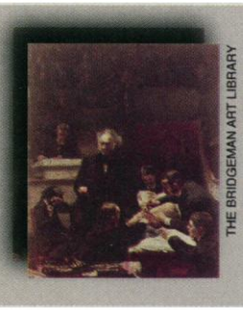
LETTERS

Creative realms

Writers express different views about whether scientists and artists "work toward the same end" in reaction to an editorial suggesting that scientists should support funding for the National Endowment for the Arts (Right, "Gross Clinic," by Thomas Eakins, 1888–1889, a painting that shocked the public when it was first exhibited). In other letters, fusion alternatives and policy matters are put forth. And fluorescent lamp types are compared.



THE BRIDGEMAN ART LIBRARY

NEA Funding

In lamenting the lack of scientists' involvement in the debate over funding for the National Endowment for the Arts (NEA), Mark A. Emmert (Editorial, 21 Nov., p. 1381) rightly stresses that both art and science are creative activities that promote human knowledge about the world, and if one, science, is to be funded, then the other, art, should be as well. His argument can be augmented further by pointing out that artists' works are natural expressions of the mind in the human brain. The artist's studio is a natural, ecologically valid laboratory where human perception, memory, cognition, and language are tested spontaneously, and the results, works of art, are displayed for everyone, scientists and nonscientists, to examine. Scientific laboratories test theories in artificial settings devoid, for the most part, of ecological context. If we are to understand the human brain in health and in disease, we need to see creative expressions of the mind that originate in natural settings as well as scientific laboratories. The arts provide excellent tools for gaining knowledge about productions unique to humans, who, in turn, can benefit immeasurably from this knowledge in driving both the nation's economy and its science.

Dahlia W. Zaidel
Department of Psychology,
University of California,
Los Angeles, CA 90095–1563, USA

I disagree with Emmert's editorial urging scientists to support the NEA. He argues that any movement to cut funding for the NEA represents a devaluing of intellectual and creative work in general and hints that science may come under similar attack unless scientists rally to support the NEA now.

The NEA's fall into disfavor has nothing to do with a devaluing of creativity, and everything to do with its support for attacks on values held by most U.S. citizens, including scientists. Scientific research enriches us all, practically and intellectually. NEA funding for works of "art" that offend does not enrich anyone except the so-called artist.

Emmert seems to be saying that the purpose of art is to "challenge the status quo," "confront artistic traditions," and "propose new ways of envisioning the world." Challenging the status quo is a political act, not an artistic one, and art in the service of political ideology has a spotty reputation. Give me art which is nontrivial, which enriches the viewer, which in some way ennobles humanity, and let the NEA wither away from its self-inflicted damage.

Kevin Thompson
Post Office Box 390965,
Mountain View CA 94039, USA

Emmert states that "[s]cientists need to worry about poets and painters because they work toward the same end." Their achievements, however, can be so hugely different that they may well deserve quite different funding. Imagine that a single important scientific discovery, such as penicillin or electricity, had never occurred: as a consequence, millions of humans would have suffered and died before their time. Conversely, imagine that hundreds of famous poems and renowned paintings had never been created: the lives of nearly all humans would have continued virtually unchanged.

Riccardo Baschetti
Medical Inspector (retired),
Italian State Railways,
Via Savonarola 144, 35137 Padua, Italy

Emmert decries the lack of reaction in the scientific community to the possibility of reduced funding for the NEA. He asserts that the current threats to governmental funding of the arts could readily be extended to funding for scientific research, by reasoning

that neither field can be justified economically. He observes that much of science is "curiosity-driven," for the "sole aim [of] discovery and enlightenment," and hence unrelated to economic or other tangible benefit to society. He may have characterized correctly the motivations for many scientists, but that is a very different thing from identifying the value of science for society—from which can derive the justification for governmental support for science. It is hardly necessary to say that history shows us that enormous utility has been provided over the ages by the results of curiosity-driven scientific pursuits. This fact sharply differentiates science from art in any attempt to justify societal economic support.

William M. Murray
2650 Spring Hill Lane,
Enola, PA 17025–1257, USA

Emmert's editorial suggesting that scientists support the NEA is right on. Unfortunately, it seems doubtful that it will get much attention. Scientists appear to rely on the proposition that the pie is only so big and someone else's slice necessarily fixes or reduces yours. In a time when science wants a bigger and bigger slice, they aren't likely to think about supporting others. This short-run view—often held by administrators, too—while unfortunate, will prevail until the demonstrably false proposition is, in fact, demonstrated to be false by courageous risk-takers.

Gwen Andrew
Dean Emerita, Michigan State University,
East Lansing, MI 48824, USA

Response: Thompson is only partly correct when he restates my belief that the purpose of art is to "propose new ways of envisioning the world." I also believe this is the role of science. My point is that the most important work in *both* science and art reveals new ways of understanding the world around us.

It is also scientific hubris to assert that *all* science "enriches us" and is worthy of support, while the NEA does not merit funding because some projects offend popular values. If we put all proposals for curiosity-driven research up for popular vote, a great deal of very important science would not be supported.

I agree with Baschetti that the practical consequences of scientific and artistic achievements are hugely different. I do not argue that science and art should be funded in a similar manner or in similar amounts. This has never been the case, nor should it be. My argument is simply that we need to defend funding for the arts as well as for curiosity-driven science, despite the fact that neither can be justified fully on grounds of economic return. Where Baschetti and I appear to disagree is on the importance of art. I believe that many human lives would be diminished if we lived in a world devoid of great artistic works.

Murray suggests that my argument includes the notion that "neither [science nor art] can be justified economically." On the contrary, I state clearly that the best case for science rests upon long-term financial return. My point is that we must continue to pursue curiosity-driven research even where there is no obvious economic return. To justify funding for basic research we must rely, at least in part, on the same sense of human curiosity and creativity that undergirds artistic pursuits. We do so in response to our human spirit, not just our pocketbooks.

Mark A. Emmert
Office of the Chancellor and
Provost for University Affairs,
University of Connecticut,
Storrs, CT 06269–2086, USA

■

Fusion Alternatives

Norman Rostoker *et al.* (Article, 21 Nov., p. 1419) describe the concept of a colliding