Podcast Interview: Baruch Fischhoff and Dietram Scheufele

PNAS: I’m your host Nicholette Zeliadt and welcome again to Science Sessions. Science appears to have a communication problem on its hands. Segments of the public remain skeptical of mainstream scientific thinking on issues of great social import, such as climate change, genetic engineering, and stem cell research. If only the public knew the facts and understood the science, they would come to agree with scientists about these issues, right? Sounds great, in theory, but empirical evidence suggests this won’t fly. In May, the National Academy of Sciences held a two-day Sackler Colloquium on the science of science communication. Speakers discussed the latest social and behavioral research on how people receive and process information and make decisions, offering insight on bridging the communication gap between scientists and the public. I sat down with two of the colloquium’s organizers, Baruch Fischhoff, professor of social and decision sciences and of engineering and public policy at Carnegie Mellon University, and Dietram Scheufele, professor of science communication at University of Wisconsin, Madison. Fischhoff begins by explaining the need for a scientific approach to communicating science.

Fischhoff: We chose the title of “The Science of Science Communication” in order to make the point that the stakes are so high that people understand the science that’s relevant to their personal and public decisions that we ought to adopt a scientific approach to that. We’re not getting the benefit of our research and our technology if people don’t understand it.

Scheufele: For a lot of us it’s very difficult to take a few steps back and look at communication not as something that we’ve done since we were 2 years old, but as something that’s a scientific problem, and as something that needs evidence.

PNAS: Scheufele discusses one of the major take-home messages from the meeting.

Scheufele: One theme of the conference that came out, is the idea that what some people have called the knowledge deficit model is really not the key model underlying communication. So the idea that we think there’s a knowledge deficit among the lay publics and it’s our job to fix it is really not the idea. What is the idea is to say, what are some of the key needs that audiences have, and that they themselves can verbalize and can understand—either in terms of them wanting to make better policy decisions, to understand the value questions surrounding a science. So that may not have anything to do with knowledge. In fact it may be something that’s largely unrelated to knowledge but that’s a very key communication deficit, where we see a disconnect between where science may be going or where science may be able to make contributions, but where the public doesn’t see those contributions, or where the public would like to shift the focus of science. And I think a lot of those disconnects are disconnects that science communication has to address. Especially in a world of increasingly complex science that’s more and more difficult to communicate.
Fischhoff: One way to look at it is that one should avoid a rush to judgment. That is one should not assume that just because a member of the public or most members of the public don’t understand a particular fact means that they’re ignorant, or that they’re stupid. The fact that is very precious to a scientist may not be particularly important to a citizen, and so you first need to do an analysis to figure out what elements of the science really are important, and then you need to do very careful measurement to see what it is that people understand. Sometimes people understand things but they just don’t express themselves in the language that scientists are accustomed to. And that’s where you need the social, behavioral, decision sciences to see where people need help and find the best way to provide it to them.

PNAS: Fischhoff and Scheufele share their hopes for the future.

Fischhoff: One thing that I hope that this kind of research and this kind of colloquium can help to avoid is a kind of unnecessary vicious circle, whereby scientists start with very high trust. They’re among the most trusted people in the society. People like scientists, they have them as teachers, they take science classes, but scientists are not experienced at communicating. It’s only human nature to fault your audience when your message doesn’t get through. And then if you become more exasperated then you end up eroding the trust that your audience has because you don’t seem to respect them, and then it can go downward from there. So we hope to show scientists that there are tools for improving the communication.

Scheufele: Another key theme that I think came out is the idea that we need much more of an infrastructure in the US to systematically feed social science data into decision making. And I mean public decision making as well as political decision making. So we need to have ongoing efforts surrounding some of these new technologies, where from the very beginning we identify, for instance, certain deficits, certain needs, certain desires among certain parts of the audience, for particular types of information, maybe for particular types of value-based discussions, certainly. And I think it’s cost us as a society, in terms of not being able to have the type of discourse, and the type of political decision making that I think we need around an increasingly complex set of scientific issues.

Fischhoff: I think a recurrent theme at the meeting was that our intuitions often mislead us about communication and they typically lead us in the direction of assuming that we’re better communicators than we are, and that the only antidote to that is to evaluate, and so when there are any stakes at all we should not communicate without some evaluation. Otherwise we’re choosing to fly blind. And both the communicator, and the organizations or professions that they represent, and the audience deserve better.

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