

It's long been the subject of discussion in bars, bedrooms, and backyards, but it's time to get it out in the open where it begins to have an effect on the explicit decision-making process. We are producing far too many Ph.D. students in those ecology programs where the structure of the learning program is designed to produce larval professors. It is simply absurd, and a damnation of a process that is supposed to be cerebral, when we advertise for an assistant professor position in plant ecology and receive applications from 100 persons, at least 40 of which obviously could carry out a competent teaching and research program in plant ecology in a decent university. At least 10 of these people would carry out an outstanding teaching and research program at a good university. Assume that this represents about half the year's crop of new Ph.D.'s that regard themselves as having devoted a major portion of their best years to becoming larval professors in plant ecology or a closely related area; it is very obvious that there is nothing like this number of positions opening up for them this year, nor will there be in any future year. The same applies to any other area in ecology. It is already upon us that who gets the job will be decided by trivial stupidities such as the clothes the candidate wore to the interview, or whether the candidate liked the food at the chairman's favorite restaurant.

The standard rebuttal to the above worry is that (1) it is to the advantage of the university to have a large array of candidates from which to choose, and (2) those that don't get the job provide part of the personnel for all the other jobs that need a Ph.D. in ecology. Some even add that it was the candidate's choice to go on to graduate school, and therefore the academic factory is not to blame for its overproduction. These are intellectually and morally dishonest replies.

With respect to the first rebuttal, some of the Ph.D.'s of today are the faculty of tomorrow. If they are treated like cars, they will treat their students like cars. Candidates are not cars in a showroom which, if not purchased, damage only the portion of society that invested in their production. The entire graduate education process as practiced today in the vast majority of biology departments carries the implicit assumption that if the various departmental hurdles are passed, and especially if passed with excellence, there is a job waiting for which the candidate was trained. This is false. There is a job waiting, but not *the* job for which the candidate has been prepared. We are manufacturing an inappropriate product, which is a gentle way of saying that we are lying to the consumer when we design a graduate program to produce larval professors when only a small fraction of them can in fact be larval professors. The product of this lie interacts strongly with my reply to the second rebuttal.

When the candidate fails to become a larval professor, and therefore has to turn to another job for sustenance, the candidate sees it as a personal failure. Society as well as the student pays a heavy price for this consequence. First, the job is taken out of desperation rather than out of a sense of fulfillment, achievement, future promise, etc. It takes no Freud or grandmother to anticipate that this is hardly the way to begin one's lifetime career. Second, the job is taken with a sense of extreme bitterness toward the academic nest that first nurtured the youngster and then forcibly expelled it on the trumped-up pretext of insufficient ability, promise, productivity, etc. Small wonder that the Ph.D.'s working for EPA, the Forest Service, a consulting firm, an industrial company, etc., are less than enthusiastic about building and maintaining ties with the orphanage that rejected them. Third, and perhaps the worst, the 3-7 years of "training" received by the new Ph.D. were about as inappropriate for the new job as they could be made.

I would like to suggest that very serious thought be given to explicitly organizing graduate schools that produce Ph.D.'s in ecology for a steady-state rather than a growing academic marketplace. Early on in the student's career a decision should explicitly be made by the student as to the kind of job that is being prepared for; graduate schools should give their programs the flexibility to accommodate the diversity of career goals that result. I am not arguing that the number of students be reduced (perhaps it should be increased), but rather that a heavy emphasis should be placed, early in the graduate student's career, on coming

to grips with what he or she wants out of life vis à vis the career opportunities that are available. It is probably a fair guess that almost all the graduate students that enter a graduate program in ecology in the U.S. in an average to excellent university are intelligent enough to make good faculty members in the same institutions if they apply themselves with extreme enthusiasm. However, the reality is that only the very few that are absolutely outstanding in the suite of traits called "being a larval professor" are going to become larval professors. At this level of achievement, enthusiasm is a major determinant of the outcome, and the likelihood of reward is a major determinant of enthusiasm. Rather than have the others fall by the wayside and become disgruntled entrants into the "other" labor market, why not make an explicit effort to have the student face this choice at the beginning of the graduate career, where there is still the opportunity to coevolve the student's abilities, interests, enthusiasms, etc., with a program to produce the very best environmental consultants, conservationists, environmental lawyers, faculty members, etc., that can be produced. Sure there are a few professors and graduate schools that do this already, on their own. But do we really have to act like some idiot fraternity that feels that because we survived trial by anachronism, we have to perpetuate the anachronism for revenge or sentimental purposes?

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