

Welcoming Remarks for the 30<sup>th</sup> AAAS Forum on S&T Policy  
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On behalf of Shirley Ann Jackson, chair of the AAAS Board, Alan Leshner, CEO, and the whole AAAS organization, I extend a warm welcome to all of you. This AAAS Annual Forum on S&T Policy is our XXX<sup>th</sup>, quite a fixture on the spring calendar here in Washington. Notice that we use roman numerals, just like the Super Bowl! Known until 2003 as the Colloquium on Science and Technology Policy, the agenda has been broadened considerably beyond the highly valued focus on budget analyses. These programs were initiated in 1976 by AAAS Executive Officer Bill Carey and Willis Shapley, who had retired after long federal service at NASA and the Bureau of the Budget (now OMB). We are delighted that Willis is here again today. Also, at 5:45PM today we remember Bill Carey with the Lecture that will be delivered by the Congressman from the 12<sup>th</sup> District in New Jersey, physicist Rush Holt. Dr. Holt was a Congressional Science Fellow and Assistant Director of the Princeton Plasma Physics Laboratory before his election to Congress in 1998.

We want you to know that the AAAS R&D Report you all receive is a collaborative effort with 20 scientific, engineering, and education associations comprising the Intersociety Working Group (identified in the Report). The AAAS Committee on Science, Engineering and Public Policy has provided oversight since 1976. The term Forum is intended to convey to all of you that we encourage and expect a lively dialogue, with challenges to the speakers and fresh ideas. Four years ago this Forum discussed how best to allocate large surpluses in the Federal Budget; now we face the complications of large structural deficits, a declining dollar, and a surging creditor nation and emerging competitor in China. Our agenda is all the more timely.

Last week in Ann Arbor, Michigan, we celebrated the 50<sup>th</sup> anniversary of the announcement in the very same auditorium by Dr. Thomas Francis of the results of the spectacularly-conducted field trials of the Salk polio vaccine. Those trials in the summer of 1954 involved 1.8 million children and huge numbers of volunteers, before there were computers to handle the data! Dr. Francis' opening line that the vaccine had been shown to be "safe, effective, and potent" sent reporters scurrying to the telephones and elicited bold headlines throughout the world. In our audience were numerous men and women from around the country who were 7 and 8 year-old "polio pioneers" 50 years ago. They and their parents dared to take uncertain risks to defeat a terrifying scourge, which had afflicted 57,000 children and adults in the U.S. during the peak summer of 1952. Physicians, hospital directors, and budgeters of the time were obsessed with having enough iron lung machines to keep severely paralyzed children alive and improving the machines. Meanwhile, fortunately, laboratory scientists pursued the vision, the dream, the stepwise and frustrating scientific process of isolating what turned out to be three different polio viruses, learning how to grow the viruses in cell cultures, and then making an effective vaccine that could be administered on a grand scale. Survivors of polio, including some of the 500,000 with degenerative post-polio symptoms arising decades later, poignantly noted that no one under age 55 seems to remember what polio was or appreciate the long-term suffering and disability of so many for whom the vaccine was too late.

We have many other successes from science and technology, which collectively have greatly changed our lives. At the same time, we have many new and persistent scientific and societal challenges, from HIV to homeland security. Thus, we have chosen as our theme for the next AAAS Annual Meeting in St. Louis 16-20 February, 2006, "Grand Challenges and Great Opportunities".

I hope we can mobilize scientists and engineers, sponsoring agencies, and the Congress to look farther over the horizon for ambitious goals and new ideas. We want to mobilize the public, from families to public officials, to invest in bold endeavors—from understanding the origins of the universe, the dynamics of the oceans, the genetics of human populations, and the sources of human conflict, to new vaccines for global diseases, and environmentally-sustainable energy technologies. We will hear later this morning about public support in California and other states for learning more about the biology of embryonic stem cells and the potential to generate new therapies for some of the dread diseases of our time.

More broadly still, the global Grand Challenges of poverty, over-population, genocide, potable water, food production, high child and maternal mortality, and sustainable development remain for social and behavioral scientists, technologists, and nations to address through shared values, international perspectives, and creative solutions.

Science is based on observation, on curiosity about the worlds around us, on the willingness to experiment, on our imagination to test and not-infrequently disprove prevailing knowledge. We scientists and engineers have to be willing to “suspend our beliefs”, as W.H. Auden said, to risk learning that what we believe we know needs to be revised through new learning and challenges from unexpected sources. This is good advice for our national leaders in education, business, and government, as well.

Science and technology are interdependent. Technologies allow us to devise new solutions to old puzzles. Scientific advances may be converted into useful applications in industry, medicine, national security, and many other fields. All of this activity has context—social, cultural, economic, historical, political, global, and religious. Those contexts require learning about others’ views and recognizing that some of those views are skeptical, fearful, or based on quite different conceptions of evidence, knowledge, and authority.

Communication must be two-way, listening as well as explaining, acknowledging others’ views as well as sharing our values and methods. Since its founding in 1848, the AAAS has played a significant role in enhancing public understanding of science, public interest and investment in education, research, and development, and public attention both to the excitement of scientific advances and to the problems associated with certain uses of technologies. The AAAS continuously seeks new ways to enhance such communication, including dialogues about public policy like this Forum.

The AAAS plays a special role in bringing together scientists and engineers from the many silos defined by our academic disciplines. Academe has learned from industry that multidisciplinary teams are necessary to address complex problems.

Education at all levels is the bedrock of our mission. Many young people show extraordinary talent for S&E, given the opportunity.

I served on the Project 2061 Council during its first decade. This sustained, influential AAAS effort pursues the theme “Science for All Americans”. We have a long way to go. In some school districts we seem to be going backwards to pre-scientific or anti-scientific attitudes. Led by Shirley Malcom, the AAAS has earned a fine reputation for openness and outreach to recruit women, minorities, and individuals with disabilities and assist their progress. Part of our program will address the complex task of projecting workforce needs.

Our journal Science is our most recognized product. It is essential reading for policy makers and lay people interested in scientific advances and relevant news and policy issues. New forms of

scientific communication, especially on-line offerings, special topical issues, and international programs have enhanced its impact. We are proud of our outstanding scientist-editors and the recent marketing programs that make people more aware of AAAS.

AAAS reaches out to other communities, through our Committee on Human Rights, the AAAS/American Bar Association National Committee of Lawyers and Scientists, the Dialogue on Science, Ethics, and Religion, and outstanding work by all the divisions, coordinated by the Policy Division and reflected in this Forum program. The AAAS Fellowships have made an enormous contribution to Congressional Committees, State Department, and other agencies. And our Annual Meeting has grown into a multifaceted experience for the host communities, scientists with curiosity about other fields, and this year more than 1000 journalists stimulated by the Challenges and Opportunities we are able to bring to life.

Now it is time to turn to our splendid program.

It is a special pleasure to introduce our distinguished Keynote Speaker, Dr. John H. Marburger III, Science Adviser to the President and Director of the Office of Science & Technology Policy. He and I entered Princeton together in the fall of 1958. He was a pioneer in the field of nonlinear optics while at the University of Southern California. He became president of SUNY-Stony Brook, and served as Director of the Brookhaven National Laboratory before being recruited to OSTP by President Bush. As I know from service in OSTP and OMB in the Carter Administration, his is a largely internal role, stimulating and moderating Administration policies and priorities. We are delighted to have him lead off our 2005 S&T Policy Forum.