

By Lina Nilsson

Ph.D.s, come out of the closet!

A close friend of mine—I promised not to use his name, so let's call him Fisher—has a secret. It is a secret I also held when I was a graduate student. It's likely that it is also kept by many of the science Ph.D. candidates you know. If you promise not to tell Fisher's Ph.D. adviser (or mine), I'll let you in on this well-hidden truth: Fisher isn't planning to pursue an academic career. Actually, it's an open secret. Fisher's Ph.D. adviser already knows. Fisher knows his Ph.D. adviser knows. But—and here's the thing—there is absolutely no way they're ever going to talk about his career plans.

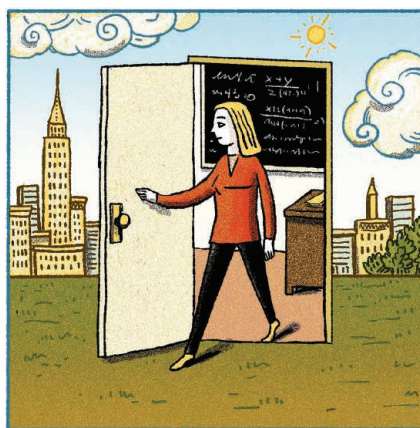
Fisher has won numerous prestigious awards for his graduate work. He has published several first-author papers in well-regarded journals. He gives presentations at big conferences in his field. He has a very good relationship with his Ph.D. adviser. They stop by the university pub together after a long day in the lab. They talk about everything from cancer biochemistry to the yeast varieties in beer. But they will employ dizzying linguistic contortions to sidestep any mention of Fisher's postgraduate career.

The signs that Fisher isn't going to be a professor are bright like a terawatt laser. Concurrent with his scientific coursework, he completed a program at the business school. He recently finished a yearlong stint as an entrepreneurship fellow, through a program sponsored by a Silicon Valley venture capital firm. He took last summer off from graduate school to work at a tech startup.

Nevertheless, although Fisher is graduating this month, he and his graduate adviser have never talked about Fisher's career goals. In this they are not unique: Many students I know acknowledge that such career talk is taboo.

Why aren't they talking? Students are nervous about defying their adviser's expectations. Advisers know what's going on—but why provoke an awkward conversation? Anyway, there really isn't much to talk about. Several Ph.D. candidates I talked to wryly noted that their dissertation advisers, being lifelong academics, are ill-equipped to give advice on careers beyond the university gates. Even if they did talk, the conversation probably wouldn't help the students much.

In any case, eager to establish nonacademic credentials, many Ph.D. scientists are figuring things out on their own. Some admit to secretly taking classes they fear their advisers would consider too applied, but which they hope will help prepare them for industry careers. Others go to even greater lengths. Aldrich, for example—another friend—secretly



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consulted for venture capital firms during his graduate studies in engineering, as a steppingstone to his current job at a technology investment firm. “During grad school, mine was a career plan in ‘stealth mode,’” Aldrich says, using a term heard more often at early-stage startups than in postdoc-staffed labs.

There was a time when academia was the default career path for newly minted Ph.D. scientists. No longer: According to the latest *Science and Engineering Indicators* report, in 2010, in biology, engineering, and the physical sciences the proportion of Ph.D. recipients going on to tenure-track positions was below 15%. For the rest, a bewildering array of other careers awaits.

Sure, advisers may not be in the best position to mentor students on such a wide variety of paths, but universities still owe it to their students, and to society, to provide meaningful help in preparing their Ph.D. graduates for the nonacademic roles they're likely to hold. Those roles require—in addition to the deep expertise developed during a typical Ph.D. program—peripheral skills and out-of-field knowledge that traditional graduate programs do a poor job of conveying. Perhaps we even need to rethink the fundamental structure and purpose of the science Ph.D. More immediately, and at the very least, no one should be afraid to admit that they are among the other 85%.

I'll start. I am no longer in graduate school, but I am still at the university, so I do not think it is too late for me to step out and admit, loud and clear, in a place where my adviser can hear me: I will never be a tenure-track professor. ■

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