Chapter 13
Navigating Career Options After Your PhD

Abstract In the final chapter of this book we look at life after the PhD. The first topic is letting it all sink in after the defense. We talk about the emptiness some people feel after finishing their PhD, how to deal with this, and how to answer the question of "What is next in life". We also highlight the importance of celebrating the major achievement of getting your PhD, taking time to rest and reframe your thoughts, and then preparing for the next step in life. This discussion will bring us to the second topic: what are the options you have after your PhD? We look at preparing your resume, letter of purpose, and preparing for an interview – regardless of whether you are applying for a position inside or outside of academia. We will discuss how to highlight the skills you gained during the PhD, for example, to land a post-doc in a field that is only tangentially related to your PhD research, or to find a job in industry. The fourth topic discusses a career in academia, and how to win at it, combined with the fifth topic which contains tips for success in the industry. This chapter will close with the topic of getting an international perspective. We focus on exploring the international job market, academic nomadism, starting international collaborations, and the benefits and challenges working internationally brings.

Keywords Academia · Academic careers · Careers in industry · After the PhD · Resume · Job applications · International collaborations

13.1 Introduction and Learning Goals

In this chapter, we look ahead at life after the PhD. Don't wait until you have defended your PhD to read this chapter, but start asking yourself what you want after your PhD trajectory when you are halfway through your PhD. In this chapter, you get an overview of the different career options you can contemplate, and you learn to figure out which type of job would suit you, your personality, and your skills best. Sometimes, players in the industry consider a PhD as "lost years". In this chapter, you learn how to market your academic skills for jobs outside of academia. This chapter closes off with tips for success in academia and the industry, as well as some advice for international careers and collaborations.

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13.2 Life After the Defense

13.2.1 Letting It All Sink In

So you have defended your dissertation and you are a fresh "Dr." now. What is next? Just as the months prior to your defense can be very messy, the months following your defense can be messy and stressful, and you may be camping at your family's house for certain amounts of time, or finding that you need to rummage through your boxed-up stuff to find something you need.

If you have some time off between jobs after your PhD defense, and your energy is not getting fully drained by moving to another place, you may find yourself sinking into a black hole of emptiness. If you've finished a major life achievement like getting your PhD, you may feel a strange kind of sadness and moodiness that you can't explain. As I mentioned in Chap. 12, I tend to call this the post-partum depression of your PhD baby, and it is not uncommon at all. To avoid sinking into this black hole, make sure you know what to do with yourself and your time after graduation, and take plenty of time to celebrate your major achievement [1].

If you think life after your PhD defense will be spent on a tropical beach, sipping cocktails, and enjoying the good weather, you may be surprised to find out that paper deadlines don't care about the fact that you just graduated and may want to get away from it all. In short, the academic universe does not stop spinning when you become Dr. You. Yes, you will find some time to breathe and rest, but if you've taken on academic duties over the last years (service appointments for technical committees, serving as a journal reviewer…), those duties won't end. However, before the humdrum of life and work picks up full speed again, you can enjoy the extra time and space after defending your PhD with the following activities:

- **Clean**: If you are leaving your university, you will need to empty your university office, which is an ideal moment to decide what you want to take with you, and what you can get rid of. If you are staying at your university and in the same office, now is still a good moment to clean out the clutter of everything you have gathered during the years of your PhD trajectory. You may want to consider switching to a paperless office and go on a scanning spree. You can now happily drop all the draft dissertation versions you printed and proofread into the paper recycling container. Homeworks of courses that you were teaching as an assistant are not something you will ever need again if your students have graduated – into the recycling bin they go[1]! Even though your university has cleaning services, you may be surprised to find how dirty your desk can be behind all the piles of paper you amassed over the last years: grab some disinfecting product, wipe everything clean, and perhaps keep some more space on your desk for the future.
- **Distribute your dissertation**: I had my dissertation printed in 250 copies, and by now, I have about two more boxes of copies left – the rest has been distributed.

[1] Unless your university regulations require archiving.

I took piles of my dissertation to conferences to give away to those interested in the year I graduated. I sent a copy of my dissertation to a large number of people: I went through all the business cards I collected at conferences, and sent a copy to everyone who might be interested, in addition to the famous professors in my field. Don't wait too long after finishing your dissertation to distribute your copies – in the months following your defense, you will become increasingly critical of the work you produced, and perhaps feel less inclined to distribute it.

- **Network**: The first way to get back in touch with your network after your hermit months is by getting in touch with your contacts and distributing your dissertation. Make time to plan appointments with friends and colleagues after your defense, and catch up with them. Write an e-mail to your contacts who are living farther away.
- **Spread the word**: Travel to a fair amount of conferences to share your ideas and distribute your dissertation. Bands tour after they release a new CD, so if you can fork out the money or get the funding, make a tour of conferences (the extra effort required in writing all the papers is worth it). Don't just think of academic conferences: now is a good time to give presentations at industry events, reach out to a local school about the value of your science, or give a TEDx talk. Show your work to the world and to everyone who wants to hear about it.
- **Celebrate**: We've talked at length about celebrating your successes. After a major achievement such as obtaining your PhD, make sure you do something memorable. Think about what you always wanted to do, visit, or learn, and do this activity to celebrate your PhD. Learn how to surf, go for a long backpacking holiday, or visit a place that is on your bucket list – make it memorable. I celebrated by going to Wacken Open Air, a festival I never got to visit because I never got tickets or transportation. A friend of mine took care of all the logistics about a year in advance, and we had a great time four days away from it all to celebrate and spend time together.
- **Update your CV**: Add your new degree to your CV, and see if all your information is up-to-date. You can now proudly add your title to all your academic online profiles, such as ResearchGate, Academia.edu, and LinkedIn.
- **Update your list of publications and presentations**: If you didn't keep track of your publications during your PhD, go through your material and compile your list of publications. You should keep this list up-to-date at all time – the easiest way to do this is by adding a new publication to your list whenever you start working on it. Now that you have graduated, your list of publications will be more important than ever. Make a list of all presentations you have given as well.
- **Rest**: Catch up on sleep, do everything you enjoy doing, and just take some time off – it's been an intense period after all. I tried to get back to writing about ten days after defending, and it was simply too early. Writing felt like a drag, and I couldn't squeeze out more than a paragraph a day – I had simply gotten tired of letters for a while. You need to allow yourself time to relax. You're the athlete who just finished that marathon; now do all the post-effort self-care activities you need to do to recover from this effort.

- **Plan your publishing strategy**: We've discussed how to develop a strategy for publishing in Chap. 11. If you haven't outlined yet which chapters of your thesis you will turn into papers, start to figure that out now. You don't need to dive into your writing right away, but just do some brainstorming about your writing. Who will be your coauthors? Which journal will you submit your work to? You can add all this information to an overview table, and outline when you want to finish your first draft of these papers, and by when you plan to submit. Make writing these papers your priority for the coming year, regardless of the career choice you make: if you go to the industry, you still want to publish your work in case you want to return to academia in the future and to communicate your results, and if you stay in academia you will need publications.
- **Something new**: You may have been in your research bubble for the last three or four years, so burst out of these limitations, and explore something new. Work on a new project to keep things interesting. Start a small project for your own interest. Work with a new collaborator (extra points if you can set up an international collaboration). Learn a new subject. Code in another language. Teach a course.

13.2.2 Figuring Out What to Do Next

If you haven't outlined yet which career options you will be pursuing, start by identifying your strengths and weaknesses, and try to match possible careers with your personal profile. Don't add too much weight to the question: "What is next in my life?"; after all, you are not signing away the rest of your working life when you sign your first contract after your PhD. Many researchers spend some time in the industry after their PhD and then return to academia, or start in academia and then switch to a policy-making job in the government. Don't focus your thoughts on a single career path, and know that it is likely that you will switch careers about three to seven times during your working life [2]. Economic crises, family situations, job opportunities, your partner's job: there are many reasons why you may need to make a career change.

Your PhD is the highest level of higher education. Leaving academia after a PhD and not becoming a professor does not make you a failure, as some people tend to believe. You received a versatile research-oriented training, developed skills, became very independent, and now you have a wide array of career options to choose from (more on these career options in the next section). Regardless of your choice of career, your PhD education will help you prepare for service to society: as an academic, in the government, in the industry, or in whichever form you decide to explore.

If you want to explore what you should do after your PhD in a broad sense [3], think about the following questions:

- What would you like to do after your PhD?
- What are your strengths and for which competences can you leverage your skills?
- Are you willing to move away from your current location? If so, consider the culture and location of the place where you would be applying for a job, and ask yourself if these elements would suit your personality.
- What type of lifestyle do you want to have?

Be prepared to explore different options, and remember that if you are just entering the job market, you start at the bottom like every starter [4]; and all beginnings are difficult. Just prepare yourself for a time of change and new starts, and don't consider your PhD degree as the winning lottery ticket to the perfect job right away. Every different job will require a different set of skills, and prior to getting a job, you will need to demonstrate your unique capabilities in the job interview. Prepare well, be ready to learn new things, and show your future employer what your research training can add as value to the company.

You can be creative and build a career as an independent researcher outside of the regular confines of academia, as Dr. Kelly explained in an interview [5]. I, too, explored different possibilities, and discussed this in an interview [6].

An excellent book on this topic is "80,000 hours" [7]. I strongly recommend reading this book, since it contains research-based evidence on how to build a career that does good and has an impact on the world.

13.3 Career Options

13.3.1 Overview of Options

If you want to have an idea which type of job you would like to apply for, it is good to make an overview of the different possibilities that you have. For your convenience, I have compiled a generic list of options to start from [8]. You'll tailor this list to your situation in the exercise following this paragraph. Here is an overview (see also Fig. 13.1) of possible career choices after receiving your PhD degree:

1. **Academia – post-doc:** Landing a post-doc position is maybe the most traditional step in academia. Post-doc contracts have varying lengths (between one year and four years, typically). One option is to stay at the institution where you got your PhD, and get a continuation project on your PhD research. You can use the years of your post-doc to publish the work you did during your PhD, develop publications of your new research, and grow your research network.
2. **Academia – faculty position:** Some people skip the post-doc step and land a faculty position right away. If you become a faculty member on a tenure-track program, fresh out of graduate school, you might be in a slightly disadvantaged position, because you don't have the post-doc years to up your publications. If a certain h-index is a requirement for tenure, you may want to have your post-doc years because it takes time before your research gets cited. Typically, as a

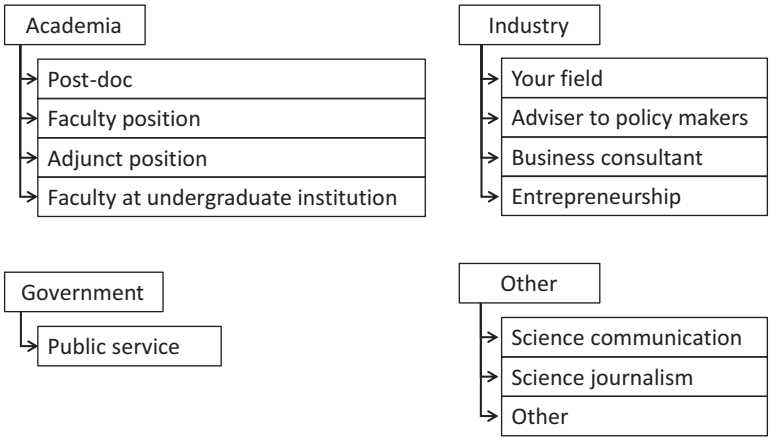

Fig. 13.1 Overview of possible jobs after getting your PhD

young faculty member, you will spend quite some time on teaching, leaving less time for working on your publications. You might be thinking of landing a faculty position at the institution where you obtained your PhD, and you might know that the number of openings are very limited. At some institutions, positions only open when somebody retires, which may mean there won't be an opening in the next 30 years if they just hired some young faculty members. If this is the career path you are seeking, and you are willing to make a move and become an academic nomad, then you may find that other parts of the world are desperate to hire people with a PhD title to join their faculty. Developing countries are a good bet for this option. We'll discuss going abroad in detail later in this chapter.

3. **Academia – Adjunct position**: Adjunct positions are other non tenure-track positions at universities. While some universities abuse their adjunct faculty and overload them with educational responsibilities, other institutions treat their adjunct faculty as they are supposed to be treated: faculty members who deliver valuable contributions and have opted not to pursue tenure and the title of full professor. The job description for an adjunct professor is more flexible than for a tenure-track position. Whereas for a tenure-track position, you will need to develop a balanced portfolio between teaching, research, publications, and service appointments for your tenure review, for an adjunct position, it is possible that you focus more on one single element (for example, teaching). If you interview for an adjunct position, make sure the expectations are clear from both sides, to see if the proposed contents of the job suit you.
4. **Academia - teaching at an undergraduate institution:** In most parts of Europe, the institutions offering only undergraduate degrees (Hochschule, Hogeschool…) are separate from universities, where undergraduate and graduate degrees are offered. These institutions carry out shorter research projects that have a direct application into the industry, or form conjunctions with larger

universities. In other parts of the world, you find similar systems at institutions that are mostly teaching-oriented colleges. These institutions need people with PhDs to make up their teaching staff and carry out practical research. The ties between the industry and these institutions are typically more direct than at larger universities.

5. **Industry - your field of specialization:** Joining a company in your field of specialization (for a structural engineer that would be anything from a bridge design company to a large contractor) is an option. While some people tend to treat the PhD as a useless extra degree and a waste of time (you could have gained practical experience in this time period!), most companies do agree that employees with a PhD bring additional value to the company, and can tackle more complex problems or to put their highly refined skill set to work.
6. **Industry - adviser to policy makers:** The link between researchers and policy makers is a person who is familiar with the technical literature and recent research, and at the same time can communicate these results to policy makers and politicians to assist them in their choices. We want to carry out research to make this world a better place, but we also want our research to be actually put in practice. For this step, consultants to policy makers come into play.
7. **Industry - business consultant**: Perhaps you have a PhD in neuroscience, thinking that business is nothing for you, but large consultancy firms hire graduates with a PhD from all different fields. If you know how to manage large amounts of data, these companies will be looking out for you. If you want to get acquainted with the work of these companies, you can typically join them for a weekend in which you are challenged to solve a business case, to see if this type of work is something you'd want to consider.
8. **Industry - become an entrepreneur**: Why not start your own company and turn your research into a marketable product? Many universities host incubators to help you get started. You can also start a company that is not immediately related with your PhD research. PhD graduates start companies acting as professional proofreaders, as technical translators, as independent researchers and as career- and/or research-advisers to PhD students.
9. **Government:** You could be actually doing the research (academic jobs), you could be the link (nr. 6: adviser to policy makers), or you could decide to go in public service and use your knowledge in government institutions. You could be working at one of the ministries, where your understanding of complex problems helps making informed choices. You could also be working at the local level for a city, and use your analytical skills to make decisions on proposed policies across a range of topics. In transportation, for example, a good understanding of a complex transportation system is necessary to make the right choices. Or you could use your keen mind to work your way up in a political party and serve your country as -eventually, hopefully- a minister. Belgium's former prime minister, who is praised for steering the country through the Euro-crisis, holds a PhD in Chemistry.
10. **Science communication and science journalism:** Do you enjoy explaining your friends and family what are the broader implications of your work? A

career in science communication or science journalism might be for you. Universities need science communicators, who are the link between the researchers and the broader public. Newspapers and magazines rely on science journalists to keep up with recent publications, and turn these into a lighter and clearer read, focusing on the impact on the world around us.

11. **Whatever you wish:** You have the power to build your own career. You don't need to make one single choice (academia or industry), and stick with it for the rest of your life. You will make a number of job and career changes throughout your life. Pursue your interests. Follow your nose. Enjoy the ride. Recent PhD graduates sometimes work for academic publishers, go to work at other positions within the university (the library, the office of the dean of research…), or decide they need a break from science and become a fiction author or spin class teacher. If you are interested in different career paths and working styles, check out the "How I Work" series on PhD Talk.

Exercise

1. Consider the list of options given above. Which of these options are available in your field? Are there additional options you can think of?
2. Think about yourself. What is your working style? Do you like to work in teams or do you prefer to work by yourself? Are you an introverted or extroverted person? Do you enjoy teaching or research more? What are your strengths and weaknesses? If you are in doubt about your strengths, a classic read is StrengthsFinder 2.0 [9]. Think about why you started your PhD adventure in the first place – what attracted you to research, and what could attract you in the future to a job?
3. Make a table outlining each of the options you listed in part 1. Make columns of your strengths, or elements that you find important in a job. Now, add a tick mark wherever you have a match between the job description and your personality.
4. Have a look at the career paths that resulted in the largest number of tick marks. Now, start to think about the application of these career paths: where could you apply for these jobs? Which companies should you follow or get in touch with? Who in your network should you talk to?

13.4 The Benefit of Your Academic Skills When Searching for a Job

13.4.1 Preparing Your Documents

What's the ultimate secret to finding a job after your PhD [10]? I'm not a crafter of magic potions, but I think the answer (as is the answer to numerous things in life) is to do the work. Tailor your resume and letter of purpose to each different position you are applying for. Don't apply before you have read about the company and have identified what they do exactly, and how you can contribute to their work. If you're applying for academic positions, familiarize yourself with the research of the current faculty and the courses offered, and see how you would fit into the existing work, and which new elements you can introduce. Prepare for each interview with equal earnestness. Don't assume you'll be lucky and something will be thrown into your lap. Your degree is not an entrance ticket to a job.

Besides the fact that you need to do the work to find a job, you also need to consider where you are in life at the moment, and see how you can find a job that fits your situation. For example, if both you and your partner are academics, the chance of both of you getting hired by the same institution and both finding your academic dream job is unlikely. If you decide to move abroad and apply at institutions in developing countries, where the demand for recent PhD graduates is larger, there may be always the rumor that one of the partners just got hired because they had to hire him/her to get the other one. When you interview with companies in your industry, you may find that you are either overqualified, or that you need to start at a lower position than you expected, and that the increase in salary you were hoping for after years of living as a student is really modest. In academia, you may be looking towards the uncertain future of a few years on a post-doc project here, and then another project in another country, without ever being able to settle down. To land a job, you need to apply some creative thinking and learn how to market your accomplishments.

Remember as well that you don't need to find your dream job right away. It might take you some time to figure out what you enjoy doing in your working life. There's no such thing as failure (you're not a failure if you decide that the high demands of academia are not what you need in your life, and you're not a failure if you end up in a completely different field over time). If you leave your first job after a relative short amount of time, you have certainly learned something about what does not work for you in your professional career. Keep iterating until you find your spot in the working world, and when you have found your spot, lean into your career.

Eva Lantsoght

Objective	To combine technical knowledge and analytical skills in challenging multidisciplinary projects.
Education	2009-2013 (expected) Delft University of Technology **Ph.D. in Civil Engineering** ▪ Research topic: Shear in Reinforced Concrete Slabs under Concentrated Loads close to the Support ▪ Advisors: Dr. Cor van der Veen, Prof. Dr. Joost Walraven 2008-2009 Georgia Institute of Technology **M.S. in Civil Engineering** ▪ Research project: Literature Review of Punching Shear in Reinforced Concrete Slabs ▪ Advisor: Dr. Lawrence Kahn 2003-2008 Vrije Universiteit Brussel **Degree in Engineering** ▪ Thesis topic: Evaluation of the new insights on buckling of reinforced concrete columns ▪ Advisor: Prof. Dr. John Vantomme ▪ Magna Cum Laude

Fig. 13.2 Resume for general industry positions, showing interest in challenging multidisciplinary projects

When you write your resume and letter of purpose, tailor it to the position you are applying to. For your resume, your introduction paragraph will be different for academic positions than for industry positions. The rest of your CV or resume, including work experience, education, and publications can be the same, but the first part the recruiter will read needs to be tweaked to catch the attention of the recruiter. As you can see, I used a more general objective statement when I explored the possibility of working for a business consultant (a path I did not end up pursuing, but there's no harm in exploring different paths during the last years of your PhD), see Fig. 13.2.

In your letter of purpose or job application letter, show that you have done your research about the company or university. Explain how your research degree has prepared you for the position you are applying to, highlight how your unique skills will service the company or institution, and give an honest assessment of the skills

you may be lacking for the job you are applying for, accompanied with a plan of how you will acquire these skills.

If the company or institution calls you for an interview, prepare thoroughly. First, know what is expected from you. Will you have a standard interview that will last an hour, or will you need to take exams and psychological tests as well? Will you be expected to work on a business case and present it at the end of the day? Are you invited for a campus visit? Each of these types of "interviews" are all very different, so make sure you know what is expected from you. When in doubt, don't be afraid to check again. Grab a parent, friend, or colleague, and practice interview questions for a few afternoons. Know how to answer the questions in such a way that your answer is tailored to the job you are applying for. There are many lists with interview questions on the internet that you can collect to practice with [11]. Try to find a list of personnel or faculty with pictures, so you can have an idea who you are meeting and what they will look like. Prepare yourself to look impeccable (leave the torn jeans and shoes with holes at home, and iron your shirt) and give yourself some peptalk if you need it.

13.4.2 Highlighting Your Unique Academic Skills

If you are applying for a post-doc on a project that is closely related to your PhD topic, you won't have to do much "selling" of yourself into the position. However, if you are eyeing a post-doc in a field that is only tangentially related to the field of your PhD research, or if you are applying for a job in a company that does not often hire PhDs, you may need to spell it out to the recruiters why your academic skills are unique and an excellent preparation for the job you are applying for [12]. Often, you will need to explain why your research experience makes you different, and why doing the PhD was the correct choice for you, instead of applying for perhaps the same position with your Master's degree and use those years to get real-life experience. First of all, don't get upset or offended when recruiters in the industry inquire you about why you did a PhD instead of gaining experience. Take this opportunity to highlight the unique skills you learned when carrying out a large research project. During your PhD trajectory, you have learned to become an independent researcher, with a set of skills that are highly valuable in the industry, for the government, as well as in academia. Think about the following skills that place you ahead of other applicants:

1. **Analytical skills:** Whether your PhD research relies on qualitative or quantitative data analysis, there is almost always a large chunk of analytical work involved in PhD research. You either developed strong numerical skills, skills related to analyze your experimental data, and/or skills that allowed you to play with complex theoretical ideas. In fact, consultancy offices, private labs, and large technical companies all need employees with strong analytical skills, and people that can manage large amounts of data.

2. **Autonomy:** Getting a PhD is all about becoming an independent researcher. At some point during your PhD, you will notice that your supervisor gives you more autonomy, and simply trusts your results without needing to peak over your shoulder. You may be working weeks on end on something, trying out different paths, iterating, and making your own decisions. This large level of autonomy gives you the ability to work on larger projects, all by yourself, while being able to communicate your decisions and the reasons for these decisions to your supervisors later on. Many bosses in the industry will appreciate the fact that you are not asking them all the time what you are supposed to do now when you get stuck, but instead know to figure things out on your own.
3. **Ability to learn new topics and skills:** A very typical situation during your PhD studies is when you run into a subject that you don't know much about, or one in which you seem to be needing a different computer program or programming language to continue your research work. Instead of raising your shoulders and thinking: "Well, too bad, I don't know that...", you head out to the library to pick up a book on the subject, read a couple of papers on the subject, follow an online tutorial or start getting involved in a programmer's forum. This ability to learn new topics and skills by yourself, combined with your autonomy, gives you the ability to advance quickly in your career in almost any given field and to take on a wide variety of projects.
4. **Deep understanding of your field:** Since a doctoral degree is the highest level of education you can achieve, you can pride yourself in the fact that you know more about a certain topic than most other people. In fact, when it comes down to your sub-topic of research, you can claim that you are the expert in your field on that topic - you simply are the only person who knows all the ins and outs of the topic you chose for your PhD studies. In the industry, you may not need that in-depth knowledge on your specific topic, but the fact that you have a thorough understanding of your field will be very beneficial. You'll get extra kudos if you've attended a number of conferences over the past few years in which you may have learned about your field in general, if you have been working as a teaching assistant (having the material fresh in your mind is helpful), or if you have been reading more broadly in your field.
5. **Teamwork skills:** No PhD is born on its own. A PhD degree is virtually always the result of cooperation: with your supervisors, with funding institutions, with other researchers, and in the laboratory. Nobody ever graduated by brooding in his/her room in complete isolation for a couple of years and then spitting out 1000 pages of innovative research material. Being able to work in teams is one of the great skills you learn during your doctoral studies. Don't confuse introversion with an inability to work in teams – many introverts thrive in small teams, which are focused and concentrate on the depth of the matter.
6. **Writing skills:** Those papers and that thesis didn't write themselves, and they certainly did not get written without developing sound academic writing skills. With all the writing practice you get during your doctoral years, you will be able to whisk together reports and briefings faster and in a clearer style than your peers who did not go into a PhD program.

7. **Presentation skills:** Just like you received a good training in (academic) writing during your PhD, you also gained a good training at giving presentations. Here comes again the importance of being able to present your work as often as possible. Remember your very first presentation in graduate school? Remember how nervous you were, and how afterwards you learned how to better structure your talks until it almost became second nature? You need to realize that this communication skill is again very valuable to prospective employers: you will be able to show clients in a clearer way what the company can offer.
8. **Extra skills you learned during your PhD:** During your PhD years, you certainly picked up a few extra, general skills besides your analytical and communication skills. You may have taught yourself a programming language, you may have learned how to speed-read, or you may have taken a number of courses to sharpen your soft skills. Think about all these extra skills, and use them to your advantage to show the benefit of your years of doctoral study.

13.4.3 Attending Career Events

Another way to get in touch with companies is by attending career events [13]. The general principles of attending such events are valid for prospective PhD students, prospective post-docs, or if you want to meet possible future employers in the exhibition area of a conference. You may think that in the twenty-first century, your future job is something you will arrange all online. But good old career events are still a very popular choice for job seekers and employers to meet each other. One of the big advantages of going to such an event is that, while strolling along the stands and talking with representatives of different companies and universities, you actually learn about options you would have never thought about. Meeting in person with a representative of a company of university always puts you one step ahead of e-mailing them or calling them by phone. Attend presentations of different companies, even though you may think the company is not directly something for you - you may be surprised.

Talking to company representatives also gives you a glimpse of the corporate culture. Before going for my second master's degree, I attend a presentation of a company I was not directly interested in. But they showed me that in their company an engineer manages his/her project from the beginning to the end: bidding, design, planning, and then supervision in the field. In virtually all other construction companies, you have to choose between being in an office for doing designs, or being in the field to supervise construction activities. When talking to a representative, they were very welcome and open to discuss international perspectives. On the other hand, when I was talking to another company at the same event, they were much more ambivalent and clearly biased against women ("We have great jobs for women in our offices in Antwerp! Yes we treat them equally!" "But do you send women to manage their projects in the Middle East?" "We have great office jobs!" "….").

Once you passed the half-way point of your PhD program, start by informing about career events or talk to companies in the exhibition hall of a conference. Keep in mind that these opportunities don't arise every Tuesday on the town's market square, so you will need to plan about a year ahead for the career events or conferences with large exhibition halls that you want to attend. If you've found a career event that you want to attend, don't wait until the day of the actual event to go play tourist over there: plan, and make sure you can get the most out of it! Use the following ideas to prepare for the event:

- **Before the event:** As I said before, if you want to get most out of the event, make sure you plan ahead. Don't just take the train and show up, but do these few things in advance:

  1. *Revise your resume*: make sure you have your full resume up to date. With full resume, I mean a resume that describes you in a paragraph, has your educational background, your work experience, your publications, your professional memberships, your committee appointments, an overview of the journals you are a reviewer for, other service appointments, and perhaps something about your additional personal interests. Don't forget to mention your blog if you have one!
  2. *Summarize your resume*: A full resume can go on and on for pages - nobody who gets introduced to you for the first time would be interested in reading the entire thing. Put yourself in the shoes of the exhibitors at career events: they get stacks and stacks of resumes. So make sure you have a shortened resume - maximum one page, I'd say, but a resume that highlights your biggest achievements. Make it visually attractive. Print a large number of copies of this document. Make different versions of your short resume, for example for academic purposes (finding a post-doc or faculty position), for industry jobs in your field, and for consultancy jobs. Add a QR code on the bottom to link to your full resume or a representative online profile.
  3. *Check your online profiles*: If an employer is interested in you, chances are the recruiter will Google[2] you. If you are months before a career event, you have plenty of time to revise your online profiles, see what Google finds about you, and course correct if necessary. Revisit the material from Chap. 9 about online branding.
  4. *Read the descriptions of the employers and institutions in the exhibition*: Learn who will be there. It might take an entire afternoon, so go somewhere comfortable, get a coffee, read through the descriptions of the employers and institutions and look online for further information about them. Take some notes while preparing so you can refresh your memory the evening before the event to revise who does what again.
  5. *Identify the ten most important booths to visit*: Go through your notes, and see which are your top ten exhibitors to go and visit. Print out the map of the

[2] Or search for you using another search engine.

exhibition area if the venue is large, and highlight the booths you need to visit. If you think you'll be short on time, make an itinerary.

6. *Identify your networking options*: Will there be a drink at the end of the day? Can you meet up with a certain group for lunch? Make sure you take advantage of your time at the event to network.
7. *See if there are presentations*: Presentations in which companies show what they are doing and give you a hint of their workplace culture are an excellent source of information. If there are presentations, make sure you attend some. If you're interested in a company, don't be afraid to ask questions at the end of the presentation and follow-up with the presenter. You can't wish for more direct access to the company.

- **During the event**

1. *Hand out your resumes:* You printed a good number of your short resumes? Good! Now don't be afraid to hand them out to people at their booths.
2. *Hand out your business card:* Your resume is not something you put into every one's hands, so make sure you also carry cards. If you make new acquaintances, it's good to have cards with you and hand out your contact information. If your institution provides you with business cards, use these cards. If you don't have cards, get professional-looking cards with your information.
3. *Talk to people:* You're not going to the career event to hide behind a column. While for some of us, talking to people you don't know is intimidating, very few people dislike an interesting conversation. It can be awkward, but most often it is not. Just ask questions, and get people to talk about what they are passionate about, and the awkwardness will be gone soon.
4. *Don't be scared to have a quick chat with booths that may not interest you:* You never know what you can learn from booths of companies that you originally did not plan to talk to. They might not directly be the holy grail for you, but they may have something interesting to share with one of your friends or colleagues.
5. *Politely walk away from booths that are a disappointment:* If a company you were really interested in seems to be a disappointment once you start to talk to them, you don't need to keep talking to them. Find a polite way to back off, and go. If a company, for example, seems to have different rules for women, then you have no reason to keep talking to them. Just thank them for the explanation and leave.
6. *Enjoy the networking events*: Enjoy the time of the drinks, meeting young people that are in the same situation as you, and loosen up a little bit. A career event can be stressful (and trying not to spill your coffee while you try to impress a recruiter can be a challenge), but at the end of the day you can take a breath, have a drink (never lose control and get drunk though), and have a chat with fellow soon-to-be-graduates or informally mingle with companies.

- **After the event**

1. *Write thank you e-mails:* If you had a nice talk with an exhibitor or with a fellow young job seeker, don't be afraid of sending a short e-mail to thank them for the good conversation. There's nothing intrusive or wrong about sending a kind message.
2. *Archive your information:* Archive flyers and information of interesting companies. If you need to take action on something, do so before you archive the information. Trash what you don't need anymore.
3. *Connect with new contacts:* If you met new people, for example during the networking events, you can try to connect with them on LinkedIn, ResearchGate, or Academia.edu.
4. *Follow-up:* If you left your resume, and an exhibitor told you he/she would contact you, but you haven't heard from them, say, after a month after the event, it can simply mean your one sheet of resume got lost. Don't be afraid to send an e-mail to follow-up and inquire if there is still interest from this company to explore future options with them.

13.5 Tips for Success in Academia

13.5.1 Transitioning from PhD Student to Faculty Member

If you are transitioning from PhD student to faculty member, you may be overwhelmed by all the new responsibilities that come your way. Upon finishing your PhD, you may think that when you have a job, you'll be working "normal" hours again. While I'm not advocating 100-hour weeks, the reality of academia does mean that you will always have a lot of work on your shoulders, and that you'll always be juggling different projects and duties at the same time [14]. As a faculty member, you will be combining more responsibilities than during your PhD. It is unlikely that you will ever get a full-time research project for three or four years again, as during a PhD, but that does not mean that you will have less responsibilities. The biggest hurdle now can be how to figure out your priorities when you get a ton of different tasks thrown in your direction: research (which you'll be expected to execute faster than a PhD student), supervising research of others, teaching, outreach, service, tons of admin work, and more. You'll need to develop new skills, and new ways to deal with your time – learning how to move all projects slowly but surely forward will be crucial for success.

Since finishing my PhD, I have combined a research position in the Netherlands with a faculty position in Ecuador (and the PhD Talk blog, and helping my husband with his structural engineering company). Moving to another country (more about this later in this chapter) can be a challenge. I expected to spend time arranging my paperwork in Ecuador. I knew it would be hard to find a place to stay during the summers in the Netherlands. I did not factor in that I would get sick with food poi-

soning and end up in the hospital many times in Ecuador, and I did not expect that I would have to rent a temporary room in Rotterdam and commute 13 kms each way by bike, each day for a full summer. Regardless of these setbacks, I received my tenure in Ecuador after three years of work, and was promoted to a special category of Full Professor of Research, with less teaching duties than the regular Full Professors here. Here are some recommendations on how to transition successfully from PhD student to faculty member:

- **Use the urgent-important matrix to set your priorities:** When you have a large number of responsibilities, it helps to first make a list of everything you have on your plate, and then see which of these are urgent, and which are important, as we discussed in Chap. 3. You'll end up with four categories:
  - Urgent and important: obviously, you need to be working on these tasks
  - Not urgent but important: the group of tasks that too easily slip to the background, such as your writing. Never let your writing slip to the background – it is the most important factor for academic success! Make sure you find time each and every day (or at least three to four times a week) to write for one or two hours.
  - Urgent but not important: visits, e-mails, phone calls, administration deadlines and more of the stuff you wish you didn't need to do but have to do to avoid trouble.
  - Not urgent and not important: stop doing these things - or just do them sparingly...
- **Get a streamlined time management system:** If you learned the drill about planning and time management in this book, you will have already developed a time management system during your PhD. Keep using this system, but if you need to make tweaks to adjust for your new position, don't be afraid to make changes. Focus on methods that are in the cloud and can sync across all your devices, carry a notebook for random ideas, or use online tools. Plan on a long-term basis (for example, towards your tenure), per semester, per week, and per day. Develop a weekly template to combine all your responsibilities, as we discussed in Chap. 3.
- **Do a brain-dump when you need it:** Even though you may have all your tasks and appointments in your calendar and on your to-do list, sometimes you can feel a mild to severe sense of panic coming over you as thoughts of everything you still need to do rush through your head. That's when it's time for a brain-dump. You can either take a pause and journal longhand about all the demands that are placed on you (and who wants what from you), or you can sit down and make a list of all you need to do, categorize all tasks according to the urgent-important matrix, and then review what you are going to do and when you are going to do it. After a few semesters, you will have a better hold of your time and the expectations placed upon you, and you'll be able to develop a realistic list of major tasks and projects per semester to guide your planning.

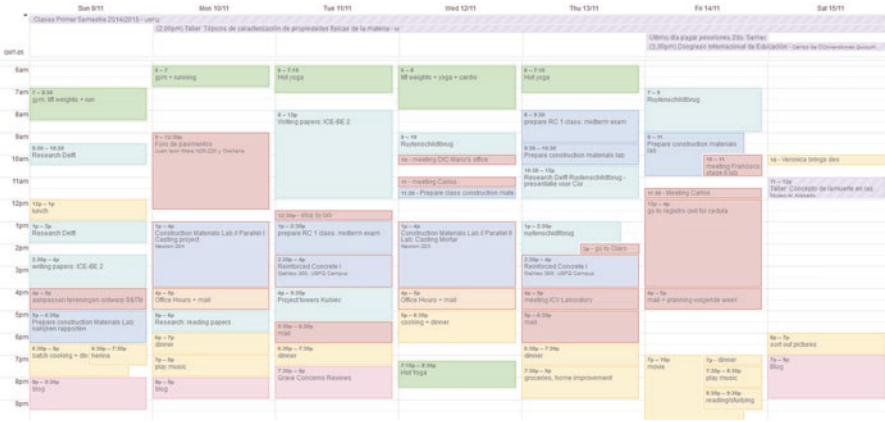

Fig. 13.3 A week during my second semester of teaching (as a faculty member)

- **Use time slots:** As a faculty member, you will need to learn to work in shorter bursts of time, as you simply will have to break up your day more often than as a PhD student. Teaching hours, meetings, office hours… will all cut into your day and will make it impossible to find a chunk of eight hours to quietly work on a project (unless you start to work during your nights as well, or on your weekends). When needing to deliver a conference paper, you will have to think in terms of an hour a day for a few weeks in a row, instead of a few long days and nights. It's time to gear up in terms of efficiency and being organized, and plan two-hour chunks of time daily (or a few times a week) for a few weeks to move your writing forward. The same advice holds true for any (new) research project that you will be working on. And of course, you'll have to schedule in blocks for preparing your classes, grading, office hours and all that - so you'll end up with a rather scattered time schedule, as you can see in Fig. 13.3. Leave enough buffer time between tasks as discussed in Chap. 3. Experiment with your optimum chunks of time.
- **Make smart choices**: As you advance in your career, you'll be met with more and more opportunities. But at a certain point, you'll have to start saying "no" to some opportunities and learn to make smart choices. If your schedule is more than full, accepting to review a paper may not be the right choice to make. Sometimes, however, the exact opposite could be true: reviewing that paper may be just the right move. Don't forget about the joy of science, don't lose the spark that made you chose this career path in the first place. Don't reach the point where you start to feel suffocated by all the "Have-Tos" and don't have any time left to fiddle around with ideas or play around in the lab. Stay true to yourself and what brings you joy in your work in the first place - and invest in those areas. These areas are your natural strengths, so ultimately prioritizing these aspects has a positive effect on your career as well.

- **Set an ending time to your day**: With an endless task list, you may feel as if the day is never over and you are never done, and you can keep working every single day until bedtime, or even beyond. Avoid this attitude, so that you can survive the semester without burning out. If you use your digital devices a lot, set a digital curfew time, about an hour before your bedtime.
- **Take good care of yourself:** Self-care is as important as it was during your PhD: eat well, exercise, get enough sleep, and go outside for fresh air and sunshine (vitamin D!). You really need to take these things seriously if want to see your productivity soar. It's all about feeling better, and having more focus. If you currently are living on TV dinners, find yourself surfing the internet late at night and then go to bed too late, and are out of breath after a flight of stairs - do not despair. Just take it slowly, change one habit at a time and try to stick with a new habit long enough before changing another aspect. Slowly but surely you'll see the difference, and then you'll never want to go back.

13.5.2 Becoming an Independent Researcher

As a PhD student, you have the help and guidance of your PhD advisor, and your research group [15]. Your advisor can give you ideas to further develop, can advise you on where to publish and which conferences to attend, and will teach you the ropes of the research trade. Unless you stay at your research group, or join a similar research group as a post-doc, you will be on your own upon graduation. You will need to become an independent scholar [16]. You are no longer "the PhD student of Prof. Advisor", but you are now Dr. Yourself, with your own field of expertise and your own network.

To reach the point of independence, you need to establish yourself as a researcher with a clear focus. You don't need to focus on one single topic as you did during your PhD, but you need to make your field of work clear. Within your area of study, you should branch out as much as possible: participate in projects with the industry, carry out desk research on tangentially related fields, and broaden your scope.

Besides your own brand of research, you also need your own network; so attend conferences and industry events. Publishing helps as well, as you will typically be invited as reviewer for the journal in which you published - a way to establish yourself more as an authority in your field.

In the following, you can find a few tips for becoming an independent scholar:

- **Collaborate with other institutions**: While it is nice to keep working with the researchers and professors with whom you worked during your PhD, it is time to discover other horizons as well. This certainly does not mean you should burn the bridges between your alma mater and yourself, but it is time to broaden your scope. These institutions can be situated somewhere else in the world, could be public research institutes, or could be industry partners. The more variation you can develop in your collaboration portfolio, the better.

- **Outreach**: You could consider outreach as a time-consuming fringe activity, but it certainly can be quite rewarding. Outreach can be blogging and tweeting about your research as we discussed in Chap. 9, it can be volunteering for charities with your technical knowledge, or it can mean getting involved in student support groups and on-campus networks. Consider outreach as an opportunity to show the world the value of your research and how your work makes this world a better place, or to help make academia a more welcoming place for all disadvantaged scholars.
- **Write research proposals**: It's time to figure out what you would like to work on now that you finished your big PhD project, identify the needs for such a project, and turn these needs into research proposals. It can be frightening to start your very own line of research, as you can feel inexperienced, but once you get working on it, you will feel how rewarding it is, and how your PhD training gave you all the tools and skills necessary. And think of it - you can fully choose what you find interesting to work on, without having to explore ideas that have been imposed onto you by your advisor.
- **Become active in your research community**: Review papers, participate in technical committees, publish your work, attend conferences - you know the drill, so do your part and volunteer to move your field forward. Showing up and working hard will show your peers that you are serious about your research and willing to moving things forward.
- **Read a lot**: Keep a finger on the pulse of your field by reading recently published papers frequently (you will also need this information when you write your proposals). Try to set aside a few hours a week (by reserving this time in your weekly template, for example) to read recent publications. Follow the important journals in your field, and read them to get an overview of which topics are being explored, and who is working on what. Identify the papers that are of particular interest for you, and read these in more detail. You can do a #365papers challenge, in which you try to read a paper each day for an entire year.
- **Pick your fights wisely**: What makes you really thick? Canalize your energy and devote time to the causes you consider important. Pick your fights wisely - you can't take all the worries of the world on your shoulders. Do you want to raise your voice in the way women are undervalued in academia? Would you prefer to put energy into the guidance of first-generation students? Take a cause to heart, and put your shoulders under it – but don't become an activist for each and every possible cause.
- **Develop your own writing voice**: In Chap. 7, we've discussed the voice you develop for your writing. As you become an independent scholar, defining your voice is a crucial element. You will notice that, as you gain more practice writing papers, and will receive less and less feedback from your coauthors, you will start to feel comfortable writing about your research in an authoritative voice that is distinctly yours.

13.6 Tips for Success in the Industry

To succeed in the industry, as in any career, the general advice for succeeding in academia is still valid. A good planning to finish your deliverables, a willingness to go the extra mile and work independently, and good communication skills will bring you a long way. Your publications are less important in the industry than they are in academia, but can still play an important role in your general service to your profession.

The advice and ideas in this section are based on a number of interviews carried out with PhD graduates who transitioned from academia to the industry.

To find employment outside of academia, Dr. Samuel Oduneye, who obtained his PhD in medical biophysics from the University of Toronto and now works as a healthcare consultant in management consulting, says there are three main elements [17]:

1. Your title is important. It shows your credentials and counts for a certain level that can be expected from you.
2. Your degree and title can help you get a foot in the door or get people to listen. However, you will still need to prove yourself and prove that you can deliver high quality work. Your degree alone won't make your career.
3. You need a plan to find a job.

Dr. Seán Mac Fhearraigh, who received his PhD in cell division from the University College Dublin and now runs an ELISA assay company, recommends [18] that you talk to recently graduated PhD students to learn more about the current job market, possible openings they may remember, and for their help with agencies and contacts for your job search. Talk to your professor as well, he says, so that he/she can support your move out of academia and give you tasks within the lab that would provide some industry experience. Your professor can also help you find a job through his/her network outside of academia. Seán recommends that you volunteer a few hours a week as an intern in a start-up company, or for scientific outreach events. This experience will be an extra bonus when you apply for jobs in the industry. A recruiter can be useful for helping you find a position, as well as in helping negotiating for salary and benefits.

Dr. Chris Humphrey, who holds a PhD in Medieval Studies from the University of York, transitioned to a business career and advices PhD students and recent PhD graduates on the subject of marketing yourself for a career outside of academia [19]. His main advice for PhD graduates who want to transition to the industry is to change your mindset accordingly. He warns against the long-lasting effects of taking low-paid academic positions such as part-time and adjunct positions, as they impact the financial situation of your family, health insurance (or lack thereof), and savings for future retirement. Ask yourself if you are willing to pay this price, he recommends. One element of your mindset that you need to change as you transition from PhD student to working in the industry, is that you go from delaying gratification (which can help you push through to the completion of your paper or

dissertation) to embracing it: now you can have a family, buy and furnish a home, go on a holiday, and pay off debts. Factor in these elements when you negotiate a good salary and benefits package, and adopt a professional attitude. Learn to empower yourself economically, he advises.

13.7 Some Advice for Female PhDs

While female PhDs are not the only underrepresented group in academia, we will here focus on tips for female PhDs. The general ideas are valid for other underrepresented groups, whereas the discussion on how to deal with the two-body problem is typical for couples in academic careers [20].

For couples in academic careers, going abroad or finding employment in the same city or country may be a challenge. You can opt to have a long-distance relationship for a certain time during your academic career, but if you want to build a life together and start a family, that option may not be the best choice for you. You may need to pass on better opportunities and offers for the sake of your relationship or family, or change career path altogether. Think about the different options you have, and make an informed decision, weighing all of life's aspects. If going abroad is not an option for you at a certain point, you can still go for a short-term visit to a lab or research group you work with abroad. You can use conference travel to build your international network. The international members in your thesis committee can help you make contacts abroad without you needing to move. You can also opt to attend a course at another university or a summer school. Just keep in mind that the odds that you can build up an academic career are low, in every country, and if both of you want the same type of career, the odds are reduced even further. Remember that there are plenty of career paths outside of academia, and that your academic training can be of benefit to different career paths.

I also often get questions on how to combine a career in science or academia with a family. As some women remark, it is odd that nobody ever asks this question to a man. For women, the added complexity is that pregnancy and childbirth are simply physically and emotionally demanding, and that some programs do not allow women extra time on the tenure-track to compensate for the time "lost" during pregnancy and while raising a newborn [21]. Sometimes, young PhD students or aspiring PhD students ask me when is the right time to have children. My answer usually is that it depends on where you are in your relationship. Deciding to start a family should be a choice you and your partner make together, and not a choice that is made as a function of your career. With that said, considering the current regulations, having a child during the PhD or after getting tenure are better solutions that during the tenure-track, at least in the Netherlands. During the tenure-track, no extra time is given for pregnancy and raising a newborn child, while during the PhD trajectory extra time is given. Waiting until you have tenure is another option, but may require you to have children later in life, which can increase the risk of complications. In general, a career in science or academia is not harder to combine with a

family than any other career. The added travel may be difficult on young parents. Some universities may be more forward-thinking in helping out parents (for example, having affordable day-care at the university).

For those of us who are female PhDs in a male-dominated field and stick out like a sore thumb, learning to live with the gender bias is daily reality [22–25]. The short story is: if you stick around long enough and make your contributions to your research field, eventually you will get some respect. You may still have people ask you for directions to the bathroom or for free pens, but some colleagues will eventually treat you as a colleague instead of a martian. Even though you will always have a share of rejected papers, missed opportunities, missed recognitions, and collaborations that you have been passed by for, you can do a few things to make the experience more pleasant:

- **Don't feed the trolls:** At every stage of our career, there will be trolls and haters and naysayers. You'll be watched more closely than your male colleagues, and judged based on random things like your clothing and hair. And while I'm the last person to say I've never been offended or shocked or outraged by certain comments, I have also learned that worrying and getting angry is not going to get you anywhere. Acknowledge that it is a hater's comment, accept how you feel about it, and then move on and prove them wrong.
- **Build a community and network:** Women are bad at networking, "they" say. While I generally think that dividing humans in "women do this" and "men do that" is overrated anyway, I think there are simply different networking styles. As an introvert, I personally am not the type of person to barge into people and wave my business card in front of their nose. But I genuinely care about the work of other people, and I enjoy a good research discussion like any other researcher. Your way of building a network could be different from mine, or similar, but it doesn't matter – as long as you find a way to connect to other researchers, you will be building up a community of like-minded (or like-interested) researchers. You don't need to suit up and shake hands all the time to build a network. You can have one-on-one conversations with other researchers at conferences. If you need a starting point, just ask someone who looks a bit lost what brought him/her to the conference and what he/she is working on. You can use online tools to reach out to other researchers and share information, if traveling to conferences is not an option for you. There are plenty of ways to get in touch with fellow scholars – just make sure you devote some time and energy to reaching out and building your community.
- **Find ways to reach out:** Similar to networking with fellow researchers in your field, find ways that work for you to reach out to fellow scholars (across disciplines), the industry, and the broader public. How about starting a blog about your research (see Chap. 9 for more information), or contact the organizer of a science podcast to talk about your work? How do you feel about writing a guest post for an existing blog, if the idea of maintaining a blog by yourself seems too time-consuming? In which medium does your voice resonate? Find your voice, and don't be afraid of letting it sound.

- **Volunteer:** Along with different styles of building community come different styles of contributing. If you tend to be quiet in meetings, and only speak a few sentences if you have an opinion that needs to be voiced, because your working style is more quiet focus on contributing with writing or compiling data. Find your way to contribute by volunteering when work needs to be done. Yes, your research and papers are important, and need a lot of your time, but showing up and doing work in different communities (university committees, technical committees, organizing events for your research group) will help you develop skills you need in your future career. Don't be shy. Raise your hand.
- **Don't drop the ball:** Not to worsen anybody's perfectionism here, but don't drop the ball on work you take on. If you raise your hand, make sure you can deliver on time. So while this advice might sound as if you have to work double as hard to show that you are a legit researcher, I think a lot comes down to managing your time and making smart choices. If you receive work, or a request to contribute to your scientific society, have a look at your planner, reserve some time for it where you can, and then communicate when you will be able to deliver. You'll build a favorable reputation this way.
- **Critique your own biases:** When you think a female researcher comes along as uncertain because of the higher pitch of her voice, immature, poorly dressed or whatever thought might pop into your head, acknowledge your cultural conditioning. And then send it to Pluto. The times won't change if women themselves get stuck in thinking poorly about other women.
- **Pay it forward:** Pay it forward and help the careers of fellow female researchers (or other minorities in the research community). If you're asked to suggest reviewers, see if you can bring some diversity in your nominations. If you see a female student doubting her abilities, talk to her. If you see a female graduate student doubting about whether or not she is PhD material, address her concerns. In the end, our research communities will function better if we can get all talent aboard, and if nobody falls off the wagon for not being the "right" gender or race.

For an interesting study on gender differences in standardized administration systems, refer to this research on the progress report [26].

13.8 Going Abroad as an Academic

13.8.1 The International Job Market

If you want to stay in academia, it is likely that you will need to move to another place. If moving to another place is not the right choice for you, don't spend too much time thinking about what your career would look like if you didn't have the restraints that keep you in one place. You can do great work wherever you are located, and whatever your career choice. Going into industry does not mean that you can't contribute to your field anymore – plenty of service appointments such as

committee memberships are open to people from academia, industry, and the government. Find a career that satisfies you, but that also fits into your life.

With that said, if you want to explore the international job market, and this choice fits your current life, this paragraph is for you. Simply applying to positions in exotic countries, or applying to positions that are advertised on the other side of the Atlantic may be a long shot, just as reacting to any job posting online can be a long shot. If you want to go abroad, talk to people who can give you the right information. Talk to your supervisor about the fact that you want to stay in academia and are willing to move internationally, so he/she can keep his/her eyes and ears open for opportunities for you, talk to players in his/her network about helping you find a post-doc position or other academic position, and support you along the process.

For the international job market, there is a large difference between developing countries and developed countries. In developing countries, the higher education sector is growing rapidly, and larger numbers of job openings are available, especially for recent PhD graduates. Talk to fellow academics from developing countries to see how the higher education policies are changing in their home countries. In Ecuador, for example, the government determined that the number of professors with PhDs should increase drastically. Younger professors with only a bachelor's degree have been stimulated to go abroad to get their master's and doctorate. Ecuadorians with a higher education degree were offered an attractive package (including tax-free importation of personal belongings) to return home. Foreigners with PhDs were hired or given government scholarships to come work for a few years. Other countries that decide to invest heavily in higher education can have similar programs. Another example is the Gulf region, where the demand for PhD graduates to work in academia is high too [27].

In developed countries, the academic job market is more stagnant. Chances of landing a position by applying to a job opening are rather small, with sometimes 200 applicants or more for a single position. Here, you will need to use your network and contacts more than anything – not to make sure you are the person who gets that opening, but by informing very well about the possibilities, and actively trying to create your own opportunities. Don't focus only on regular openings. Other openings can be based on obtaining funding or by applying to scholarships for minorities. You can apply for personal grants that can be for example projects funded through the European Union. If you can work together with an international partner on securing funding for a project, you are actively working towards getting hired. If you are willing to move internationally, make sure you mention this to colleagues internationally. Don't pressure anybody into finding a job for you; just mention that you are about to graduate and inform about possible openings at their institution and in their country, or funding opportunities, so that you can get a better view of your possibilities. Keep an open mind, keep exploring possibilities, and start informing early on.

13.8.2 Academic Nomadism

Life in academia can take you from one temporary contract in country A to another challenge in country B, with stops for fieldwork in countries C and D and maybe a few months as a visiting scholar in country E. Most young academics are hired for a period of two to four years, prior to landing a tenure-track position, depending on the type of work that they might do. You can call this string of post-docs and other short contracts a modern form of nomadism, lived by a tribe of academic nomads [28]. When starting a PhD, most of us may not be expecting that we will end up living this ever-changing and ever-traveling lifestyle.

But then you get bitten by the research virus, and before you realize it, you are boxing up your life again and preparing to move. It's not uncommon for fellow academics to move from continent to continent, while amassing scholarships, joining international projects, or getting short-term contracts. I too have lived in four different countries now, moving between universities as the opportunities arose. I've donated bags full of things I could not take with me to different charities along the way, and have gone through the fun cycle of culture shock every time I moved. My original ambition was to get a job at the precast concrete company in my little hometown, but life took me on a different path. Before you know it, your love for research takes you by the hand and turns you into a nomad. If you are ready to go the nomad route, here are some tips for making your moves slightly more practical:

- **Go digital:** Books are heavy when you box up your belongings, so to avoid having to move by container all the time, try to buy as many books in digital form as you can. Similarly, get your music as digital files, scan your important notes, and go paperless. Make syncing a breeze by having as much files as possible in the cloud.
- **Fly with the same airline:** As an academic nomad, you will be flying a lot. Pick an airline, and be loyal to them in return for getting miles. Mileage status will give you extra perks over time, which will make international travel a bit less stressful and a bit more practical, and you can turn your miles in for a free flight.
- **Sort out your clutter:** Unless you want to keep a room filled with boxes in your parents' house "until you get a tenured position in your home country", you will need to sort through all your stuff and get rid of what you don't need anymore. Bring used but still functioning things to a charity, give stuff away to your friends and family if they can use them, and trash or recycle what nobody wants anymore.
- **Identify a few items that you value:** Even though hardcore minimalists disagree, I recommend you to have a couple of items that you cling to, and that you use to make your new place truly feel like your home. I have a number of totally random items, including my childhood teddy bear (a teddy raccoon actually), favorite tea mug, two sets of matryoshka dolls, and my cat that I drag along wherever I go. These little things just make me feel more comfortable wherever I try to settle for a little while.

- **Embrace the best of every country:** If you move, you get a culture shock. That's the plain truth, and it takes time to adapt. Every new start is difficult. But in order to overcome the I-hate-this-place phase, you'll have to learn to find the best in every country. Go out and explore the natural beauty of your new place, visit local festivities and events, and try to bond with the locals. Join activities outside of work, or meetup groups. Before you realize, you'll have yet another country that you'll miss when you're not there.

13.8.3 Challenges of Working at Different Institutions

One category within the academic nomads, are those of us who combine positions at different institutions, sometimes divided over different continents [29]. This combination is a popular choice for those academics that find a full-time position in a developing country, and then use their summer semesters for research as a visiting scholar in a developed country, or that have a part-time position at another institution for research purposes. While this method of working certainly has its advantages, it also poses quite some challenges for those of us who decide to take this path. Besides the complicated paperwork related to taxes and health insurance (in short: you'll just end up paying double everywhere), working across institutions and time zones also poses unique challenges to your research, yourself, and your family. The main question is how you can best streamline the process of dividing time between two parts of the world, knowing that you can never "pause" one job to work on another one. You will need to get a good hold of your planning in order to make it work, and to make sure you move projects for both institutions forward at a steady pace.

The first challenge is of course having access to your documents. A number of books I gathered over the years are not digital, and it has happened that I want to look up something, only to realize that the book I need is boxed up in another continent. Therefore, I recommend all academic nomads to get as much information as possible in digital form. Even if you buy a physical book, consider scanning the book for your records.

The second challenge may be your commute. You may be combining two positions that are within commuting distance of your one home, or you may be working across continents and only be able to shuttle back and forth a few times a year, staying at different places for an extended period of time, and perhaps needing to have a home in different countries. The advantage of extended periods of time at different places is that you will be able to bulk up time to move projects forward.

If you end up working across institutions, perhaps across continents, the following ideas can be helpful:

- **Go digital:** We already discussed the importance of having your documents digital, and preferably in the cloud when we talked about academic nomadism, and this advice becomes even more important when you work across institutions and

continents. Keep all your references digital and accessible through a digital reference management system. Try to go paperless as much as possible. Invest in cloud space for storing all your documents: external hard drives don't like traveling around too much, and the panic you feel when your external hard drive starts to behave in a strange way is not something you need in your life.

- **Be flexible:** There will always be a fire in one institution while you are at the other one. Make peace with the fact that you can't clone yourself to have one of you in both places. If you are trying to keep a personal life and work life up and running on two continents, you simply can't be at both places at the same time. You will miss major events on both sides because you happen to be in place X and something major happens in place Y. This frustration is part of your choice to combine both jobs, so don't blame yourself for missing out.
- **Enjoy the best of both worlds:** Look up the bright side and try to enjoy the best of both worlds sequentially. Indulge in the best parts of one continent or institution while you are there, only to dive into the things you've missed from the other one once you return. The downside is that you'll always miss things about another country and place when you are not there, and that you will never really know what or where home is. Nonetheless, if you think about how cultural values of different places shape your experience, you appreciate how you can take some lessons from every place where you live and apply these into your own life, questioning things you may have never questioned before.

13.8.4 Initiating International Collaborations

If you have landed in one institution (at least for some time), that does not mean your collaborations for research should be limited to this institution, perhaps extended with the contacts you have from the institution where you obtained your PhD. Once you are graduated with your PhD and working in academia, it is time to establish yourself as an independent researcher, and start working with colleagues from different institutions. Here are different ways to initiate international collaborations:

- **Reach out to colleagues:** The colleagues you've met several times at conferences over the past years and had good talks with are potential collaborators. If you have a chance to talk to one of your colleagues at a conference, propose to work on a topic together. Don't be vague, but propose a topic that is of your mutual interest, that combines both your skills. Make sure you've read some of the work of your potential collaborator, so that you have a good grasp of what he/she has been working on recently. If you want to start small, propose to write a conference paper on a certain topic first, and then see where the results take you. If the collaboration is pleasant, you can consider applying for funding for a joint project.
- **Reach out after reading a paper:** If you've read an interesting paper, go ahead and reach out to the author to ask further questions. If the author proposes an interesting method, you can ask for supplementary material and suggest to

implement this method to your results, and develop a publication together. You'd be surprised how often fellow researchers react enthusiastically. Don't feel disappointed if the author gets back to you making it clear that he/she does not want to share additional thoughts and insights on the topic – if that's the attitude of this person, you won't have a good collaboration anyway.

- **Service appointments:** An excellent way of starting international collaborations is through service appointments, and in particular through technical committees. As technical committees develop technical documents, you get the opportunity to publish these documents either as committee documents, or by working in smaller task groups. If you are in your early career, don't let an opportunity slide to work on technical documents (provided that you have the time, and can deliver what you promised). Working in technical committees also gives you an opportunity to interact with colleagues from different institutions directly.
- **Apply for funding with colleagues:** If you have a colleague at a different institution with whom you've worked previously on a smaller project (eg. a conference paper), or have worked together through a technical committee, and you know your working styles are compatible, you may consider applying for funding together. You can apply for example for a European Union project (depending on where you are based), for which international collaborations are encouraged, or you can apply for special grants that encourage international collaboration (inform within your institution about the possibilities). Working together on a larger project with funding will require some trips back and forth, which will intensify your working relationship.
- **Jointly supervise students:** If funding is not an option, but your university offers exchange programs for your students (for example, to go do their bachelor's thesis at another institution), you can work together by supervising a student jointly. You can propose a topic that is of mutual interest, find a student interested in the topic, and then send the student for a few months to your colleague to work there. You can then decide to write the thesis in the form of a jointly written paper, or develop a paper later on from the thesis or project (depending on the requirements of your institution for the student's graduation).

13.9 Summary

In this chapter, we discussed the possibilities for your career after you graduate from your PhD program. The first topic we discussed is what to do after you defend your thesis and obtain your doctoral title. You need to give yourself some time to let it all sink in, and if possible, find a way to celebrate your success by doing something special.

There are plenty career options out there, and whenever you consider an option, you should check if it fits into your life. Will you have to move away from your family? Is this career option something that can be combined with your partner's career (if relevant)? Does this career choice influence your children (if any)? Consider how

your career choice would affect your life, and see if this choice would make you happy and functioning properly in your career. This chapter gave you a list with examples of career options, inside and outside academia, to consider when you want to figure out which career path would suit you. For those of us going into the industry or trying to find a post-doc position in a field remotely related to yours, we have discussed how you can show employers the unique value of your academic skills. The key here is not to simply trust that your doctor's title will open all doors for you, but to actively show potential employers what you can bring to the table with your unique skill set, and why your years in academia were valuable.

We discussed the essential elements for success in academia, where you need to develop your voice and identity as an independent scholar after many years of working under the tutelage of your supervisor. We looked at strategies to move into a faculty position after being a PhD student, and how to find your place in the research world. As stressed many times before in this book, the importance of planning to balance all tasks is highlighted again. Similarly, we devoted a subchapter to tips for success in the industry, based on the experience of PhD graduates who made a successful move to the industry. The advice section is finalized with a section especially for female PhDs and minority PhDs, as they are still underrepresented in academia.

The final topic of this chapter looked at the challenges of an international academic career, hopping from one short-term contract to another funding opportunity. This lifestyle can take its toll on yourself and your family, so think through your options before you become alienated of everybody and everything you love. If you do decide to proceed into the lifestyle of the academic nomads, you will need to keep certain practical details in mind, as you will often be throwing away excess stuff and boxing up the rest. Going digital is the key to success when moving abroad, and becomes even more crucial if you work at several institutions simultaneously (perhaps located in different continents). The last element of going abroad as an academic deals with the topic of international collaborations, and how to initiate projects and authorship opportunities with colleagues at other institutions.

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