LETTERS

Vannevar Bush Was No Scientific Purist

I feel the need to clarify the historical record as presented in "Redefining the Endless Frontier: NSF Confronts the 'New Reality' " (September, page 53). This news story closed with a memorable quotation from Vannevar Bush's "Science—the Endless Frontier," the core of which is "applied research invariably drives out pure." As the story noted, this quotation is from an appendix that contains the report of the Committee on Science and Public Welfare, one of the panels that contributed to Bush's final report.

This particular line has been cited by many commentators (including in the APS's "What's New," 21 August 1992) since NSF announced plans for the commission to study the agency's future. My sense is that the people citing it hope to imply that any steps toward applied research would be at odds with what Bush intended for NSF.

It is worth noting that Bush disagreed with these words. While he undoubtedly thought that the United States needed a higher ratio of basic to applied research than prevailed in 1946, his lifelong commitment was to a balance of research activities. He envisioned a research foundation that would support both "pure" research and "pioneering efforts of a technical sort" as exemplified by the Wright brothers. According to reports, he was very annoyed when he learned the panels working with him did not think that "a couple of bicycle mechanics working on a flying machine would . . . be doing research."[1]

Reference

1. J. M. England, *A Patron for Pure Science: The National Science Foundation's Formative Years, 1945–1957*, NSF, Washington, D. C. (1982).

ROLAND W. SCHMITT
Rensselaer Polytechnic Institute
Troy, New York

10/92

Roundtable: Not Well Rounded Enough?

I found the effort to discuss the topic of "science under stress" (February 1992, page 38), in a roundtable format and at length, very commendable. Having Representative George E. Brown Jr present was extremely important, and most of the other participants were about right. However, one very obvious participant was missing: a physicist who believes that society, if it pays the bill, must write the agenda for physics. Everyone at the roundtable was a believer in the old-fashioned ruling paradigm that the emperor has wonderful new clothes, although we may quarrel about the color and cut. Most of those present seemed totally ignorant of how wide the gulf now is between the reality experienced by 99% of the world's citizens and the world of well-funded physics. The conversation could have been among cardinals in the Vatican (before Vatican II) about the Vatican's finances. No one except Brown calibrated the discussion to the nation's needs, not science's needs. No one challenged the assumption that more or better science would fix our problems, even though those problems grew while our science was number one. Only Brown talked about "*society* under stress." For shame: Aren't physicists part of the society from which they want such huge sums as $10 billion for the SSC? Isn't the smallest reciprocal gesture on the part of physicists ever considered?

I have a suggestion that may help us to prepare better for the inevitable denouement when the public recognizes the absence of any clothes, that is, when it realizes it has been had for 50 years by the science community's "Immaculate Assumption"—"that [anything called] science leads inevitably to innovative technology and thus to prosperity," as PHYSICS TODAY (April 1985, page 63) described the position of President Reagan's science adviser, George A. Keyworth II.

I start by making a Kennedyesque request of physicists: Ask not for tens of billions more, but what you can do for your country (not for a tiny corner of physics). What actions can we in the science community, given no more money, take to reform our own structures and processes to better serve our nation? Let's begin by educating physicists about the nation's finances