

PhD research: motivation, dreams and reality

My thesis is written in



WWW.PHDCOMICS.COM

KjS, PhD day 06/02/2014

“To PhD or not to PhD ...”

Consider doing a PhD mostly because you have a **passion** for science and research.

Do **NOT** do a PhD because it seems the easiest road forward and it allows you to postpone thinking about difficult choices that lie ahead in the real world.

What is so great about doing a PhD?

- You work on something you feel really passionate about
- Your work is your hobby
- You get to travel to interesting places
- Your work in an international environment
- You meet interesting people
- You might get to hang out with some of the smartest people in the world
- The thrill of scientific discovery
- You acquire many non-specific skills
- And many other things

You will face these stereotypes.....

Things not to say to a PhD student...

1. How's the PhD going?
2. Have you written up yet?
3. Lazy students, heh?
4. My taxes fund you
5. Students know nothing of the real world
6. Of what practical importance is your research?
7. How many papers have you published?
8. When do you plan to get a real job
9. So you won't be a real doctor?
10. When do you finish?

Patricia Gosling · Bart Noordam

Mastering Your PhD

Survival and Success
in the Doctoral Years and Beyond

Second Edition



 Springer

“When asked, former PhD students usually claim that the general experience of being a graduate student, which includes learning how to solve complex problems and work well with others, was of greater value to their careers than the actual topic of their thesis.”

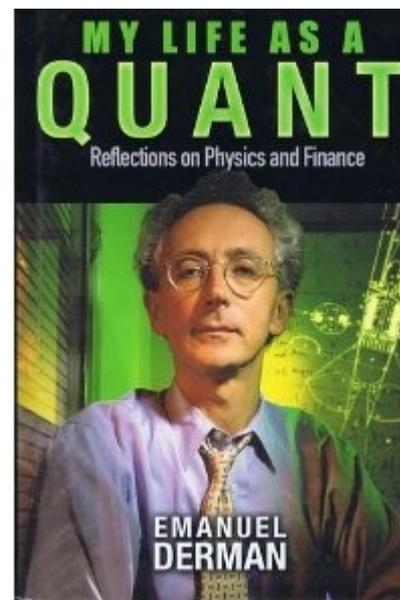
One often hears that during a PhD, dreams are shattered.

■ *Chapter 2* ■

Dog Years

- *Life as a graduate student* ■ *Wonderful lectures* ■ *T. D. Lee, the brightest star in the firmament* ■ *Seven lean years*
- *Getting out of graduate school only half-alive* ■

If you didn't mind wasting the best years of your youth, graduate student life at Columbia was paradise. Once you got over the first two hurdles—passing the PhD qualifying exams and obtaining a research advisor—no one seemed to give a damn about what happened to you. Being a graduate student was not a bad sinecure. The university just kept funneling you a small but livable stipend and hoped you stayed out of their way. I spent seven biblically-lean years in the physics department. One friend spent ten. We both got out alive.



I had a passion for the content of physics, but I was also possessed by a hungry ambition for its earthly rewards. Both passion and hunger persisted over the years, despite the inevitable disappointments. Ten years later, as a postdoctoral researcher at Oxford in 1976, I experienced a minor epiphany about ambition's degradation. At age 16 or 17 years, I had wanted to be another Einstein; at age 21, I would have been happy to be another Feynman; at age 24, a future T.D. Lee would have sufficed. By 1976, sharing an office with other post-doctoral researchers at Oxford, I realized that I had reached the point where I merely envied the post-doc in the office next door because he had been invited to give a seminar in France. In much the same way, by a process options theorists call time decay, financial stock options lose their potential as they approach their own expiration.

PhD studies different from BSc/MSc studies

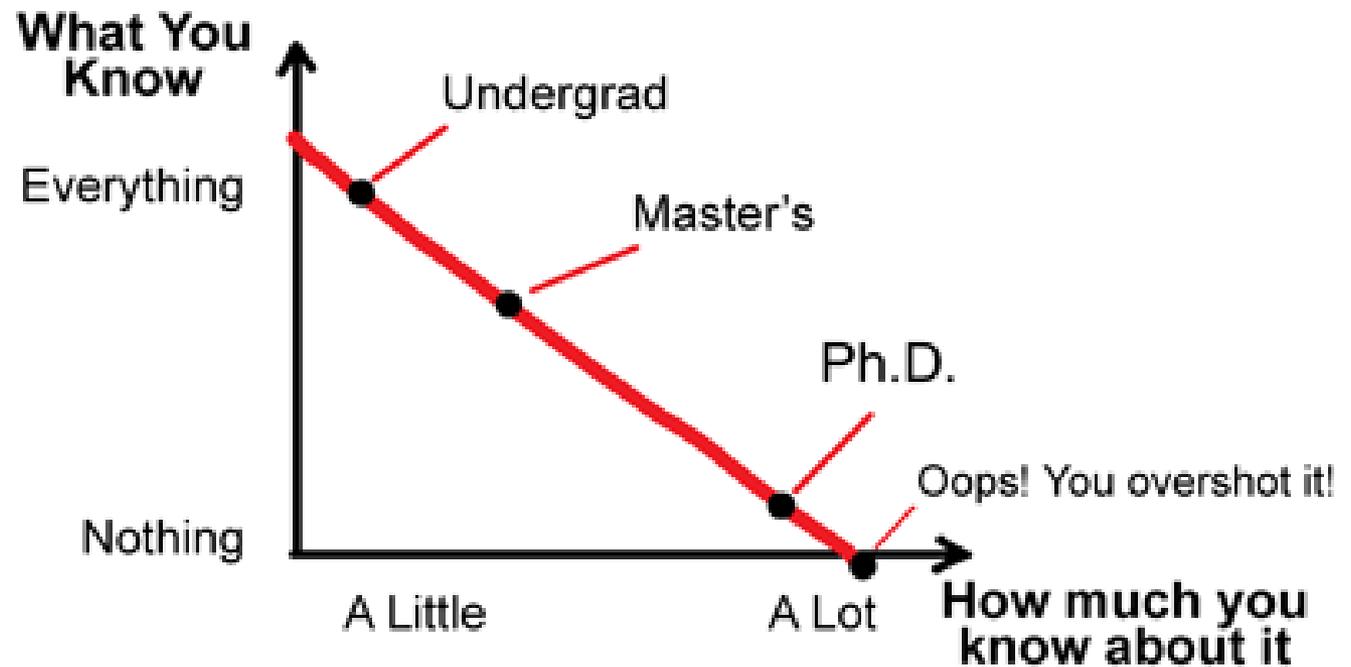
As a PhD student, you make a transition from “student” to “independent researcher”.

These are two **completely** different things!

Some people are great students but poor researchers.

Some people are great researchers but soso students.

What You Know vs How much you know about it



how to find a PhD position that fits

- Tell many people (your master thesis advisor) that you are interested in a PhD position – use your network.
- Look for advertisements – there is no world wide place where PhD positions are advertised though there may be some good websites in your particular field.
- Identify interesting groups and send them an email – cold calling is perfectly OK
- Look for funding opportunities, grants, PhD scholarships – it is much easier to find a PhD advisor if you bring your own money

Finding the right advisor – a very important and often neglected part of finding a PhD position.

Do you get along well with your potential advisor? Will the advisor have time for you? If not, are there other people in the team/group with whom you can work and rely on for support? Does your advisor have a good track record in guiding PhD students?

It is important to visit the group and talk to other people besides your potential advisor before accepting a PhD position.

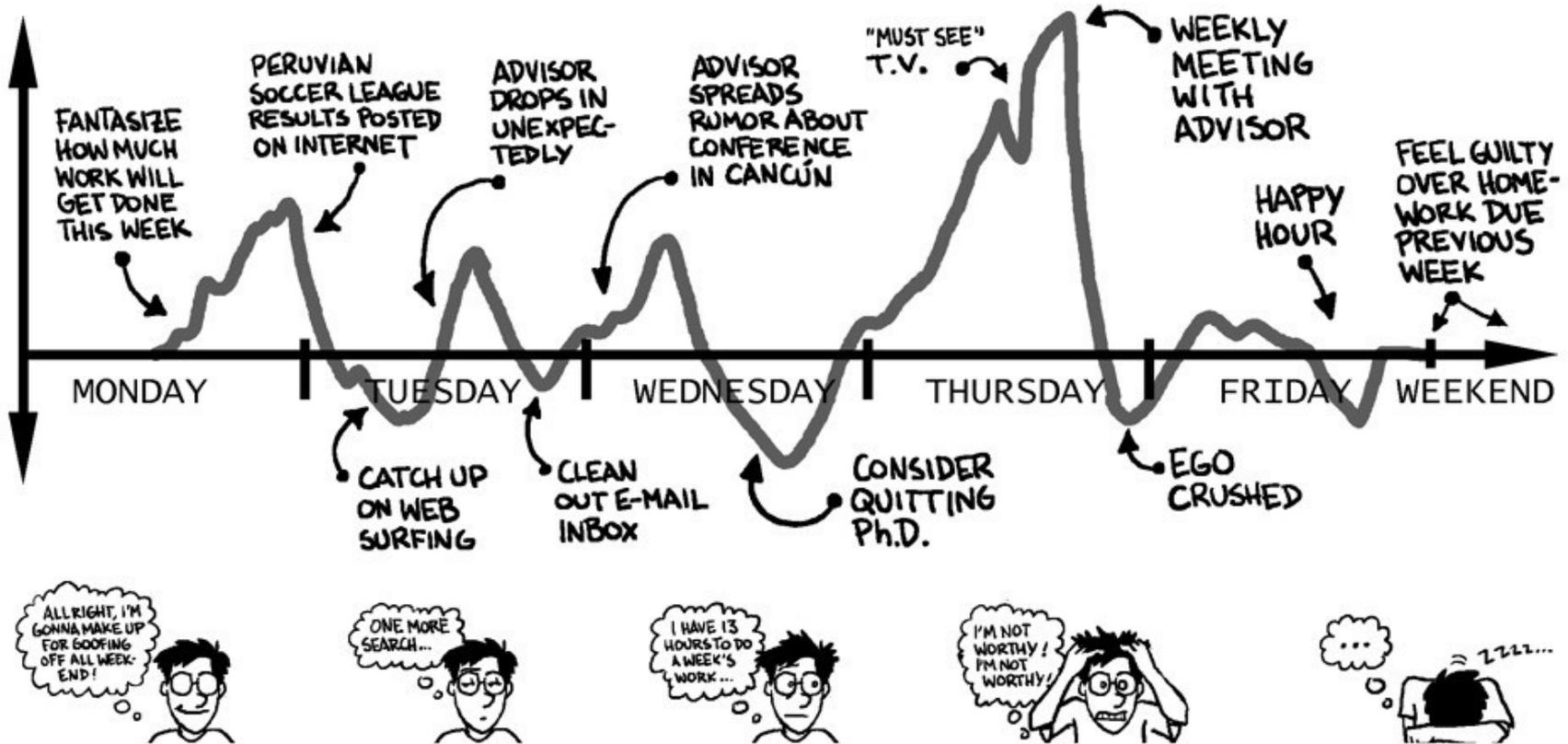
Gosling/Noordam distinguish 4 types of groups

- The startup group (young assistant professor)
 - + enthusiasm, energy
 - infrastructure, experience
- The up-and-running group (associate professor)
 - + experience, infrastructure
 - less attention
- The small but established group (full professor)
 - professor mostly doing admin and with job secure less ambitious
 - + sometimes professor still very much involved in research in which case this is great
- The empire
 - professor will be mostly unavailable
 - + lots of other people to work with

What is suitable for you depends on your taste and personality.

progress, training and development

Grad Student Work Output



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training & development

- generic skills training, for UvA PhD students e.g. “mastering your PhD” (5 x ½ day)
- scientific training within national research schools
- educational training, typically 10% of time is spent as teaching assistant
- workshops, schools, conferences (depends on field)
- for the rest you mostly learn as you go along (time management, dealing with setbacks, how to communicate with your colleagues/advisors, celebrate success, presentations, writing papers, defending your thesis)

Life after the PhD

Does PhD help for later career?

+ PhD a must for leading positions in academia and research labs

Other jobs: employers look for **talent and drive**

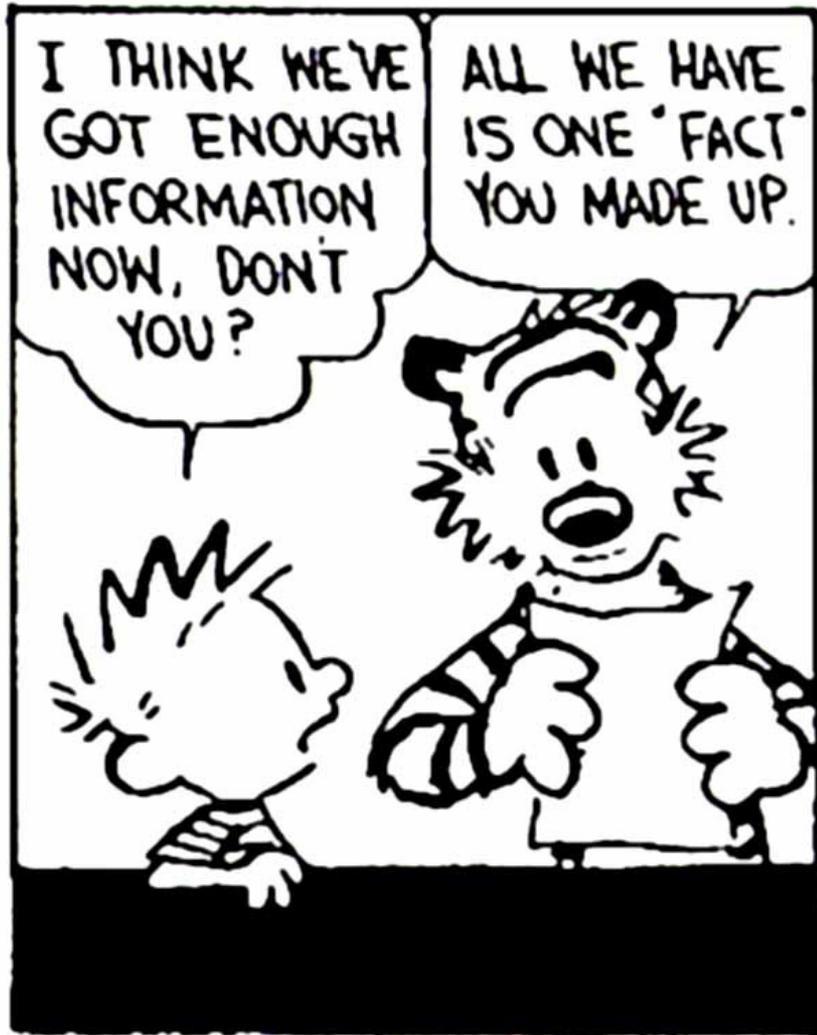
- + successful PhD token of both, but
- specialized knowledge from PhD not necessarily helpful
- time spent, beware the age 30 mark

Earnings?

***2009 Salary = \$52,484 + \$2,941 (Years of Experience)
+ \$16,880(PhD) + \$11,108 (Manager)***

sampler of post-PhD careers

- assistant prof of physics @ Rio
- lecturer `sensor technology' at Hanzehogeschool
- assistant prof of physics @ Stockholm
- software developer with HIPPO @ Amsterdam
- program manager with NWO/FOM @ Utrecht
- quant at Royal Bank of Scotland @ London
- software engineer @ Berlin
- post-doc @ Stanford
- post-doc @ Oxford



THAT'S PLENTY. BY THE TIME WE ADD AN INTRODUCTION, A FEW ILLUSTRATIONS, AND A CONCLUSION, IT WILL LOOK LIKE A GRADUATE THESIS.

