain

Many people associate the concept of transhumanism with its most shocking idea: uploading the brain.

*A hypothetical technology that would have a revolutionary impact is uploading, the transfer of a human mind to a computer. This would involve the following steps: First, create a sufficiently detailed scan of a particular human brain, perhaps by deconstructing it with nanobots or by feeding thin slices of brain tissues into powerful microscopes for automatic image analysis. Second, from this scan, reconstruct the neuronal network that the brain implemented, and combine this with computational models of the different types of neurons. Third, emulate the whole computational structure on a powerful supercomputer. If successful, the procedure would result in the original mind, with memory and personality intact, being transferred to the computer where it would then exist as software; and it could either inhabit a robot body or live in a virtual reality. While it is often thought that, under suitable circumstances, the upload would be conscious and that the original person would have survived the*

*transfer to the new medium, individual transhumanists take different views on these philosophical matters.* [30]

The most engineering-oriented of the recent books on transhumanism is *Neuroengineering the Future* by AI professor Bruce Katz [31].

Katz makes these points:

- We understand the functions of numerous parts of the brain.
- We have studied the roots of consciousness, contentment, and euphoria.
- We have developed cochlear implants, vagus nerve stimulation, brain-computer interfaces, and deep brain stimulation.
- We have developed extensive neural networks modeled on the brain.
- The next logical step would be to combine all of these elements in enhancing the brain.

The next frontier, suggests Katz, is working with the “unbound mind.”

Katz’s conclusions: Mind uploading is inevitable, but a ways off. Those who are under 75 years old have the best chance at achieving immortality. [32]

## Difficulties with Transhumanism

### 1. Physical

#### Body

Transhumanists suggest that the body is not necessary for our sense of self. Our awareness of our physical self, however, has been found to involve both the body and the brain. Josef Parvizi of Stanford Medical has discovered that the anterior cingulate (aPcu) of the brain integrates information regarding location, motion, physical sensations, and joint and muscle position. [33]

#### Brain

All of our successes with the nervous system involve understanding and assistance for sensation and control, not thinking. The motor cortex, auditory cortex, and visual cortex have been mapped in great detail (by the work of Wilder Penfield and the use of fMRI). We are a long ways from understanding what constitutes a conscious thought.

We can’t yet “read” a person’s thoughts. The closest we’ve come so far (at this point in time) has been the work of Jerry Tang and Alex Huth at the University of Texas. [34] Their system requires the use of fMRI (which tracks changes in blood flow in regions of the brain using an MRI machine) with output to an AI system. This establishes a baseline pattern corresponding to various thoughts and words, with at least 16 hours of dedicated training time. Later, when the same individual reads or thinks about something (while in an MRI) the system is able to match many of the words. An alternative would be to study the signal

patterns generated when a person thinks about forming the words in speech. We still have no idea where these thoughts are “stored.”

## Electrodes

The human brain contains nearly 100 billion neurons, with up to 7,000 dendrites for synaptic connection in each neuron. Mapping all the connections and using electrodes to record signals from each neuron is simply not possible. Even if we could record a voltage signal from each cell at each instant, it would be an enormous collection of numbers with no meaning to us.

## Brain duplication

Thomas Ray argues that Kurzweil’s “simple” mapping and copying of brain locations is anything but simple:

*It is not only infeasible to “copy” a complex organic organ into silicon without losing its function, but it is the least imaginative approach to creating an AI. How do we copy a serotonin molecule or a presynaptic vesicle into silicon? ...There is no known technology for building complexly differentiated microscopic structures on such a large scale...*

*The structure and function of the brain or its components cannot be separated. The circulatory system provides life support for the brain, but it also delivers hormones that are an integral part of the chemical information processing function of the brain. The membrane of a neuron is a structural feature defining the limits and integrity of a neuron, but it is also the surface along which depolarization propagates signals. The structural and life-support functions cannot be separated from the handling of information.* [35]

## State of technology

Jennifer Gidley notes the similarity of transhumanist ideas to Superman, Cyborgs, androids, and the Terminator:

*I raise the Posthuman-Superman analogy for two reasons. First, to draw attention to the sci-fi roots of posthumanism. Like transhumanism, and the singularity, the posthuman-superman imaginary has emerged from a century of techno-utopianism and science fiction. In spite of all the hype around AI and ASI (artificial super-intelligence), we need to be clear that posthumanism is still a science fiction concept at this point in human history. MIRI’s website states that even “human-equivalent general intelligence is still largely relegated to the science fiction shelf.” Regardless of who writes about posthumanism, and whether they are Oxford philosophers, MIT scientists, or Google engineers, we do not yet have the scientific and technological means to create such entities.* [36]

## Computing power

Ray Kurzweil is overly-optimistic about computing power, says James Kunstler: [37]

*Jaron Lanier made the point that while Moore's law may ensure ever more fabulous hardware, software tends to lag badly behind, because programs are created within their own developmental bubbles and will expect the computer world to conform to them. The result, Lanier says, is "a fractured mess of data and modeling fiefdoms": "If Moore's Law is upheld for another twenty or thirty years, there will not only be a vast amount of computation going on Planet Earth, but also the maintenance of that computation will consume the efforts of almost every living person. We're talking about a planet of helpdesks."*

## 2. Philosophical

### Human identity issues

Nick Bostrom writes-

*It is possible that there are some limitations that are impossible for us to transcend, not only because of technological difficulties but on metaphysical grounds. Depending on what our views are about what constitutes personal identity, it could be that certain modes of being, while possible, are not possible for us, because any being of such a kind would be so different from us that they could not be us...(I)f the mode of being of a posthuman being is radically different from that of a human being, then we may doubt whether a posthuman being could be the same person as a human being, even if the posthuman being originated from a human being. [38]*

Humans are a complex mind-body combination. We don't think of ourselves as a controller inside of a robot. All of our contact with the external world is through the body via physical sensations.

### New Gnosticism

The philosophy of Gnosticism held that matter was evil and spirit was good, that bodies were prisons for the mind. Transhumanism runs the risk of despising our physical bodies. This is a terrible position.

For the advocate of transhumanism, our human bodies are our prime obstacle or limitation to becoming what we should be. They argue that whatever human modification will allow us to get past our bodies should be welcomed.

Scripture, on the other hand, teaches us that-

- God created the world and called it "good." He created humankind, with physical bodies, and called them "very good."
- Jesus –God the Son- came into this world in a human body via childbirth. Living as a human (really as the God-man) he healed people, fed people, raised the dead, stopped storms, and announced the Kingdom.
- Jesus suffered and died physically-"the Just for the unjust"- and rose with a glorified body.
- The church is called Christ's Body, with all parts important (1 Cor. 12).
- We are to present our bodies as "living sacrifices", holy and acceptable to God (Rom. 12).
- God's promise is that our bodies will be resurrected at the return of Christ (1 Cor. 15).

Transhumanism is ultimately hedonistic

*Transhumanism builds on the assumptions of human evolution and argues that we have the chance—or perhaps the responsibility—to take control of our species' evolution, using everything at our disposal,*

*including technology, to overcome whatever we decide to define as a problem. This way of thinking also works primarily on the level of individual self-interest and the right of the person to do whatever they want to modify themselves in whatever way they see fit for whatever goal or good they want to pursue.* [39]

Transhumanism is a dangerous utopianism

Ted Peters writes:

*...Transhumanists are not intimidated by the proscription against playing God. The transhumanists among us plan to employ genetic engineering along with digital enhancement of human intelligence to advance human evolution to its next stage, to a posthuman species. "Current humanity need not be the endpoint of evolution," claims Nick Bostrom at Oxford. Prometheus and Frankenstein should simply get out of the way when the transhumanist marches by. From Prometheus to Frankenstein, the myth of punishment for challenge to the Gods derives always from the same cause: the stoical acceptance of human limitations deemed impossible to overcome—and the cowardly fear of the unknown ... Let us reject irrational hubrophobia and seek to improve our minds and bodies in any way we can.*

*No stop sign ethics here. The transhumanist confidence in the advance of technology draws upon a utopian vision, a vision of future human fulfillment or even posthuman fulfillment in a kingdom where rational intelligence has transcended its previous biological imprisonment. The information pattern which is our mind will be transferred from biological brains to computer substrates or even the cloud, escaping the vicissitudes of bodily disease, deterioration, and death. We will become Homo cyberneticus. Not only as individuals but also as a social community and even as a cosmic community we will experience ecstatic human flourishing, the abundant life which previous religious visionaries could only dream of. "Let us cast aside cowardice and seize the torch of Prometheus with both hands." [40]*

Francis Fukuyama warns of multiple dangers posed by transhumanism: increased manipulation and control of human behavior, unknown side effects, and greater social inequality as those with sufficient resources become enhanced. [41]

Transhumanism is tied to human pride

*The pride that can be said to be visible in transhumanism is not only in terms of the transgression of boundaries, but also the hubris of being the one to decide. Who decides which human limitations should be transcended? What attributes should be enhanced? Who should have access to these forms of technology? (Paul) Ramsey asks whether human beings will ever be "wise enough" to successfully alter ourselves or our species. Wisdom is also emphasized by (Ted) Peters, who describes "playing God" in another way, namely to "confuse the knowledge we do have with the wisdom to decide how to use it". As one of the cardinal virtues, it makes sense that wisdom is also an aspect of the discussion on sin. [42]*

### 3. Spiritual

Transhumanism begins with an assumption that human limits are a terrible thing. What if those very limitations help to really make us human and open the door for great blessings?

*...(Michael) Burdett looks back at the past two centuries of technological development, and at cultural representations of that development and of the technological future. Specifically, he highlights the ways in which utopian thinking has been evident as part of technological development as well as at ways in which the literature of science fiction has portrayed technology, technological development, and the technological future. Transhumanism did not develop out of thin air, but rather is in continuity with technological advancement and the technological imagination over the past 200 years, even if it does represent an extreme view of the possibilities of technology. In addition, reviewing this history and these cultural representations helps to reveal the close relationship between technology and religion. [43]*

According to Nancy Pearcey [44] transhumanism makes the error of mind/body dualism, suggesting that the mind and the body can be totally separated (which only happens at death).

In “Digital Analogues of Heaven” [45] Donovan Gopaul discusses Steinhart’s theory of digital afterlives:

*Missing are any place for the emotions, the spirit, the capacity to relate to God, any dreams and unconscious activity, and any true mechanism for continuity. What is preserved is still not the real person but a partial copy of the person up to a certain point in time. A detailed record of the past does not guarantee that the same person continues into the future.*

*The concept present in the Bible is that every human who ever lived is resurrected (not just those with uploaded minds), to live forever with the Lord or forever separated from Him. [46]*

The fundamental problem with “enhancement” is that we are all still fallen creatures. Enhanced capabilities will certainly be used by some for enhanced evil.

## Comparison with Christian Truth

Transhumanism is not the Good News. It is not the goal of human existence nor the expectation of God’s people. [47]

Transhumanism (materialistic)	Christianity
Goal: expand human performance, remove human limitations	Goal: glorify God; expand His Kingdom
Nothing fixed or valuable in humanity	Humans are divinely created and valuable
Human beings are machines	Humans are created in God’s image
Humans should merge with computers	Humans may use computers as tools
Death is an enemy to be overcome by technology	Death is an enemy that has been overcome by Christ
Humans should be autonomous	Humans should be in relationship with God and dependent on Him

Transhumanism is rooted in a deep discontent, a refusal to accept how God made us (Ps. 139).

Wesley Smith makes the case that the Singularity and the rapture have much in common. [48] Both

- Occur at a specific moment in time
- Promise that death will be defeated
- Herald a new age.
- Banish death and suffering from human experience.
- Promise new bodies.

Transhumanism is a false salvation, a (cheap) substitute for salvation, suggests Matthew Eppinette: [49]

Christian expectation	Transhumanist expectation
Death followed by resurrection	Always conscious
Present with the Lord after death	No mention of Christ
Resurrection as a key event	The Singularity as a key event
Resurrection bodies that won't die	Enhanced or engineered bodies
Transformed to be like Christ	No transformation
No sin or evil present	Continued potential for sin and evil
New heavens and earth	Technological progress on earth
Life forever with the Lord	(Typically no inclusion of God)

*Transhumanism is a futuristic social movement. Its adherents believe that immortality is attainable in the corporeal world through the wonders of applied technology. The goal is to become “H+,” or more than human. Transhumanist proselytizers include academics like Oxford’s Nick Bostrom, Big Tech gurus like Ray Kurzweil, and popularizers like 2016 presidential candidate Zoltan Istvan. They promise that “the singularity” is coming—the time when a crescendo of scientific advances will make the movement unstoppable and transhumanists will transform themselves into super-beings who can enjoy physical life without end.*

*Transhumanist dogma is entirely materialistic. Its focus is solipsistic, its purpose eugenic. Moreover, it rejects basic Christian tenets like sin, the need for divine forgiveness, the value of redemptive suffering, and eternal salvation.*

*First principles matter, and those of transhumanism and Christianity could not be more contradictory. Transhumanism is materialistic. Christianity is theistic. Transhumanism is utopian. Christianity sees the*

*fallen world realistically. Transhumanism perceives immortality as something that can be achieved by men. Christianity identifies eternal salvation as the mercy of a loving God. Its eschatology focuses on God's promises, not upon advanced scientific applications. [50]*

#### CDMA Statement

The Christian Medical and Dental Association (CMDA) released a statement on human enhancement: [51]

*(T)he pursuit of human re-engineering would, in contrast, sinfully distract from God's intentions for human flourishing and stewardship*

*(T)he misuse of biomedical technology to address issues caused by social pathology is poor stewardship that aggravates rather than solves those issues and is ultimately futile, as it fails to legitimately or effectively address the true problems, which lie outside the domain of medicine*

*(T)he human biomedical re-engineering project, which has the potential to radically alter or even eradicate dimensions of God-given human nature is, therefore, unacceptable, unethical, and imprudent*

*(C) coerced re-engineering of human beings by governments, military forces, insurers, or private enterprises for the condition of employment or service is contrary to human dignity and freedom; health care professionals should maintain the right of conscientious objection against complicity with such coercion...*

*(E)very scientist, researcher, engineer, and medical professional should interrogate each biomedical technology and its use in specific situations with ...questions to assist in the determination whether the application is God-honoring, acceptable, ethical, prudent, and just.*

Among the questions proposed by the CMDA- [52]

- *Does the technology require or promote the commodification, exploitation, or destruction of human life?*
- *Does it demean, debase, or degrade individuals?*
- *Does it require or reinforce diminished views of human life, human value, and the human being?*
- *Does the technology primarily appeal to our basest inclinations?*
- *Does it appeal to our pride?*
- *Does it encourage materialism?*
- *Does it promote narcissistic self-absorption?*
- *Does it appeal to lust or promote sexual commodification?*
- *Does it promote servitude or enslavement to fickle whims of fashion?*
- *Does it support or perpetuate obsession with one's body image?*
- *Does the technology promote genuine human flourishing, or does it more likely promote technological or economic imperatives?*

#### Conclusions

Yuval Noah Harari is an Israeli scholar who has become one of the most outspoken voices for the transhumanist agenda. In his 2017 book *Homo Deus* [53], Harari presents his vision for humanity's future:

- Humans have become the dominant species but must continue to progress.

- Humans seek happiness, immortality, and God-like abilities.
- Humans are becoming more algorithmic, but may eventually become obsolete, swallowed up by huge data.
- What will happen to society, politics, and daily life when non-conscious but highly intelligent algorithms know us better than we know ourselves? (p. 462)
- “Having raised humanity above the beastly level of survival struggles, we will now aim to upgrade humans into gods, and then Homo sapiens into Homo deus.” [54]
- The expectation is a category of “Homo deus” with super abilities and eternal life that may replace humans.
- In the religion of “Techno-humanism” humans must actively upgrade their minds to “stay in the game.” [55] (Ultimately, we have no free will)
- In the future we may expect two classes of humanity: the rich being upgraded into virtual gods, and the poor being degraded to useless beings, kept happy with drugs and computer games.

In response, Oxford mathematician John Lennox authored the book *2084* in which he states--

*Both Genesis and science say that the universe is geared to supporting human life. But Genesis says more. It says that you, as a human being, bear the image of God. The starry heavens show the glory of God, yes; but they are not made in God's image. You are. That makes you unique. It gives you incalculable value. The galaxies are unimaginably large compared with you. However, you know that they exist, but they don't know that you exist. You are more significant, therefore, than a galaxy...*

*Harari thinks that physical death has been reduced to a mere technical problem that is ripe for solution by medical science.<sup>6</sup> In other words, he thinks that within the not too distant future, although we may die, we shall not have to die. A “cure” for death will be found. As if death were a disease – but is it? I would not be so sure for reasons that will appear later. At any rate, this claim seems very far-fetched...*

*Man thinks he can become God. But infinitely greater than that is the fact that God thought of becoming human. [56]*

The problem of physical death has been solved, suggests Lennox. A true Homo Deus already exists. He took on flesh and experienced death so that we could come to the Father. [57]

It's not wrong to desire to relieve pain, to diminish suffering, and to extend life within God-given parameters. The actual goal of transhumanism, however, is the total elimination of aging and death. Trans-humanism is primarily salvation through technology. It is very much focused on the self.

Doug Groothuis writes-

*Nor is there anything amiss in pursuing human betterment as long as this does not become a substitute religious quest that displaces the gospel. We should seek the technological enhancement of the human condition, but within God's moral framework. There is nothing morally wrong with a pacemaker that keeps someone's heart beating. [58]*

Biblically, we are not intended to live forever. We are not intended to live independently of God. We are also not intended to live life without ever experiencing pain and suffering. God's purpose for us is to grow in relationship with Him, to demonstrate his reality and character in the world, and to become increasingly conformed to the image of Christ. When life on earth has finished, we have a future with Him in a grand resurrected body.

Groothuis writes further-

*Being human is good enough for humans by God's standards. This is our place in nature and before God. The pressing issue is whether one is redeemed through the work of Jesus Christ. If so, while one remains a human forever, one is born again, filled with the Spirit of God, and eventually raised from the dead in an imperishable body. This is not the transition of the human to the posthuman, but the perfection and glorification of the human being through the mercy and saving power of the one true God. [59]*

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