

WHY SOCIAL SCIENCE?

Because It Makes Informed Democracy Possible

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By Rush D. Holt, Ph.D., CEO Emeritus, American Association for the Advancement of Science

Einstein said famously, “The eternal mystery of the world is its comprehensibility.” It gives scientific optimists like me encouragement that great thinkers have concluded it is possible to understand the world, that the world is not chaotic, senseless, and inscrutable. In the empirical world there is a means for determining which of two ideas, explanations, or choices is more likely to be true. Through observation, experiment, and analysis there is a path to reliable knowledge. By going down that path we can gain knowledge that is more and more reliable. If only more people realized this! This is not only, as in Einstein’s words, mysterious that it should be so; it is also astounding. And this is comforting, because it also appears to be true that with reliable knowledge one can improve the human condition, reduce suffering and affliction, and ennoble human life. This is the testament of science. Science, the greatest intellectual development of the past half millennium, brings many material advances, but the greatest gift of science is the idea of science itself.

I suppose some would say I am going off the deep end in idle philosophy, but it seems to me very empowering in a practical sense to know how useful the well-developed practices and standards of science (social science and the scientific techniques of other disciplines) are for resolving many differences of opinion. How very empowering it is to know that there can be and is progress toward a self-consistent and improving understanding of people and things.

So, why social science? Because the techniques of social science can show us a way out of the morass of society and government that comes from the current unresolvable conflict of raw opinions. These days we are in a turbulent sea of influences, tweets, and misdirections. One or another opinion gains currency or acceptance through repeated assertion or even deception as often as through empirical validation. We need scientists to lead the way to help everyone appreciate for themselves the success of the evidence-based scientific approach. This is not to say that values acquired by means other than observation and experiment are inferior or irrelevant, but rather that structures built from those values are more likely to survive if they are built on the most reliable understanding of how things really are.

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The American Constitution provides an ingenious, although imperfect, mechanism for balancing competing interests. However, it cannot work if those interests are based on free-floating values and unmoored opinions with no effort to find a reliable, shared understanding of how things are and if the

interest groups fail to call opinions opinions and evidence evidence. Approaching that shared understanding of how

things are, how people think and react, and how we perceive and learn, is what science is and does.

To take this lead we scientists must cheerfully show our reverence for evidence. That is to show, as Yogi Berra might have said, you can observe a lot by watching. The widespread problem seems to be that too often people cannot distinguish, or choose not to distinguish, between evidence and opinion. We must display our

love for the scientific way of thinking, what biologist Lewis Thomas called “the shrewdest maneuver” for understanding how the world works, and share this maneuver with others, especially non-scientists. Of course, we scientists must practice what we preach by openly and humbly examining our own ideas and opinions with the intention of discarding those that do not fit with the evidence. Most of all, we must rekindle the idea, once widespread in America, I think, that differences are to be expected and are not inherently unresolvable. This is not my dreamy yearning for the good old days of the Enlightenment, but an impassioned plea for scientists to show our stuff for the sake of democracy.

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The big challenge is to get each person to see for himself or herself that by demanding evidence be examined openly, each of us and all of us can gain reliable knowledge for our personal and collective benefit. Differences can be resolved. It begins, not with an expert’s sophistication, but with an expectation that the world can and should be understood and that opinions are only that.

As an example of what I am talking about I call to mind my dear friend the economist Alan Krueger, who died earlier this year. Krueger was widely admired, even beloved, because as Krueger practiced economics, it was an empirical science. Avoiding speculation, he was not so much interested in theory, no matter how clever, but in the evidence beneath it. So, by finding “natural controlled experiments” where, for example, neighboring counties had different minimum wages or different countries had different wealth gaps he could show the very minor effect on jobs of increases in the minimum wage or the extent to which inequality depresses economic mobility. There were very real findings resulting in very real policy prescriptions and benefits. Anyone could see that this was solid science. President Obama, who benefited from Krueger’s close advice, said Krueger saw his evidence-based science “not as abstract theories but as a way to make people’s lives better.”



RUSH D. HOLT, Ph.D., has held positions as a teacher, scientist, administrator, and policymaker. In 1982, he took leave from his faculty position at Swarthmore College to serve as an AAAS/American Physical Society Science and Technology Policy Fellow on Capitol Hill. Holt has said that his fellowship was “life changing,” and served as a springboard to his role in Congress. Before coming to AAAS, Holt served for 16 years as a member of the U.S. House of Representatives, representing New Jersey’s 12th Congressional District. On Capitol Hill, Holt established a long track record of advocacy for federal investment in research and development, science education, and innovation. He served on the National Commission on the Teaching of Mathematics and Science (known as the Glenn Commission), founded the Congressional Research and Development Caucus, and served as a co-chair of the Biomedical Research Caucus. Holt served eight years on the Permanent Select Committee on Intelligence and chaired the Select Intelligence Oversight Panel, which worked to strengthen legislative oversight of the intelligence community. Following his service in Congress, Dr. Holt became the chief executive officer of the American Association for the Advancement of Science (AAAS) and executive publisher of the Science family of journals in February 2015 until his retirement in September 2019.



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