EDITORIAL

Perception of an Academic Welfare State

The frequent complaints of academic scientists about the lack of funding for basic research are justified in terms of the decline in new grants for investigator-initiated research projects and the decrease in the fraction of approved applications that actually are funded. Most of these complaints have been received with little sympathy by Congress or by the general public, and for this reason a significant reversal of this trend is not likely in the near future. The problem is compounded by the at least implied perception that the U.S. has created a kind of academic welfare state that exists to pursue its own esoteric interests at the taxpayers' expense. Academic practitioners of protein science are particularly vulnerable because most applications and some basic research are now done in the widely publicized biotechnology industry, whose new protein-based drugs and discoveries seem sufficient to satisfy the immediate needs of society without requiring more outlays of tax dollars. Although the perception of an academic welfare state is unfortunate and is insensitive to the historical and still relevant reasons for the government–university partnership, universities now have to make changes in response to this turn in public thinking.

Outsiders have no difficulty envisioning the academic welfare state, particularly if they study the state and federal support for academic and summer salaries of faculties at many research universities, the system of tenure, and the long resident times of graduate students, whose tuition fees and stipends are also funded by government agencies. Faculty salaries are a particular problem because the public cannot understand why many research universities, unlike most other organizations, do not pay all of the salaries themselves. The vision of a government–university partnership for basic research, and how this partnership encouraged universities to hire faculties whose costs would be borne by granting agencies, is now in the distant past. No explanations of the historical origins of these salary reimbursements are able to counteract the criticism of this particular manifestation of the academic welfare state.

This criticism is compounded by the tenure system. The incalculable value of independent thought and the need therefore to encourage and protect original and sometimes iconoclastic endeavors is no longer widely believed to require the security of lifetime tenure. The case for a tenure system is not helped when that system is sustained by government funding, and when tenure is not afforded to employees of other nonprofit or for-profit organiza-

tions who also need protection from the abuses of intolerance. When viewed in this light, the complaints about funding of grants by the faculties of research universities sound like the complaints of any other societal group that lives on what they believe are their just entitlements.

To some, the entitlement mentality is no more evident than in what may now have become the graduate student welfare state. The costs of a research Ph.D. education are well into six figures. In part because of the high costs, none or only a small percentage of these expenses is borne directly by students. Instead, a system of government-sponsored programs directly or indirectly pays the bill. As a result, the acceptance of a student into graduate school typically entitles him or her to tuition and a stipend which, while modest, is sufficient for most students to sustain themselves. To the average citizen, graduate students are therefore a class of young people who believe that they are entitled to university life while being supported by tax revenues.

The changing perceptions of society at large and of Congress in particular toward the academic research enterprise and its many components have to be recognized and understood. The need for a government–university partnership and for developing Ph.D. research scientists as a national resource is no less today than it was after World War II, when Congress and the nation gave high priority to basic research and graduate education. But neither the nation nor the research university is the same today as it was in that era and, for that reason, the system has to change.

Regardless of the justifications for charging faculty salaries to grants, eventually most or all salaries will need to be borne directly by the universities, because the public cannot be expected to understand or to accept those justifications. These costs will have to come from tuition and endowment income at private universities. At public universities, state budgets now put severe constraints on faculty salaries and this in turn means more pressure on these institutions to also build greater endowments and to adjust tuition fees. Transfer of faculty salaries from public to private resources will change the public perception of the relationship of faculties to society. And by paying these salaries the university will have clear justification for claiming that they contribute to the actual costs of any externally funded research projects.

The constraints on academic budgets as they absorb more faculty salaries will cause more debate about the

tenure system. Added to these constraints is the continuous need to develop and raise the institutional intellectual vapor pressure. The main way to raise the vapor pressure is to hire outstanding young faculty. But the extant tenured faculty are a severe constraint on the ability of an institution to respond to the need for new faculty. We may find that a system of rolling tenure, whereby a "tenured" individual has 3 to 5 years of a guaranteed university position at any given moment, is the best compromise that assures institutional viability. However, if faculty salaries are not paid from tax dollars, then there is no reason for the public to view the tenure system as one of the entitlements of the academic welfare state. In that event, a university is free to decide for itself whether it wants to retain a lifetime tenure system, without the pressures of societal or Congressional opinions.

As for the graduate student enterprise, the main need is to reconsider the time required for obtaining a Ph.D. degree. For a Ph.D. in biological sciences, a time frame of 5.5 to 6 years is common. In chemistry, the time frame is perhaps a little shorter. The general impression is that 20 years ago these resident times were less by up to a year, although accurate data need to be obtained. The public cannot understand why these degrees take as long as they do, when an M.D. degree is obtained in 4 years, the same as it has been for decades. That M.D. graduates receive further training by way of internships and residencies is not relevant because Ph.D. graduates do postdoctoral studies for 2 to 4 years.

The lengthy time required for receiving a Ph.D. is a significant factor in determining the expense of an advanced education and, with limited resources, restricts the number of doctorates who can be trained. Some feel that in recent years students themselves have extended the time because they are uncertain about future employment opportunities, and in part for that reason want to remain in the security of the academic environment as long as possible. In addition, faculty have not counteracted this trend by encouraging students to finish more quickly and have implicitly reinforced expectations that a Ph.D. degree now

takes 6 or so years to obtain. As a consequence, students in the early years have "plenty of time" ahead of them, and can take optional courses or try scattered different projects before focusing to obtain results for a thesis. According to this viewpoint, the reason for the extended Ph.D. time frame has little to do with the demands of the academic programs, but rather has to do with expectations that have grown out of contemporary society and its academic welfare state.

Whether or not this viewpoint is relevant, there is no reason inherent to the research projects of today not to design programs and create environments where degrees routinely are obtained in less than 5 years. And even apart from these considerations, the system has to change. The public perception of a graduate student welfare state will persist as long as tax dollars support students for a period well beyond what the public can comprehend as reasonable. This perception, like that of an overall academic welfare state, obscures the benefits to society of the government-university partnership and, in particular, of the economic and health-related benefits of the years of university-housed protein research that is now the foundation for the biopharmaceutical industry. And, in spite of salary reimbursements and graduate student tuition fees and stipends, the system is cost effective when compared to the price of contracting for basic research in a commercial organization. But these considerations are not enough to change the perception of an academic welfare state. And only when this perception is changed, influenced by changes in the funding of professorships and the time required for graduate degrees, will society refocus on rebuilding the basic research and graduate education enterprise. Investigator-initiated basic research proposals may then receive the funding they deserve and that the nation needs to secure its own future.

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