Letters

Two Plus Two

If Daniel E. Koshland, Jr.'s editorial "Two plus two equals five" (23 Mar., p. 1381) reflects how the scientific community views its critics, it goes a long way toward both explaining and justifying the antiscientific attitudes it decries.

Koshland's derision might have been appropriate had it been limited to perpetual motion machines and quack medical cures. However, by implying that all who disagree with scientists on public policy issues are either stupid (not knowing how to "add") or malicious (rewriting the "laws of arithmetic" to their advantage), he dangerously trivializes the policy process. We cannot think of any significant public policy controversy where one side has insisted on the equivalent of "2 + 2 = 5," although we've seen quite a few where the technical evidence marshaled by one side's scientists was simply immaterial to the concerns raised by the other side.

Public policy issues with simple answers don't remain issues very long. The ones that stick around involve conflicting philosophies, values, or interests that go a little deeper than knowing how to add. Scientists who don't understand the limits of scientific contributions to policy debates risk not only personal embarrassment but political irrelevance.

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Koshland's interview with Dr. Noitall directs the discussion about the "poor" image of science into a debate based on public opinion. Missed is the opportunity to "educate" Dr. Noitall about "fourness." Rather than letting Noitall control the agenda, we all need to be able to direct such discussions into areas that can teach and possibly change opinions. How would the "public" respond if we were able to take what most people think is a simple problem with only one correct answer and provide an infinite set of correct responses?

Such an infinite set was provided by the programmers for the early PLATO system. They said that a proper computer program would accept many correct answers to the problem, "How much is 2 + 2?" Among their suggested answers were 2 + 2 = 5 − 1, 2 + 2 = 2 × 2, 2 + 2 = 8/2, 2 + 2 = 1 + 1 + 1 + 1, and even 2 + 2 = four, 2 + 2 = fore, and 2 + 2 = for.

It is not easy to get people to change their ideas, especially when the ideas are controversial and seemingly obvious. But if we cannot provide a new, different, or broader perspective, we may not even get their attention. Sometimes changing the question or redefining the problem is the only way to get that attention.

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Research Support for Head Start

Constance Holden's article "Head Start enters adulthood" (News & Comment, 23 Mar., p. 1400) overlooks prominent evidence about the positive effects of programs like Head Start. Holden refers to what "most researchers" say about long-term effects, although she appears to have interviewed only seven researchers, including only two who have conducted such research.