Editorial

SPECIAL ADDRESS FROM THE PRESIDENT

Catalyzing Scientific Progress

Today, at the dawn of a new millennium, we see before us an era of unparalleled possibilities. Our restless quest for knowledge, which has been one of America's defining traits since we got started right here in Philadelphia, will quicken. More than ever before, the strength of our economy, the health of our environment, and the length and quality of our lives will be driven by the pursuit of knowledge.

We must seize this moment to strengthen our nation for the new century by expanding our commitment to discovery—increasing our support for science, pressing our progress in the war against cancer and other diseases, and protecting our children from public health dangers, especially from the deadly addiction to tobacco.

We've come a long way in the last half of the 20th century. Fifty years ago, when President Truman addressed the 100th anniversary meeting of the AAAS, Bardeen, Brattain, and Shockley had just created the first transistor; Mauchly and Eckert had recently powered up the seminal ENIAC computer. Pauling and Franklin were developing techniques that would help to unravel the mystery of our DNA.

Things are moving much more quickly now. Today, the store of human knowledge doubles every five years. Soon, every child will be able to stretch a hand across a computer keyboard and reach every book ever written, every painting ever painted, every symphony ever composed. We'll be able to carry all the phone calls on Mother's Day on a single strand of fiber the width of human hair.

By the year 2048, when a future President of the United States addresses the bicentennial meeting of AAAS, fusion and solar power may yield abundant energy. I am absolutely convinced that by then we will have discovered how to grow the economy by restoring, not depleting, our planet. By then, telephones may translate foreign languages in real time. We may well have a permanent station on the surface of Mars. And some of the greatest victories in the next 50 years doubtless will be in the ancient battle against human disease—its prevention, its detection, its treatment, and its cure. Sophisticated new AIDS therapies already have given HIV-positive men and women a new lease on life. If this progress continues, I believe we'll have an effective AIDS vaccine within a decade.

If we act now, we can catalyze the process of discovery and create even more dramatic progress. For example, within the context of the first balanced budget in 30 years, we have worked hard to increase investments in education, to open the doors of college to all, and to increase the quality of education at the elementary and secondary levels.

However, there is probably no better example of this new approach than the proposal we have for a 21st Century Research Fund, providing for the first time a strong, stable, multiyear source of funding for research. This commitment represents the largest funding increase in history for the National Science Foundation and the National Institutes of Health. It will provide substantial budget increases for basic and applied research at NASA, the Department of Energy, and the Department of Agriculture. It will spur technological innovations that will help us to combat global climate change.

The 21st Century Research Fund will give us the means to win the war on cancer. It will allow the development of new classes of smart drugs that target specific molecules found in cancer cells. It will help researchers discover, within a decade, every single gene and protein that contributes to the conversion of a normal cell to a cancer cell. It will create new opportunities for prevention and new technologies for earlier and more accurate diagnosis.

However, the public health responsibility cannot be the sole province of medical researchers and doctors. The rest of us have a job to do too. We now have an historic opportunity to curtail the deadly epidemic of teen smoking. I have asked Congress to enact comprehensive legislation to raise the price of cigarettes by up to $1.50 a pack over the next 10 years, to give the FDA full authority to regulate tobacco products, to change forever the way tobacco companies do business, to further public health research, and to protect tobacco farmers and their communities in the transition which will come. If we act this year, by the year 2003 we can stop almost 3 million young people from smoking and save almost 1 million lives as a result. I ask for your support in this effort, because the scientific community can speak with a very loud voice.

The extraordinary promise of science and technology carries with it extraordinary responsibilities. It is incumbent upon both scientists and public servants to ensure that science serves humanity always, and never the other way around.

Last week the Senate voted to take the time necessary to carefully craft a bill that will ban the cloning of human beings while preserving our ability to use cloning technology for morally acceptable and medically important purposes. Already, you have given us the scientific foundation for this debate. I urge you to continue to play an important role in this issue in the coming year.

In spite of the pitfalls and the perils, our nation has always believed that what you do in the end would always transform our world for the better. Benjamin Franklin once wrote, "The progress of human knowledge will be rapid and discoveries made of which we at present have no conception. I begin to be almost sorry I was born so soon since I cannot have the happiness of knowing what will be known in years hence." I have been struck by the contrast between Ben Franklin's vision and the depiction of the future we now see in so many books and on television. The world of the future is often portrayed as a frightening, primitive, brutal place—where science has run amok or where the community and government have withered away, and the earth has been devastated by greed.

I think it's important that we all accept the responsibility to imagine and invent a very different kind of future, and then to tell our fellow Americans that that is the future we are working toward. We must never for a moment be afraid of the future, but instead, we must envision the future we intend to create.

The AAAS's bicentennial meeting can convene in a world where climatic disruption has been halted; where wars on cancer and AIDS have long since been won; where humanity is safe from the destructive force of chemical and biological weapons wielded by rogue states or conscienceless terrorists and drug runners; where our noble career of science is pursued and then advanced by children of every race and background; and where the benefits of science are broadly shared in countries both rich and poor. That is what I pray it will be like, 50 years from now, when my successors stand here before your successors and assess how well we did with our time.

President Bill Clinton

This editorial is adapted from a speech given on 13 February 1998 at the AAAS annual meeting in Philadelphia, PA. The full speech is available online at www.aaas.org/meetings/scope/clinton.htm