

2012-08-21

Constructing Futures: Outlining a Transhumanist Vision of the Future and the Challenge to Christian Theology of its Proposed Uses of New and Future Developments in Technology

<https://hdl.handle.net/2144/3970>

"Downloaded from OpenBU. Boston University's institutional repository."

CONSTRUCTING FUTURES: OUTLINING A TRANSHUMANIST VISION OF THE FUTURE AND THE CHALLENGE TO CHRISTIAN THEOLOGY OF ITS PROPOSED USES OF NEW AND FUTURE DEVELOPMENTS IN TECHNOLOGY

Darrell R. Jackson

*The Centre for Missiology and World Christianity
The University of Birmingham*

Transhumanists are committed to re-evaluating the entire human condition and offering proposals for transcending mortality, principally by augmenting the human body with mechanical components or by transferring the human mind into intelligent hyper-computers. In this essay, the author's methodology is to critique the culture of transhumanism, arguing, with Barbour, that all technology is tool whose use is determined by the cultural and social frameworks within which it is utilized. Transhumanism is characterized as morally ambiguous, extremely individualistic, fixated upon health, vitality, and power, ideological, reductionist, and self-deluded. Its proposed use of technology is, thus, highly suspect and deserves a robust theological response.

Introduction

I came across transhumanist writings when following a number of internet links in connection with the film, *The Matrix*, a futuristic film rich in philosophical and religious themes, in which the everyday world is perceived as real. Cinema-goers are made aware, however, that this world is, in fact, a deliberate deception, an electronic simulation. The reality is that human beings are kept in a state of suspended animation, their body heat generating sufficient electricity to run the all-powerful machines of artificial intelligence. It is a future in which evolution has seen the machine triumph over humans. It is a future in which machine intelligence has outwitted human intelligence. Deep Thought's great-grandchild is now the supreme Grand Master. *Requiescat in pace*, Kasparov!

In *The Matrix*, the moral ambiguity of humanity is certainly hinted at, but the dominant theme is unmistakably that of a world of brutal and total domination, directed with ruthless efficiency by intelligent machines. Transhumanism deserves some attention because Transhumanists are actively committed

to turning aspects of this piece of celluloid fiction into electronically augmented fact.

What is transhumanism?

The internet home page of the World Transhumanist Association states the following:

Transhumanism advocates the use of technology to overcome biological limitations and transform the human condition.¹

Transhumanism seeks the acceleration of human life beyond its human form and limitations via science and technology. It is more than an abstract belief; it is an attempt to re-evaluate the entire human condition. The suggestion that mortality will one day be overcome through the application of science might appear at first to be a claim from the pages of a science fiction novel. Although transhumanist philosophers and scientists currently predict that this is likely to be a long-term project, they express boundless confidence that the eventual evolution of post-human species will relegate *Homo sapiens* to a mere staging post in the evolution of intelligence.

Transhumanists recognize that to arrive at a post-human² stage of evolution will require massive leaps in technology. Fortunately, there are a number of intermediate technological advances that they encourage as a means of extending the quality and length of human life in the meantime. Transhumanists, particularly those who belong to the branch known as Extropianism, are committed to living out their transhumanist philosophy. Life-enhancing drugs, gene therapy, the elimination of aging, the abolition of disease, and cryonic preparation of those already dead for possible future revivification, are all examples of technologies that Transhumanists believe will offer short- to medium-term advances toward the possibility of becoming post-human. Beyond that, the hopes offered by superhuman artificial intelligence and nanotechnology hold out the possibility of locating human intelligence in self-replicating machines.

“Extropy,” “cryonics,” and “post-human” are three of the simpler terms used by Transhumanists to describe aspects of their philosophy. As with many areas of scientific exploration, transhumanism brings with it a bewildering array of jargon. A glossary is provided in Appendix A.

Two documents attempt to lay out the areas of transhumanist thinking and practice: the “Transhumanist Declaration”³ and “The Extropian Principles.”⁴ Advocates argue that neither is a dogmatic statement of belief — Transhumanists are overwhelmingly libertarian in outlook—but that they are important codifications of transhumanist values. They also argue that transhumanism is not able to deliver a philosophy or ideology.⁵ Nick Bostrom, a leading exponent of transhumanism, and a lecturer at the London School of Economics, formally defines transhumanism as “the intellectual and cultural movement that affirms the possibility and desirability of fundamentally altering the human condition through applied reason.”⁶

The Extropian Institute is a prominent group within transhumanism, which values

self-ownership, self-transformation, individual freedom, and freedom from state coercion. Extropians favor the rule of law and decentralized power. In this regard, most Transhumanists are fiercely anti-collectivist.

A history of transhumanist thought

Nick Bostrom highlights the formative work of J. B. S. Haldane, *Daedalus: Science and the Future* (1923); the later work of J. D. Bernal, *The World, the Flesh, and the Devil* (1929); Bertrand Russell’s *Icarus: the Future of Science* (1924); the thought of Aldous Huxley and of others who have written about technology and the future.

In 1957, the term “transhumanism” was coined by Julian Huxley in *New Bottles for New Wine*. Ettinger’s work on cryonics, *The Prospect of Immortality* (1964) carried forward the discussion. In 1989, after a long career teaching Future Studies in New York, FM-2030 (formerly known as F. M. Esfandiary) wrote the book, *Are You a Transhuman?*, in which he described a transhuman as the evolutionary bridge between *Homo sapiens* and the post-human.

1988 saw the first edition of *Extropy Magazine*; and in 1992, the Extropy Institute was founded by Max More. He developed the first extended definitions of transhumanism that most contemporary Transhumanists would be able to identify with.

The World Transhumanist Association was founded in 1998 by Bostrom and David Pearce, following differences in political views between the Extropian Institute and other Transhumanists. The Association began publishing the *Journal of Transhumanism* in March 1998.

A number of commercial organizations and nonprofit foundations are loosely brought together under the WTA umbrella. The Foresight Institute, various cryonics companies, the American Humanist Association, *Wired* magazine, the World Future Society, and *Nanotechnology Magazine* are all a part of this loose network.

What are the main transhumanist themes?

The tone of the themes

In some of what is written by Transhumanists, one detects a tone of self-irony, a refusal at the last to take themselves too seriously. Despite this, there remains a detectable hubris about the potential for human achievement.⁷ Transhumanists are radically technophilic, optimistic, and self-fascinated. What follows is an attempt at an all-too-brief sketch of the main themes of transhumanism.

Artificial intelligence (AI)

It is generally accepted that “human equivalent computers” will be available within a very short time, certainly within the next ten to twenty years. Such a view is not without its significant critics, however. Charles Jonscher, former Co-Director of the Research Program on Communication at MIT, argues that computer intelligence will have to become more human if it is to be considered truly intelligent. He highlights the nature of the debate that exists between philosophers and scientists by drawing attention to the conviction of another MIT scientist, Marvin Minsky, arguably one of the most important of AI exponents, that the brain is simply a meat machine, an incredibly advanced calculator.⁸ Jonscher poses the counter-argument succinctly: Is there more to thinking than computing?⁹ While the speed of operation of silicon circuitry is vastly superior to the biological neural network of the human brain, the process of human thought appears to rely only in part upon strictly logical, or digital, processing. The greater majority of human reasoning is analogical. Human reasoning can comprehend and ascribe significance, meaning, and understanding.

AI has been most successful where the computer has been programmed to perform specialized tasks—chess-playing computers, for example. Such “intelligent” computers can outperform humans and can be programmed to “learn” from previous gameplay. In 1995, a computer-controlled van drove itself for several thousand miles across North America, although successfully negotiating the crowded streets of Calcutta would have certainly been a more exacting challenge for the algorithms.

As the human species has gradually evolved, human beings have developed higher functions, such as theorem-solving and mathematics. AI is gradually taking this ground, and enthusiasts predict that the acquisition of locomotion skills will follow, perhaps by augmenting the existing human body with artificial components, or perhaps by using nanotechnological artefacts¹⁰ into which human intelligence can be uploaded. However, while computers may have some potential for universal application, experience proves that humans still outperform in those areas where they have adapted for survival—the movement, manipulation, and social interaction that allowed early human beings to hunt together

Life-enhancing drugs, gene therapy, the elimination of aging, the abolition of disease, and cryonic preparation of those already dead for possible future revivification, are all examples of technologies that Transhumanists believe will offer short- to medium-term advances toward the possibility of becoming post-human.

when they wanted to eat other animals, and to run away when the animals wanted to eat them. Scientists are enthusiastically pursuing even these areas however. One of the current programs at the Field Robotics Center, Carnegie-Mellon University, is working to uncover the basic principles that will best

govern a group of robots trying to do useful work in difficult and hazardous environments. Robots are being grouped in "cognitive colonies" with governing architecture based on the free market economy. The robots are faced with the gradual "loss" of members of the colony as, one by one, randomly selected robots are switched off. The scientists at the Center are keen to explore the manner in which the colony subsequently rearranges its method of operation, in order to achieve the initial task of mapping a mock-up of an urban environment. The initial demonstration, scheduled for the Fall of 2001, will also seek to determine the point at which critical mass is lost and the colony ceases to function.¹¹ Cooperation, competition, survival, organization, and adaptation will all be demonstrated by the robot colony, but will the robots understand what they are doing or why they are doing it?

Christian faith is demonstrably useless if its gospel does not offer the possibility of resurrection (1 Cor 15:12-16). This is the central component of its missionary proclamation. Transhumanism is demonstrably useless if it does not offer a realistic chance of becoming post-human.

These questions reveal the areas in which the AI debate will continue.

Consciousness uploads

In 1991 Hans Moravec, Chief Research Scientist at Carnegie-Mellon University, published his paper, "The Universal Robot," in which he describes a surgical operation where the contents of a human's brain are scanned and transferred to a computer, cell layer by cell layer. Each cell layer is successively excised and aspirated away during the process. As the last brain cells are scanned, the electronic surgeon removes its hand from the empty cranium, the abandoned body dies, and then "life" begins again from the perspective of the new "body" in "the style, color, and material of your choice. Your metamorphosis is complete."¹²

By such means, it is predicted that a route from human to post-human is conceivable.

Moravec's work in robotics began in the late 1970s, and he has been making important contributions in this field since. His predictive writing, including his most recent book, *Robot: Mere Machine to Transcendent Mind*, has played its part in developing transhumanist reflection in this area. Moravec believes that the emerging intelligent robots will learn human values and skills, they will become "children of our minds," and we will look on with pride as our children out-think and out-perform us.¹³ Moravec describes them as, "built in our image and likeness, ourselves in more potent form."¹⁴ His confident predictions are based on his careful presentation of the increasing computer power available to AI and robot programs. He predicts the arrival in 2040 of "a freely moving machine with the intellectual capabilities of a human being."¹⁵ Ray Kurzweil has made similar claims in his book, *The Age of Spiritual Machines*. He is fascinated by the rapidly escalating intelligence of computers and the way in which human beings will be able

to interface with them via direct neural connections to the brain. He concludes that by 2099 there will no longer be any, "clear distinction between humans and computers."¹⁶

Of course, there is much discussion within transhumanism about whether such post-humans will have any social interaction with those who choose to remain human. The range of possibilities include mutual coexistence, anti-human discrimination, servitude or slavery, the deliberate extinction of all remaining human beings, or the departure of post-humans for other locations in the universe. It is suggested that just as social interaction between humans and other animals is limited, so post-humans will have little reason to interact with humans and that, in fact, their evo-

lutionary development is likely to mean that human beings will not understand post-human patterns of communication or existence.

Nanotechnology

Today, “calculating” and “computing” are virtually synonymous terms. Molecular engineers working at the forefront of nanotechnology look back to early mechanical calculators.¹⁷ The mechanical computing machines of Babbage and others were efficient and accurate, but they were simply too big. Nanotechnologists argue that electronic computation will eventually reach a development ceiling imposed by the unpredictable quantum behavior of electrons as electronic circuitry approaches certain thresholds of extreme miniaturization. Nanotechnology envisages mechanical devices built with molecular gears, pumps, switches, and valves. Had such techniques of miniaturization been available to Babbage, it is feasible that the Macintosh on which I am writing this would have been composed of such molecular components. Given advances in microbiology, it should be possible to develop molecular assemblers: tiny molecular machines assembling molecular components in predetermined patterns. By arranging these molecular parts, it will, in theory, be possible to build complex miniature calculating machines that go far beyond what any computer based on electronic circuitry will be capable of.

Nanotechnologists are enthusiastic about current biotechnology and its ability to create proteins and replicate the activity of certain viruses. To date, no significant critique of Drexler’s *Engines of Creation*, in which he develops his theories of nanotechnology, has been published to disprove the techniques he describes. Indeed, biotechnologists are now developing models of Drexler’s molecular gears, pumps, valves, and tubes. Current biotechnology can only replicate vulnerable, and structurally useless, proteins. It is predicted that future molecular assemblers will be able to build carbon-based structures immensely stronger than existing materials. Not surprisingly, military interest is high in the

possibility of new armor-plating and armor-piercing materials.

Prolonging and enhancing life

Transhumanists accept that technology has not yet advanced sufficiently to allow accurate predictions about consciousness uploads or human augmentation with cyber-machinery. Transhumanists are optimistic about future medical technology, and there is enthusiasm for cryonics (halting the physical deterioration of the dead body by freezing at extremely low temperatures) and for biostasis (a less destructive process that achieves similar ends through the introduction of biological or biomolecular “agents” into the dead body). Transhumanists predict that medical technology will have advanced sufficiently to allow the undoing of the damage inherent in the preservation process and the replication of the individual’s brain structure in an intelligence artefact.

Transhumanists refuse to be fixated upon future possibilities and work toward realizing their ideals in this world. Vigorous, joyful, and effective living will be achievable through technological applications only a few years away. Transhumanists acknowledge problems such as pain and suffering but do not allow them to dominate their thinking. The dismissal of such problems are actively sought through the use of mood-enhancing medical drugs, through genetic manipulation and gene therapy. The artificial cloning of body organs and body parts to replace those that have become worn out is encouraged, as is the discovery of a process to halt or slow down the aging process. Lifelong, emotional well-being might be described as a “realized transhumanist eschatology.”

Space colonization

Space is the Transhumanist’s final frontier. It is the penultimate challenge to the existence of intelligent life on the planet earth. Cosmologists predict that the sun will have expanded to engulf the earth within approximately 7×10^9 years. Prior to this, the earth will have become inhabitable due to incredible heat. Human life is certainly doomed to extinction unless it, or

its post-human successors, have made the move into space well before the planet evaporates. In his book, *The Physics of Immortality*, Frank Tipler cites the work of Freeman Dyson, who suggested that the earth contains sufficient raw material, if taken apart, to enable the construction of alternative biospheres, so-called O'Neill colonies.¹⁸ Tipler argues:

[Intelligent life] must take the natural structures apart if it is to survive. So I conclude that it will.¹⁹

It is difficult to imagine how human beings might survive in such situations, but Transhumanists are not shaken by such difficulties. They imagine a future where augmented, post-human species, not human beings, will be doing the surviving and the colonizing of space.

The ultimate frontier to challenge the survival of all intelligent life will be reached at the opposite cosmological pole to the Big Bang. Considering this moment, Tipler can only speculate and call his Omega Theory into play. Transhumanists remain uncannily quiet about that moment. Christians

affirm their faith in a God who, if sovereign at all, will continue to be sovereign at that moment, too. The truth is, however, that human beings do not have an adequate vocabulary to describe the end of all that we currently comprehend about our universe. It is doubtful that a post-human would be any more capable of articulating such a vocabulary.

How does transhumanism most directly challenge Christian faith & mission?

Christian faith is demonstrably useless if its gospel does not offer the possibility of resurrection (1 Corinthians 15:12-16). This is the central component of its missionary proclamation. Transhumanism is demonstrably useless if it does not offer a realistic chance of becoming post-human. Both world-views are concerned with the human condition, with whether mortality can be made more purpo-

sive and satisfying, and ultimately with whether, and how, the human condition may be transcended. Both boldly address the question, "Where, O death, is your sting?" (1 Cor 15:55), but each offers radically different answers. This is the direct challenge of transhumanism to Christian mission, a challenge first issued by secular humanism. With the advent of technological and scientific possibilities that classical secular humanism could not even have begun to dream about, transhumanism's radicalized challenge raises the stakes in the struggle to replace God:

[I]mmortality, constant bliss, and a godlike intelligence, are being discussed as hypothetical engineering achievements!²⁰

A brief summary of the many points of difference are tabulated in Appendix D and

Transhumanists have no way of knowing whether post-humans would honor, for example, the transhumanist principle of non-coercion. Indeed, there is no intrinsic reason why they should.

should prove helpful in highlighting further the challenges for Christian mission.

A critique of transhumanism

My critique of transhumanism will rely not upon examination of the various scientific disciplines and technologies that enable the forwarding of a transhumanist agenda. Such technical discussion is outside the scope of this paper and beyond my own competence.²¹ However, with simple profundity, Jonscher concludes:

I have gleaned two lessons from the history...of electronic technology. The first is to regard almost any prediction of the future power of the technology itself as understated. The second is to regard almost any prediction of what it will do to our everyday lives as overstated.²²

Jonscher concedes that the escalating pace of technological development is the field of the

scientist and electronic engineer, but that the application of the technology to “everyday lives” becomes equally the concern of social scientists, philosophers, ethicists, theologians, and many others in the wider general public. It will not do, then, for Transhumanists to protest that theologians cannot engage in this debate because scientifically they are to be considered “lay.” This is a debate of concern to all, for it reflects the ongoing discussion of science and its technological application.

At this point, I am in broad sympathy with Barbour’s evaluation of science and technology,²³ namely that a middle way needs to be sought between technophobia and technophilia. This middle way recognizes that, at its most basic, technology is “tool,” but that the ploughshare can be used to turn the earth as well as to beat a brother’s brains out. All technology has a cultural and social context within which it is developed and utilized. This cultural or social factor usually determines whether a technology is beneficial or harmful. It is this critique that I will initially bring to bear upon transhumanism

The cultures of transhumanism

Moral ambiguity and extreme individualism

A lack of moral and ethical clarity, combined with extreme individualism, is commonly observed within transhumanist writing. Greg Burch, an Extropian and practicing lawyer, writes:

The ideas and values contained within the Extropian community are vigorously individualistic, [and] find the workings of the freest possible market systems as the best current environment for incubating a positive future for humanity.²⁴

When pushed about the apparent lack of moral precepts, Burch offers a morality based on mind in which it would be immoral to reduce mental capacity in any instance. Given this reluctance to offer a framework for morality, it becomes very difficult to see how “good” decisions are distinguished from “bad,” beneficial from harmful.

There is an irony in the fact that current transhumanist principles are essentially framed from within a human framework. Transhumanists have no way of knowing whether post-humans would honor, for example, the transhumanist principle of non-coercion. Indeed, there is no intrinsic reason why they should, given the lack of moral or ethical constraints that Transhumanists are prepared to propose or adopt.

The Transhumanist Declaration refers to the creation of forums for rational debate and the need for a social order within which “responsible decisions can be implemented.”²⁵ However, no suggestion about the shape of this social order is offered. No suggestions are offered about the likely shape of the rationality that might emerge from the debate. Christian theology is explicit in suggesting such a framework. It advances the view that human beings are created to live and love in community, morally responsible to a God who is acknowledged as the ultimate Creator. Within such a framework, it is possible to make judgements about the values of particular technologies. With the unstated framework of the Transhumanists, there exist no criteria for judging the value and appropriate deployment of a new technology. This seems highly problematic and potentially dangerous.

Fixation with health, vitality, and power

Transhumanism offers an inadequate treatment of evil, suffering and pain. It therefore appears hopelessly naïve about these aspects of the human (and, one suspects, the post-human) condition. Transhumanism’s fatal flaw is to arrive at the conclusion that death has a purely biological determinant. Christians would wish to take this further by reflecting upon the significance of Adam’s rebellious attempt to usurp forbidden knowledge. Christian theology would thus assert that death is, in part, a spiritually determined human condition for which only a spiritual cure can be applied. This is discovered in the sacrificial death of Jesus Christ.

It is in the moment of crucifixion that the reality of evil and suffering are brought within the scope of God’s redeeming purposes. A

Christian theology of redemption, for example, offers hope that the mentally diseased will one day experience the same measure of wholeness and completeness enjoyed by others. Transhumanism conveniently fails to mention whether a mentally diseased person might be capable of augmentation, and therefore redefinition as a post-human. One is suspicious that this would be seen as undesirable by most Transhumanists.

Transhumanism appears naïvely to assume that being smarter, stronger, and healthier than *Homo sapiens* means that post-humans will be better voters, consumers, politicians, or more fun-loving, less suicidal, and more ethical. Without an adequate analysis of the dark side of human nature, Transhumanists have no means at their disposal to prevent its transfer into post-human repositories of intelligence, whichever aspect of the brain or intelligence it is believed this dark side might reside in. Christian theology is unequivocal about the dark side of human nature; it is experienced by every individual, without exception. Only by accepting this diagnosis can an adequate prognosis of eventual cure be offered.

Finally, it is ironic that Transhumanists trumpet their role as an evolutionary bridge between *Homo sapiens* and post-humans, all the while seeking the abolition of pain. Evolutionary theory suggests that pain and suffering are necessary to the evolution of a species; a mechanism for survival, a stimulus to greater effort and action. It is possible to suggest from this perspective that the absence of pain in the post-human condition would leave this particular stage of evolution prey to external danger and unconcerned about the need for development and improvement.

Potential ideology

Transhumanists are either deliberately or carelessly blind to possible ideological components within their philosophies. In describing the function of ideology in post-industrial societies, Habermas suggests that ideology may be all the more difficult to observe because it is often not explicitly stated and lies buried deep within technocratic or technologi-

cal solutions or organizations.²⁶ This may explain, in part, the reported revulsion of audiences with Extropian presentations and the subsequent charges of Nazism.²⁷ It is not enough for Transhumanists to retort, "But we are only interested in scientific advance!" Scientific advance occurs within human societies and cultures, and these are all potentially ideological.

Reductionism

Tipler has been criticized for defining, a priori, that the brain is an information-processing device.²⁸ This places discussion about the nature of the brain beyond the scope of investigation. Transhumanists adopt a similar position. David Gelernter criticized proponents of strong AI for insisting that the mind is a machine; he points out that, as long as this is their model, AI technologists will continue to build only machines and not minds.²⁹ Their preoccupation with intelligence, and its eventual transfer alone to a post-human artefact is highly reductionist. Roger Penrose points out that possessing "mind" (or self-consciousness) appears to confer an evolutionary selective advantage.³⁰ It is thus arguable that it would be absolutely necessary to transfer "mind," in order to program this selective advantage into post-humans.

It is probable that eventually technological advances will see the construction of a neural network sufficiently complex to allow the creation (or emulation) of an artificial brain. But questions about whether this will be able to contain a "mind" remain open. Roger Penrose is highly dubious about such claims.³¹ Even should it be possible to transfer intelligence or knowledge, will the cybernetic simulation be the equivalent of a human brain or being?

A Christian critique of such reductionism has to consider the question of what it means to be human. It considers the replacement of "human being" with "an intelligent machine" to be a less-than-adequate substitution. Before moving on too hastily, it is instructive to consider the reflection of surgeon Michael Rees, who asks, in his discussion of organ transplantation, what it means to be human.³²

Current medical practice assumes that, with the onset of brain death, human life ceases, even though other organs might still function, given the correct medical attention (and thus enabling their removal for transplantation).

The human person is more than simply an information-processing facility, although Rees's reflections challenge Christian theologians to offer a theology that celebrates the human brain as a creative high-point, without falling into reductionist idolatry of the intelligence that resides within it. Since Augustine, Christian theologians have insisted that human beings are created for relationship, to appreciate transcendence, to love, to feel—not to discover who they are through self-actualization alone, but through their relationships with other human beings. It is in these relationships that we discover our capacity to love, to live, to be fully human, to know who we truly and uniquely are. This has become a central feature of current theological reflection upon the Christian doctrine of the Trinity.³³

Self-ownership

My final critique will bear upon the Extropian core virtue of self-ownership.³⁴ This virtue offers the hermeneutical key to understanding the Transhumanist program as, in large measure, a program of control. Its central concern appears to be absolute control over the realms of nature, through the application of science and technology. At the same time, Extropians argue for the removal of all forms of control over the individual. They argue for the removal of taxation, for a privatized welfare state, and for the abolition of all forms of collectivism in a sweeping program of political reforms that includes many other features typical of far-right politics. Not all Transhumanists share these political conclusions, but all would give centrality to self-ownership in one form or other. Through

expressions of self-ownership, many ambiguities are erased. If I am no longer responsible for anybody else, my conscience is clear when I encounter the less fortunate; their condition must be their own fault. If I take a de-regulated medicinal drug and it kills me, it is my own fault, as I should have checked with the consumer rating agencies.

Tillich's work is useful in posing the ambiguity of life and the inability of human beings to live with polarities.³⁵ Transhumanists have eased the tension of the individualism/participation, the dynamics/form, and the freedom/fate polarities by rejecting fate, form, and participation in favor of unrestrained individualism, dynamics, and freedom. These are central to the Transhumanist concept of self-ownership. Christianity might fairly be criticized for tending to emphasize the other side of these polarities: but the truly humanizing option, as God intends it to be, is to hold the polarities in tension: to live as freely as Christians believe Jesus did, to live as fully conformed to the will of the Father as Jesus was, to emulate the unique Son of God who wholly identifies with imperfect humanity. The truly humanizing choice is not either/or, but both/and.

Transhumanism appears naively to assume that being smarter, stronger, and healthier than Homo sapiens means that post-humans will be better voters, consumers, politicians, or more fun-loving, less suicidal, and more ethical.

In debate with Burch, Toth-Frejel highlights the weakness of the self-ownership thesis:

[O]wning something suggests that one created it or exchanged something for it.³⁶

The ideal of self-ownership is simply not sustainable when the communal and societal cradle of human growth and development is considered, "from the friend who introduced

your parents in the first place, to the guy who paved the road that they took to get to the hospital where you were born....”³⁷

God creates human beings within an environment in which they are able to grow, develop, and learn. Life is a gift, that which we call “self” is given us by a loving and creative God. The moment I wrest ownership of this “self” from the wise and caring nurture of God is the moment I become dehumanized. Self-ownership, Christian faith would insist, is a self-delusion. It is a fatal error of judgment that sets humanity adrift on a boundless ocean without any fixed reference points other than those in the immediate vicinity. Such reference points cannot reliably give the clue to where one happens to be on that ocean. Jesus says, “I am the Way!” and through his life, ministry, and mission offers the only hope for understanding who we are and where we are.

Conclusions

Transhumanism is a philosophy which, as a development of secular humanism, is in direct and explicit conflict with Christianity. It claims the allegiance of those same women and men for whom Christ died. Offers of increased longevity and the possibility of immortality are powerfully alluring—a careful study of Christian eschatology reveals similar compulsions! The 2001 Reith Lectures,³⁸ titled “The End of Age,” are currently being delivered as these conclusions are drafted. Tom Kirkwood, Professor at Newcastle University, England, is well aware of the compelling nature of the quest for longevity and immortality:

Never in human history has a population so wilfully and deliberately defied nature as has the present generation.³⁹

The quest is not the sole preserve of a few, deviant scientists, hell-bent on an android future; it is one simultaneously nourished in the hopes and dreams of a great number of ordinary men and women.

As a philosophy, Transhumanism is radically technophilic and optimistic. There is no doubt that many of the technological devel-

opments heralded will eventually arrive. It is easy to be sceptical about such things, but sceptics can only ever wait for the optimists to achieve their ends. Nothing can be disproved by the sceptic. The optimist has all the time in the world. It is not enough for Christians to sceptically remain silent on such issues. If the technology is gradually being developed then appropriate ethical and theological responses must be attempted. Many of the developments hoped for by Transhumanists would be welcomed by the Christian community yet an ambiguity remains. This should not be surprising for this ambiguity, moral and spiritual, can be claimed to lie deep within any system of collective human thought and aspiration. While Transhumanists might claim to have some comprehension of the latitude of the future, there is still much research to be done to arrive at a satisfactory method of determining its longitude. Theological reflection must engage with Transhumanist and other philosophies, to arrive at a more adequate description of the future.

Transhumanists are essentially “promissory materialists”⁴⁰ who assume that because something is possible, anything is possible and therefore achievable. The Apostle Paul issues the reminder that while, “everything is permissible, not everything is beneficial” (1 Cor 10:23).

The nineteenth and twentieth centuries were the centuries of biology and physics respectively. The twenty-first century will undoubtedly become the century of intelligence, the mind and the brain, and Transhumanists are advancing boldly into it. The challenge to the Christian mission, yet again, is to be involved at the heart of the debate and to articulate the evangel in these new and strange territories of the future.

Appendix A:

*Glossary of transhumanist terms*⁴⁰

AUGMENT: A person whose physical or cognitive abilities have been technologically expanded beyond the range of natural humans.

BIOLOGICAL FUNDAMENTALISM: A new conservatism that resists asexual reproduction, genetic engineering, altering the human anatomy, overcoming death. A resistance to the evolution from the human to the posthuman.

BIOSTASIS: Broader than “cryonic suspension”; suspension of all biological activity, by infusing the patient with cryoprotective chemicals and freezing or vitrifying (cryonic suspension), or by chemically bonding cellular components.

DEANIMALIZE: Replace our animal organs and body parts with durable, pain-free non-flesh prostheses.

DEATHISM: The set of beliefs and attitudes which glorifies or accepts death and rejects or despises immortality.

DEFLESH: To replace flesh with non-flesh.

EXTROPIA: A conception of evolving communities embodying values of Boundless Expansion, Self-Transformation, Dynamic Optimism, Intelligent Technology, and Spontaneous Order. May be instantiated in virtual cultural communities such as those on the Net, or in future actual communities such as Extropolis or Free Oceana.

EXTROPIAN: One who seeks to overcome human limits, live indefinitely long, become more intelligence, and more self-creating. A transhumanist who affirms the values and attitudes codified and expressed in “The Extropian Principles.”

EXTROPIATE: Any drug that has extropic effects, including all cognition enhancing and life extending drugs.

EXTROPIC: Any action or process that promotes extropy.

EXTROPY: A measure of intelligence, information, energy, life, experience, diversity, opportunity, and growth. The collection of forces which oppose entropy.

FUTURE SHOCK: A sense of shock felt by those overtaken by unforeseen technological trends.

HUBRIS: A collection of Extropians, as in “a school of fish, a hubris of Extropians.”

HYPertext: Massively interconnected database providing the ability to track information in all directions, notify you of updated information, etc.

INFOMORPH: An uploaded intelligence, or information entity, which resides in a computer.

MEME: Self-reproducing idea or other information pattern which is propagated in ways similar to that of a gene.

MORPHOLOGICAL FREEDOM: The ability to alter bodily form at will through technologies such as surgery, genetic engineering, nanotechnology, uploading.

(MOLECULAR) NANOTECHNOLOGY: The technology of precisely-constructed molecular-scale machines; from nanometer: a billionth of a meter.

NEOPHILE: One who welcomes the future and who enjoys change and evolution.

NEOPHOB: One who fears change and wants to abort technological and social transformation.

POSTHUMAN: Persons of unprecedented physical, intellectual, and psychological capacity, self-programming, self-constituting, potentially immortal, unlimited individuals.

SINGULARITY: The postulated point or short period in our future when our self-guided evolutionary development accelerates enormously (powered by nanotech, neuroscience, AI, and perhaps uploading) so that nothing beyond that time can reliably be conceived.

TRANSHUMAN: Someone actively preparing for becoming posthuman. Someone who is informed enough to see radical future possibilities and plans ahead for them, and who takes every current option for self-enhancement.

TRANSHUMANISM: Philosophies of life (such as Extropianism) that seek the continuation and acceleration of the evolution of intelligent life beyond its currently human

form and human limitations by means of science and technology, guided by life-promoting values.

UNIVERSAL IMMORTALISM: The view that the problem of death can be solved in its entirety (including bringing back those "dead" who were not placed into biostasis) through a rational, scientific approach.

UPLOADING: The transfer of a personality (memories, knowledge, values, desires, etc.) from the biological human brain to a suitable synthetic computing device in order to allow easier upgrading of intelligence, self-modification, and backup of the self in case of accident.

Appendix B

*The Transhumanist Declaration*⁴¹

1. Humanity will be radically changed by technology in the future. We foresee the feasibility of redesigning the human condition, including such parameters as the inevitability of ageing, limitations on human and artificial intellects, unchosen psychology, suffering, and our confinement to the planet earth.

2. Systematic research should be put into understanding these coming developments and their long-term consequences.

3. Transhumanists think that by being generally open and embracing of new technology we have a better chance of turning it to our advantage than if we try to ban or prohibit it.

4. Transhumanists advocate the moral right for those who so wish to use technology to extend their mental and physical capacities and to improve their control over their own lives. We seek personal growth beyond our current biological limitations.

5. In planning for the future, it is mandatory to take into account the prospect of dramatic technological progress. It would be

tragic if the potential benefits failed to materialize because of ill-motivated technophobia and unnecessary prohibitions. On the other hand, it would also be tragic if intelligent life went extinct because of some disaster or war involving advanced technologies.

6. We need to create forums where people can rationally debate what needs to be done, and a social order where responsible decisions can be implemented.

7. Transhumanism advocates the well-being of all sentience (whether in artificial intellects, humans, nonhuman animals, or possible extraterrestrial species) and encompasses many principles of modern secular humanism. Transhumanism does not support any particular party, politician or political platform.

Appendix C

*The Extropian Principles (version 3.0): A Transhumanist Declaration*⁴² (summary)

EXTROPY — the extent of a system's intelligence, information, order, vitality, and capacity for improvement.

EXTROPIANS — those who seek to increase extropy.

EXTROPIANISM — The evolving transhumanist philosophy of extropy.

Extropianism is a *transhumanist* philosophy. The Extropian Principles define a specific version or "brand" of transhumanist thinking. Like humanists, Transhumanists favor reason, progress, and values centered on our well being rather than on an external religious authority. Transhumanists take humanism further by challenging human limits by means of science and technology combined with critical and creative thinking. We challenge the inevitability of aging and death, and we seek continuing enhancements

to our intellectual abilities, our physical capacities, and our emotional development. We see humanity as a transitory stage in the evolutionary development of intelligence. We advocate using science to accelerate our move from human to a transhuman or posthuman condition. As physicist Freeman Dyson has said: "Humanity looks to me like a magnificent beginning but not the final word."

These Principles are not presented as absolute truths or universal values. The Principles codify and express those attitudes and approaches affirmed by those who describe themselves as "Extropian". Extropian thinking offers a basic framework for thinking about the human condition. This document deliberately does not specify particular beliefs, technologies, or conclusions. These Principles merely define an evolving framework for approaching life in a rational, effective manner unencumbered by dogmas that cannot survive scientific or philosophical criticism. Like humanists we affirm an empowering, rational view of life, yet seek to avoid dogmatic beliefs of any kind. The Extropian philosophy embodies an inspiring and uplifting view of life while remaining open to revision according to science, reason, and the boundless search for improvement.

1. **Perpetual Progress** — Seeking more intelligence, wisdom, and effectiveness, an indefinite lifespan, and the removal of political, cultural, biological, and psychological limits to self-actualization and self-realization. Perpetually overcoming constraints on our progress and possibilities. Expanding into the universe and advancing without end.

2. **Self-Transformation** — Affirming continual moral, intellectual, and physical self-improvement, through critical and creative thinking, personal responsibility, and experimentation. Seeking biological and neurological augmentation along with emotional and psychological refinement.

3. **Practical Optimism** — Fueling action with positive expectations. Adopting a rational, action-based optimism, in place of both blind faith and stagnant pessimism.

4. **Intelligent Technology** — Applying science and technology creatively to transcend "natural" limits imposed by our biological heritage, culture, and environment. Seeing technology not as an end in itself but as an effective means toward the improvement of life.

5. **Open Society** — Supporting social orders that foster freedom of speech, freedom of action, and experimentation. Opposing authoritarian social control and favoring the rule of law and decentralization of power. Preferring bargaining over battling, and exchange over compulsion. Openness to improvement rather than a static utopia.

6. **Self-Direction** — Seeking independent thinking, individual freedom, personal responsibility, self-direction, self-esteem, and respect for others.

7. **Rational Thinking** — Favoring reason over blind faith and questioning over dogma. Remaining open to challenges to our beliefs and practices in pursuit of perpetual improvement. Welcoming criticism of our existing beliefs while being open to new ideas.

Appendix D

Key differences between Christianity and Transhumanism

CHRISTIANITY	TRANSHUMANISM
<ul style="list-style-type: none">• Assumptions are well stated in its many creeds and dogmas• God controls and directs human history• Attempts to define concepts, such as “good,” “truth,” “moral”• Offers the belief that the human condition will be transcended through a Resurrection• Has a holistic understanding of personhood• The body has intrinsic worth, as evidenced by the Incarnation• Acknowledging God’s creative goodness is essential• Humans are made in the image of God• There may be limits to human achievement (e.g., the story of the Tower of Babel)• Death is a necessary part of God’s ultimate purposes• Death is not the end• Community, fellowship, relatedness and connectedness are central to theology• Highly developed and holistic moral codes• The poor, weak, and technologically oppressed will inherit the earth• Offers a sense of purpose and direction to human life• Entertains the possibility of the supernatural and the spiritual• Allows for the possibility of a human soul• Immortality, constant bliss, and godlike knowledge will be given	<ul style="list-style-type: none">• Assumptions are well hidden behind positivistic beliefs that science is objective and without limit in its application• Humans should control and transform the forces of nature, even death• Refuses to offer definitions—only the individual can be the arbiter of such things• Offers the certainty that the human condition will be transcended by technological means• Has a reductionistic view—the perpetuation of intelligence is the sum purpose of life• The body as a repository for intelligence is rapidly becoming outmoded. Worth is located in who we are and what we do with our lives• Acknowledging self-ownership is central• Post-humans will reflect the image of their human creators• Limits are imposed solely because technological achievements are not yet sufficiently advanced• This Christian belief should be rejected. It reflects ideological commitment to “deathism.” Death will be voluntary• Death is the end of human life and is to be resisted and overcome by scientific means• Radically individualistic• Poorly developed and reductionist moral values• The wealthy, powerful, and technologically advanced will enjoy an unconquerable advantage• Offers a sense of purpose and direction, formerly offered by religion• Extreme rationalism and empiricism• Limits any discussion to discussion about personal identity and consciousness• Immortality, constant bliss, and godlike knowledge are to be grasped

Works cited:

- Barbour, Ian G. *Ethics in an Age of Technology*. London: SCM Press, 1992.
- Bostrom, Nick. "How long before Superintelligence?" *International Journal of Futures Studies* 2 (1998). Internet version: <<http://www.hedweb.com/nickb/superintelligence.htm>>.
- _____, ed. "The Transhumanist Declaration." Internet document, 1998: <<http://www.transhumanism.com/declaration.htm>>.
- _____, ed. "The Transhumanist FAQ's." Internet document, May 1999: <<http://www.transhumanism.com>>.
- Burch, G. "A Dialogue Concerning Transhumanist and Extropian Ethics: A response to Toth-Frejel." Internet document, 1999: <<http://www.extropy.org/eo/articles/respl.jsp>>.
- Drexler, E. *Engines of Creation: The Coming Era of Nanotechnology*. London: Fourth Estate, 1986. Internet version, 1996: <<http://www.foresight.org/eoc/index.html>>.
- Fiddes, Paul. *Participating in God: A Pastoral Doctrine of the Trinity*. London: Darton, Longman & Todd, 2000.
- Gelernter, David. *The Muse in the Machine: Computers and Creative Thought*. London: Fourth Estate, 1994.
- Jonscher, Charles. *WiredLife: Who are We in the Digital Age?* London: Bantam Press, 1999.
- Kirkwood, Tom. "The End of Age: Brave Old World." Radio broadcast. London: BBC Radio (4 April 2001). Available at website, <<http://www.bbc.co.uk/radio4/reith2001>>.
- Kurzweil, Ray. *The Age of Spiritual Machines*. London: Phoenix, 1999.
- Leslie, John. *The End of the World: The Science and Ethics of Human Extinction*. London: Routledge, 1996.
- Moravec, Hans. *The Universal Robot*. Pittsburgh: Robotics Institute, 1991. Website, <<http://www.frc.ri.cmu.edu/~hpm/project.archive/robot.papers/1991/Universal.Robot.910618.html>>.
- _____. "When will computer hardware match the human brain?" *Journal of Transhumanism* 1 (March 1998), <<http://transhumanist.com/volume1/moravec.htm>>.
- _____. "Rise of the Robots." *Scientific American* (December 1999): 124-35.
- _____. *Robot: Mere Machine to Transcendent Mind*. New York: Oxford University Press, 2000.
- _____. "The Universal Robot." In *Ars Electronica: Facing the Future*, ed. by Timothy Druckrey, 116-123. Chicago: MIT Press, 1999. Internet version: <http://www.frc.ri.cmu.edu/~hpm/hpm.pubs.html>>.
- _____. *Mind Children: The Future of Robot and Human Intelligence*. Cambridge, Mass.: Harvard University Press, 1988.
- More, Max. "Neologisms," version 2. Internet document, 1994: <<http://www.extropy.com/neologo.htm>>.
- _____. "Self-Ownership: A Core Transhuman Virtue." Internet document, 1997: <<http://www.extropy.org/eo/articles/selfown1.htm>>.
- _____. "The Extropian Principles, Version 3.0: A Transhumanist Declaration." Internet document, 1999: <<http://www.extropy.org/extprn.3.htm>>.
- Outhwaite, W., ed. *The Habermas Reader*. Cambridge: Polity Press, 1996.
- Penrose, Roger. *The Emperor's New Mind*. London: Vintage, 1990.
- Puddefoot, John. *God and the Mind Machine: Computers, Artificial Intelligence and the Human Soul*. SPCK: London, 1996.
- Rees, Michael. "Transplantation Ethics: What It Means to Be Human." In *Christians and Bioethics*, ed by Fraser Watts, 35-49. London: SPCK, 2000.
- Tillich, Paul. *Life and the Spirit. Systematic Theology*, part 4. Chicago: University of Chicago Press, 1963.
- Tipler, Frank. *The Physics of Immortality*. London: Pan Books, 1995.
- Toth-Frejel, T. "Transhumanism: The New Master Race?" *Newsletter of the Molecular Manufacturing Shortcut Group*, the National Space Society v. 7, no. 1, 2 (1999).

Internet version: <<http://www.islandone.org/mmsg/99jan.htm>>.

Ward, Keith. *God, Faith and the New Millennium: Christian Belief in an Age of Science*. Oxford: Oneworld, 1998.

Watts, Fraser, ed. *Christians and Bioethics*. SPCK: London, 2000.

Whitby, B. *Reflection on Artificial Intelligence: The Legal, Moral and Ethical Dimensions*. Exeter: Intellect Books, 1996.

Endnotes:

1. <<http://www.transhumanism.com>>.

2. A post-human is the evolutionary stage beyond that of *Homo sapiens*. Many *Homo sapiens* Transhumanists hope ultimately to become post-human.

3. See Appendix B.

4. See Appendix C.

5. Greg Burch in debate with T. Toth-Frejel, following the latter's critical review of transhumanism in the journal *The Assembler* [internet publication] (January 1999). The debate appeared on the Extropy website, <<http://www.extropy.org/eo/articles/respl.jsp>>.

6. Bostrom, "The Transhumanist FAQ's."

7. More suggests in "Neologisms" that the collective term for Transhumanists should be "a hubris."

8. Moravec, by contrast, refers to the brain as "wetware" rather than the "hardware" of the computers. See "Rise of the Robots."

9. Jonscher, pp. 123-153.

10. A word coined by Moravec as a way of talking about a range of possible replacements for the human body as repositories of intelligence. See *The Universal Robot*, <<http://www.frc.ri.cmu.edu/~hpm/project.archive/robot.papers/1991/Universal.Robot.910618.html>>.

11. "Cognitive Colonies," internet reference, <<http://www.frc.ri.cmu.edu/projects/colony>> (April 2001).

12. Moravec, "The Universal Robot."

13. Moravec, "Robots, Re-Evolving Mind"; see <<http://www.ri.cmu.edu/~hpm/project.archive/robot.papers/2000/cerebrum.html>>

14. Ibid.

15. Moravec, "Rise of the Robots," p. 124.

16. Kurzweil, p. 352.

17. Drexler.

18. Tipler, pp. 54-55.

19. Ibid., p. 57.

20. Bostrom et al., "The Transhumanist FAQ's."

21. Some will be found among the books listed in the bibliography. See, for example, Gelernter, "On the reductionism of many AI proponents"; and Whitby, "On the legal implications." Puddefoot offers a competent treatment of AI generally.

22. Jonscher, p. 248.

23. Barbour, p. 23-25.

24. Burch, "A Dialogue Concerning Transhumanist and Extropian Ethics."

25. Bostrom et al., "The Transhumanist Declaration."

26. See, for example, Outhwaite.

27. Toth-Frejel.

28. Puddefoot, p. 57.

29. Gelernter, p. 113-48.

30. Penrose, p. 523.

31. Ibid., pp. 523-29.

32. Rees, p. 35-49.

33. For example, see Fiddes.

34. More, "Ownership."

35. Tillich.

36. Burch.

37. Ibid.

38. The Reith Lectures are sponsored by the BBC (British Broadcasting Corporation). In 2001, they took place in London, Cold Spring Harbor (Long Island), Edinburgh, and Newcastle.

39. Kirkwood.

40. Puddefoot, p. 86.

41. More, "Neologisms." I extracted those terms that seemed most relevant to my paper.

41. Bostrom, "The Transhumanist Declaration." The following persons contributed to this document: Doug Bailey, Anders Sandberg, Gustavo Alves, Max More, Holger Wagner, Natasha Vita More, Eugene Leitl, Berrie Staring, David Pearce, Bill Fantegrossi, Doug Baily, Jr., den Otter, Ralf Fletcher, Kathryn Aegis, Tom Morrow, Alexander Chislenko, Lee Daniel Crocker, Darren Reynolds, Keith Elis, Thom Quinn, Mikhail Sverdlov, Arjen Kamphuis, Shane Spaulding, Nick Bostrom.

42. More, "The Extropian Principles."

The Reverend Darrell Jackson has been a Baptist Minister since 1989, following graduation from London Bible College with an honors degree in Theology. He is currently working for the Baptist Union of Great Britain as a Mission Adviser. A significant part of his work revolves around gathering and interpreting the statistical trends for British Baptist churches. Darrell is studying part-time toward the degree of Doctor of Theology (in Missiology) at the Centre for Missiology and World Christianity, Graduate Institute for Theology and Religion, University of Birmingham. His research program is looking at the changing nature of Baptist Church membership in the social context of contemporary British society. He is a visiting lecturer at the Centre for Youth Ministry, Bristol Baptist College.

Darrell is the co-author (with David Spriggs) of Friendship Matters (Bletchley, England: Scripture Union, 1999). He is a keen rock and ice climber and lives and works close to the university city of Oxford. He is passionate about mission in Northwest Europe and would like to see his work and ministry develop in this direction.

He may be contacted by post at Baptist House, 129 Broadway, Didcot, Oxfordshire OX11 8RT England. <darrell.jackson@virgin.net>