

scientific community at the level of the federal government, the universities, and laboratory investigators; but there are certainly other interpretations of their causes and consequences.

Many university laboratories have generally not updated their scientific instrumentation in the last two decades. The reason, however, is not lack of research funds, but rather the expansion of the scientific manpower pool; that is, the overproduction of Ph.D.'s and M.D.'s by the academic institutions and the natural tendency to employ as many investigators as possible at the expense of replacing existing equipment with more recent models.

The purported breakdown of the "peer review" system is highly exaggerated. Large scientific projects, such as particle accelerators, manned space-flight centers, and national research laboratories, have always been awarded on a political rather than a scientific basis. The problem is one of visibility and economic influence, not erosion of the peer review system per se. Individual grant applications are still peer reviewed.

Kennedy writes that full reimbursement of all indirect costs is essential for the maintenance of a healthy academic research environment, despite some contrary opinions from officials of the National Institutes of Health and from university scientists. As someone who spent almost 9 years administering grants and contracts for NIH, I view indirect costs somewhat differently. If there is a problem, it stems primarily from the lack of controls on indirect costs. Expenses allocated to indirect costs by a research institution must be legitimate ones incurred in the conduct of research, such as for energy to heat a laboratory building, journals for the library, or the physical security of facilities. However, there are no external controls over the level of expenditures for such items purchased or provided by the institution similar to the controls imposed by the peer review process on expenditures requested in research grant applications. The financial auditors who review indirect costs make no value judgments about the necessity for particular items; consequently, the situation becomes one in which the university administrators set their own indirect cost rate by the arbitrary level of their expenditures. The government then provides full reimbursement for these indirect costs. This is somewhat analogous to the fox guarding the chicken coop, but it is a fiscal problem only in the sense that all resources are finite.

If there is a problem in the support of American science at present, its basis will be found in the oversupply of scientists, not in obsolete equipment, erosion of the peer review system, or escalating indirect costs.

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Sessions' first point (reiterated in his fourth) is that the government should not permit use charges or depreciation on donated equipment or buildings because the donors have already received tax credits or deductions for making the donation. At present it is the government's policy to pay the full cost of research; that is why it allows depreciation and use charges on facilities and equipment. The charitable deduction and other tax incentives for giving serve the broader social purpose of strengthening such institutions. Sessions' statement about these two purposes is confused: he says that, if the university uses general funds to purchase equipment, then it is all right to recover through indirect costs; but it somehow becomes wrong if the equipment was given specifically for that purpose—even though donors have received tax benefits in both cases.

Sessions' second point must contain the assumption that all research costs are variable; in fact, some are fixed. The latter cannot be reduced as project volume decreases, and it is these that change the rate, when they are spread over a reduced volume of activity.

As to his third point: it is the sad truth that government regulatory requirements are burdensome. That is why my institution and others have forgone some indirect cost recovery in return for cost-saving reductions in such requirements. I think we have no disagreement here.

Last, Sessions argues that we need more support of research. In my article, I emphasized that university leadership must recognize this as a first priority, and I gave an account of our successful efforts to accomplish exactly that in the 1985 budget. I have worked overtime, as have other university presidents and many investigators, to see to it that the costs of research get favorable treatment in the federal budget process. I did so because I believe that *all* research costs serve a legitimate public purpose. To charge me with contributing to the division between investigators and administrators, instead of trying to mitigate it by analysis, is just not a fair reading of what I wrote, or of what I've done.

I disagree with Nelson's statement that "university administrators set their own indirect cost rate by the arbitrary level of their expenditures." The main burden of my analysis, in fact, was that those costs most vulnerable to arbitrary "setting" have been the more slowly rising component of indirect cost. Neither can I agree with his remarkable hypothesis that the reason we haven't updated scientific instrumentation is that there are too many scientists! But as to his charge that my view "may, however, be construed as self-serving . . ."—that, alas, I cannot help.

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### Federal Project Funding

As reported in Constance Holden's briefing (News and Comment, 8 Mar., p. 1183), the National Science Board included the University of Connecticut in a list of institutions it accused in a recent report of bypassing a merit-based peer review process in obtaining federal project funding. I believe the National Science Board was in error in this judgment.

The University of Connecticut Health Center was designated as one of two sites nationally for a research and training center for pediatric rehabilitation. However, the University of Connecticut made no approach whatsoever to Congress for this designation, nor was anyone from the university involved in either the language or the process of the supplemental appropriation which provided funding for this topic in the budget of the National Institute for Handicapped Research (NIHR).

The supplemental appropriation legislation did not divert funding from existing research and training programs. All funds awarded to the university under this program have been in accordance with project plans approved by NIHR. Any renewal funding will continue to be peer reviewed by NIHR.

I am a strong advocate of merit-based peer review for any and all higher education projects seeking federal funding, and I am chagrined by the misinterpretation in the National Science Board's report, which, in my view, unfairly impugns the credibility of the University of Connecticut's position on this issue.

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