Accepting a Dysfunctional Union

ROGER PIELKE, JR.

ROGER PIELKE, JR. is currently a visiting scholar at Oxford University’s James Martin Institute for Science and Civilization. His specialties include science and technology policy, climate change, and natural disaster mitigation.

T o keep science and politics separate are not only doomed to fail, but they are likely to create conditions enhancing the pathological politicization of science.

Politicizing Science: The President and Science

Science and Politics: Accepting a Dysfunctional Union

D an Sarewitz, professor of science and society at Arizona State University, argues that we should fully expect politicians to politicize scientific information because “that is their job...and this—like the second law of thermodynamics—is not something to be regretted, but something to be lived with.” Sarewitz’s assertion flies in the face of many recent discussions on science and politics, focusing predominantly on the actions of President George W. Bush, which are characterized in ample portions by both blame and regret.

The Bush administration has courted controversy in many areas of policy making, and science is no exception. While complaints about the heavy-handed tactics and questionable decisions of the Bush administration are both justified and easy to offer, such complaints can do little to question the heavy-handed tactics and questionable decisions of the Bush administration are both justified and easy to offer, such complaints can do little to question the.

President Jimmy Carter went against the wishes of his scientific advisors when he committed the United States to drawing 20 percent of its energy from renewable sources by 2000. President Carter explained that he accepted his advisors technical conclusions that the goal would be impossible, but that he had put forward the proposal for political reasons. President Ronald Reagan, prior to being elected, questioned the science of evolution, calling it a theory that was being increasingly challenged by scientists. He suggested that if evolution was to be taught in schools, “then I think that also the biblical theory of creation, which is not a theory but the biblical story of creation, should also be taught.” The administration of President George H. W. Bush proposed redefining “wetlands” in such a way so as to exclude millions of acres of land from federal protection and open them up for development. The proposal was eventually withdrawn for lack of a scientific basis. President Bill Clinton ordered a strike on the Al Shifa pharmaceutical factory in Sudan in 1998 in retaliation for bombings of the US embassies in Kenya and Tanzania. The target of the attack was justified in part by scientific evidence gathered at the factory site. It was later revealed that the scientific evidence had in fact been inconclusive.

More sophisticated efforts to address the challenges of science and politics look beyond the efforts to gain partisan advantage and instead focus on practical strategies for living with the reality that science and politics will always be intermixed in the practice of governance. If Sarewitz is correct—and many decades of study on the role of science in decision-making suggest that he is—then efforts to keep science and politics separate are not only doomed to fail, but they are likely to create conditions enhancing the pathological politicization of science.

The Relationship Between Science and Politics

The most simplistic prescription that has been offered to the issues of the politicization of science is simply to elect another president, a solution that plays well in large segments of the scientific community, where many never shared President Bush’s politics anyway. For instance, in 2004 a group called Scientists and Engineers for Change sought to use the issue of science politicization to help elect John Kerry to the presidency. At times a rallying cry to end the Republican “war on science” can be heard in the current presidential campaign.

More sophisticated efforts to address the challenges of science and politics look beyond the efforts to gain partisan advantage and instead focus on practical strategies for living with the reality that science and politics will always be intermixed in the practice of governance. If Sarewitz is correct—and many decades of study on the role of science in decision-making suggest that he is—then efforts
finding common ground

Climate Change and the Global Environment, Stanford University, and (NOAA), Harvard Medical Center’s Center for Health of global warming disasters.” Subsequently, scientists at warming—such as “Hurricane Katrina is a harbinger that may become more frequent with future global human role in the global environment will necessarily be loaded with emotional and symbolic meaning. There can be no getting around this reality—there is no bloodless, neutral language.

Similarly, several years ago, the Union of Concerned Scientists, as part of its advocacy campaign on reducing greenhouse gas emissions, recommended the use of the word “harbinger” to describe current climate events that may become more frequent with future global warming—such as “Hurricane Katrina is a harbinger of global warming disasters.” Subsequently, scientists at the National Oceanic and Atmospheric Administration (NOAA), Harvard Medical Center’s Center for Health and the Global Environment, Stanford University, and the Fish and Wildlife Service’s Polar Bear Project began to use the phrase in their public communication in concert with advocacy groups like Greenpeace. The term has also appeared in official government press releases from science agencies speaking for the agencies and personal views: “NASA employees who present personal views outside their official area of expertise or responsibility must make clear that they are presenting their individual views—not the views of the agency—and ask that they be sourced as such.” Under both approaches it is expected that the officials know and understand relevant evidence and policy, with different views being that the NASA policy allows room for employees to express their personal views, whereas the NOAA policy does not.

The science agencies need a media policy. Evaluating and improving agency media policies would seem to be an ideal subject for congressional or executive oversight, in order to develop procedures that get information to the public. One particularly visible. Unfortunately, in recent years the Bush administration appears to look to media policies as irrelevant, while Congress views them as a topic on which to score partisan points. Even as the United States approaches the end of the Bush administration, we certainly have not heard the last word on scientists and agency media policies because the current administration Appropriations Bill.

Without the “don’t ask, don’t tell” approach to scientific advisory panels, a policy of “don’t ask, don’t tell” only makes it more difficult to see the composition of science advisory panels, a policy of which experts? Picking Advisory Panels

In 2005, two scientists at NASA made a great deal on scientists—NASA and NOAA—found themselves at the center of controversy on the media’s access to scientists in person and via press releases on the subject of climate change. Acting on the basis of their own judgment, NOAA’s science programs, and so is the process of assembling expertise on different topics. Consequently, we will now consider each in turn.

**What Knowledge to Share? Politics and the Press**

In 2005, two scientists at NASA made a great deal on scientists—NASA and NOAA—found themselves at the center of controversy on the media’s access to scientists in person and via press releases on the subject of climate change. Acting on the basis of their own judgment, NOAA’s science programs, and so is the process of assembling expertise on different topics. Consequently, we will now consider each in turn.

The use of language to convey political meaning is of course well understood in politics. If the choice of language to use in discussing matters of science is inherently a political choice, then so too is selection of topics for press releases and statements made in government reports describing science programs, and so is the process of assembling expertise on different topics. Consequently, we will now consider each in turn.

**What Knowledge to Share? Politics and the Press**

In 2005, two scientists at NASA made a great deal on scientists—NASA and NOAA—found themselves at the center of controversy on the media’s access to scientists in person and via press releases on the subject of climate change. Acting on the basis of their own judgment, NOAA’s science programs, and so is the process of assembling expertise on different topics. Consequently, we will now consider each in turn.

George Bush discusses his plan for combating global warming and greenhouse gas emissions at the National Oceanic and Atmospheric Association in Silver Spring, Maryland.
But anyone who has taken a child to a doctor for a serious health problem knows that the interaction between patient, parent, and doctor can take a number of different forms. Experts therefore have choices in how they relate to decision-makers, and these choices have important effects on decisions but also the role of experts in society. Gore’s metaphor provides a useful point of departure to illustrate the four different roles for experts in decision making. The four categories are very much ideal types—the real world is more complicated, but nonetheless I argue that they help to clarify roles and responsibilities that might be taken by experts seeking to inform decision-making.

The Pure Scientist seeks to reduce the scope of choice available to the decision-maker. The doctor might hand a parent a packet of a medicine and say “give this to your child.” The doctor could do this for many reasons. The Honest Broker of Public Information may try to expand, or at least clarify, the scope of choice available to the decision-maker. In this instance the doctor might explain that a number of different treatments are available, from ibuprofen to taking different medicines, each with a range of possible consequences.

Each mode of interaction deals with the challenge of integrating science and politics in a different way. Consider the Pure Scientist or Science Arbiter as described above. How would a person view a doctor’s advice to take ibuprofen? If one learned that she had received US$50,000 last year from a large company that sells ibuprofen or upon hearing advice to perhaps forgo medicine for this particular ailment, what if one learned that she happened to be an officer of a religious organization that promoted treating sick children without medicines? Or if one learned that her compensation was a function of the amount of drugs she prescribed? Or perhaps the doctor was receiving small payments from an attractive drug industry representative who was talking by the doctor’s office once a week? There are countless ways in which extra-scientific factors can play an explicit role in expert advice. When such factors are present they can lead to “stealth issue advocacy,” which I define as efforts to reduce the scope of choice under the guise of focusing only on purely scientific or technical analysis. Stealth issue advocacy has great potential for eating away or even corrupting the legitimacy and authority of expert advice.

Then how does one decide what forms of advice make sense in what contexts? I argue that a healthy democratic system will benefit from the presence of all four types of advice, but depending on the particular context, some forms of advice may be more effective and legitimate than others. Specifically, I suggest that the roles of Pure Scientist and Science Arbiter make the most sense when values are broadly shared and scientific uncertainty is manageable (if not reducible). An expert would act as a Science Arbiter when seeking to provide guidance to a specific decision and as a Pure Scientist if no such guidance is given. In reality, the Pure Scientist may exist more as a historical legend than anywhere else. As science and politics is scientific certainty is contested, that is to say every political issue involving scientific or technical considerations, then the roles of Issue Advocate and Honest Broker of Policy Options are diminished. The choice between the two would depend on whether the expert wants to reduce or expand the available scope of choice. Stealth issue advocacy occurs when one seeks to reduce the scope of choice available to decision-makers but couches those actions in terms of serving as a Pure Scientist or Science Arbiter; for example, by suggesting that “The science tells us that we must act in so-and-so manner.”

So a child is sick and the parent takes him or her to the doctor. How might the doctor best serve the parent’s decisions about the child? The answer depends on the context and involves far more nuance than that suggested by Gore’s metaphor. If one feels able to gain the necessary expertise to make an informed decision, he or she might consult peer-reviewed medical journals (or a medical website) to understand treatment options for the child instead of directly interacting with a doctor. If one is well informed about the child’s condition and there is time to act, one might engage in a back-and-forth exchange with the doctor, asking her questions about the condition and the effects of different treatments. If a child is deathly ill and immediate action is needed, a parent might ask the doctor to unilaterally make whatever decisions are deemed necessary to save the child’s life. If there is a range of treatments available, a parent might ask the doctor to spell out the entire range of treatment options and likely consequences to inform the decision.

The interaction between expert and decision-maker can be complicated, even in a relatively simple situation like a doctor-patient decision, it is even more so in highly politicized settings. Understanding the different forms of this relationship is the first step towards the effective governance of expertise, and for learning to effectively live with the intermixing of science and politics.

We have choices in how experts relate to decision-makers. Whether we are taking our children to the doctor or using science to inform policies, better decisions will be made more often if we pay attention to the role of experts in decision-making and the different forms that it can take. Striving for better decisions, rather than trying to separate science and politics, is the best method for dealing with the challenges of the politicization of science.

But anyone who has taken a child to a doctor for a serious health problem knows that the interaction between patient, parent, and doctor can take a number of different forms. Experts therefore have choices in how they relate to decision-makers, and these choices have important effects on decisions but also the role of experts in society. Gore’s metaphor provides a useful point of departure to illustrate the four different roles for experts in decision making. The four categories are very much ideal types—the real world is more complicated, but nonetheless I argue that they help to clarify roles and responsibilities that might be taken by experts seeking to inform decision-making.

The Pure Scientist seeks to reduce the scope of choice available to the decision-maker. The doctor might hand a parent a packet of a medicine and say “give this to your child.” The doctor could do this for many reasons. The Honest Broker of Public Information may try to expand, or at least clarify, the scope of choice available to the decision-maker. In this instance the doctor might explain that a number of different treatments are available, from ibuprofen to taking different medicines, each with a range of possible consequences.

Each mode of interaction deals with the challenge of integrating science and politics in a different way. Consider the Pure Scientist or Science Arbiter as described above. How would a person view a doctor’s advice to take ibuprofen? If one learned that she had received US$50,000 last year from a large company that sells ibuprofen or upon hearing advice to perhaps forgo medicine for this particular ailment, what if one learned that she happened to be an officer of a religious organization that promoted treating sick children without medicines? Or if one learned that her compensation was a function of the amount of drugs she prescribed? Or perhaps the doctor was receiving small payments from an attractive drug industry representative who was talking by the doctor’s office once a week? There are countless ways in which extra-scientific factors can play an explicit role in expert advice. When such factors are present they can lead to “stealth issue advocacy,” which I define as efforts to reduce the scope of choice under the guise of focusing only on purely scientific or technical analysis. Stealth issue advocacy has great potential for eating away or even corrupting the legitimacy and authority of expert advice.

Then how does one decide what forms of advice make sense in what contexts? I argue that a healthy democratic system will benefit from the presence of all four types of advice, but depending on the particular context, some forms of advice may be more effective and legitimate than others. Specifically, I suggest that the roles of Pure Scientist and Science Arbiter make the most sense when values are broadly shared and scientific uncertainty is manageable (if not reducible). An expert would act as a Science Arbiter when seeking to provide guidance to a specific decision and as a Pure Scientist if no such guidance is given. In reality, the Pure Scientist may exist more as a historical legend than anywhere else. As science and politics is scientific certainty is contested, that is to say every political issue involving scientific or technical considerations, then the roles of Issue Advocate and Honest Broker of Policy Options are diminished. The choice between the two would depend on whether the expert wants to reduce or expand the available scope of choice. Stealth issue advocacy occurs when one seeks to reduce the scope of choice available to decision-makers but couches those actions in terms of serving as a Pure Scientist or Science Arbiter; for example, by suggesting that “The science tells us that we must act in so-and-so manner.”

So a child is sick and the parent takes him or her to the doctor. How might the doctor best serve the parent’s decisions about the child? The answer depends on the context and involves far more nuance than that suggested by Gore’s metaphor. If one feels able to gain the necessary expertise to make an informed decision, he or she might consult peer-reviewed medical journals (or a medical website) to understand treatment options for the child instead of directly interacting with a doctor. If one is well informed about the child’s condition and there is time to act, one might engage in a back-and-forth exchange with the doctor, asking her questions about the condition and the effects of different treatments. If a child is deathly ill and immediate action is needed, a parent might ask the doctor to unilaterally make whatever decisions are deemed necessary to save the child’s life. If there is a range of treatments available, a parent might ask the doctor to spell out the entire range of treatment options and likely consequences to inform the decision.

The interaction between expert and decision-maker can be complicated, even in a relatively simple situation like a doctor-patient decision, it is even more so in highly politicized settings. Understanding the different forms of this relationship is the first step towards the effective governance of expertise, and for learning to effectively live with the intermixing of science and politics.

We have choices in how experts relate to decision-makers. Whether we are taking our children to the doctor or using science to inform policies, better decisions will be made more often if we pay attention to the role of experts in decision-making and the different forms that it can take. Striving for better decisions, rather than trying to separate science and politics, is the best method for dealing with the challenges of the politicization of science.