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Roger Pielke, Jr.

Daniel Sarewitz has observed that the richness of science often provides an "excess of objectivity" in politicized debates. What he means is that for a wide range of contested policy issues there exists a diversity of scientific disciplines, methods, data, and analyses that lead to a wide range of research results. This intellectual diversity is then available to be selectively invoked by political advocates in support of their pre-existing agendas. Sarewitz describes the consequences as follows:

Rather than resolving political debate, science often becomes ammunition in partisan squabbling, mobilized selectively by contending sides to bolster their positions. Because science is highly valued as a source of reliable information, disputants look to science to help legitimate their interests. In such cases, the scientific experts on each side of the controversy effectively cancel each other out, and the more powerful political or economic interests prevail, just as they would have

without the science.

The net result is that science often contributes very little to policy debate aside from ammunition for entrenched interests. The idea that scientists "cancel each other out" is problematic for those like me who think that science has much to offer policy makers in support of their decision making.

Scientists have not been innocent victims in these political dynamics. Writing in the *National Journal*, Paul Starobin suggests that: "Inevitably the scientist has been dragged, or has catapulted himself, into the values and political combat that surround science and has emerged, in certain respects, as just another (diminished) partisan."

Recent debate over hurricanes and climate change provides a perfect case study of these dynamics and the role that individual scientists play in creating conditions for the pathological politicization of science. The hurricane debate also offers some valuable experience suggesting how individual scientists might counter the "excess of objectivity."

In the spring of 2006, a group of scientists were collectively promoted in a press release by a group called TCS - Tech Central Station - which values "the power of free markets, open societies and individual human ingenuity to raise living standards and improve lives." Each of the scientists cited in the TCS press release believes that global warming plays little discernible role in hurricane activity. Clearly the scientists were selected by, or joined with, TCS because their scientific perspectives happened to be politically convenient.

Late in the summer of 2006, another group of scientists collaborated with an environmental group to promote research suggesting that sea surface temperatures had increased due to global warming. Each of these scientists believes that global warming is the primary reason behind increased hurricane activity. These scientists were similarly collected and presented as a group because their scientific perspectives also happened to be politically convenient.

On hurricanes and climate change, the reality is that there is a legitimate scientific debate going on, and Georgia Tech's Judy Curry and colleagues (on the global warming side of the debate) have suggested that the debate will be unresolved for a decade or more, as more data are collected and more analyses are conducted.

Interest groups have a great deal of power in such situations of scientific diversity, because they can selectively assemble experts on any given topic to basically support any ideological position. That interest groups will cherry-pick among experts comes as no surprise, but what, if any, responsibility do scientists have in such advocacy and what are the implications for the scientific enterprise?

From the perspective of the individual scientist choosing to align with an interest group, it should be recognized that such a decision is political. There is of course nothing wrong with politics. It is how we get the business of society done, and organized interest groups are fundamental to modern democracy.

Nonetheless, an observer of this dynamic might be forgiven for thinking that different perspectives on scientific issues are simply a function of political ideologies. We often see how contentious political debates involving science can become, when filtering science through interest groups is the dominant mechanism for connecting science to policy.

It is this condition of dueling special interest scientists that leads to a second perspective: an institutional approach to providing scientific advice in a way that is not filtered through a particular special interest agenda. It is this very condition that gives legitimacy to government science advisory panels, National Academy committees, and professional societies. When scientists organize themselves to actively describe the policy significance of their work, it can serve to militate against the pathological politicization of science. Unfortunately, many such institutions eschew discussion of the significance of their work, or emulate the behavior of advocacy groups by presenting a subset of the relevant science.

One notable effort to place scientific debate into a policy context was led by MIT's Kerry Emanuel, a hurricane-climate expert embroiled in the current debate over hurricanes and global warming. He organized nine of his colleagues from both sides of the debate to prepare a statement about their debate and its significance for decision making. The statement by the scientists said:

As the Atlantic hurricane season gets underway, the possible influence of climate change on hurricane activity is receiving renewed attention. While the debate on this issue is of considerable scientific and societal interest and concern, it should in no event detract from the main hurricane problem facing the United States: the ever-growing concentration of population and wealth in vulnerable coastal regions.

With the exception of *The New York Times*, the statement has been almost completely ignored by the major media and advocacy groups. This is not surprising, as many would rather use scientists for their own narrow purposes, which often depend on the presence of political conflict rather than consensus. Nonetheless, the effort by the hurricane scientists represents responsible leadership seeking to move beyond the exploitation of scientists for political ends.

Scientists who wish to avoid the effects of self-segregation by political orientation might consider the following advice:

- Affiliate yourself with interest groups with open eyes. Recognize what you are doing, and if it makes sense for you then go ahead and affiliate. You are of course acting as a political advocate. Not admitting to being a political advocate, or describing yourself as a focused only on the science, simply means that you are hiding your advocacy behind science.
- If you are concerned about the pathological politicization of your area of science, particularly in situations where there is a diversity of legitimate scientific and political debate, then demand that your public appearances take place in the context of diverse perspectives on science and policy. If you agree to participate in an event, a committee, a press conference, an assessment, etc. then look for people with different views than your own, and if you don't see them, ask that they be included.

Scientists have choices in how they engage with policy and politics. Self-segregation according to political predispositions is one of the easiest ways to make science both irrelevant to policy and deeply political.

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