

KEEPING OUT OF THE BOX

Stephen H. Schneider

During three decades spent studying the highly charged issue of climate change, I've not been bashful about offering my scientific conclusions—or even my opinions about appropriate public policy. Acting both as a research scientist and as a policy advocate poses some special challenges, and prominent among them is the matter of dealing with the press.

To my mind, the popular media haven't done the best job of covering the science behind this contentious topic. The roots of their difficulties are easy to understand. The first problem is their need for brevity: They have little time on the air, or space on the page, to delve into details. In addition, in covering controversy, especially when there are polarized political positions, journalists generally strive to report "both sides." Got the Democrat? Better get the Republican, too. Doing so ostensibly provides journalistic balance. But achieving the same evenhandedness in describing complex questions typical of science can be considerably more difficult, because there are rarely two mainstream views on any given subject. There may be a complete spectrum of reasoned opinion—or there may be considerable consensus among knowledgeable experts, with the only dissenting voices coming from a few extremists or special interests.

Still, many reporters have been trained to "get both sides." So by agreeing to an interview, a scientist risks getting his or her views stuffed into one of two boxed storylines. In the case of my specialty, climate change, it's either "you're worried" or "it will all be okay." In talking to reporters, I routinely discuss a wide range of possibilities. Yet mostly I find just one part of what I said represented, only to be "balanced" by a different scien-

tist who is attributed with a polar opposite view. This pattern is frustrating, especially because I do indeed want to communicate both that some scary possibilities are not improbable and that scientific uncertainties preclude high confidence in most specific predictions. Being stereotyped as an advocate implacably committed to one particular position makes it difficult to communicate such nuanced messages in the popular press. It also does little to bolster one's reputation as an objective interpreter of the scientific facts—and it even encourages personal attacks.

But this sad state of affairs isn't just a glitch in how members of the press operate. Scientists invite such trouble unwittingly, because we often project the appearance of being locked in unending debate. Why do we do that? In science, a good reputation is not earned by repeating the established consensus. Rather, most of us focus our efforts at the cutting edge, where new results and hypotheses compete for eventual validation. The frontier of knowledge is indeed littered with contention at times, and so debating one another is precisely what we typically do—and should do—at our scientific meetings. But when the rest of the world wants to learn about what we are discovering and listens in using the "ears" of journalists—people trained to sniff out conflict—they often get the impression that scientists can agree on nothing.

It is this mutually reinforcing behavior that leads to much reporting about false dichotomies. And the solution requires some consciousness-raising on both sides of the microphone. Journalists need to learn how to communicate multiple positions (and the relative credibility of each), while explicitly describing what has been acknowledged as the mainstream view of the scientific community. Likewise, we should go out of our way at meetings to present review talks that stress what is indeed well established before we lapse into our sparring about fine points on the cutting edge.

Better science reporters already know how to find consensus statements; these come regularly from bodies like the National Research Council, the Intergovernmental Panel on Climate Change and so forth. So, too, do media-savvy scientists

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Figure 1. One need not be Einstein to draw the attention of the press. The author, a climate scientist, offers some pointers for those who struggle to find the proper words to share with reporters asking about their work.

or scientific societies (the American Association for the Advancement of Science in particular) know that time must be scheduled for review sessions and press conferences offering multiple points of view—not just polar opposites. These activities help separate established results from more speculative ideas, which, of course, get most of the play during scientific sessions.

Better communication of science to the interested public would also result if graduate curricula included some training in media relations and how the worlds of political advocacy and science policy operate. Similarly, journalism schools should consider balancing the mantra of “balance” with “perspective.” Political journalists covering science need to learn that not all opinions deserve—nor should they receive—equal billing in a story. Rather, their mission should be to provide a perspective on the relative credibility of the various claims.

Some Concrete Guidelines

In the meantime, how does a well-meaning scientist deal with the communications world as it is? There are no simple answers, but I’d like to offer some guidelines that work for me—at least sometimes. First and foremost, resist any temptation to make judgments about the superiority of your argument over others: Such comments will only stiffen the resolve of reporters intent on dredging up controversy. Next, explain the process with which you arrived at your conclusions to those asking for an expert opinion. There are several important aspects to flag. First, when you make value judgments, always preface any such offerings with the clear warning that the question called for a personal opinion, not an expert opinion of scientific understanding. For scientists asked to make forecasts, what can happen and what are the odds constitute science; what to do about it is a value judgment.

I often try to summarize what colleagues say, too, and to differentiate the process of scientific assessment (with its multiple rounds of peer review) from what are merely claims of individuals. Perhaps most important is the need to state the degree of certainty you assign to your assessments and to explain the degree of subjectivity needed to estimate that confidence level.

Finally, remember to use language that any layperson can follow. Jargon may be an efficient way to communicate with colleagues who know the lingo, but others often misunderstand it. For me, simple metaphors work best to communicate my meaning, because they can convey both the urgency and uncertainty that go into making assessments of climate change. For example, I (and other climate scientists) often say that climate is like a set of dice, with some hot faces, wet faces, dry faces and so forth. This allows us to point out both that the random element in the weather is not going away with global warming and that we think people are loading the climatic dice in such a way that some of the more problematic faces will be turning up more often.

To explain that the surface heating that comes with global warming will intensify the hydrological cycle and is likely to increase the intensity of rainfall in already-wet regions, I might ask my interviewer a simple question: “If you put one pan full of water in the sun and one in the shade, which will evaporate first?”—everybody knows the answer to that. Again, such an illustration adds to clear communication, even though in global warming it is extra infrared energy that is heating the surface, not extra sunlight. Thus, to some sticklers my analogy is too crude. Yet without resorting to some simplification, it is nearly impossible to communicate the implications of the scientific results to a broad audience and thus to garner support in one’s effort to make the world a better place.

I labeled this conundrum the “double ethical bind” in a 1989 interview with Jonathan Schell for an article he was writing for *Discover* magazine. For me, discussing a pan of water is helpful and similar enough to the climatic effect I want to describe that I can live with knowledge that it glosses over many complications—and I do write the lengthy articles (and lengthier books) for those who want to know more about how I view the real physical processes.

As I said to Schell years ago, it’s not at all easy to choose one’s words when talking to reporters in a world of sound bites and adversarial policy debates. Ironically, many people who argue against my public-policy prescriptions have used selective quotation from that *Discover* article to attack my credibility. So let me do some selective quotation of my own from that piece, which gets the point across that I was trying to make to Schell back in 1989, something I still feel strongly today: “This double ethical bind we frequently find ourselves in cannot be solved by any formula. Each of us has to decide what the right balance is between being effective and being honest. I hope that means being both.”

Unfortunately, I see this quote repeatedly manipulated by those claiming I advocate exaggeration; they deftly leave off the last sentence—expressing my hope that scientists be both honest and effective—and ignore the overall context of my remarks. In particular, they leave out what I meant by being honest in that *Discover* interview: vetting the “ifs, ands and buts” by producing popular articles and books, and when forced to provide sound bites, by using metaphors to convey both urgency and uncertainty.

In a world of policy advocacy, full quotation and respect for context are rare luxuries, so if you venture into this realm you’d better expect to be misrepresented some of the time. Steel yourself before taking the plunge. Good luck.

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