

Technology- Management Gap Grows

by Brad Allenby
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In 1945, in the blinding light of the first nuclear test at White Sands, N.M., physicist Robert Oppenheimer recalled the words of Vishnu, from the Bhagavad Gita: “Now I am become Death, destroyer of worlds.”

Nuclear weapons represented a technology that, for the first time in human history, raised the specter of global catastrophe. But through planning, negotiation, regulation, and perhaps luck, the Cold War ended without nuclear exchange. Technology was managed.

My thoughts turn to this example when I read the newspapers these days. Although there are few technologies quite as frightening as nuclear weapons, developments in nanotechnology, biotechnology, robotics, information and communication technologies, and cognitive science continue to accelerate.

Our children live in virtual realities such as Second Life and World of Warcraft that are unfamiliar to their parents, and they visit each other on Facebook rather than at the mall.

In 10 years, we've gone from inventorying the human genome to building viruses from scratch.

Experts in robotics are drawing up codes of ethics for robots. What was once science fiction (remember the science-fiction writer Isaac Asimov's Three Laws of Robotics?) has become technological reality.

In many classrooms today, students use online search engines such as Google to access more facts than their teachers will ever know, and yet teaching methods lag behind these developments.

Contrast such rapidly accelerating technological capabilities, which bring new challenges and opportunities seemingly every week, with the ability of our legal and regulatory tools to manage them. Unfortunately, there is a fast-growing gap.

This is a serious challenge. As an example, consider that many scientists believe that within decades people in developed countries may well be able to live on average from 110 to 120 years, and that they will be relatively healthy over that period. Increased longevity will change the way we build and design houses, cars, appliances and other familiar products, and will impact the energy, water and other resources we need.

Especially for a state such as Arizona, which attracts many retirees, the projected increase in human life span should factor into our long-term infrastructure, environmental and land-use planning.

But it's not. And the main reason is that, so far, planners, environmental activists, designers and others are generally unaware of the huge implications of the technologies rapidly entering our daily life. We're losing the connection between our institutions, our ethics and our advancing technologies.

To help address this disconnect, the ASU Lincoln Center for Applied Ethics has funded a project involving myself along with Gary Marchant, executive director of the Center for the Study of Law, Science and Technology in ASU's Sandra Day O'Connor College of Law,

and Joseph Herkert, an associate professor of humanities and the arts at ASU Polytechnic. We are trying to understand how to ensure that our legal and ethical systems respond to the cutting-edge technological challenges of our day.

As part of this project, we hope to host a workshop of world-class experts at ASU to identify issues and possible solutions, and to create a web site that will serve as a resource for engineers, policymakers and scientists in Arizona and around the world.

Although this project signals only the beginning of a difficult road ahead, fundamental issues about ethical behavior, the development of our cities and protection of our environment require no less than our concerted attention.

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