

Tunnel Vision: What Happens to Bioscience Trainees?

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In their article "Hiring Criteria in Biology Departments of Academic Institutions" (*BioScience* 56: 430–436), Fleet and coauthors consider the training that young scientists receive with regard to potential faculty positions across various sectors of academia. The article exposes a predilection of tenure-track faculty at doctoral-granting institutions toward training students for precisely their own personal fate, though proportionally few trainees achieve this: the types of universities and colleges and their demands and obligations are very diverse. I commend Fleet and colleagues for their bold effort at summarizing the skill sets that current faculty are looking for in future colleagues at a disparate group of institutions of higher learning.

However, the article simultaneously exposes, yet fundamentally promotes, a prejudice of academics toward academia. By concentrating on résumés expected at different categories of colleges and universities, the academic-sector authors severely limited the scope of their study. Organizational, communication, and quantitative skills gained while attaining a PhD have wide application beyond academia, in the public and private sectors—finance, journalism, policy, sales, and law come to mind. Employment of PhD holders in science and engineering at four-year colleges and universities is not even the major-

ity outcome (NSF 2006), despite typically being characterized as the "traditional" career path within ivy and ivory corridors. Everything else is dismissively dubbed an "alternative career" (Robbins-Roth 1998).

The fact that a majority of the necessarily naive scientists-in-training will eventually find themselves working at corporate, nonprofit, or government jobs, often not at the bench, should compel faculty who typically have known nothing but academic life to nevertheless engage in meaningful career development to broaden their junior colleagues' learning experiences. They must cease informally keeping score with each other by tracking how many former students and postdocs become tenure-track professors at research institutions—shunning trainee misadventures—but rather embrace the opportunity to influence science throughout society. Given the figures from the National Science Foundation (2006), broad and thoughtful mentorship should perhaps be a requirement of faculty receiving

federal research funding. While some blame must fall on the junior colleagues themselves, who in many cases don't demand such career-oriented services, the greater collective wisdom of senior faculty comes with an expansive worldview and increased responsibility. In general, professors at PhD-granting institutions should cultivate master-apprentice relationships, rather than performing like the heads of small, nonprofit molecular biology corporations.

At the dawn of the 20th century, academic bioscience research was financed largely by private philanthropies, and through universities' fiscal investment in their own faculty. A hundred years later, if the hungry emphasis in the bioscience departments of PhD-granting institutions were not on the significant income from federal grants for academic research, would training of graduate students and postdocs be different?

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