How did we come to think about nature, technology and society in the way that we do? How are the revolutions in technology—bio, nano, info, cogno—revolutions gathered up under the umbrella term transhumanism—changing the very foundations on which understandings of the human and the environment are built? What new understandings are needed to face the accelerating level of complexity of virtually all human, built and natural systems? These are some of the questions that Dan Sarewitz, director of the Consortium for Science, Policy and Outcomes (CSPO) and professor of environmental engineering, and professor of law, will take on as Templeton co-fellows in 2007–08.

Hava Tirosh-Samuelson, professor of history and director of the Templeton Research Lectures at ASU, said that the selection of Sarewitz and Allenby for the interdisciplinary research committee that guides the project.

“The Templeton Research Lectures on ‘Facing the Challenges of Transhumanism: Religion, Science, and Technology’ will greatly benefit from the expertise of Professors Allenby and Sarewitz,” commented Tirosh-Samuelson. “As national leaders in their respective fields, they are uniquely able to reflect on the complex interrelations of science, technology, and public policy and explore the philosophical foundations of modern technology and its social and environment impact.”

Sarewitz and Allenby will each deliver a public lecture as part of the Templeton Research Lectures series as well as collaborate in a faculty research seminar on the issues of transhumanism, technology, nature and society.

“Being named Templeton co-fellows will afford Brad and I the opportunity to develop ideas we have been discussing for several years,” said Sarewitz. “Our goal is to produce a book for the general public that will not only reflect on the challenges of transhumanism, but will provide a new approach to considering the implications and potentials of technological change for human society.”

“Transhumanism raises so many questions,” added Allenby. “It provides an important lens through which to refract and reevaluate many of the assumptions about science, nature and the individual that have shaped modern life.”

The term ‘transhumanism’ was coined by Julian Huxley in 1957 in a book titled New Bottles for New Wine. Today the term denotes the confluence of new discoveries in the life sciences, neuroscience, genomics, robotics, informatics, medicine, and nanotechnology. The new developments include new kinds of cognitive tools that combine artificial intelligence with interface technology, molecular nanotechnology, extension of human life-span, genetic enhancement of human physical and mental capacities, combating diseases and slowing down the process of aging, and exercising control over desires, moods, and mental states. Those who enthusiastically promote these changes maintain that the accelerating pace of technological development and scientific understanding are ushering 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. Humans will no longer be controlled by nature—they will be the controllers of nature.

Transhumanism is suffused with optimistic futurism and many of its advocates are idealists who believe that technology itself will deliver a better future for humanity. Some of the ideas characteristic of transhumanism today can be traced to the 1920s to the writings of J.B.S. Haldane (1923) and J.D. Bernal (1929) although Aldous Huxley’s famous novel, Brave New World (1932), depicted a dystopia in which psychological conditioning, promiscuous sexuality, biotechnology, and opiate drugs are used to maintain totalitarian control over desires, moods, and mental states. Those who enthusiastically promote these changes maintain that the accelerating pace of technological development and scientific understanding are ushering 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. Humans will no longer be controlled by nature—they will be the controllers of nature.

The horrors of WW II invalidated the goal of creating a new and better world through a centrally imposed vision and they also discredited the eugenic movement that had flourished in the 1920s. But in the 1960s more optimistic futurist scenarios were articulated by science fiction writers (e.g., Arthur C. Clarke, Isaac Asimov, Robert Heinlein, Stalislav Lem, and later Bruce Sterling, Greg Egan, and Vernor Vinge) who speculated about the new, transhuman future. In the 1970s and 1980s various organizations began to advocate life extension, cryopresence, space colonization, and other scenarios while advances in biotechnology, neuroscience, and nanotechnology began to make their mark. The writings of Marvin Minsky, an eminent artificial intelligence researcher, articulated many of the themes of the transhumanist vision and he was joined by other famous scientific visionaries such as Ray Kurzweil, Eric Drexler, Frank Tipler, and Hans Moravec. In 1998 the World Transhumanist Association was founded and in 1999 the first scholarly peer reviewed journal for transhumanist studies was established under the title the Journal of Evolution and Technology. Transhumanism is a vision for the future of humanity that requires public attention. The questions transhumanism engages are many and wide-ranging. What does it mean to be human? What is nature and what are the implications of transhumanism for the environment? What do we mean by progress and how do we govern when rapid biotechnological developments are outpacing political, legal and regulatory mechanisms? Is transhumanism a secularization of religious eschatology or a deeply materialist rejection of religion? With ASU and many private companies in metropolitan Phoenix at the forefront of the biotechnological revolution, it is important not only to understand how religion, science and technology interact to give rise to transhumanism, but also how the dialogue of science and religion can help us to address this vision of the human future.
“Are We Already Transhuman?” This is the question Leda Cosmides posed to an audience of over 500 people at the launching of CSTC’s project, “Facing the Challenges of Transhumanism: Religion, Science, Technology.” Funded by a grant from the Metanexus Institute, the project is part of the Templeton Research Lectures on the Constructive Engagement of Science and Religion. Following the lecture, Cosmides, a path-breaking researcher and pioneer of the field of evolutionary psychology (EAP), talked with us about evolutionary psychology and transhumanism.

As an evolutionary psychologist, why is it important to talk about transhumanism? Transhumanists talk about changing human nature. But you should know what human nature is and how it develops before meddlin with it. For each reliably developing, species-typical program in the human brain, evolutionary psychologists try to determine what its evolved function is, how it processes information to accomplish this function, and how the environment shapes its development. Transhumanists need to know all these things; they should not proceed in a function-blind way. Using technology (or anything else) to alter the information-processing structure of an evolved program could eliminate a person’s ability to solve adaptive problems.

During your talk, you discussed some issues related to sensory enhancement, a major trope of the “transhuman age.” You asked whether you were more transhuman with your glasses on or off. You suggested that you were more transhuman without your glasses, since your glasses help you see like everyone else. Is transhumanism mainly a matter of semantics, or is there more to it? Many within transhumanism seem to argue that the risks of technological stagnation from not immediately applying new technologies far outweigh the potential risks of their unintended misuse. They appear to view whatever mishaps might arise as manageable. I agree with many of their arguments. I don’t think it makes sense to stop technological development, and it seems to be something we humans are pretty good at managing. For example, some of the changes transhumanists talk about, like extending human life spans, have been in process for a long time—life spans have increased steadily over the past 200 years, and I think it is perfectly possible to manage the demographic consequences of an aging population, especially if life extension technology allows people to stay healthy, and reproductive technologies allow women to conceive children at later ages. So yes, I think it would be a mistake to not pursue life extension technologies, which have so much potential to alleviate human suffering and to improve the quality of life.

But in the case of germline genetic engineering to alter human nature—that is, our reliably developing, species-typical evolved design—I start to get concerned. Germline genetic engineering for this purpose has far reaching implications, many of which are pretty scary. Many within transhumanism seem to argue that the risks of technological stagnation from not immediately applying new technologies far outweigh the potential risks of their unintended misuse. They appear to view whatever mishaps might arise as manageable. I agree with many of their arguments. I don’t think it makes sense to stop technological development, and it seems to be something we humans are pretty good at managing. For example, some of the changes transhumanists talk about, like extending human life spans, have been in process for a long time—life spans have increased steadily over the past 200 years, and I think it is perfectly possible to manage the demographic consequences of an aging population, especially if life extension technology allows people to stay healthy, and reproductive technologies allow women to conceive children at later ages. So yes, I think it would be a mistake to not pursue life extension technologies, which have so much potential to alleviate human suffering and to improve the quality of life.

But in the case of germline genetic engineering to change human nature, you’re altering what defines a person’s human- ity. You’re affecting the control systems of the body and altering complex, exquisitely well-designed mental mechanisms that have been engineered by the evolutionary process to solve problems of survival and reproduction. In some cases, we are only very gradual- ly coming to appreciate the nature of some of these problems. It doesn’t make sense to me to fundamentally alter human nature and the course of our development without understanding what consequences might arise from these actions.

Are We? —in a public lecture on April 17. A recording of Cosmides and John Tooby, named co-Templeton Fellows along with Cosmides, will address one of the central concerns raised in this interview—Who am I? —in a public lecture on April 17. A recording of Cosmides and John Tooby, named co-Templeton Fellows along with Cosmides, will address one of the central concerns raised in this interview—Who am I? —in a public lecture on April 17. A recording of Cosmides and John Tooby, named co-Templeton Fellows along with Cosmides, will address one of the central concerns raised in this interview—Who am I? —in a public lecture on April 17. A recording of Cosmides and John Tooby, named co-Templeton Fellows along with Cosmides, will address one of the central concerns raised in this interview—Who am I? —in a public lecture on April 17. 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