The Mid-Graduate School Transition from Student to Researcher

(This content of this document is largely taken from a document on Purdue's philosophy department website written by Prof. Daniel Kelly, trimmed and slightly modified to be relevant for EAPS. We thank Prof. Kelly for creating these resources and sharing them publicly!)

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Where am I? Halfway There

The middle couple of years of graduate school can be especially disorienting. They can be very thrilling, as you slowly gain more freedom over more aspects of your own education and research agenda. This is great! But also! The flip side is that a new set of challenges and more abstract pressures begin to assert themselves, and it is not uncommon for graduate students to flounder a bit in their initial attempts at handling them. This document is designed to provide a sense of the lay of the land around the transition, along with some useful ways to think about it. You likely already have some of these in hand, and will continue to build up your repertoire of tricks and guidelines, adjusting as you go. But keep in mind that beginnings are important, and that the habits you are developing during this early stage—from reading, to taking notes, to developing a writing practice, to managing multiple projects at the same time, to maintaining your emotional equilibrium—will serve as the platform you'll have to work with as you move into subsequent stages of your career beyond graduate school. Enjoy the process, and give it some explicit thought, too.

The main pitfalls here tend to be interconnected, but some of the most recognizable facets include losing forward momentum towards the distant goal of finishing and defending a dissertation; getting overwhelmed by an ever-increasing amount of information; becoming socially isolated and then stuck, unproductively, in your own head; being unable to find a stable, sustainable, or feasible work/life balance; and facing mental health challenges that are exacerbated by any or all of the preceding. There are several factors responsible for this, but a great many of them stem from changes in the way your time and energy get structured, and where the structure is coming from. Spoiler alert: more and more it will come from you.

You probably noticed that the first couple of years of graduate school are not all that different from earlier stages of education: as a student you have some constraints on the distribution of classes you have to take, you choose among the available options given those constraints. Then in each class you have a syllabus with a reading list and a set of deadlines and assignments all dictated to you. To

succeed, what you have to do is largely follow the recipe that someone else came up with. As you proceed forward, these kinds of externally imposed benchmarks slowly start to thin out. This, in turn, opens up more space for personal decisions about what to read, when to write, how much time to spend sharing work and talking over nascent ideas with others (in person, over social media or email), and generally how to spend your time each day.

This shift does not happen immediately or all at once. You have more autonomy in choosing your own pathway in graduate school than you did as an undergraduate. And here at Purdue, once you are done with most course requirements, you move on to the next program-imposed benchmark: the preliminary exam. The day-to-day details of how you get ready for the exam are up to you, but the requirement itself is still part of an externally-imposed sequence of requirements.

Once you pass that, you move onto the next stage, which has even less externally-imposed structure and so gives you more degrees of freedom in how to move through it. This is even more liberating, but it can be even more daunting, especially given the massive-seeming task that awaits: writing the thesis. And while there are occasional checkpoints and the like, it is common that your advisor will not be looking over your shoulder very often to keep you on track, making sure you are making progress on a day-to-day basis. You are now much more the captain of your own ship; its final destination is more of your choosing, and much farther off.

Developing a Work Routine and Toolkit

The upshot of all this, the falling away of lots of fine-grained and externally-imposed incentives and requirements, is that you've got more personal freedom in how to arrange the day-to-day details of your time. It's not total. The arrival of this flexibility and individual autonomy is, as always, accompanied by other kinds of burdens and constraints, and a host of decisions that are now yours to make. But you do not have to make them alone.

People

At this point in particular, your thesis committee becomes more important. Moreover, your relationship with your **advisor** in particular becomes one of the most, if not the single most, crucial factor in how the next couple of steps of your journey will unfold. If it helps, you can think of this stage as leaving behind the segment of your time in graduate school when you are a student in a program, and beginning the part when you are entering something closer to an **apprenticeship**.

Some of the most important things a good advisor will do concern orienting you into the profession and its mechanics and norms and pathways of influence, and communicating to you a host of other informal career-relevant information that you may not even know to *ask* about, let alone know about. Don't underestimate this. This thing we do is a weird thing, and individualized mentoring is much more important than many of us realized going into it. Advisors will also help you to think of yourself, and give you the tools to act, as a more active and independent participant in the scientific community. Institutions and programs are important for this, but a lot of the machinery of the program falls away right when are in the midst of this transition.

And so your committee—and especially this one relationship—takes on an amplified significance. It can really make or break your experience in graduate school and where you go afterwards. Some advisors will be chatty and available, while some will be remote and less accessible. Some will hold your hand and make you re-write chapters seven times, while others will more or less skim the thesis

when it's done and say, "nice job!" Try to be honest with yourself and with your advisor about your questions, concerns, hang-ups etc., so that they can get a chance to know you better and help you more. Be talking to others on your committee (and beyond!) as well, and develop a sense of who is good for different kinds of tasks and feedback: creative brainstorms, logic chopping analysis, suggestions about things to read, strategic thinking about publishing and professional maneuvering, etc. In all these areas, a huge part of receiving good tailored mentorship is knowing what you need, asking for it, and just being open to being mentored. Be proactive! Be coachable!

Structuring Your Time

You will now have more time on your hands, and there is no one-size-fits-all recipe for success on how best to organize it. Regardless of how you choose to do it, you should be reflective and thoughtful about the fact that you're continuing to build up important habits. Your daily life is your temple, so build it well, and personalize it to your own predilections, strengths, and weaknesses. Feel your way into and/or try to formulate *ex ante* some workable constraints and rules and routines, figure out a reading list and production schedule that will get you where you want to go and keep you reasonable happy while getting there. Then once you've got a plan, maybe think about how to build some flexibility into it for when life happens, as it occasionally, inevitably will. Consider also how you're going to motivate yourself to follow it—thinking up a reasonable game plan is one thing, figuring out how to make sure your future self sticks to it is a horse of a different feather. Especially in the early stages, a little R&D and trial and error are great.

Understanding this also means understanding that there will be errors. Of course there will be. Try to refrain from interpreting missteps as evidence that you are not cut out for this. Here and in general, actually. If you've gotten this far, you've obviously got promise, and you may be very used to academic success but not very used to academic struggle. But of course the further you go, the more difficult it gets. Disappointments and setbacks certainly don't mean you're an imposter; they are an unavoidable part of the long haul. This is hard; you are still learning; no career is an uninterrupted sequence of victories. Try to learn from mistakes and failures. Take time to gather yourself, process it, do any course-correcting that might be warranted, and when you're ready get back after it. Know that as you go, tinkering with, settling into, and committing to a good routine that is stable and sustainable and that works for you will be invaluable.

Reading

Not only is the prospect of writing a thesis more than a little nerve-wracking, but when I was in graduate school I remember initially being pretty intimidated when other people would make vague appeals to "The Literature" (it always sounded capitalized to me), as if it was some large, amorphous and vaguely mythical entity that I would soon have to confront and do battle with. In retrospect, a better framing would have been to think of it as something like a big playground of ideas that I was about to get turned loose in to explore and help extend.

The two—the thesis and The Literature—are connected, of course. The condition of adequacy for an acceptable thesis is sometimes described as "making a significant contribution to the literature". And so again developing a strategy for how deal with The Literature will be useful. Luckily, there is not really one single, big The Literature; rather, there are lots of "the literature on X"'s.

Again, there is no single one-sized-fits-all, best way to do this. Some of the main, and maybe novel, challenges stem from the scope of what is now *potentially* relevant, and are thus challenges of

information management, and of how to allocate your limited bandwidth in smart and efficient ways. A big part of what you need to do to execute a dissertation project is figure out the lay of the conceptual landscape around your X: get a grip on how different papers and authors are in dialogue with each other, what the key issues and debates are, which papers are seminal, and which ones are marginal but good and deserve more uptake, and which are marginal because they're bad or otherwise not worth your time. Maybe your guiding question here is this: how can you best sort through and find and identify as such the stuff that is relevant to the kind of project you want to do? Here are some suggestions:

- Familiarize yourself with websites like GoogleScholar and ResearchGate, and learn how to sort through and extract information from the way they make it available.
- Think about the different **levels of engagement** you might have with different papers. Here are some of what works for me:
    1) Awareness Of:
        - I know that it exists, its title, author, and year of publication
        - At this point if it comes to my attention—from, say, a google alert—and I remember it I usually also thereby know its basic topic and what line of inquiry or research or debate it's a part of.
    2) Basic Idea:
        - I've read the abstract, and maybe skimmed a few sections.
        - I have a grasp of the main conclusions and sense of the central contours of how it goes about arguing for them, who else's work it's drawing on and engaging with.
            - There is often a big choice point here: does this paper seem like it's worth spending my limited time and energy giving it a Full Read? And if so, where does it go on the queue of stuff I want to give the Full Read treatment to? What priority does it have?
    3) Full Read
        - For me the Full Read involves interacting with the paper: highlighting parts, scribbling notes to myself in the margins, drawing arrows between parts of it to make structure and connections explicit.
    4) Maximum Engagement
        - Level 3, plus then also copying out key sections of text and writing out in more detail what I think about them, how they connect up to other stuff I've got on my mind. Sometimes this also involves writing effusive or ranting emails about the paper to friends, or if the paper is really interesting maybe suggesting it for a reading group session.
        - Usually when I do any of this, I want to not just be able to think *about* the content of the paper, but I want to upload it into my own personal head so I can assimilate it, and easily think *with* some of the ideas in the paper.
- Along similar lines, figuring out a life-long filing/note-taking/bibliographical system that works for you will be crucial, and the sooner the better
    1) Many people swear by citation software like Papers or Endnotes or Zotero; one of those might be worth an investment for you.
    2) Many people like to make annotated bibliographies on their own, which also have lots of benefits.
    3) Many people swear by note-taking apps on iPad such as Notability, or even just Adobe Acrobat.

    - Purdue gives you free access to Microsoft OneNote
4) Globally, I've found having systems of nested folders very useful to have on my hard drive. And those are mostly all Dropbox at this point, so I can access things easily at different pieces of hardware. Nested folders in my email boxes have helped, too, actually. These are useful in exactly the ways you'd expect: less effort finding stuff when I need it down the line. And it may not seem like it now, but *this matters*. You're going to be trying to keep track of more and more stuff the further along you get.
5) Locally, you might try to get in the habit of naming documents something systematic, maximally informative, and uniquely individuating. My recipe is: LastNameofLeadAuthor/Title/Year, which yields documents like: "KellyPHIL110EthicsLectureNotesFull2017.docx" or "IsmaelOnBeingSomeOne2014.pdf". This makes documents easily searchable by name if I forget where I stored them, and makes it easier to identify what the document is at a glance, i.e. without having to open it. If you send it off, other people can tell what it is at a glance too.
    - Compare these more informative names with something like "CurrentCV.docx". The latter might be descriptive enough to distinguish it from other stuff in the local environment of your own hard drive, though "Current" obviously has a pretty limited shelf life.
    - But once you start sending it to other people it's not very helpful (who's CV? from when?), which adds a small but extra degree of difficulty for everyone who has to deal with it, and we're all managing an ever-growing amount of information, and whoo boy do all of those individually small extra steps accumulate into non-trivial chunks of time and frustration.

Writing

"Try to get on a regular writing schedule" is probably good advice, but put like that it's about as useful as "buy low, sell high." So you'll have to operationalize it for yourself. Maybe that's an hour each morning. Maybe it's a couple of hours in the afternoons when you aren't depleted from teaching earlier in the day. Maybe you're a night owl and do your best stuff when the rest of the world is asleep. Figure out and do whatever works best for you.

It will help to have a couple different grades of what counts as "writing" in mind. Sometimes writing is mapping out and outlining the structure of a paper you're conceiving. Sometimes writing is generating a first draft of a paper. Sometimes writing is fine-tuning, putting down another layer of polish on a completed draft. Sometimes it's writing down the thoughts you had while mulling on a recent paper/talk/conversation that you want to reflect on a little more thoroughly.

Sometimes writing isn't quite as goal-oriented as any of this, and is just shooting an espresso or sipping a chardonnay and writing down whatever bubbles up into your noggin. This often takes the form of getting clear on whatever thoughts have been flitting around the edges of your consciousness for a while, that you want to grab ahold of and get crystalized and down on paper somewhere before they disappear back into oblivion. Get those ideas out of your head and into the world, onto the page. It might help to think of what you get down there as raw material or source code. You can sift through it later for recurrent and useful stuff, maybe promote the good ideas further up the production line, to the stage of expressing and organizing them in such a way that they can serve as thesis pages or publication material.

- For some granular and directive advice, many people have found useful guidance in Silvia's How to Write a Lot: A Practical Guide to Productive Academic Writing.
- Will writing still be fun, even though it's work now? Here's a good and interesting case for yes, even though it becomes fun in a different way. The little essay is about fiction rather than scientific writing, but I've found that a lot of the points transfer pretty well.
- To help with the fun, you might create or be on the lookout for someone to enter into a low stakes buddy system with, for commiseration and encouragement, someone to compare notes with and do reciprocal accountability on the process of churning out pages. Or join or form a writing collective with a couple of other thesis writers. It is easy to slide into seeing other scientists as the competition, but it is much healthier and more productive and more enjoyable to think of them as parts of a support network of friends, fellow travelers, rare members of the same tribe, people who share your passion for ideas and can help you develop your own, and for whom you can return the favor. They don't have to be earth scientists, or even at Purdue—you can email and zoom and everything now! You can find announcements for these kinds of dissertation writing groups, too. A brain trust of fellow thinkers can also help you avoid some common pitfalls: getting overwhelmed, isolated, or stuck in maximization spirals making The Perfect the enemy of The Good, etc.

Mental Health

The challenges here are less about academia per se, but the transition from student to researcher has some elements that put people more at risk of suffering various forms of mental distress. Completing coursework removes some of the incentives and opportunities to just interact with other people, and being dedicated to your own research requires more solitude than before. This is well and good, but can tip into unhealthy social isolation. Indeed, despite everyone's best intentions, this happens all the time. Sticking to a production schedule that you've set for yourself can involve some uncomfortable mental gymnastics having to do with holding your*self* accountable. Acting as your own rule-enforcing drill sergeant gets abstract and weird, and can also easily morph into creepy shame spirals and paralyzing self-loathing. A thesis will be one of the largest projects you've undertaken so far in your life, and some days it will seem horizon-blottingly big and looming and unwieldy and difficult to ever get out from underneath without a beer or three. At some point you will feel stuck or burned out, and the whole endeavor will seem a little hopeless.

If you have experienced, or in the future do experience any of this kind oflanguishing, be assured that it does not mean that you are defective or bad or doing it wrong. There is individual variation in disposition and circumstance to be sure, but know that these are all quite **normal occupational hazards**. Here again, the challenges can be managed more or less effectively. Also once again, there is no single ideal way to handle them. But it is important for you to be aware of the character of these common and pesky demons, and to piece together a game plan that works for you to fend them off. Some more suggestions, cobbled together from experience and many, many conversations.

Be gentle with yourself. Have **reasonable expectations** of yourself. Work hard! But also remember that quality bandwidth and research power is a limited resource. Depending on your relationship with caffeine, you've probably got, on average, about 5-6 good scientifically creative brain hours a day, maybe a few more hours of lower quality attention that can be used to do administrative/email/grading/bureaucratic stuff. So: don't saddle yourself with impossible to satisfy expectations. You're just not gonna consistently knock out 10-hour days of good work. That's okay; this is a marathon, not a sprint. But if you set unrealistically high standards, when you inevitably fail

to meet them you'll feel like a failure, and small bouts of nagging guilt can all too easily metastasize into completely unwarranted but still very harrowing bouts of shame, anxiety, despair, and all the other things we're all trying to avoid.

So it will help to be mindful of the economics of your own attention and **bandwidth budget**, and to get strategic about how you're spending these daily bundles of mental firepower. Figure out what works for you. Many of us find that teaching and prepping for teaching—at least the first time teaching something—draw on this same limited cognitive resource, and require the same high-quality bandwidth that actual scientific research does, rather than the lower-quality bandwidth that's good for admin/grading stuff. Another common thought: a three-hour continuous chunk of research is often considerably more valuable than three, separate one-hour chunks. Carving out and then protecting these big chunks from intrusion and distraction becomes crucial. Do with these observations what you will. Come up with some of your own. Calibrate guidelines that fit your personal tendencies and situation.

A similar point is that it will be helpful to get more mindful of what you do when you're not working, and to be on guard against **work creep**. Take steps to ensure that your thesis and research don't completely colonize your brain, crowd out everything else in your life, and burn you out. Maybe science and the pursuit of wisdom are high on the list of things that make life worth living, but they certainly aren't the only things. Some strategies to protect against work creep are straightforwardly structural. Maybe you make a Command Decision that weekends will be real weekends, and work will be strictly off limits. Maybe you commit to taking your dog on a substantial walk after lunch set your mind free to wander.

Others strategies are more existential. For example, you might get yourself an opinion about the gnomic little expression that the mind is a wonderful servant but a terrible master. Here's one: a recognizable thing that can happen to a person going through graduate school is that a particular part of their already pretty hyperactive mind gets turbocharged, and shaped into a **powerful analytic homunculus**, a thing that becomes more refined, sure, but also more voracious. Assuming something like this happens to you, it is likely to set you apart from normal human citizens, even more so than whatever led you to pursue graduate work in the first place. Left to its own devices, this hungry beast in your head is liable to fasten onto and go to town on whatever it finds in front it. If nothing immediately presents itself, it will also have the impetus to search out something, anything, to fixate and gnaw on.

Another observation, to do with as you like: if you find something like this happening to you, it will almost certainly go better for both you and for the people in your life if you learn how to bring this ravenous, ornery beast to heel, rather than remain at its mercy. Exerting control over it doesn't always come naturally, especially if you, like a lot of us do, already strongly identify with that critical, analytic part of yourself. But it's not all of you, and one time tested strategy for taming it involves cultivating a different family of psychological skills: things that go under headings like self-awareness, empathy, and emotional literacy and intelligence—that elusive Delphic "know thyself". Developing all this can make it easier to keep track of and manage and be kind to that whole self of yours. It can also help lessen the strain on friends, loved ones, and other citizens in your life who are trying to maintain a normal human relationship with someone who has **science brain** (you). For example, one common symptom of that is a budding compulsion to try to counterexample any statement you hear anyone make; consider resisting that urge. This critical facility is a cool, formidable thing, but it can be unruly, too, and you will want to be sure you can use your newly supersized analytic chops for your own good and intentional purposes. You may also want to develop the wherewithal to, if not

turn the thing off completely, at least keep it from wreaking havoc. One good way to do that is to have outlets, premeditated occasions on which to direct the voraciousness towards something that will satiate and calm it down a bit. Whatever else you do, have some strategies to help ensure that you don't end up being dragged along behind what can seem like a high powered, out of control buzz saw that is just flailing around, running roughshod through your life.

And however you try to keep a grip on that part of yourself, consider having things in your daily and weekly and monthly routine that recharge, replenish, nourish **all** the other parts too. Striking a good balance here is a constant negotiation, but be thinking about it and making adjustments as needed. Do yourself a huge favor and get enough sleep. Other activities that don't involve staring at a screen will be useful to have in the mix, too. Allow yourself to have some fun; stay social; cultivate good friendships and healthy acquaintances; consider putting some distance between yourself and people who are toxic (you have the hiring and firing power for who is a part of your life!) It will also be important to keep alive the aspects of yourself that aren't professional scientist-based for reasons that are important now and will become maybe even more important down the road. Those other interests will be central to the kinds of the inner resources you'll need to transcend the goals that you're currently devoting your life to achieving.

As for specifics, I have long been a True Believer in the value of physical activity for keeping myself sane and grounded. Physical health, sure, but it's maybe even more crucial to my **headspace hygiene**. But again, figure out and do whatever works for you: get immersed in art projects, volunteer for a local cause, connect with nature, do yoga, sing in the choir, disk golf, read all the novels, go nuts at the gym, get your Dungeon Master on, take up a musical instrument, build intricate Lego constructions, go see lots of local live music, get into Civil War reenactments, meditate, etc. Blow out the lines every now and then. Also remember that blowing them out too hard or too often will be corrosive to the lines themselves, and you're gonna need those. The point, again, is to be clear-headed about all this stuff. Bring some awareness and thought to creating an acceptable life and a useful overview of it, so that you can keep track of the ebb and flow of your attention and energy and emotional makeup. Be strategically savvy in how you're going to keep yourself balanced and healthy and sane and invigorated in your pursuits, of a PhD, of wisdom, of happiness, or even just a bit of chill. I wish you way more than luck.

Final comment: It is entirely possible that taking on board many of these suggestions, especially about mental health, may not be enough. Pursuing a PhD is a demanding thing, and staying after it will push you to your limits. You will likely confront parts of yourself you have not encountered before. You may experience difficult feelings that are new, or that you were able to deal with more easily in the past. I mentioned above that there is individual variation in disposition and circumstance, and it's important to acknowledge that some variants can be more recalcitrant and difficult to manage that others. And so it's entirely possible that while you are in graduate school you will greatly benefit from some professional help and medication to stay mentally healthy along the way. Be encouraged to take this possibility seriously, and to take advantage of the resources Purdue offers. Asking for help is itself an act of courage.Also know that one need not be neurotypical to succeed and be content with a career in academia! Also know that supplementing the kinds of do-it-yourself work techniques listed in this document with professional support can do wonders.