If the nineteenth century was the age of the machine and the twentieth century the information age, this century is, by most accounts, the age of biotechnology. In this biotech century we may witness the invention of cures for genetically linked diseases, including Alzheimer's, cancer, and a host of maladies that cause tremendous human suffering. We may see amazing developments in food production with genetically modified foods that actually carry therapeutic drugs inside them. Bioterrorism and high-tech weaponry may also be in our future. Some researchers are even suggesting that our future might include the remaking of the human species. The next stage of human evolution, they argue, will be the post-human stage.[1]

The New Utopians

Utopianism--the idea that we can enjoy a perfect society of perfect people on a perfect earth--is not new at all. Novelists, playwrights, social engineers, and media moguls have played with the
idea for millennia. The new utopians, however, are a breed apart, so to speak. They are what we might call "techno-utopians" or "technopians." That is, they believe that technology is the key to achieving the perfect society of perfect people on a perfect earth.

The new technopians actually have a name for themselves: transhumanists. According to the World Transhumanist Association: "Transhumanism (as the term suggests) is a sort of humanism plus. Transhumanists think they can better themselves socially, physically, and mentally by making use of reason, science, and technology. In addition, respect for the rights of the individual and a belief in the power of human ingenuity are important elements of transhumanism. Transhumanists also repudiate belief in the existence of supernatural powers that guide us. These things together represent the core of our philosophy. The critical and rational approach which transhumanists support is at the service of the desire to improve humankind and humanity in all their facets."

Again, the idea of improving society through technology is not new. In fact, most of the last century was spent doing just that. What is new, however, is how the transhumanists intend to use technology. They intend to craft their technopia by merging the human with the machine. Since, as they argue, computer speed and computational power will advance a million fold between now and the year 2050 A.D., artificial intelligence will surpass human intelligence. The only way humans can survive is by merging with machines, according to the transhumanists. Do the movies *AI* or *Bicentennial Man* come to mind?

Now, before you dismiss the transhumanists as just another group of space-age wackos, you need to know who some of them are. One of the brains behind the movement is a philosopher at Oxford University, Nick Bostrom. Bostrom's website ([www.nickbostrom.com](http://www.nickbostrom.com)) sets out his worldview quite clearly. He wants to make better humans through technology.

Another transhumanist is a professor of cybernetics at the University of Reading in England. Kevin Warwick deserves the distinction of being the first "cyborg." He wears implanted computer chips in his arm and wrist. The next stage of human evolution, argues Warwick, is the cybernetic age. As Warwick told *Newsweek* in January 2001, "The potential for humans, if we stick to our present physical form, is pretty limited . . . The opportunity for me to become a cyborg is extremely exciting. I can't wait to get on with it." And so he has.

Rodney Brooks, professor of robotics at MIT, believes that through robotics we are reshaping what it means to be human. His recent book *Flesh and Machines* is an exploration of his worldview. For many of the transhumanists, human beings are merely what AI guru Marvin Minsky has called, "computers made of meat." So, melding biological computers (the human brain) with silicon brains (computers) seems like a good thing to do.

What do the Transhumanists all have in common? First, to be most charitable, they find the problem of human suffering, limitation, and death to be unacceptable. The technopian vision is of a pain-free, unlimited, eternal humanity. While their motivation may be commendable, the real question is whether the means to get to their goals are ethically justifiable.

Secondly, and less charitably, the Transhumanists display what can only be called self-loathing. They are very perturbed by humanity and its finitude. The body and its limitations have become a prison for them and they want to transcend the boundaries of mortality. In their view,
transhumanism offers the greatest freedom.

Thirdly, they are confident--even triumphalistic--evolutionists. Theirs is not the Darwinian evolutionary view of incredibly slow, incremental progress of the fittest of the species. No, this is good old Western pull-ourselves-up-by-our-bootstraps, relatively instant, designer evolution. But, with all of our human frailties, are we going to make ourselves better through technology? Since we are so limited, error-prone, and bounded, we might just destroy ourselves! The problem of self-extinction worries a few of the Transhumanists, especially Nick Bostrom.

Robots and computers will of course never become human. Why not? Because being "one of us" transcends functional biology. Human beings are psychosomatic soulish unities made in the image of God. The image of God is fully located neither in our brain nor our DNA. We, and all who are "one of us," are unique combinations of body, soul, and mind. We might quibble theologically about how best to describe the components of our humanity, but most Christians agree that we are more than the sum of our biological and functional parts.

The technopians, however, do not share our view of what it means to be "one of us." Even though computers and robots may never become "one of us," some will doubtless attribute to them human characteristics and--it is not inconceivable to imagine--human rights, including a right not to be harmed. One day it may be illegal to unplug a computer and so end its "life" at the same time that it is an ethical duty to unplug a human being whose biology has ceased to function efficiently.

**The Church and a Truly Human Future**

The apostle Paul could identify with some of the Transhumanists' concerns. He, too, found the limitations of our fallen humanity bothersome. In 2 Corinthians 4 and 5, he groans about this earthly tabernacle or tent. He longs to be freed from the suffering, the pain, and the finitude. Yet, his hope is not in his own abilities to transcend his humanity, but in God's power to transform his humanity through redemption. He is confident that this mortality shall put on immortality--that we have a dwelling place not made with human hands, but eternal and heavenly.

Much of what the Transhumanists long for is already available to Christians: eternal life and freedom from pain, suffering, and the burden of a frail body. As usual, however, the Transhumanists--like all of us in our failed attempts to save ourselves--trust in their own power rather than God's provision for a truly human future with him. Since the role of the prophet is to declare the Word of the Lord to his covenant people, the church must mount a massive educational ministry to help Christians understand biotechnology from a Christian worldview perspective. That is to say, since all truth is God's truth, and since we live in a world that faces the brave new world of biotechnology, Christians have an obligation to understand how God's revelation applies to those technologies.

This will mean that seminaries will have to equip ministers to address the ethics of genetic engineering, gene therapy, transgenics, xenotransplantation, stem cell research, and a growing number of other issues. Currently most seminaries provide only limited opportunities to address these difficult areas. This is unfortunate because these are, and will increasingly become, the
context of thorny pastoral problems. Pastors are even now being asked to provide counsel regarding reproductive technologies but few are prepared to help because they find themselves uninformed not only about the technologies, but also about how to think about them.

Further, the church in her prophetic role must use her regular educational ministry to develop a Christian mind on these issues. Every church member has a stake in the biotechnology revolution. Bioengineered plants and animals are already sold in grocery stores, often without labeling. Gene therapy will increasingly become the standard of care for many illnesses. Attempts will soon be made to create biochips for transferring information into and out of the human brain. Nanotechnology promises to create machines the size of molecules that will perform complex functions and microsurgery inside the human body.

Lastly, through her prophetic role, the church must help shape public policy related to biotechnology. Each of these technologies will require laws or policies to regulate or in some cases (such as cloning a human being) outlaw their use. At this point relatively few Christians--and even fewer churches--are informed about these issues. More alarming, they do not know how to impact the public policy process. This must change if the church is to be a faithful prophet to her cultured to her members.

Reference