Organisms from Molecules to the Environment

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Organisms from Molecules to the Environment

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Framing Biology

A word to readers who may be spending the summer under a rock, in a swamp, or in some other challenging location: Frames are the cognitive concept *du jour.* Specifically, the excitement is about reframing, a sort of rhetorical jujitsu that allows the adept to dominate in debates by activating listeners' internal associations through the use of key concepts. Author George Lakoff has popularized reframing by writing extensively about the Bush administration's deft use of the technique in political discourse.

At the recent AIBS annual meeting in Washington, DC, Matthew C. Nisbet of Ohio State University spoke about the importance of frames and reframing in communications about science. Nisbet summarized research showing that the politics, moral positions, and religious views of members of the public are strong predictors of their views on controversial science-related questions, such as the threat posed by climate change. Significantly, these factors were stronger predictors than survey respondents' technical knowledge. "The truth shall set you free" might be a good motivator for some, but it falls short as a description of how most people think about science.

Although some scientists might want to do no more than lament ignorant attitudes and return to their terminals, they risk being marginalized in an often unsympathetic political climate. Frames suggest an alternative strategy. Nisbet proposes that communicators who specialize in science and analyze ethics and policy options better than many of today's journalists could be more effective in educating the public about scientific issues. Unfortunately, many mainstream media outlets are now shedding science correspondents, not hiring new ones, so researchers may have to shoulder more of the burden of communication themselves. The Internet increasingly makes that possible. Yet although some scientists have long been exceptional communicators, the shift in roles will require mental readjustments.

The frames concept recognizes that facts are not enough to win popularity; emotional responses need to be excited as well. Scientists may find that notion alarming, because scholarly communications must be forthright about the uncertainties of scientific analysis and recognize its always provisional nature. That is a crucial part of science, but it does not yield enthusiasts. And since not everyone can be an expert, enthusiasts who believe science is important in big decisions are needed to spread science's influence.

To make progress, scientist-communicators might have to be explicit about advocating for policies based on consensus science when acting in a public persona and then switch to intrascience mode, with detailed qualifications, during discussions integral to science. Context is all: Some statements that are appropriate for a scientist addressing a town meeting may not be appropriate for a scientific academy.

Moving between audiences and technical levels in a way that is both ethical and effective is difficult, but biologists who care about their field's influence should address that challenge. They can rehearse the strong reasons to curtail the ongoing mass extinction while accepting the difficulty of predicting its most immediate impacts on human welfare, for example. They can use pictures of charismatic megafauna even while understanding that insects might be more important. And they can acknowledge that they too are human beings with passions and cares. The resulting connections might justify a little discomfort.

TIMOTHY M. BEARDSLEY
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