

# Letters

## Scientists Indulged

In respect to your editorial of 31 January ("Ethical problems: An invitation") and Benjamin Fullman's comment in Letters of 3 July ("Two camps in science"), I would like to note that his first camp can be broken down into two camps: (i) those for whom science is a way of life to be practiced for its own sake; and (ii) those for whom science is to be practiced for the public good. These two are not necessarily compatible and today in many instances are not.

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I have been following various controversies in *Science* for some time, including the ones about Mohole and why it went wrong, the big radar telescope that flopped, the "Man on the Moon" versus the robot analyzer, Mars fly-by, sterile landing, and signals from space versus the "nonprevalence of humanoids."

One major point has been perplexingly absent from these discussions: How do the defenders of such projects justify the diversion of money, wrested from the people of this country by the threat of force or jail, to uses of their choice, while they offer nothing in return? Is the scientific community committed to the idea that the world owes them a living to their liking?

I am a scientist. I believe in the acquisition and development of knowledge for its own sake and view with admiration those who expend what is theirs to such ends. But the projects I mention do not offer, even in theory, any return to those who must pay; they are based on simple curiosity—like Everest, they are "there." To take public funds, obtained by taxation of even the poor, for such ventures appears to be barefaced robbery, a flagrant violation of the larger ethical system in which scientific ethics and knowledge can grow.

Are the people involved in this so obsessed with their plans that they con-

sider that their ends justify any means? Can scientists be so ignorant of the values which brought them to eminence?

FREDERICK KINGDON

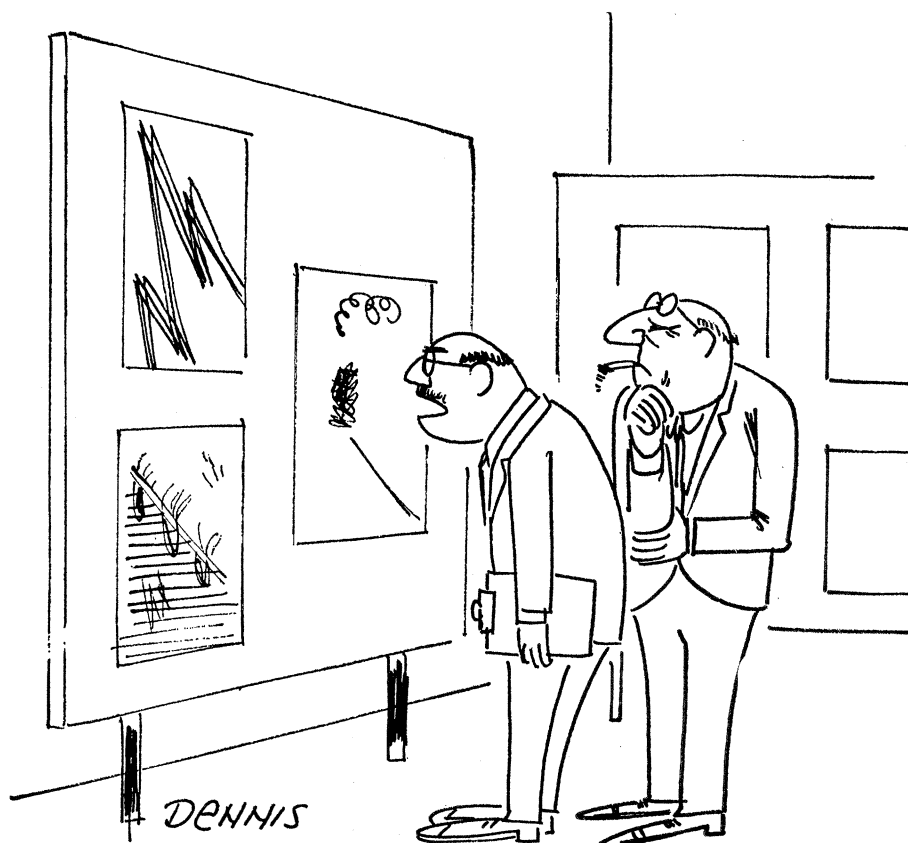
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Though I hate to bring up NASA again (Letters, 31 Jan., p. 429), there is one aspect of the great outlay of money which, despite its boondoggle aspects, could have a salutary effect upon all our future endeavors. "Boondoggle" implies waste of money and labor, "make-work," the profligacy of an overgenerous government. But boondoggling could also be the picture of the socioeconomic future, a conception of men working at tasks they like.

Scientists by and large occupy the enviable position of being paid by the community to do something they would like to be doing anyway. Is it not time

for us to dispel the notion that our primary devotion is to the health, economic welfare, and happiness of the community at large? For what we do adds to our own immediate happiness, although we make the knowledge and insight we gain available to the public, thus adding to their future welfare. And should we not state that, as cybernetic operations gain in scope, more and more people will be relieved of the need to earn a livelihood by distasteful work and will be free to join the ranks of those who labor for love? We scientists should show the way in which personal satisfaction in work contributes to the happiness of all individuals in the body politic. But in order to do this we must first acknowledge to ourselves and then to our fellow citizens that as a group we have been the first to benefit from the surplus wealth of an affluent society.

This is not to say that we should contract out of our responsibility for trying to solve present social-economic problems, but it is to say that within our culture there is also a big place for "nonproject" thinking, for knowledge and learning for their own sakes. A significant consequence of our stand in favor of knowledge for its own sake will be the reawakening of our uni-



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versities to their primary function as centers of learning. Too long have we allowed the public to look upon our universities as factories where scientists are hired to split atoms so that there will be cheaper power, or where biological research goes on so that "cures" may be found. Laudable as these aims and efforts are, they are not the primary function of a university. . .

We should make it clear that we are not exceptions but forerunners, not the elite but the first lucky ones, and that we will not rest until all mankind enjoys the blessings of the cybernetic revolution and of surplus capital. . .

PHILIP SIEKEWITZ

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New words are coined almost daily in science, and most of them are absolutely necessary. An explicative and descriptive science, if it is to be precise, must as it grows continually enlarge and make more specific its terminology. And this expansion understandably creates a good many problems—problems to which most scientists are certainly not insensitive.

But why complicate the situation unnecessarily? Why, if the problems are apparent, add to them by insensitive and careless practices? It seems to me that a community confronted with very real problems of communication must do everything possible to restrict these problems to those that are the inevitable result of its new needs.

Two examples will illustrate the unnecessary complication of scientific terminology today. The word *ambient* is not synonymous with *room*; that is, "ambient temperature" and "ambient conditions" do not mean "room temperature" and "conditions prevailing in the standard laboratory room" unless the term is specifically so defined. If *ambient* is to be used, exactly what the surrounding (*ambient*) conditions are must be described.

*Aliquot* means an integral factor. One cannot, therefore, take a 3-ml "aliquot" from a 10-ml sample. Unless the experimental procedure is a strictly quantitative one, and unless, further, integral factors are indeed involved, the words *sample*, *portion*, *fraction* are correct, not *aliquot*. (It is distressing to note that because of its frequency this misusage has been admitted to the new edition of *Webster's Unabridged*.)