Letters

Quality of Intramural Research

In his 21 March Perspective (p. 1351), Frank Press lists the federal government intramural laboratories and proposes that the basic research supported by them be opened to competitive grant funding applications by university and other investigators, similar to the procedures now in effect for extramural federal support. He also appears to advocate that intramural investigators be free to compete for extramural awards in the same areas, something they are currently not permitted to do. Any implication that intramural research is of lower quality and lacks the vigorous review of the extramural grant programs is wrong on both counts. In the health-related agencies, comparisons of quality, if anything, have favored the intramural programs; and these programs *do* have systematic peer review.

The largest concentration of intramural laboratories are those of the National Institutes of Health (NIH) and the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA). These laboratories constitute the world's premier health research facility. Its investigators have repeatedly received the highest recognition for scientific research, including four Nobel prizes. Internal government analyses reveal that the productivity of individual investigators (number of published papers or highly cited papers per dollar invested, or both) substantially exceeds that of researchers supported by all nonintramural mechanisms including extramural grants.

The peer review system of the intramural research programs of ADAMHA and NIH is implemented by boards of scientific counselors for each institute. These counselors are distinguished scientists from outside the agency that funds the intramural program, usually from universities and medical research institutes, who serve on the boards on a rotating basis, providing a detailed onsite examination of each of the intramural laboratories at regular intervals. The intramural programs set up laboratories on the basis of scientific management decisions and the advice of the board of scientific counselors. The laboratories are then reviewed by the board for their soundness of scientific priorities, strategy decisions, and productivity at intervals of 3 to 4 years. Ad hoc members are added to the board when additional expertise is needed for review of specific laboratories. These reviews are in place of the application, site visit, and study section functions of the extramural review process. The emphasis of the scientific counselors' review is much more on the productivity of the lab and its recent work than on the details of individual projects proposed for the immediate future. This system can give stable, long-term support to scientists whose work, although showing adequate signs of progress, may not have tangible results in a 3- to 5-year period.

The continuity of the boards and the depth of the intramural programs allow for ample comparisons between laboratories, as well as between intramural and extramural laboratories in similar program areas. Within each intramural program, there is intense competition among laboratories for resources, and within institutes there are allocations to be made between intramural and extramural programs.

When one considers the administration of federal funds, a major current concern is not whether there is sufficient competition for intramural funds, but whether the peer review process for extramural funds has become too costly and cumbersome. This issue can best be considered when there is a basis for comparison. It is extremely useful to have more than one national system of peer review awarding research monies. In the biomedical sciences, the two federal systems of support (intramural and extramural), the many federal agencies providing funding, and the very large private foundations, such as the Howard Hughes Institute, are all in competition with one another to produce the most outstanding science. We should be studying the differences between these systems, and the reasons for their successes, to identify the strengths and weaknesses of each. It would be unwise to have a single set of procedures based on a priori judgments; competition among systems is an important check on one of them going awry.

ELLIOT S. GERSHON
Office of Science, Alcohol, Drug Abuse, and Mental Health Administration, Rockville, MD 20857, and
Clinical Neurogenetics Branch, National Institute of Mental Health, Bethesda, MD 20892

Response: Gershon's letter and my Perspective both go to the same issue: the rational allocation of limited resources. He suggests that optimality can be attained by multiple review mechanisms; I suggested that we can achieve this goal by judging basic research, wherever done, with a common instrument, namely, peer-reviewed open competition.

I doubt that the excellence of NIH/ADAMHA reviews of its intramural research and the ability of these agencies to integrate basic research and application into an overall strategy pertinent to their mission extend generally to the some 700 federal laboratories. In any case, my Perspective will have served its purpose if it stimulates other suggestions for ensuring that the opportunities for basic research are open to creative people, wherever they happen to work.

FRANK PRESS
National Academy of Sciences, Washington, DC 20418

Issue Numbers and Librarianship

Since the dawn of librarianship, librarians have worried about their image. For every bunned and bespectacled spinster, you'll find a dozen information specialists who crop their hair, dress in costumes native to countries other than their own, and in their real lives scale K-2 or frequent swingers' clubs.

There is, however, a method for immediately identifying the librarians in any group of cabaret dancers or hitchhikers: provide incomplete information in a bibliographic entity.

And, of course, that is what *Science* has done. Quite frankly, I hardly noticed the little moon above the i. That is a matter of art and thus subject to infinite discussion and disagreement (I simply know what I like). But I must add my voice to the cries of outrage issuing from librarians coming out from under cover to protest the removal of the issue number from the new cover. You have added, according to my calculations, 1 hour and 17 minutes of processing time on an annual basis to my library technician's work load, as she hunts for and records on visible file, cards, and cover, the four-digit issue number. And heaven knows how many precious hours of scientific research will be lost as investigators try to match issue numbers to covers which give no indication that they even exist.

I could expand on this theme, yea, even unto the distant horizons to which my profession of information manager enables me to see. But I have already spent 11.5 minutes writing this, 7 minutes discussing "The Dot" with the scientific staff of this laboratory, and nearly 10 minutes typing this, as my clerk went home half an hour ago. Besides, my work day is over too, and I have to go check my lobster traps.

So please save us some time. Put back the issue number.

ALISON BAKER
Library, Jackson Laboratory, Bar Harbor, ME 04609

Response: When I was 10 years of age, Miss Gildersleve of the San Mateo Public Library was a goddess who encouraged my