

Academic Health I

Many of the readers of *Science* work in academic institutions, and it's likely that most of the others received their scientific training there. Universities also house a large fraction of basic research in the natural sciences. In the United States, recently published media critiques of the "competitiveness" of U.S. science have enhanced national concern about the health of research in the higher education sector. From time to time, therefore, we ought to stick a thermometer into the patient and see how our alma mater is faring. Herewith a handful of diagnoses of several indicators, some of which may be important for other nations as well.

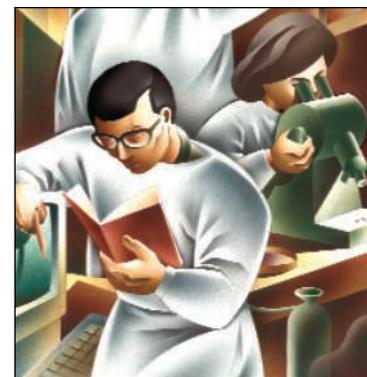
In the 1980s, university administrators usually first examined the state of federal research funding. That habit is hard to break, so I turn first to next year's budget. The House of Representatives did well by the National Institutes of Health (NIH), matching the administration's request with an increase of 2.6%, although that's a painful comedown from the 15% annual increases of the past few years. The House's first look at the National Science Foundation's (NSF) budget was less salutary, however, proposing a drop of 2%. In the palmy days of big NIH increases, some bioenthusiasts were annoyed when I called editorial attention to the unbalanced nature of the science portfolio. That problem is more serious now, and that's unfortunate in view of the growing dependence of modern biology on the sister disciplines that are supported mainly by NSF.

The visa problem has only become more tangled. Fewer foreign students are applying for graduate or postdoctoral positions in U.S. universities, and that disruption of international exchange hurts science around the world. In a move that surprised many, Senator Norm Coleman (R-MN) introduced a bill (S.2715, "The International Student and Scholar Access Act of 2004") that could ease the situation by establishing a new science visa category, giving consular officers more training and more latitude to grant waivers, and reducing certain fees and requirements for students entering to complete a course of study. That's a promising beginning, and we hope it will receive serious consideration. Part of the problem, though, lies in organization and management in the Immigration and Naturalization Service and in the quality of interagency coordination, and the new law may not cure that.

A third issue has a long and troubled history. During the early 1980s, the Department of Defense (DOD) and the Department of Commerce attempted to apply various export control regulations, which were designed to prevent the distribution of military equipment and specifications to other countries, to basic research data and even to the movement of scientists. Negotiations between universities and DOD resolved some of the problems, and a National Academy of Sciences committee recommended that except for the "gray area" of dual-use technology, regulatory controls should not be used as a proxy for classification. President Reagan affirmed that in an Executive Order signed in 1985, National Security Decision Directive (NSDD) 189. That directive established classification as the only appropriate method of control over fundamental research.

Well, they're at it again, even though National Security Advisor Condoleezza Rice reaffirmed NSDD 189 in November of 2001. The Association of American Universities and the Council on Governmental Relations created a task force to collect information about troublesome provisions in research awards that appeared to violate the terms of NSDD 189. These included restrictions on publication and on distribution to foreign nationals. Especially disturbing was a common requirement that "if the Contractor will have access to or generate unclassified information that may be sensitive or inappropriate," the contract language must prohibit the contractor from releasing any of that unclassified information to anyone outside the organization. This clause was reported by 47 institutions; surprisingly, it was accepted without negotiation in 18 cases. Other institutions either negotiated acceptable language or rejected the award. Restraints on publication were found in 71 other cases in a total sample of 138 instances.

These indicators are not encouraging about the present state of the university/government relationship. Other important aspects of that partnership, as it was called in the old days, include restrictions on types of research that may be conducted, the upcoming reauthorization of the Higher Education Act, and the especially trying times imposed on state institutions by budget limitations. We'll have to save those for Part II, so stay tuned.



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