## IN THE OCEANOGRAPHY CLASSROOM

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## ARE Ph.D. STUDENTS ABLE TO EXPLORE CAREER PATHS THAT THEIR ADVISORS DISPARAGE?

This essay is written for a particular group of Ph.D. students in oceanography, not the majority who are in the Ph.D. program to learn how to be researchers in research universities and research institutions, but the minority who do not want these careers-and more specifically-whose advisors disparage all other career paths. If you are one of the latter, then you are the kind of Ph.D. student or recent graduate to whom I have been listening. I have listened to students from four research universities and from disciplines as varied as oceanography, geophysics, neurobiology, zoology, English, Germanics, and exercise science. Like them, although you respect your advisor as a person, admire him or her as a researcher, and deeply appreciate the experience you have gained in learning how to conduct research in your discipline, you do not want a career as a researcher in a research university or research institution. Perhaps you are fortunate enough to have an advisor who realizes that different persons can hold different values, goals, and priorities, and can therefore seek other career paths than the one chosen by the advisor. But if you are not so fortunate, you are living with frustration, possibly with no one to talk to about it.

You may find your problem voiced in these excerpts from what four oceanography Ph.D. students told me: 1) your advisor "makes it pretty clear that any position not at a major research university is beneath [your] abilities,"; 2) the only thing your advisor is preparing you to do is a job like his and you "would not want his job,"; 3) you are not sure your advisor wants "to fully admit that [you] care more about the education than the research,"; or 4) your advisor "could never understand why [you] wanted a position in a liberal arts college." Some of you are reluctant to broach the subject of your desired career with your advisor, for you dread his or her reaction. Some of you have opened the discussion and had your choice disparaged, even decried. Some of you have mentioned your career interest and are now politely endured. You

may have wondered how other Ph.D. students dealt successfully with an advisor who does not encourage a student to explore a different career path from the advisor's own. Here is my compendium of some survivors' recommendations.

Think broadly of graduate study as career preparation rather than as attainment of the Ph.D. degree. The degree is but a step in career preparation, though a critical step to be sure. Changing your perspective of graduate study in this manner allows you rationally to include other career interests in your graduate study without the current onus of short-changing your research time. It also allows you to begin reflecting critically on your own values, goals, and priorities for a career. What do you think you want to do with your life, and why, and what kind of additional information do you need in order to prepare yourself to do that? When you are able to articulate these thoughts clearly and with confidence, you are ready to begin asking questions and obtaining answers that will support, refine, or alter your career interests.

You can begin by asking questions of other graduate students: "Have you ever thought about a career other than what our advisors do?" Your concern may be the secret concern of several of your colleagues, as well. (Incidentally, this questioning is an effective way to establish a graduate student network in your department, if one does not already exist.) A network enables graduate students to get together and discuss common concerns, without faculty present. These confidential discussions among peers can help you release conflicting anxieties and intensity of interest about careers that your advisor rates unsuitable for you. Senior graduate students may offer advice on dealing with advisors. These discussions may later grow to involve faculty and may even lead to the development of departmental mentoring programs. In one science department, a conversation between two students, wondering what it would be like to have a career other than being a Principal Investigator, which was the only career their faculty knew about, led eventually to an invited speaker program with experts in other careers. The program is now supported by the faculty of six departments and the graduate school and is mentioned in graduate recruitment information as a way for students to learn about career alternatives. I must remark, however, that some students told me a program on career alternatives such as this would not work in their department, because, they felt, a seminar that suggested careers other than faculty positions in research universities would be deemed by the faculty to lower the department's prestige.

By also asking questions of people other than your peers, such as graduate school staff, speakers at professional meetings who have the kind of career you want more information about, recent Ph.D. graduates, or mentors in scientific societies, you will receive answers that can lead you to other mentors. Every student who solved this advisor problem found other mentors, people who had interests similar to the student's and were generous with their advice about careers. These multiple mentors might come from other departments, from the graduate school, or from outside the university. They might be alums. Asking questions, though not necessarily of your advisor, is probably the most effective action you can take.

At some point, however, you must stop brooding over how your advisor may react and at last talk to him or her, for by now you can compare your values, goals, and priorities with your advisor's and you have enough information to speak knowledgeably about the career path you want to explore. In final preparation for the talk, try to figure out why your advisor holds the priorities he or she does. In this way, you can begin the talk by saying, "I think I realize why research in a research university is important to you, but here's what is important to me and why it is important."

Your clear and confident statements may convince your advisor to support, or at least endure, your decisions, thus releasing a great weight from your graduate student days. If you are not well prepared, however, your advisor may react, as another advisor did, by snapping, "Get over it," which may cause you to withdraw and avoid your advisor, thereby hampering your progress toward the degree. Under those conditions, it is easy to conclude that your advisor must be "right" and you must be "wrong." In the latter part of your graduate student days, as you concentrate on completing the dissertation, isolation from all people but your advisor can feed this self-doubt. Having multiple mentors will help you counter the doubt.

You should also seek out courses and experiences that will provide you with information about your career path or help prepare you for that career. Your advisor may resent your taking time away from your research for these activities, but if you view graduate study as preparing you for a career, then in taking the course or undertaking the experience you are preparing yourself as you think you must. Your multiple

mentors can advise you on appropriate courses or experiences, which will likely be in other departments, the graduate school, neighboring four-year or community colleges, or business, non-governmental organizations, or government agencies. Even if you do want a faculty position in a research university, you may also want to be better prepared for the job than most new faculty members from whom you have taken courses. Joining a Preparing Future Faculty program at your university would not only furnish you the experience you are seeking, but connect you to a network of students whose interests in faculty responsibilities are similar to yours.

As you explore a particular career path, you may well discover that it is not as alluring as you thought it would be. There are drawbacks to every career, as you have already perceived in your advisor's career. The important thing is for you to make decisions based on information and not coast along on default behavior. In other words, you should take control of your education.

All the students who had overcome the problem of an advisor who valued only one career path said this: You must take control of your education at some point. Begin to define yourself in total, rather than as a graduate student. An exercise science Ph.D. student put it best: "The experience of getting a Ph.D. does not prepare one for any career other than just doing research.... You need to realize that the onus is on you to pursue what you need for career preparation. 'Don't wait for your mentor to tell you what to do'." After all, it is not your advisor's career, it is your career. It is your lifelong satisfaction and accomplishment that is at stake. Will it be measured by your advisor's values, or by your values?