

Art and Science, Money and Morals

Roald Hoffmann

The National Endowment for the Arts, administering a paltry budget of \$176 million, has been under congressional attack over the past few years. Various works of art—from Robert Mapplethorpe's charged photographs to Holly Hughes's sexually provocative performance art—have caught our lawmakers' attention, if not their contemplative appreciation. Legislation has been introduced, notably by Senator Jesse Helms of North Carolina, stipulating that no federal monies be used to subsidize works of art that are "patently offensive" to the public. Helms's riders have come close to being enacted; only a "corn for porn" legislative compromise prevented the last such bill from being passed.

The individual and institutional responses of artists to such governmental interference have been instinctive and strong. I share them, with some reservations. Moreover, I submit that there would be some benefit to extending the debate to the sciences, since both art and science have responsibilities under public sponsorship.

There is now showing in Washington an exhibition called "Degenerate Art." Originating at the Los Angeles County Museum of Art, "Degenerate Art" commemorates the notorious "Entartete Kunst" exposition of 1937. The Nazi government assembled a collection of mostly marvelous (and some schlocky) art. Jumbled together on the walls of the Archaeological Institution in Munich were abstract paintings, Expressionist works, social criticism and art by Jews and Communists—distinguished only by just that, that the work was by Jews and Communists.

Some of the art in the 1937 exhibition was genuinely disturbing—for instance Ernst Ludwig Kirchner's *Self-Portrait as a Mutilated Soldier*. But then it was the great contribution of German Expressionism (and Goya before) to make us see that art is not only that which is beautiful but also a means of questioning our existence. Much in "Entartete Kunst" was not emotionally difficult—from Marc Chagall's portrayal of a village on a Jewish holiday to Emil Nolde's peaceable milk cows to a Klee masterpiece of balance, *The Angler*.

Many of the original works from "Entartete Kunst" are reunited in the commemorative exhibition, accompanied by photographs of the original installation. Pasted across the Munich walls were slogans such as "Decadence exploited for literary and commercial purposes" or "Crazy at any price." Also visible in the photographs are labels naming the German collection from which the work came and the price paid by the state for the art. The implication is made explicit in other signs, reading: "Paid by the taxes of the German working people."

I would like to have our members of Congress visit the commemorative exhibition. It represents one logical outcome of a line of reasoning in which the Helms legislation is the starting point.

Hidden Responsibility

But now I will part company with the obvious. In the nearly unanimous angry reaction of artists to the assault on the National Endowment for the Arts there is no hint of a realization of the ethical responsibility of artists. There is no word of the realities—in contrast to the ideology—of the justifiable limits of artistic freedom. No artist today is free to produce anti-Semitic or anti-Indian caricatures, nor portrayals of women (and just women) being mutilated. There are accepted limitations, perhaps unspoken, but as confining as if they were explicit, on what can be said, sung, acted or written. The rationalization of such self-censorship, if it were vocalized, would not differ in substance from Senator Helms's language, which objected to art that "denigrates, debases, or reviles a person, group, or class of citizens on the basis of race, creed, sex, handicap or national origin."

But those are problems of art, aren't they? Nothing here is relevant to science, which, thank God, does not deal with potentially offensive moral issues!

I don't think so. I believe that the experience of the art community carries in it lessons for science. True, science lacks the goading thorn-in-my-mind nature of art that made Nazi ideologues single out "degenerate" art. But there are issues of public sponsorship and ethics, of freedom and social responsibility, that science faces and that are related to those of art.

American science is munificently supported by the government. Oh, we complain, but I would ask any of us to compare the federal research funds that flow through our universities for science and engineering to those in the arts and humanities. At Cornell University the ratio is around 500:1. I think that exceeds by far some arbitrary weighting we would want to assign to the importance of these subjects in our children's education, or in the totality of our lives. As a matter of fact, the funding of science and engineering research at this one university exceeds the entire budget of the National Endowment for the Arts. (Many of my scientific colleagues, hungry and parochial, would argue that this is just as it ought to be.)

Given the degree of support of science and technology, made explicit in national research-and-development budgets of tens of billions of dollars, it is not surprising that the nature of the research has attracted congressional scrutiny. Senator William Proxmire once had a field day denouncing

Roald Hoffmann is professor of chemistry at Cornell University.



An art exhibition, "Entartete Kunst," mounted in 1937 by the Nazis in Munich, Germany. (Photograph courtesy of the Smithsonian Institution.)

this or that seemingly inane study. Now, Representative John Dingell likes to take on the hubris and failings of great scientists and their institutions. When scientists cultivate obscurity and take an attitude of "Don't bother me, I'm doing valuable work, but you can't understand what I'm doing," it is all too easy to poke fun at them. And it is not hard to bring them down when they assume a high ethical stance as priests of truth, yet are driven by the same unmodified urges that move us all.

Us and Them

Both communities, artists and scientists, cry for freedom in what they do. The contention of artists that it is up to them to decide what is offensive has a parallel in some scientists' claim that only they can rationally police themselves on issues of fraud. Both communities might consider that such contentions are really a way of building barriers between themselves and society—we can judge, they cannot. Not only are such delineations of expertise undemocratic, but they will also lead to a withering away of art and science, whose renewal depends on *them*.

Interestingly, one complaint about science is not that it offends public morals (although research in social psychology and studies of contraception are more exposed) but that it does not sufficiently serve the public. What good is there in the seventeenth way to make a lactone? The arts are vulnerable to a similar objection: How does that cacophony someone calls music serve us? The argument, appealing to politicians, is that some science and art is abstruse and useless.

The counterargument takes the same intellectual form for both art and science: The atonal music and the organic synthesis are neither esoteric nor trivial. They bring to our spirit a way of seeing experience differently, or of transforming it.

Sometimes the counterargument is, "If you would only

listen, if you would let me explain, I could show you how this lactone synthesis allows the making of an anti-tumor agent, how this atonal quartet explores the devices of baroque music." That's fine. But if you need to say "just let me explain" too often, something is amiss. Contemporary art is often hermetic, speaking in a voice understood only by the author. And yet good art, as Jacques Derrida said of writing, is the message that abandons. It must stand on the page or stage free of footnotes, free to be shaped by the reader or viewer. Good art must have mystery, but not be a mystery.

Likewise in science. If you get angry too often about the scientific illiteracy of the politician who does not understand your exquisitely designed research project, it is probably because you have been too lazy to explain all along. Scientists must explain their work, not just because someone pays the bill, but because gaps in knowledge, leading to chasms between people, are in some deep way inhuman.

Issues of social responsibility are faced by scientists. I believe that creators (and that includes scientists as well as artists) are actors in the glorious tragedy that is life. We are sentenced to create—there is no way to hide a facile synthesis of an immunosuppressant that saves, or of a potent narcotic that destroys. You cannot stop a sculptor from crafting a construction that is blasphemous to some. But as we create, and in doing so testify that we are human and alive, we also have the equally human responsibility for the consequences of our actions. Even for the misuses of our work; we must live with them. And if it is not we who misuse, we must at least speak of those who do, even if it hurts us personally (as it often does whistle-blowers). To artists who cannot conceive of misuses of their creation, I would say that an offense to someone's spirit (that's how art works, speaking to the soul) is as strong, if not stronger, than damage to body or property.