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Subject Matter *Plus*: Mentoring for Nonacademic Careers

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If you are a faculty member advising doctoral students and/or postdocs, the fact that you picked up this book and turned to this chapter reflects well on you, because it indicates that you are interested in being a better mentor to your advisees, and even willing to consider developing your mentoring skills around the sometimes difficult, sensitive issue of nonacademic careers. You are exactly the person for whom this chapter was written. Others may also benefit—faculty development professionals in particular may want to recommend it to advisors—but this chapter is written for faculty members who would like to be better equipped to mentor doctoral students and postdocs around nonacademic careers and to support them towards a wider range of possible outcomes.

Most professors do not even attempt to tackle nonacademic careers in their mentoring. And candidly, why should they? There are compelling institutional reasons not to. Most students in doctoral programs are there because they want academic careers. As a career academic yourself, you know firsthand how much effort, persistence, and round-the-clock dedication it takes to build such a career. You (and I too) believe deeply in the academic enterprise, in the merit of your research, and in the importance of developing quality intellectual talent to nourish your discipline into the future. And you are expected to enhance the reputation and ranking of your department and institution by helping your students get placed into full-time faculty positions. Given those imperatives, one might reasonably question the wisdom of taking on the nonacademic careers piece at all. Even those who are eager to take it on often feel ill-prepared.

You probably don't have much nonacademic work experience yourself, and as a responsible intellectual, you have a keen appreciation for expertise, and understandably gravitate towards subject areas where you feel fairly confident in your knowledge. You imagine there must be careers outside the academy where your students' knowledge and abilities would be welcomed, but the specifics are elusive. There are many barriers.

Thankfully, you do not have to know everything about non-academic careers in order to be a good mentor in this area. You do not have to use special nomenclature, have hordes of contacts in business and industry, know how to write a winning nonacademic résumé, or be able to reel off an exhaustive list of all possible non-academic careers for PhDs in your discipline. Being a good mentor in this area is not about being a subject matter expert at all. It is mainly about being a genuine supporter of student well-being and an open-minded facilitator of forward motion toward diverse career goals.

You do not even have to be the sole or main source of mentoring for your advisees. The notion that one person should, or even *can*, serve as a one-stop shop for all-inclusive mentoring is considered preposterous anywhere but inside the academy. As one graduate student recently wrote, "Other people (non-PhDs) also don't have someone holding their hand when they apply for jobs, and get their ideas and advice from multiple sources, rather than from just one person (career services, family members, friends, etc.). You just can't expect there to be one person 'mentoring' you—this model only exists in academia, and frankly, I'm not sure it's such a great model there either!"¹

So relax. You do not have to be perfect, or master a giant corpus of new knowledge, or assume total responsibility for your advisees' careers. All you have to do is learn a little new information and make a few adjustments in your mentoring. How much you want to learn and how many adjustments you are willing to make is up to you.

This chapter will help in the following ways. It opens with reflections on the question of who is responsible for providing graduate students with nonacademic professional development. Then I will describe the value of PhD skills outside the academy and point out specific skill sets that employers have suggested as recommended additions. Finally, I will give you practical strategies for how to become a better mentor in this area, describing each adjustment you might consider making. You will learn how to

- manage the messages you send, often inadvertently, to your advisees about career
- assess the “career climate” of your department
- make referrals to available resources
- support a broadening of knowledge and skills
- learn what to say to nonacademic employers.

For the record, when I speak of “PhDs,” I mean to include ABDs as well, those who leave their programs without completing their dissertations. The terms “professors,” “faculty,” and “advisors” are used interchangeably and refer to any faculty member or researcher who has direct advisory or supervisory relationships with doctoral students and/or postdocs, and “advisees” is intended to include both students and postdocs. The focus of this chapter is on the doctoral advisor-advisee relationship in the research disciplines, but some of the guidelines presented here may be helpful for those advising master’s students as well, and possibly for faculty in professional doctoral programs whose relatively insular, academically oriented cultures have much in common with programs in the research disciplines (e.g., Doctor of Divinity and Doctor of Management programs).

Who Is Responsible?

You hardly need reminding about the state of the academic job market. Some disciplines are faring better than others, but overall, the number of tenure-track lines is decreasing and has been for a long time. Depending on which source you are consulting, 50–75% of all college and university teaching is now done by adjuncts. Humanities and social science PhDs in particular toil for years in contingent positions, many eventually leaving the field in despair because of low pay and lack of benefits or job insecurity. The persistent few who adjunct for a decade or more without ever getting on the tenure track do so at tremendous cost to themselves and their families, as they pass up opportunities to earn more income and benefits elsewhere. On the STEM side, it is common nowadays for a PhD to do two, three, even four postdocs, enduring years of low pay, low status, and poor working conditions with no assurance that they have a real shot at the academic jobs they want.

In short: the chances are high that most of your graduate students and postdocs, even the best and brightest, will end up outside the academy whether they want to or not.

Some argue that PhD programs should admit fewer students, to bring supply more in line with demand in the academic job market. I take the position that focusing exclusively on reducing doctoral admissions as the silver-bullet solution basically reduces doctoral education to high-class vocational ed. Getting a PhD is a rare and often beautiful experience that, globally speaking, very few are privileged to receive. It puts the student on the leading edge of what humans know and want to know. It makes the student an expert on a particular subject of interest. It is a transformative, life-changing experience, the significance of which cannot be reduced solely to the narrow, utilitarian agenda of “getting an academic job”—even though it is also true that the doctoral experience comes at a definite economic cost. Doctoral education should be accessible to as many who desire it as possible—yet there should also be *transparency* about likely employment outcomes afterward. Students who are embarking on doctoral study solely so they can be professors need to be counseled that the odds of that are slim. And frankly, drastic reduction in PhD student population is highly unlikely even if it *were* the answer. People tend to believe that if some education is good, more must be better, therefore *any* amount of education will be worth the investment because it will surely lead to greater employability and earning power. Even people who do not believe that, or do not think in those terms, or who *were* given clear job market information before enrolling, may well enroll anyway because they want the doctoral experience and want a *break* from thinking about career. (That was the case with me. I did not investigate the employment landscape for PhDs prior to entering my program because that was the last thing on my mind. I dove into doctoral study in order to *withdraw* from the working world, to forget all about jobs and careers and enjoy seven or eight blissful years of studying the subject I loved, hopefully with a professor job waiting for me at the end, but that outcome was so comfortably far-off that it did not beg scrutiny.) Consequently, my position is, reduce admissions if you must, but meanwhile, help those who are already in the system by providing them with at least some of the help they want and need.

Is it the department’s bailiwick to do this? Which units on campus should provide graduate students with nonacademic career information and guidance? These questions are a matter of national debate within the graduate education community (e.g., at the Council of Graduate Schools’ meetings, which I have attended every year since 2009). The ball of perceived responsibility bounces in these

conversations between PhD-granting departments, the Career Center, the Graduate School, and occasionally elsewhere (postdoc office, library, alumni association). Many Career Centers and Graduate Schools have taken the issue to heart and are creating entirely new staff positions that have graduate student professional development as one responsibility or even as the primary responsibility. The recently retired president of the Council of Graduate Schools (CGS), Debra Stewart, in one of her last speeches in office, urged her members to take broader career preparation very seriously, because the accountability pressures that are now being brought to bear on undergraduate education “are *coming* to graduation education, no doubt about it.”²

Since the graduate dean community is taking the issue so seriously now, it may be tempting for you, the faculty member, to view that as “enough” and locate the responsibility outside the department, certainly outside the offices of individual professors. But departments and programs are under increasing pressure to be part of the solution. Disciplinary associations are releasing statements about the need for doctoral-granting departments to do more to prepare students to compete for jobs that actually exist, and are also improving their own efforts in that regard. And, with funding from the Mellon Foundation, CGS recently launched a feasibility study focusing on tracking PhD career pathways *program by program*.³ Accountability for PhD employment outcomes is indeed “coming” to doctoral programs.

Students and postdocs themselves feel very strongly that departments and faculty hold some responsibility. Ideas vary about exactly what that responsibility consists of, but the prevailing sentiment among advisees is that departments and faculty are at least somewhat responsible, because they have the most contact with the student and therefore the greatest impact, the greatest opportunity to make a positive difference. I agree. That is why it is so good that you are reading this chapter.

The Value of PhD Skills Outside the Academy

The very things you spend your days conveying to students and postdocs—subject matter knowledge, research methods, teaching, writing, critical thinking, problem solving, etc.—are valued outside the academy to some degree or other in all employment sectors. Though only a small minority of nonacademic jobs require a doctoral

degree, many nonacademic fields will happily absorb the skills and knowledge your advisees are developing, and the high-octane learning ability that most PhDs have is itself a major asset, allowing PhDs to absorb information quickly, develop clever solutions to problems and thus advance promptly in their post-academic careers, once they get started.

Subject matter aside, most PhDs graduate with the following skills, more or less, depending on the exact nature of their training, interests, and talents:

- research methods
- critical thinking
- analysis/synthesis
- problem identification
- information-gathering from primary and secondary sources
- written and oral communication
- content and curriculum development
- assessment/evaluation
- rapid learning

These skills are all extremely useful in a wide variety of post-academic careers. The odds are excellent that a person with these skills will make a discernible positive impact on whatever they are involved with.

If it troubles you to think of academic training being used in so many unknown contexts, think of it this way: by consigning the stuff you are teaching solely to the academic world, you are selling it short. The wide applicability of PhD skills is *the good news*. It supports the continuation of doctoral education without the imperative to tie the number of admissions to the number of tenure-track lines being created. Even if you feel that doctoral admissions *should* be limited, until the academy achieves that, it owes to those who have already been admitted a broader vision of their futures and of the value of the programs in which they have enrolled. It owes them a sense of meaning in their accomplishment, and it owes them a helping hand toward getting situated afterwards.

Though I would never suggest that employers should dictate the content or purpose of doctoral education—an obviously terrible idea—I do gently suggest that their voices should at least be heard when they make requests. Some of the things employers are asking for are arguably quite compatible with the learning and professional development goals of doctoral education. In April 2012, CGS released

a groundbreaking report titled “Pathways Through Graduate School and Into Careers” (<http://pathwaysreport.org>), one finding of which was that employers feel PhDs need more of the following skills:

- teamwork
- project management
- creating and delivering oral presentations
- delivering outcomes on time and on budget
- communicating with lay audiences

None of that, in my opinion, runs counter to the traditional goals of doctoral education. What on earth could be bad, for example, about students working in teams at various points in their programs—such as on class assignments, service projects, even perhaps dissertation research (collaboration being already common in STEM dissertation research)? Which academic projects could *not* stand to be better managed? Could there be an idea or a concept that is valuable in print but somehow not worth communicating orally? Is on-time delivery of research results, chapter drafts, and other scholarly work-products somehow antithetical to the academic enterprise? And even in the most specialized, obscure line of research inquiry, is there really *nothing* that can be presented engagingly to lay audiences?

Moreover, how would those skills not be helpful even in an *academic* career?

Another window on what employers want is provided by labor market information companies that analyze the content of nonacademic job postings and identify patterns and trends. One such company, Burning Glass Technologies (founded by PhDs, I might add), recently looked at the employability of college graduates with liberal arts degrees and found that demonstrated experience in *any* of the following eight skill domains greatly enhances the employability of those graduates:

- marketing
- sales
- social media
- graphic design
- data analysis
- computer programming
- IT networking
- business knowledge

Liberal arts graduates with even *one* of those skills alongside their academic degrees were qualified for many, many more positions than those without (Burning Glass Technologies 2013). The study did not look at PhD graduates, but it is not much of a stretch to imagine that the same principle applies to them as well.

For these reasons, I offer a modest proposal: the ideal doctoral program graduate should emerge as “Subject Matter *Plus*.” Any of the above-listed skills—even just *one*—can and should be added alongside the traditional learning outcomes already served by the PhD program. That is how a doctoral graduate can be as *versatile* as possible, with a broad range of employment options and powerful skills that are useful both inside and outside the academy. Exactly how to add those skills is discussed below.

Adjustment #1: Manage Your Messaging

Graduate school is stressful. First-year graduate students are dropped into a strange, intense academic environment where ambitions and expectations are suddenly much higher. They discover there are many rules they must learn—cultural rules about what is valued and what is not. Some students are thrown into radical self-doubt during coursework. They were accustomed to being at the top of pretty much every class they had ever taken; now, in their doctoral programs, they can see that everyone else is extremely smart too, making them merely average, ordinary, not special. This observation can be deeply disorienting.

In this pressure-cooker environment, you and your departmental colleagues are their most important sources of vital information and feedback. Fellow students a year or two farther along are another source, but faculty have the imprimatur of the institution. You, the professor, seem like their number one source of everything they need most: guidance as to what to study, recognition for their work, information about academic culture, and clues as to how well they are doing. As students progress through coursework and approach the dissertations, their need for professorial attention and approbation may seem to diminish—but really, they need it more than ever. Those who want to stay in the academy and become permanent fixtures in your discipline need it even more. Their future careers may seem to them largely dependent on you: your endorsement of their research, your contacts (and your willingness to speak to those contacts on their behalf), your ability to validate or dismiss the

merits of their scholarship. When you look upon a student, both physically and by examining their work, you are embodying, perhaps without realizing it, what I call the *professorial gaze*. Your eyes, your voice, your body language convey your feelings, beliefs, and values and thus have tremendous impact on students. This is particularly true in the humanities and qualitative social sciences, where subjective judgments carry more weight and are, in fact, required to assess the quality of work. The professorial gaze is extremely powerful in those disciplines but can also be quite powerful even in STEM.

The idea that professors have a big impact on students is nothing new. However, an unseen dimension of this impact concerns career planning. The messages students receive from you about careers have enormous influence on their perceptions of what careers are available and desirable for people like them. In many cases, your ideas practically *become* their ideas. What you mention is what they know. What you feel and believe, they sense. I'm not saying students are complete blank slates—some of them do have specific nonacademic careers in mind for themselves—but the majority are hoping for academic careers, and the 6–10 years it will take them to earn the doctorate will likely reduce, rather than expand, their vision of non-academic options and the desirability thereof. If you think that academic careers are preferable, or (worse) that an academic career is the only acceptable career and that “the best students do get jobs” (ergo, those who don't are losers), that is what they will think too, especially if they get the same message from multiple professors.

The further students progress in their programs, the more they become aware of their dicey chances at the tenure-track job they may have hoped for. Consequently, you can safely assume that many if not most advanced doctoral students and postdocs are struggling with doubt about their careers, even if they are not telling you about those doubts.

On a deeper level, the message that one's career is all-important and defines who a person is, is itself a major influence on student well-being around this issue. When identity is too closely wedded to career, the emotional health hazards are great. In the Versatile PhD community, there have been many times over the years when grad students have voiced extreme stress about their careers, sometimes to the point of considering suicide. Those in the greatest pain are those who feel *afraid to speak with their professors about nonacademic careers*, in most cases because the professor has made it clear, explicitly or implicitly, that s/he holds negative views of those

careers and the students who pursue them. Granted, there may be other things going on with these students that are not under anyone's control, but consistently, the running theme of "you *are* your career" attaches far too much importance to the whole subject of career and unhealthily skews student self-esteem toward that one issue.

I will never forget the time in my own doctoral program (Rhetoric and Composition, Ohio State, 1996–2000) when I interviewed several staff members at my institution about their careers. One of them insisted to me, with surprising intensity, "I don't have a career. I have a *job*. My job does not define who I am. I define myself by my family and my volunteering. [She taught literacy skills to homeless kids on weekends.] That's where the real Joanne is. Not here." I was floored. Never before had I questioned my professional-class assumption that of course everyone has a "career" and of course their careers define who they are. It was one of the healthiest career-related moments of my entire life, and certainly the only time anyone in the academy ever suggested that my personhood is more important than any career choice I might make. More people should say such things. You should say such things.

The separation of self-esteem from career has been richly discussed in the Versatile PhD community. One member recently wrote,

I bought into the idea that a tenure-track job was the only sure path to happiness, the only real measure of whether or not I was a "success" by the standard of the academy, my advisors, or colleagues. What I didn't appreciate at the time and what I have had to learn through a series of ups and downs, is that the only thing that matters in this lifetime is the quality of our character and whether or not we are working each day to be our best selves. I am now in the process of becoming a physician assistant, something that wasn't on my radar at all when I was a graduate student in the humanities and something I wouldn't have ever allowed myself to consider on the path toward getting my PhD.

So—reflect for a moment on the relationship between career and identity in your own life. To what extent does your career define you? Have you ever felt a need to resist over-identification with your career? Has there been any cost to you or your loved ones of your

commitment to your career? Even if the costs have been worth it, it is still healthy and appropriate to note that there probably *have* been costs, and to encourage others to avoid whatever mistakes you may have made in this area.

Being aware of the impact you have on student notions of career enables you to consciously counteract the gravitational pull students feel to believe they will be officially seen as losers if they do not secure academic jobs. They feel the pull from every corner of their experience in the academy: remarks made in seminars, casual conversations in the hallways, disciplinary discourse at conferences and in journals, text on departmental websites highlighting academic placements of PhD graduates but not mentioning nonacademic placements at all. Even the high workload and pressure to publish as early as possible is a tremendous source of gravitational pull towards that belief. The pressure to be super-productive as a PhD candidate or early-career postdoc is necessary precisely because what used to be considered a good level of scholarly output is no longer good enough. The unspoken message is, everybody has to work really hard, and even then, not everyone will make it. Those who don't make it are losers. It's "The Hunger Games" and there are very few winners.

Remember that when you look at students, they viscerally feel it as the professorial gaze. Your words have tremendous impact. Your words about careers, even facial expressions and little casual throw-away remarks, communicate volumes about your belief system and the academic belief system. Observe and gently train yourself to adjust the things you say to your advisees. Certain things are commonly said by well-meaning professors who do not realize that their utterances are actually having a negative impact. Examples include responses like these to students who voice an interest in nonacademic careers:

"But you're so bright. You have such potential."

"I just hate to think of all the time and energy you've spent being wasted."

"You owe it to yourself to at least go on the market."

And so on. Do you see the disparagement in those statements, both of the student and also of the nonacademic world? All strongly imply that the only good career is an academic career. The first statement additionally implies that nonacademic careers do not require intelligence, that most people working outside the academy are unintelligent, and that whatever "potential" one might have outside the academy is trivial compared to the potential to hit the highest of all

highs: to have an academic career and make a mark on the discipline. The second implies that the only reason to go through a doctoral program is to have an academic career—thus reducing the PhD experience to mere vocational training. The third implies that of course the student cannot possibly be truly excited or hopeful about a non-academic career, and thus, not to go on the academic job market equals not pursuing what must be their true dream. Of course you want your students to pursue their dreams, right? Right ... but their dream may not be the same now as when they first came to you. Research has shown that a significant percentage of doctoral students (at least in STEM) change their career goals about three years into their programs (Fuhrmann et al. 2011); on experiencing the academic world and seeing what their professors' lives are like, they change their minds about wanting to be professors (Sauermaun and Roach 2012).

Here are some things *to* say (ideally early and often), phrased as if to the student:

- “*Explore both academic and nonacademic careers. Read widely and ask around to get a sense of different academic and non-academic careers. Even if you do end up in an academic career, remember it may be in a different type of institution. Explore other types. Join the Versatile PhD community and use the PhD Career Finder on the Versatile PhD site to learn about nonacademic careers. Gathering information on a wide range of careers will not lessen you in my eyes. In fact, tell me if you find anything interesting!*”
- “*Start preparing for a range of careers as early as possible in your program. Even if you feel certain that you want an academic career, the academic job market is so bad that even the very brightest students should have more than one career in mind. By the time you pass your exams and begin work on your dissertation, you should at the very least be aware of two or three nonacademic careers that might appeal to you. By the time you finish, you should have a nonacademic résumé as well as a CV and have taken concrete steps to explore and prepare for at least one of those careers. Being informed and prepared in this way will not make me think any less of you. I will be proud of you.*”
- “*There are good resources available to you about nonacademic careers. Use them. Watch for professional development work-*

shops and events and attend them. Do not feel anxious that I might see you there. I want you to go.”

- “*Observe yourself and your feelings while going through the program.* Research has shown that grad student career goals often change mid-program. You may think you want an academic career right now, but you may change your mind later on. It’s okay. As you go through the program, notice which activities you gravitate towards, and why. Watch in particular your procrastination behaviors (I know you procrastinate; we all do). Those observations contain major clues about what kind of career might be best for you.”
- “*Keep records of everything you do.* Count actual numbers of papers written, lessons delivered, experiments completed, service commitments fulfilled, etc. Focus on practical accomplishments and list both what you did and what was the practical result. This will help you write your nonacademic résumé later on and may even help you write your vita.”
- “*If I am ever an obstacle to you, work around me.* I am a career academic. As such, there is much that I do not know about nonacademic careers. I want to help you, but I may not always be able to. Feel free to develop additional mentors who can. No matter how close we become or how much you respect me and my research, *you* are in charge of your career. Do not let fear of my disapproval be an obstacle. It is more important that you approve of yourself.”

That last point in particular may strike you as strange. Of course you are not an obstacle in your students’ lives. Why would you characterize yourself that way? Well, let me tell you. A major running theme in confidential discussions among graduate students and postdocs is *fear of disappointing the advisor*. Many, many students are afraid to talk to their professors about nonacademic careers. They fear being judged as less intelligent, less committed, less worthy of professorial time and trouble. In some cases their fear is misplaced; in other cases it is not. To deliver that last point to students is a deeply ethical thing to do. It allows for the possibility that you might have a blind spot or two. It places the student squarely in charge of his or her career and encourages critical thinking on the part of the student.

Even if you stop reading right here and just convey those messages to students, you will already be a better mentor.

Adjustment #2: Assess the Career Climate in Your Department

Another factor that influences student attitudes and emotional well-being is what I call the “career climate” in the department. What cultural messages do doctoral students receive during their programs about nonacademic careers for PhDs? To get at that, consider doing a one-time exploratory research project that will take no more than a couple of hours and will tell you a lot about your students’ likely state of mind. Investigate the following:

Career Climate Departmental Assessment

To what extent does the department offer nonacademic professional development opportunities to doctoral students specifically, such as panel discussions with post-academic PhDs or workshops on job search skills (e.g., converting your CV to a résumé)?

1. not at all
2. one event per year
3. more than one event per year

To what extent does your department promote on-campus professional development resources located outside the department, for instance, through the Career Center, the Graduate School, or other units?

1. not much; department mostly keeps to itself in that respect
2. now and then, when there is an easy opportunity to do so, but there is no systematic effort
3. regularly and systematically: department makes sure all grad students know about these resources

To what extent does your department tell doctoral students about books and websites relating to nonacademic careers for PhDs?

1. not much; department keeps no list and trusts students will ferret these out on their own
2. now and then, when there is an easy opportunity to do so, but there is no systematic effort
3. regularly and systematically: department has a list and gives it to all grad students

What does the department know about where its recent PhD graduates got placed?

1. little or nothing
2. some academic placements are known but nonacademic placements are unknown
3. all academic placements are known but nonacademic placements are largely unknown
4. all academic placements are known and nonacademic placements are somewhat known
5. *all* placements are known

What systems are in place for collecting that information?

1. voluntary reporting only; department knows only what graduates or faculty tell them
2. exit survey, but it is not mandatory and/or it only asks about academic placements
3. exit survey that is mandatory and elicits information about all types of placements
4. exit survey that is mandatory, includes all placements, and asks the student how well the department did at providing them with nonacademic professional development

How is PhD placement information stored?

1. no one seems to know
2. in a place where one person has access to it
3. in a place where multiple people have access to it, or where many have access but it's not clear how to find it
4. in a place where everyone has easy access to it, including students

Assign a point value for each question: one point for #1 answers, two points for #2 and so on. The maximum score is 22, and the minimum, 6. What is your department's score?

18–22: The career climate in your department is very positive for nonacademic careers. Doctoral students are getting the clear message that nonacademic careers are acceptable to the department and respected as much as academic careers.

- 15–17: The career climate in your department is generally positive. Doctoral students are getting the message that nonacademic careers are okay for those who want them.
- 11–14: The career climate in your department is superficially positive but generally negative. Doctoral students get the message that lip service must be paid, but really academic careers are best. Many doctoral students, particularly advanced students, are likely to feel a fair amount of anxiety about their careers.
- 6–10: The career climate in your department can be characterized as very negative. Doctoral students are getting the message that only academic careers are acceptable, and probably feel afraid to express interest in nonacademic careers. Some students are probably experiencing extreme stress about their careers after graduation.

Just knowing these facts about your own department will instantly make you a better mentor. The career climate in your department has a huge influence on your students' emotional states around this issue. Knowing what messages students are getting allows you to serve as a much-needed counterbalance—and also allows you to become an advocate for positive change.

Adjustment #3: Make Referrals to Available Resources

You don't need to be super-knowledgeable about nonacademic careers, but you should be able to guide students to good career-related resources, both on campus and elsewhere. Start by learning about the resources on your campus. Maybe someone in your department has already made a list, but that's doubtful, so you are probably the first faculty member in your department to actually take the time to do this (you're a pioneer!). "Resources" on campus can mean almost anything: a collection of books and information about nonacademic careers for PhDs, self-assessment tests, notebooks or electronic files of model résumés, online resources such as databases and job boards, even a real, live counselor who can meet with them. Some places to start include the Career Center, the Graduate School, and, if there is one, the Office of Postdoctoral Studies. All three of those units may or may not have nonacademic career resources for graduate students. Ideally you would start with a web search, but also make actual phone calls, to verify information

and ask questions. Websites alone are not always as descriptive or complete as they could be. You want to truly understand these resources so that you can make *good, appropriate, solid* referrals.

Next, make an effort to explore online resources not specific to your institution. As a starting point, does your university subscribe to Versatile PhD? What other online resources does your university subscribe to that might be helpful to grad students? For example, many university career centers subscribe to Vault (*aka* Career Insider), Going Global (for international careers), and other online resources. Though not targeted specifically to graduate students as Versatile PhD is, these sites nonetheless provide information that may not be easily available elsewhere. Nonprofits worth checking out include AAAS (<http://www.aaas.org>), NYAS (<http://www.nyas.org>), and ACLS (<http://www.acls.org>), all of which have good information relevant to PhD careers. And don't neglect "the Google." A simple search for "astronomy careers," for example, will likely yield some worthwhile sites that you might want to tell your students about.

Finally, look to your own disciplinary association and see what career resources it provides to members. Some associations are wading into nonacademic careers by developing web-based career resources tailored to their members. Many graduate students do not know about these resources, even if they are members of the association. I have presented at discipline-specific conferences where a majority of the graduate students in the audience had not, until my presentation, been aware of the nonacademic career resources that their own association prepared for them. It is facile to assume that the associations are no help and nothing has been provided.

Here's a clever time-saver: ask an advisee to work with you with this project (collaboration!), especially an advisee who has expressed interest in nonacademic careers. That person will be very motivated and will benefit directly from doing the legwork. Break it down into phases with deadlines (delivering outcomes on time!). Suggest that the student present your joint findings to the rest of the department in a brown bag lunch session or some other occasion (oral presentation skills!). Or at least consider sharing the resulting resource list with other faculty and grad students in the department. Controversial? Perhaps. Helpful to students? Absolutely.

Adjustment #4: Support a Broadening of Knowledge and Skills

Every discipline has its own body of knowledge and research

methods, many of which constitute “skills” both inside and outside the academy. STEM students frequently learn laboratory research techniques, database construction, statistics, coding, and more in the course of conducting their research, and humanities students learn how to identify, retrieve, interpret, and utilize a wide variety of textual and visual materials and media. All of those skills are valued outside the academy. Yet as explained earlier, what really opens a student’s nonacademic prospects—particularly in the humanities—is the addition of skills and bodies of knowledge that are less common among scholars in their discipline and that are valued outside the academy. Again: Subject Matter *Plus*.

Knowledge can be broadened by taking a class or two outside the discipline, or participating in a special program designed to impart knowledge. For example, when a humanities student takes Intro to Statistics or Business 101, or joins the Entrepreneur’s Club on campus, it adds whole new domains of knowledge and measurably increases their employment options. When that knowledge is tangentially related (or even, in some cases, intimately related) to their scholarship, all the better, because then it can be utilized in their dissertations or at least in seminar papers. Not every dissertation research project can include research methods that will broaden student skills, but in cases where that is possible and not harmful, it is certainly advisable.

Skills can be broadened through service. Encourage your advisees to take on service projects that will develop practical, marketable skills such as the ones listed above. Then express interest in those projects and praise them for their accomplishments. If you are dead set against allowing anything of this nature to intrude upon your advisees’ scholarship *per se*, surely you can cede their *service* time as territory where such broadening can take place.

If you are managing and advising postdocs, please have a conversation with each one in which you go over together the written description of the postdoctoral position, paying particular attention to the skills and knowledge that it promises to develop in the appointee. Ask the student whether s/he has been getting enough exposure to those things, and if not, make specific, concrete adjustments to improve the situation. Ask the postdoc if s/he has developed any new interests during this appointment and if so, is there anything not in the original job description that s/he would like to learn? Then try hard to find a way to deliver on that as well. Many voices in the Versatile PhD community have testified about

postdoctoral appointments that turned out completely different from how they were described, PI's who behave inconsiderately towards their appointees, and the relentless pressure on postdocs to drop all activities outside the lab (just a few examples). If a postdoctoral appointment is "training," then do your best to improve and increase the training your postdocs receive, in accordance with their interests.

Though I am well aware of time concerns ("How can advisees simultaneously prepare for academic and nonacademic careers? They need all their time just to be ready for today's *academic* job market.")—and also of the possible incendiary impact of my suggestion that the research disciplines should be more "practical" ("Isn't the deep value of academic research precisely that it need *not* be concerned with practical implications?")—it is indeed my considered recommendation that you support a broadening of advisee's skills and knowledge, particularly when an advisee has actually expressed interest in nonacademic careers. Encourage them to broaden their knowledge base and acquire new skills that are not normally in the standard tool kit of your discipline. It is better for the advisee.

Adjustment #5: Learn What to Say to Nonacademic Employers

You know how to write academic letters of recommendation. It would be extremely helpful to your students if you could learn how to handle conversations with nonacademic employers as well, should they call. In the Versatile PhD community, references from advisors are a perennial topic of interest. It comes up every few months at least and is the subject of much hand-wringing. The question is often along the lines of, "How can I ensure that my advisor will give me a good recommendation if I choose to apply for nonacademic jobs?" or, "Is my professor even capable of giving a good nonacademic reference, especially when s/he is disappointed that I am going the nonacademic route?" Many students fear that either you won't know what to say to the employer, or that you might even be tempted to *undersell* them because you would rather see them in an academic career. A positive, supportive mentoring relationship from the beginning will eliminate the latter concern, because your support will have already been demonstrated and the advisee will have no reason to fear that you might sabotage their chances. But a little effort on your part will make you able to give them good references when you are called upon to do so. Your willingness and readiness to speak positively to prospective employers is a great gift you can give to

your advisees.

When the time comes, here are some things to do.

- As a preparatory exercise, reflect on the student and the accomplishments and attributes that you like best or admire most about the advisee. Write those down and think of specific incidents where they demonstrated each quality. Reflect further on the *practical* side of those incidents. How did the advisee make a positive impact in that moment? Did his attention to detail catch a ghastly error? Did her cleverness save time or money, or lead to a better outcome? Did he brighten up the work environment just by helping other people feel good? Did her promptness give you peace of mind that all of her deadlines would be met? Did he realize on his own that he would need to change strategies for how to solve a problem, and was he right? All of these things are examples of good workplace behaviors, very much valued in the nonacademic world, and they do not always come across in application materials. Practice describing the student in this way to someone off campus (your spouse, a friend, a relative) and ask for feedback on how it sounds. What about your description made a good impression on the listener? What might make it stronger?
- Encourage advisees to tell you what kinds of positions they are applying for and why. The more you know about the position, and the advisee's interests, the better you will be able to testify to your advisee's ability to excel in the position.
- Ask the student to let you know whenever they get an interview and it goes well. That would be your cue that you might be called at some point. Without an interview, there is no point thinking about it, because the interview always comes first. No interview, no call. Truthfully, they may not call you even if the student does get an interview and it does go well. Not all employers check references. When the student gets an interview and it goes well, ask to see the résumé and cover letter they submitted for the position, so you will know exactly how the student has represented him- or herself to the employer. If you have questions or concerns about the résumé, ask the advisee

about it even though it may feel awkward to do so. It will make this process infinitely easier for you, and better for the advisee, if you are clear on the facts when you speak to the employer. By working through any questions about the student's accomplishments ahead of time, everything the employer knows about this applicant will be singing in harmony: the résumé and cover letter, and now the things they are hearing from you.

- When the student alerts you that the prospective employer is seriously interested and likely to start calling references, look at the résumé again and think of facts or impressions that you would be able add but that are not already there. For example, “Candace says X on the résumé but I think she is selling herself short there. She’s even better at X than she takes credit for” (and give an example). Or, “Yes, all of that is true, and I can tell you something he didn’t say. Jamal is one of the hardest-working people I have ever known” (or whatever your positive observation is).

Here are some attributes that nonacademic employers love and want, in addition to specific skills listed in the job ad and earlier in this chapter. Many are ones with which PhD students are often particularly well equipped:

- √ self-motivation
- √ problem-solving ability
- √ ability to *define* problems and get to the root of the issue
- √ teamwork
- √ deadline-consciousness
- √ detail-consciousness
- √ budget-consciousness
- √ pleasant personality
- √ dedication
- √ eagerness and ability to learn
- √ responsiveness to email and phone communications
- √ *genuine interest in the position—and in leaving the academy*

That last point is an important one. Nonacademic employers are often concerned about PhD applicants because they worry the person is just taking a temporary gig and will leave the minute they get a faculty position. You can do your advisee a huge favor by assuring

the prospective employer that while the advisee definitely has the intellectual chops to be a successful academic, he or she is genuinely eager to work in a different kind of setting—ideally a setting *just like the specific setting in question*. Mention anything about the advisee’s ambitions that match the organization you are speaking with: “he’s always been interested in finance”; “she’s always wanted to help people and I think she will be more satisfied in your nonprofit than here in the ivory tower”; “his temperament is just too pragmatic and proactive for university life. I think he would excel in a fast-paced environment like yours and be very happy there.” Say it however you like, but that’s the idea: use your honest impressions of the student to emphasize the fit between the student and the position or organization. Do not lie. Do think deeply about the student and actively search for qualities or attributes that would play well outside the academy. Some of these qualities or attributes (e.g., friendliness, responsiveness to email) would also play well inside the academy; the two lists need not be mutually exclusive.

The Ultimate Adjustment?

In these days of shrinking higher education budgets and increasing pressure for “accountability” (meaning placement), it is less and less clear what higher education in general, and doctoral education in particular, will look like in the future. Some PhD programs are augmenting traditional doctoral coursework with skills training and work experiences; others are experimenting with reducing enrollments and increasing the amount of funding provided for each enrollee, to reduce graduate student debt; still others are experimenting in other ways with changes that can serve both traditional and nontraditional goals. The doctoral program of the future may look quite different from how it looks today. We don't know. Whatever the future holds, it does seem that faculty who actively support a broadened range of possible employment outcomes for doctoral graduates will be on the right side of history. The ultimate adjustment, I think, in mentoring for nonacademic careers, is to place student well-being absolutely first in your consciousness: ahead of your research, ahead of institutional rankings, and ahead of the future of the discipline. This chapter has introduced some specific strategies for how to adapt your mentoring to the current era; you may develop your own strategies as well (and if you do, I would sincerely like to hear about them). No matter what adjustments you

choose to make, the end result should be that graduate students feel comfortable talking with you about all of their career possibilities. With practice, and with genuine curiosity on your part, you will feel increasingly comfortable with those conversations yourself. The fact that the skills and knowledge you are teaching your doctoral students *are* valued outside the academy is excellent news, because it frees doctoral education from the overly-specific vocational purpose of preparing university faculty, liberating it to be potentially a richer, more intellectually diverse, more possibility-*opening* experience than the traditionalists in your department may believe it to be.

Notes

1. All quotes from graduate students and postdocs are taken from the discussion forums of the Versatile PhD website (<http://versatilephd.com>), which I founded, and are used with permission.

2. Remark made by Stewart during her plenary address at the Western Association of Graduate Schools meeting, March 31, 2014, in Fargo, North Dakota.

3. Reported on the CGS website, <https://www.cgsnet.org/cgs-launches-project-study-feasibility-tracking-phd-career-pathways>.

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APPENDIX: Suggested Readings

- Basalla, Susan, and Maggie Debelius. 2015. “*So What Are You Going to Do with That?*” *Finding Careers Outside Academia*. 3rd ed. Chicago: University of Chicago Press.

An extremely useful book for humanists and qualitative social scientists interested in nonacademic careers. Step-by-step guide to identifying possible career paths, preparing to enter those fields, and applying for positions. Written with a friendly, accessible tone. Many examples of PhDs who have succeeded outside the academy.

Bolles, Richard Nelson. 2013. *What Color Is Your Parachute? A Practical Manual for Job-Hunters and Career-Changers*. Berkeley, CA: Ten Speed Press.

A bestseller for good reason, this book has helped many thousands of people in its long life, including many academics. Nice balance between inner work (assessing yourself, observing your psyche) and outer work (preparing your résumé, navigating the job search process). New editions appear regularly.

Council of Graduate Schools and Educational Testing Service. 2012. "Pathways Through Graduate School and Into Careers." Report from the Commission on Pathways Through Graduate School and Into Careers. Princeton, NJ: Educational Testing Service. <http://www.pathwaysreport.org>.

A hugely important study urging greater transparency about career paths after earning an advanced degree.

Fiske, Peter S. 2001. *Put Your Science to Work: The Take-Charge Career Guide for Scientists*. Washington DC: American Geophysical Union.

As essential for scientists as *So What Are You Going to Do with That?* is for humanists. Shows a broad range of career options for scientists, helps the student self-assess, and provides excellent practical guidance on the job search process, including some tips on the academic job search. Highly recommended.

Fuhrmann, C. N., D. G. Halme, P. S. O'Sullivan, and B. Lindstaedt. 2011. "Improving Graduate Education to Support a Branching Career Pipeline: Recommendations Based on a Survey of Doctoral Students in the Basic Biomedical Sciences." *CBE—Life Sciences Education* 10 (3): 239–49.

A recent study showing how biology grad students' career goals change during graduate school.

Lovitts, Barbara E. 2001. *Leaving the Ivory Tower: The Causes and Consequences of Departure from Doctoral Study*. Lanham, MD: Rowan and Littlefield.

A detailed study of why graduate students leave their programs without finishing. While many in academe place the blame on

the student, this study points to institutional factors and suggests ways to increase retention and completion.

Newhouse, Margaret. 1993. *Outside the Ivory Tower: A Guide for Academics Considering Alternative Careers*. Cambridge, MA: President and Fellows of Harvard University.

A classic on a par with Bolles, out of print but available used. Relevant to all disciplines.

Robbins-Roth, Cynthia, ed. 2006. *Alternative Careers in Science: Leaving the Ivory Tower*. 2nd ed. Burlington, MA: Elsevier Academic Press.

A self-described “scientist gone bad” describes how she went “from the bench to the boardroom” and presents a dazzling array of non-research career options for scientists, each described first-hand by someone who has gone that route. Great for scientists interested in careers away from the bench.

Stephan, Paula. 2012. *How Economics Shapes Science*. Cambridge, MA: Harvard University Press.

Not a “how to” career book, but rather a cogent, lively analysis of the financial side of university-based scientific research—its costs and benefits, writ large—illustrating why fewer new STEM PhDs will get academic jobs today than they would have in earlier eras.

