



Canyon Institute

for Advanced Studies

CIAS Newsletter, Volume VII, Issue I

Fall 2007

IN THIS ISSUE

- 1 **Facing the Challenges of Transhumanism**
- 2 **From the Director's Desk**
- 2 **Calendar of Events**
- 4 **CTNS STARS Program Awards Grants to 20 Research Teams**

Canyon Institute is affiliated with Grand Canyon University Institute for Advanced Studies (GCUIAS). The views expressed in this newsletter are those of the respective authors and do not necessarily reflect the views of Canyon Institute for Advanced Studies.

CHIEF OPERATING OFFICER, GCUIAS
Dr. Mitchell C. Laird

CHAIRMAN OF THE BOARD, GCUIAS
Dr. Donald Pewitt

DIRECTOR, CANYON INSTITUTE
Dr. Bill Williams

EXECUTIVE MANAGER, CANYON INSTITUTE
Barbara Small

EXECUTIVE DIRECTOR, THE TEMPLETON PRIZE
Barbara Small

NEWSLETTER EDITORIAL STAFF
Dr. Bill Williams, Executive Editor
Debra Fisher, Managing Editor

Facing the Challenges of Transhumanism: Philosophical, Religious, and Ethical Considerations

by Dr. Hava Tirosh-Samuelson

Editor's Note: The following is an abridged version of a lecture given at the Metanexus Institute on June 5, 2007.

The term "transhumanism" was coined in 1957 by Julian Huxley in his book titled *New Bottles for New Wine*, although the meaning of the term was quite different from the way it is now being used. Today the term means a way of thinking about the future based on the premise that the human species in its current form does not represent the end of our development but rather a comparatively early phase. Founded in 1998, the World Transhumanist Association has a membership of about four thousand people.

Transhumanism is the ideology that attempts to give coherence to a range of disparate ideas based on the technological advancements in the second half of the 20th century. As a young and still changing ideology, transhumanism posits a new vision of humanity as a result of the confluence of advancements in the life sciences, neurosciences, genomics, robotics, informatics, and nanotechnology. These advancements include new kinds of cognitive tools that combine artificial intelligence with interface technology; molecular nanotechnology; extension of human life span; genetic enhancing of human mental and physical capacities; combating diseases and slowing down the process of aging; and exercising control over desires, moods, and mental states. Those who enthusiastically promote development of such advances in biotechnology and bioengineering maintain that the accelerating pace of technological development and scientific understanding will usher in a new age in the history of the human species during which people will live longer, will possess new physical and cognitive abilities and will be liberated from suffering and pain due to aging and disease. In the transhuman age, humans will no longer be controlled by nature; instead humans will be the controllers of nature.

Like all ideological movements, transhumanism has diverse concerns and does not speak in one voice about all issues. Nonetheless, we can identify several main themes: a view of evolving human nature, the emergence of enhanced humans who will exceed ordinary human physical and cognitive traits, a preoccupation with human well-being or happiness that can be perpetuated indefinitely, and a vision of cybernetic immortality. A brief explanation of these features is in order.

Transhumanism and Human Nature

The main feature of transhumanism is the claim that human nature is not fixed but rather that the future of humanity is malleable and that current human condition is miserable and worthy of correction. The new technologies will enable humans to transform themselves gradually into persons whose capacities will exceed what we today recognize by the term "human." This will launch the

(Continued on page 3)

From the Director's Desk



Numerous biblical passages name God as the one who imparts knowledge and wisdom, and the annals of human history chronicle the stretching of the boundaries of knowledge—for better or worse—oftentimes ahead of humanity's ability to discern the wise application of such. Today's complex knowledge era necessitates an interdisciplinary, or transdisciplinary, approach to scholarship. In her article on the new and un-

folding ideology of transhumanism, Dr. Hava Tirosh-Samuels on of Arizona State University's Center for the Study of Religion and Conflict eloquently summarized this need: "The fusion of horizons of knowledge demonstrates why the traditional disciplinary boundaries are becoming increasingly obsolete and why scholars in the humanities and the social sciences need to become at least aware of, if not conversant with, the new disciplines. Scholars in the applied sciences and especially engineering and public policy must become more attuned to the humanities and must engage their own scientific disciplines critically in light of the values articulated by the humanities."

The Center for Theology and the Natural Sciences (CTNS), with funding from the John Templeton Foundation, has created a mechanism for an interdisciplinary approach to leading-edge research with its new program *Science and the Quest for Ultimate Reality: Science and Theology Advanced Research (STARS)*. I hope your own knowledge will be expanded by the offerings included in this newsletter and that, together, we will become wise stewards of all that God allows us to know.

Bill R. Williams

Letters to the Editor and Calendar of Events

We welcome letters to the editor of up to 200 words. They may be edited for clarity and length. Letters selected for publication may be published or distributed in print, electronic or other forms. We hope you will write to let us know how our educational offerings are impacting your world.

Please submit information about upcoming events you would like included in future newsletters to the attention of Debra Fisher, Managing Editor at:

Canyon Institute for Advanced Studies
3217 East Shea Blvd., Suite 452
Phoenix, AZ 85028 USA.
Email: info@CanyonInstitute.org

Calendar of Events

October 12-14, 2007

Christ, Cosmology, and Creation:

A Sunday Scientist Symposium

Spirit in the Desert Retreat Center, Carefree, AZ

Join scientists, theologians, pastors, students and others to explore Christ, Cosmology, and Creation at this Sunday Science Symposium of the Evangelical Lutheran Church in America's (ELCA) Alliance for Faith, Science & Technology. Three keynote lectures from Paul Davies, Rogier Windhorst, and George Murphy will provide the focus for the symposium. Each lecture will be followed by facilitated discussion groups that will formulate questions for the speakers. In addition, there will be a Friday evening star party with telescopic viewing under dark desert skies in the beautiful setting of Carefree, Arizona.

For more information: Contact Ron Duty, 773-380-2716 or Ronald.Duty@elca.org. You can register online at <http://www.elca.org/faithandscience>.

October 22, 2007

From Human to Transhuman: Technology and the Reconstruction of the World

by Brad Allenby

Arizona State University College of Law

Great Hall, 7:30 p.m.

This event is hosted by Arizona State University's Center for the Study of Religion and Conflict as part of the Templeton Research Lectures: Facing the Challenges of Transhumanism: Religion, Science, and Technology. This lecture is free and open to the public. Tickets are required and can be ordered online at: http://www.asu.edu/csrf/forms/ticket_request.html. More information about the lecture is available at: <http://asu.edu/transhumanism>. To learn more about transhumanism, be sure to read Dr. Hava Tirosh-Samuels on's article beginning on page one of this issue.

March 3-8, 2008

Extending Life: Setting the Agenda for the Ethics of Aging, Death, and Immortality

Grace Convention Center, Ahwatukee, Arizona

The Center for Bioethics and Human Dignity, in cooperation with the Center for Arizona Policy, Christian Medical and Dental Association, Phoenix Seminary, and Canyon Institute for Advanced Studies, is hosting this conference that will include the following sessions and presenters: *The Science of Aging and Life Extension*, S. Jay Olshansky, Ph.D.; *The Ethics of Aging*, John F. Kilner, Ph.D.; *Merchants of Immortality*, Hava Samuelson, Ph.D.; *Dignity and Dying*, John Keown, D.Phil.; and *The Ethics of Life Extension*, C. Christopher Hook, M.D. In addition, On March 6th, S. Jay Olshansky, Ph.D. and Aubrey de Grey, Ph.D. will debate issues related to the ethics of aging, death, and immortality; this debate will be open to the public free of charge. Registration and general conference information will be available in October on the Center for Bioethics and Human Dignity Web site: <http://www.cbhd.org/index.html>.

Facing the Challenges of Transhumanism

(Continued from page 1)

“posthuman age”; “transhumans” are those who advocate the changes and welcome them.

The most serious critique of transhumanism’s understanding of human nature comes from the relatively new field of evolutionary psychology whose practitioners argue that human nature is a reality that emerges from the long evolutionary process. Therefore, evolutionary psychologists tend to be quite skeptical about and even critical of the transhumanist project. ASU’s Templeton Co-Fellow John Tooby identifies two strands within transhumanism—the Enlightenment strand and the Romantic strand. The former is an extension of the 18th century Enlightenment Project and involves attempts by science and technology to improve the human condition. Viewed from this perspective, transhumanism is not as novel as it seems since all of us are already augmented beings if we take into considerations the many technological advancements over the centuries that have transformed us. Thus agriculture, writings, postal services, navigation, calculus, antibiotics, radio, television, photography, and computers are all technological innovations that have shaped who we are, and it is reasonable to assume that we will continue to be augmented by future technologies. So long as transhumanism simply advocates the 19th century commitment to progress and alleviation of human suffering, it is difficult to critique.

However, transhumanism becomes much more problematic from an evolutionary perspective when it predicts a dramatic change in the human species due to technological enhancement. It is this claim that evolutionary psychology disputes because of the way in which the human brain has evolved to perform certain tasks and because we are still largely ignorant about the operation of the brain. Tooby thus urges us to ask the simple but crucial question: “What is the goal of technological change?” and he correctly warns us to be careful not to confuse “evolution” with “progress.” Likewise, Leda Cosmides, ASU’s other Templeton Co-Fellow, also warns us not to intervene with the functioning of the brain since it may yield unintended consequences.

Transhumanism and Human Happiness

Transhumanism is an outgrowth of modern humanism; it is secular, rationalist, individualistic, and concerned with the attainment of individual happiness. The pursuit of happiness, has been a major concern of humanity and a major feature of Western thought at least since ancient Greek philosophy. Happiness, or human well-being and flourishing, was understood by Greek and Hellenistic philosophers to be an objective standard that organizes all human activities into a meaningful pattern for the duration of one’s life. According to premodern philosophers, happiness is not an affect or a subjective feeling but an objective state that expresses human nature, and to be happy means to flourish and experience well being in accord with the nature of the human species. Aristotle, who provided the first systematic analysis of happiness, regarded reason as the distinguishing marks of humanity and concluded that to be happy, or to flourish as a human being, necessitates the actualization of the human potential to know abstract, necessary, and eternal truths. The highest kind of reasoning, according to Aristotle, is the kind of reasoning that belongs to God, a thought thinking itself eternally.

When Greek and Hellenistic reflections on happiness were integrated into monotheistic religions, first Judaism, later Islam, and finally Christianity, the pursuit of happiness was given a decidedly religious interpretation even when analyzed philosophically, illustrating the integration of science and religion characteristic of the premodern era. In the modern period, however, the secularization of the Christian West and the scientific revolution gave rise to materialism and naturalism and the dissociation of science and religion. In the 17th and 18th centuries, happiness came to be identified with well-feeling. By the 19th century this idea would give rise to utilitarianism and its calculus of happiness as a balance between pleasure and pain for the greatest number of people.

As science and religion were gradually pulled apart from each other during the 19th century, a strictly materialistic and hedonic notion of happiness prevailed: happiness is a subjective, mental state of individuals closely akin to joy and inherently associated with a range of pleasures. In a capitalistic setting, the hedonic notion of happiness means that happiness was reduced increasingly to possession of material good or the instant gratification of bodily cravings. The discoveries of chemical substances (legal or illegal) that control moods and mental states further trivialized the pursuit of happiness. As neuroscientists have unraveled the chemical processes of the brain, they have enabled the pharmaceutical industry to produce chemical substances that control, alleviate, or change moods and emotions. Under the impact of the brain sciences, both happiness and unhappiness are now viewed strictly in materialist term: a pill presumably makes one attain happiness or alleviate unhappiness. By the beginning of the 21st century a strict materialist approach to happiness prevails.

The Transhumanist declaration does not discuss “happiness” directly, but if one peruses the literature generated by leading transhumanists such as Max More, one can immediately detect how this conception of happiness undergirds the entire project. Max More is the head of Extropy Institute. Extropy is defined as “the extent of a living or organizational system’s intelligence, functional order, vitality, and capacity and drive for improvement” and “extropic” are the “actions, qualities, or outcomes that embody or further extropy.” According to More, extropy “is not a real entity or force, but only a metaphor representing all that contributes to our flourishing,” in other words, happiness. The principles of Extropy enumerated by More include: “perpetual progress, self transformation, practical optimism, intelligent technology, open society in terms of information and democracy, self-direction, and rational thinking.” For him, advances in technologies (including “social technologies” of knowledge management, learning and decision making), will enable us to change human nature itself in its physical, emotional, and intellectual aspects. More predicts that with better knowledge and decision making, humans could live far longer in better than “perfect” health, improve their self knowledge and awareness of interpersonal dynamics; overcome cultural, psychological and memetic biases in thinking; enhance intelligence in all its various forms, and learn to thrive on change and growth. In short, humans will finally be happy.

(Continued on page 6)

CTNS STARS Program Awards Grants to 20 Research Teams

With funding from the John Templeton Foundation, The Center for Theology and the Natural Sciences (CTNS) has developed a four-year program to promote new research in the ways science, in partnership with religion, points towards the nature and meaning of ultimate reality. Recently, the program, *Science and the Quest for Ultimate Reality: Science and Theology Advanced Research Series (STARS)*, awarded \$20,000 planning grants to twenty interdisciplinary research teams.

The aim of the initial planning grants is to help research teams develop full research proposals for \$100,000 research grants, which are due November 1, 2007. Over the next two years, STARS will award five major research grants of \$100,000 each. In 2008, two of these grants may be renewed at \$200,000. The awards at every level will be based on the recommendations of a panel of distinguished judges. Following is a listing of the twenty \$20,000 planning grant research teams.

Extraterrestrial Contact (ETC): Considerations on Human (Dis) Placement in the Cosmos

George Annas, Boston University
Devon Burr, SETI Institute
John Hart, Boston University
Thomas Kunz, Boston University
Margaret Race, SETI Institute

Human Values, Mind and Brain

Miquel Capo, University of Balearic Islands
Camilo Cela-Conde, University of Balearic Islands
Marcos Nadal, University of Balearic Islands
Tomas Ortiz, Complutense University of Madrid

Genetics, Neuroscience, and the Nature of Being: A Dialectic, Natural Philosophical Approach That Seeks to Preserve the Notion of Transcendence

Kevin FitzGerald, Georgetown University Medical Center
James Giordano, Georgetown University Medical Center

Material and Nonmaterial Cultural Evolution in Human and Bonobo

Patricia Gray, University of North Carolina-Greensboro
Gregg Henriques, James Madison University
Nancy Howell, Saint Paul School of Theology
Dave Pruett, James Madison University
Sue Savage-Rumbaugh, Great Ape Trust
Stuart Shanker, York University

Transcending the Boundaries of Scientific Research: Exploring Reality and the Search to Know

Rodney Holder, St Edmund's College, Cambridge University
Angeliki Kerasidou, Oxford University
Chris McKay, NASA Ames Research Center
Margaret Yee, Oxford University

Information and the Origin of Life

Andrew Robinson, University of Exeter
Christopher Southgate, University of Exeter

Dynamic Forms for Systems and Molecular Biology

Alejandro Garcia-Rivera, Jesuit School of Theology at Berkeley
Mark Graves, Graduate Theological Union

Did Sympathy and Morality Evolve?

Marie George, St. John's University
Oliver Putz, Jesuit School of Theology at Berkeley

The Nature of Ethics and the Ethics of Nature: The Ultimate

Reality of the Good, the Transcendent, and the Flourishing of Life

Lori Beaman, University of Ottawa
Chris McKay, NASA Ames Research Center
Timon McPhearson, Columbia University
Richard Randolph, Kansas City University of Medicine and Biosciences

Observation of the Gravitational-Wave Analog of the CMB and Its Implications for the Origin of the Observable Universe

Raymond Chiao, University of California, Merced
Kirk Wegter-McNelly, Boston University

Quantum Physical Investigations into the Causal and Logical Orders and the Physical Basis of Possibility

Tim Eastman, NASA Goddard Space Flight Center
Michael Epperson, California State University Sacramento
David Finkelstein, Georgia Institute of Technology
William Kallfelz, University of Maryland
Henry Stapp, Lawrence Berkeley National Laboratory

Time and Reality: New Insights from Quantum Non-Locality and Gentle Measurements

Yakir Aharonov, George Mason University
Joseph Berkovitz, University of Sydney
Jeffrey Bub, University of Maryland
Menas Kafatos, George Mason University
Jeff Tollaksen, George Mason University

Emergence Theory Applied to Biological Systems

Gennaro Auletta, Pontifical Gregorian University
George Ellis, University of Cape Town
Luc Jaeger, University of California, Santa Barbara

The Rationality of Ultimate Value: Emotion, Awareness, and Causality in Virtue Ethics and Decision Neuroscience

Warren Brown, Fuller Theological Seminary
Greg Peterson, South Dakota State University
Kevin Reimer, Azusa Pacific University
Michael Spezio, California Institute of Technology
James Van Slyke, Fuller Theological Seminary

Intense Experiences and Ultimate Reality

Patrick McNamara, Boston University
Wesley Wildman, Boston University

A Scientific Approach to Divine Infinity

Wolfgang Aichtner, Justus-Liebig-Universität Gießen
Klaus Mainzer, University of Augsburg
Eric Steinhart, William Paterson University of New Jersey
Hugh Woodin, University of California, Berkeley

Quantum Mechanics and the Appearance of Reality

David Albert, Columbia University
Brian Greene, Columbia University
Maulik Parikh, Inter-University Centre for Astronomy and Astrophysics

Organic Embodiment of Transcendent Moral Commitments

Edward Larson, Pepperdine University School of Law
Stephen Post, Case Western Reserve University School of Medicine
Jeffrey Schloss, Westmont College
Paul Zak, Claremont Graduate University

(Continued on page 5)

(Continued from page 4)

Adrian Preda, University of California, Irvine

Mind and Personal Identity from a Dynamical Systems Perspective

James Reggia, University of Maryland

Allen Stairs, University of Maryland

Brain Connectivity and Contemplative Experiences

James Fallon, University of California, Irvine

Aaron Kheriaty, University of California, Irvine

Three Feature STARS Research Planning Grant Projects

Did Sympathy and Morality Evolve?

Marie George, St. John's University; Oliver Putz, Jesuit School of Theology at Berkeley

Recent advances in ethology raise the question of sympathy in nonhuman animals. The biological literature abounds with examples of animals behaving as if they are concerned for suffering conspecifics or members of other species. Some have interpreted these behaviors as sympathetic acts and suggest that animals capable of such complex emotions exercise moral agency. Others disagree and reserve moral sentiments for humans alone.

The overall aim of this research will be to reflect philosophically on the ethological data that suggests a possible biological basis of sympathy and morality in human and nonhuman animals. Through this reflection on the scientific data and its scientific interpretations, this research team will inevitably raise and explore questions of a more ultimate nature, such as what it means to be human vis-à-vis and within an evolving biosphere, what implications the scientific information has for human ethical systems, and finally whether and how traditional Judeo-Christian claims regarding human transcendence square with the evidence of human evolution and the numerous similarities between humans and other social mammals.

The Rationality of Ultimate Value: Emotion, Awareness, and Causality in Virtue Ethics and Decision Neuroscience

Warren Brown, Fuller Theological Seminary; Greg Peterson, South Dakota State University; Kevin Reimer, Azusa Pacific University; Michael Spezio, California Institute of Technology; James Van Slyke, Fuller Theological Seminary

This research team is inquiring into the relationship of ethical decision-making and ultimate values that may relate to conceptions of transcendence. Philosophically, the team is drawing on the resources of the tradition of virtue ethics, which has its roots in the thinking of Aristotle and has been of considerable recent interest among philosophers. Philosophically and theologically, virtue ethics holds considerable promise because it makes room for a holistic account of the human person that includes not only reason but also the emotions and an account of how it is that we learn to become good. In addition, virtue ethics develops a more complex account of human reasoning than is allowed by more narrow approaches that focus on a few relatively inflexible rules.

The goal of the research is to first understand ways that virtue ethics might inform ongoing scientific explorations of moral behavior. On the one hand, moral psychology has been dominated by the legacy of Lawrence Kohlberg, which tends to favor an understanding of ethics in terms of adherence to universal rules. On the other, the field of neuroethics, which seeks to find patterns of neural activation that correlate with moral decision-making, has also been dominated by an artificial dilemma-based approach that seeks to understand moral behavior in terms of adherence to or violation of basic rules.

A Scientific Approach to Divine Infinity

Wolfgang Achtner, Justus-Liebig-Universität Gießen; Klaus Mainzer, University of Augsburg; Eric Steinhart, William Paterson University of New Jersey; Hugh Woodin, University of California, Berkeley

This team will apply the modern theory of the infinite to the old issue of divine infinity, aiming to use the modern mathematical theory of the infinite to extend and develop traditional philosophical and theological ideas about God. God is traditionally said to be all-knowing. So God knows all the natural numbers—the familiar numbers like 0, 1, 2, 3, and so on. Thus God knows infinitely many numbers. The divine memory contains infinitely many bits of information. But God also knows all the facts about those numbers. God knows all mathematical theorems and proofs. Of course, God's knowledge is not passive. God is all-powerful. God is more powerful than any finite computer. God's power includes the power to perform any mathematical computation.

One might think that all this mathematical knowledge is too abstract to be of much practical use. But our universe is orderly—it works according to natural laws. And those laws are equations. If God created our universe, then God selected these equations for physical realization. One might imagine God as searching through all possible systems of physical equations—the laws for all possible universes—and selecting the best system of laws. Since there are infinitely many possible systems of physical laws, this is an infinitely complex computation. An infinitely powerful God can do it. This project is inspired by Augustinian wisdom. Using the best modern ideas from mathematics, philosophy, and theology, this research team hopes to better understand divine infinity.

Facing the Challenges of Transhumanism

(Continued from page 3)

The transhumanist approach to the pursuit of happiness is problematic for the following reasons. First, the transhumanist notion is an extension of the hedonic understanding of happiness characteristic of 19th century utilitarianism. Focusing on self-fulfillment, transhumanists do not take the notion of virtue seriously enough nor do they explain how the values of the authentic Self promote human flourishing. Transhumanists talk a lot about life satisfaction, self-fulfillment and self realization but they have not provided an analysis of the relationship between the subjective and objective aspects of happiness. A more rigorous analysis of the meaning of happiness, which lies at the foundation of the transhumanist project, is needed.

Beyond the philosophical lack of clarity, the hedonic understanding of happiness is problematic on scientific grounds because it is materialistic and reductionist. Reducing mind to brain functions, transhumanists use the metaphor of the computer to explain how the mind works, but this metaphor has serious shortcomings. The human brain is much more than a computational machine; it is part of a highly complex and integrated organism that requires one to take into account not only the nervous system but also the immune system as well as the socio-cultural context in which we are embedded. If happiness concerns the flourishing of the individual as a whole, happiness cannot be reduced just to the functioning of the body, as we encounter in transhumanist literature. Nor can we reduce the human self just to brain functions of neurons that communicate using chemical messengers, neurotransmitters and neuromodulators via synaptic transmission. We need a more holistic understanding of the human self than the one presupposed by transhumanism.

But the most troubling aspect of the transhumanist approach to happiness is the notion that technology will allow us to produce pleasant sensations all the time. The ability to manipulate the molecules and electrical impulses in the brain is reaching a new sophisticated level due to precise brain scanning, and soon neural implants, which are now treating people with Parkinson's disease, will someday jolt regions of the brain to induce or suppress specific emotions. It is this specter of transhumanism that makes me most uneasy because it ignores the value of insecurity, anxiety, and uncertainty, which are very much part of being human. Human culture (especially art and philosophy) could not have been possible without these allegedly negative aspects of being human. But if chemicals root out these human abilities, what will be the source of creativity? Hedonic engineering is not a prescription for cultural depth and creativity; it is a prescription for childish shallowness that regards having fun and feeling good above all other values. That Transhumanism perpetuates the youth culture that prevails in America becomes more evident once we examine the third main concern of transhumanism, namely, radical life extension.

Transhumanism, Aging, and Death

A third focus of transhumanism is the struggle against aging and attempts to postpone death. Aubrey de Grey, a leading transhumanist, is convinced that one day scientists will find a way to defeat aging. The "crusade" against aging utilizes science to increase healthy life span and reduce the risk of suffering age-related conditions in later life. De Grey predicts that main

breakthroughs will come from biomedical gerontological research, which he conducts under the title of Strategies for Engineered Negligible Senescence (SENS).

I have no doubt that de Grey's intentions are good and that the goal of extending human life span to 150 years or more is meant to benefit humanity. I am also convinced that the medical gerontological research he and others conduct will have some benefits, perhaps unrelated to the intended benefits. What I question is the assumption underlying the SENS project that treats the human body as a "resilient machine" that requires long-term care. The machine model is inadequate; human beings are not just machines, although some aspects of human somatic operation bear some resemblance to it. It will be more useful to talk about humans as organisms, but organisms experience aging and death precisely because they are alive.

The crusade against aging is thus a protest against the reality of death. De Grey does not deny that death is real, but he wants to postpone it as much as possible. But for what end? For what purpose should we extend human life indefinitely? What is human life going to be about for this extended duration? What will human beings engage in for the duration of 150 or 500 years? Will it be more consumerist activities, more entertainment, more "fun," more wars, more destruction of the natural environment? I am not against healthy living or finding ways to alleviate the suffering caused by debilitating diseases such as Alzheimer's and Parkinson's, but I also believe that the extension of human life cannot be divorced from a deeper reflection about the purpose of human life, and that reflection seems to be missing from transhumanist literature.

Transhumanism and Eschatology of Cybernetic Immortality

The most radical aspect of transhumanism is the scenario that humans will be able to transport the content of their brains, their minds, to a non-biological entity and thereby achieve immortality. Kurzweil and other transhumanist visionaries imagine a "brain-porting scenario" that will involve "scanning a human brain capturing all of the *salient details*." This will entail reinstantiating the brain's state in a different—most likely much more powerful—computational substrate. In this scenario "we will continue to have human bodies, but they will become *morphable projections of our intelligence*. He predicts that such "software-based humans" will be vastly extended beyond the severe limitations of humans as we know them today. They will live out on the Web, projecting bodies whenever they need or want them, including virtual bodies in diverse realms of virtual reality, holographically projected bodies, foglet-projected bodies, and physical bodies comprising nanobot swarms and other forms of nanotechnology." For Kurzweil this is a form of immortality, although he concedes that the data and information do not last forever; the longevity of information depends on its relevance, utility, and accessibility.

So, how do we make sense of the transhumanist vision of the eschatological future? Should we simply dismiss this vision as "silly" or should we engage this vision historically, philosophically, and ethically? I will do the latter. Historically speaking, the vision of the eschatological end as immortality of the intellect is not new; it was articulated in the Middle Ages by Muslim and Jewish thinkers, most notably by Ibn Rushd (d. 1198) and by Maimonides (d. 1204) who followed Aristotle's conception of God as a mind that thinks itself eternally. Following

Aristotle, these thinkers indeed understood God as a thought that thinks itself eternally and envisioned that very developed human minds (the minds of outstanding philosopher-prophets) will reach such perfect knowledge and such minds will experience the bliss of immortality, an infinite intellectual activity unencumbered by the corporeal body.

Maimonides considered Moses to be such a philosopher-prophet. However, Maimonides did not think that Moses was God, nor did he identify Moses with the Separate Intellects, the philosophic version of the traditional beliefs in angels. Moses was in a class of his own among humans, but he was neither an angel nor God; Moses was a human who was able to translate his profound understanding into laws that guide human action. In other words, even in regards to Moses, Maimonides was clear not to erase the boundaries between the human and the divine. But it is precisely the boundary between the human and the divine that transhumanism, in its hubris, seeks to erase as it imagines the fusion between human and intelligent machines.

The problem with this vision of technologically-based immortality is its reduction of humans to “software-based” entities. Although Kurzweil and others think about humans in terms of information patterns, human identity and idiosyncratically unique personality cannot be reduced to these patterns because each one of us is distinctive and unique, an Other that cannot be reduced to sameness. This point was raised already in the 13th century during the debate about Maimonides’s legacy, and it has been developed philosophically in a profound manner by Emmanuel Levinas. Each human being is unique and can be encountered only face-to-face, not reducible to pattern recognition.

Several Christian theologians have critiqued the transhumanist vision of cybernetic immortality as a return to premodern substance dualism. The notion that information patterns can exist as disembodied intelligent entities is but another name for the premodern disembodied soul. But this notion is problematic both scientifically and theologically, as Ted Peters has already noted. Scientifically it is problematic because “the brains and hence minds are embodied, perhaps even communal,” and theologically it is problematic because transhumanism presupposes a dualistic view of the human that denigrates the human body, considering it as an evil that should be combated and fixed by use of technology. The vision of cybernetic immortality, advanced by Kurzweil or Frank Tipler, fails to appreciate the wisdom of our finite, created body and the implications of theology of createdness. Even if uploading our personality to a machine were possible, which I highly doubt, is this the spiritual vision we want to promote? Isn’t this spiritual vision rather impoverished precisely because the machine is but a human product?

More troubling is the notion that humans can actually achieve the eschatological ideal. Here I am speaking as a Jew who is committed to the pursuit of the ideal rather than to its realization. The pursuit of the ideal endows life with meaning and gives life direction, but when the prescription is taken as a description of a state of affairs, disasters lurk. The description of the eschatological end as envisioned by transhumanism fills me not with beauty and elegance but with horror and disgust. Perhaps, this reaction indicates a failure of the imagination, but it can also be that my reluctance to endorse the transhumanist future is based on a historical awareness of the destructive powers of utopian thinking.

Conclusion: Transhumanism and the Dialogue of Science and Religion

The transhumanist vision emerged because of the confluence of knowledge in certain scientific fields and their technological applications, especially in genetics, robotics, and nanotechnology. The fusion of horizons of knowledge demonstrates why the traditional disciplinary boundaries are becoming increasingly obsolete and why scholars in the humanities and the social sciences need to become at least aware of, if not conversant with, the new disciplines. Scholars in the applied sciences and especially engineering and public policy must become more attuned to the humanities and must engage their own scientific disciplines critically in light of the values articulated by the humanities.

The promoters of transhumanism are right to hold that we are facing a new situation in human development because today the human being has become a design project. But unlike the advocates of the transhumanist vision, I am deeply concerned, even worried, about the current situation. The new genetics enables us to enhance our biological state; as such, the modernist dichotomy between the observer and the observed, the humans and the physical environment, nature and culture, making and thinking is no longer tenable. Indeed we are now faced with a challenge that requires us to rethink the legacy of the Enlightenment and articulate a new theoretical framework that could address the new complex reflexivity.

Editor’s Note: As part of the Templeton Research Lectures at Arizona State University, Facing the Challenges of Transhumanism: Religion, Science, and Technology, Brad Allenby will be lecturing on “From Human to Transhuman: Technology and the Reconstruction of the World” on Monday, October 22, 2007 at 7:30 p.m. in the College of Law Great Hall. For more information, see the calendar of events on page two of this issue.

Canyon Institute for Advanced Studies is

A Christian interdisciplinary research center, bringing together minds and resources to:

- Investigate and research issues emerging from new discoveries and advances—particularly those that redefine the boundaries of our knowledge and of its limits—to better understand their implications for us in the common ground of faith and discipline;
- Develop insights that lead to a more integrated view and understanding of the world around us, and of our stewardship of its emergent challenges;
- Disseminate information and perspectives to assist people of faith in the global community in developing sound, coherent, and informed foundations for engaging the exciting opportunities that lie before us.

© 2007 by Canyon Institute for Advanced Studies

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means without written permission from Canyon Institute for Advanced Studies, 3217 East Shea Blvd. Suite 452, Phoenix, AZ 85028 USA.

Return Service Requested

www.CanyonInstitute.org
info@CanyonInstitute.org

Tel.: +1 602.639.6206
Fax: +1 602.391.2683

3217 East Shea Blvd., Suite 452
Phoenix, AZ 85028 USA

Canyon Institute for Advanced Studies

Non Profit Org.
U.S. Postage
PAID
Glendale, AZ
Permit 262