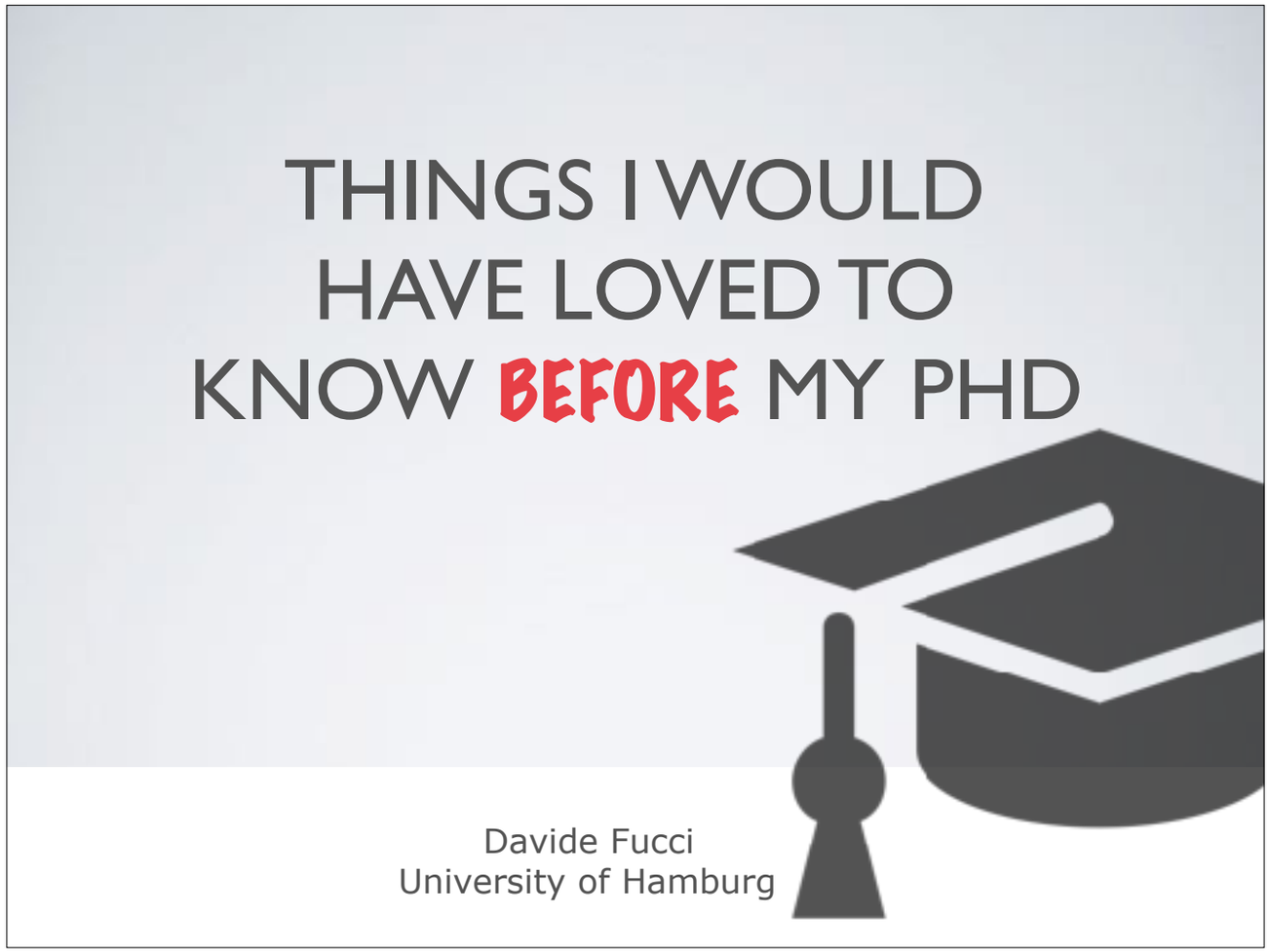


the title says “during” but what means those are the things I discovered while doing my PhD.
So it is really the things I would have loved to know **before**

Also notice that is says “my” phd, so these are really personal realisations which hopefully will help you as well.

Undergrad
University of Bari (Italy)

Ph.D.
University of Oulu (Finland)

Post-doc
University of Hamburg (Germany)

Who am I?

- Started **Jan 2012**
- (Co-)authored **10 papers**
- Attended **4 conferences**
- Passed with **distinctions**
- Completed **May 2016**

My own Ph.D.

PPP applies to doctoral studies too:

- You have a product, a process, and people

The Product

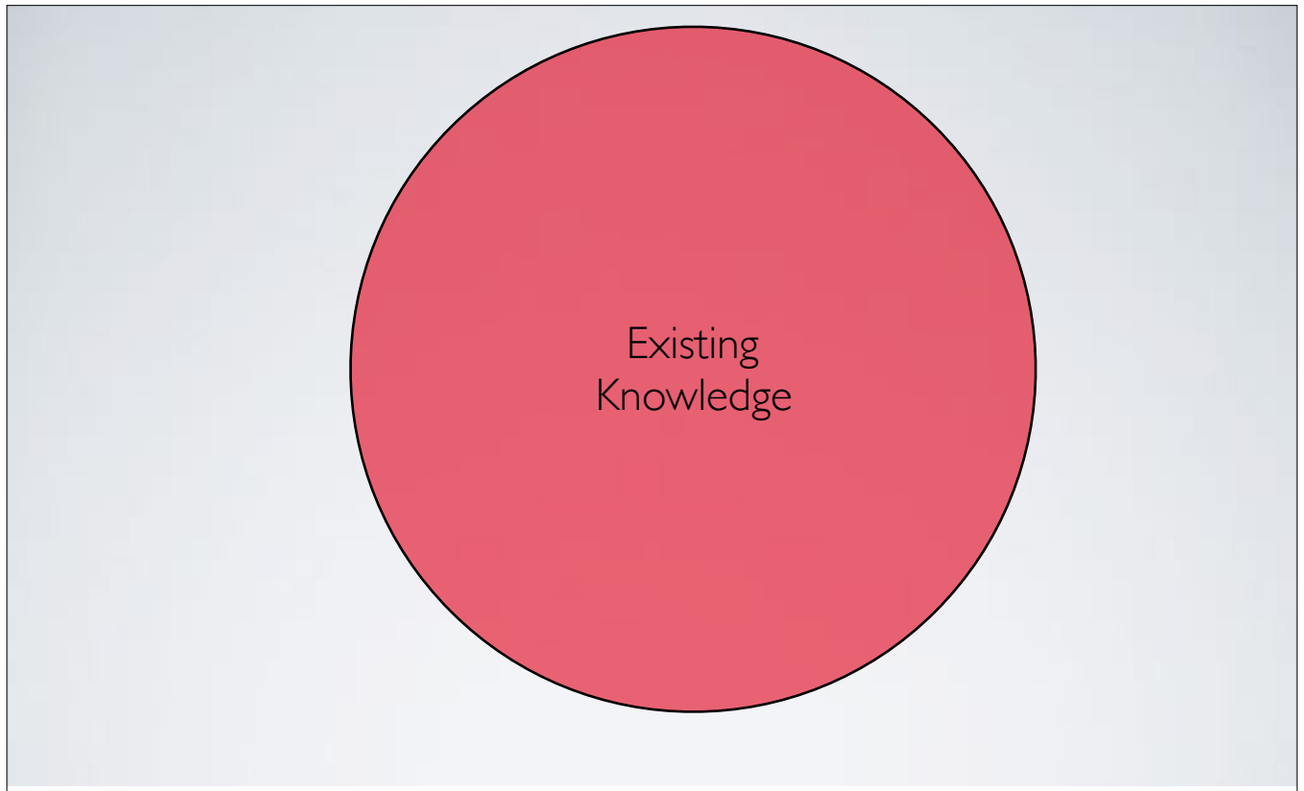
I am gonna disappoint you already, but honestly I cannot tell you much about your product aka “Your Thesis”

Cannot really help you
with your own thesis
Sorry :(

I could talk for 2 hours about my own “product”, but I am sure none wants that

The Process

So let me tell you what I have learned about the process in these 4 years



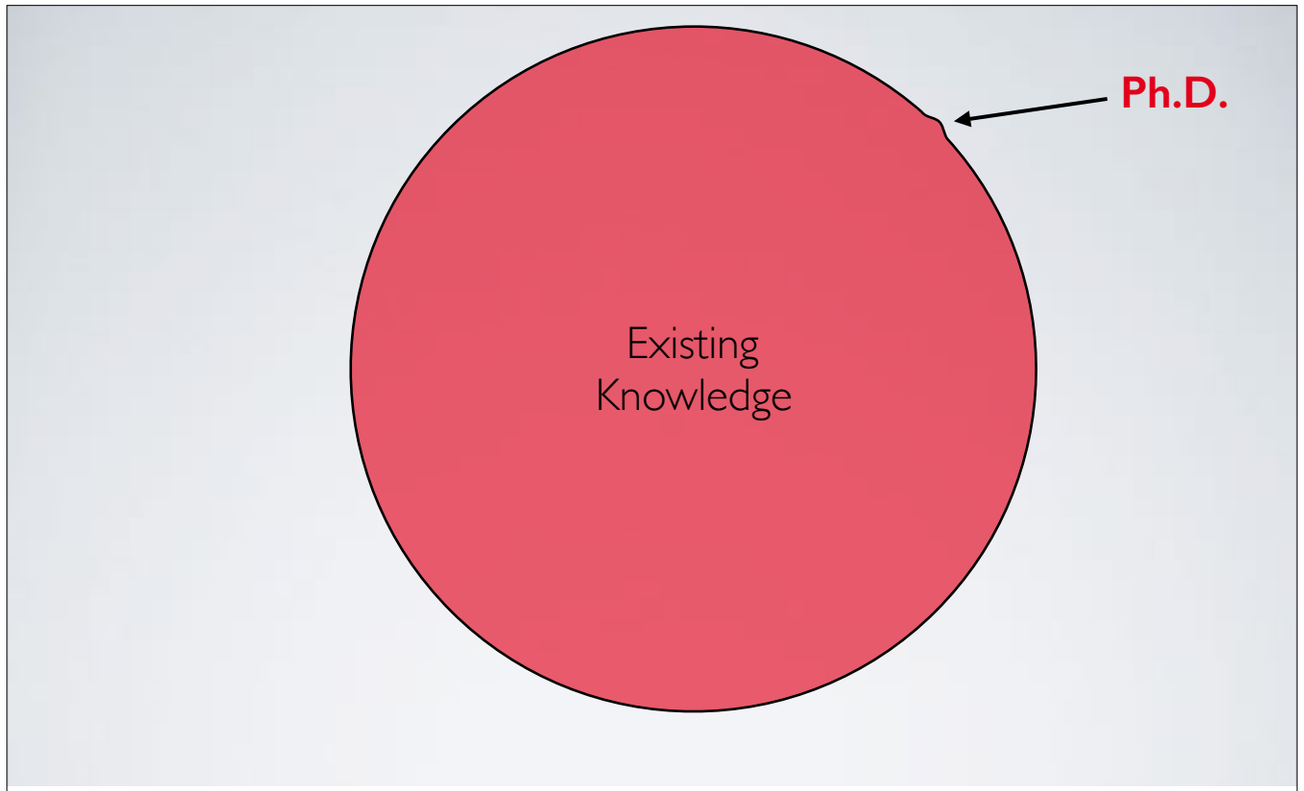
The Process

What is a Ph.D?

Understand what Ph.D. is

The idea behind this is taken from a blog post by prof. Matt Might, University of Alabama.

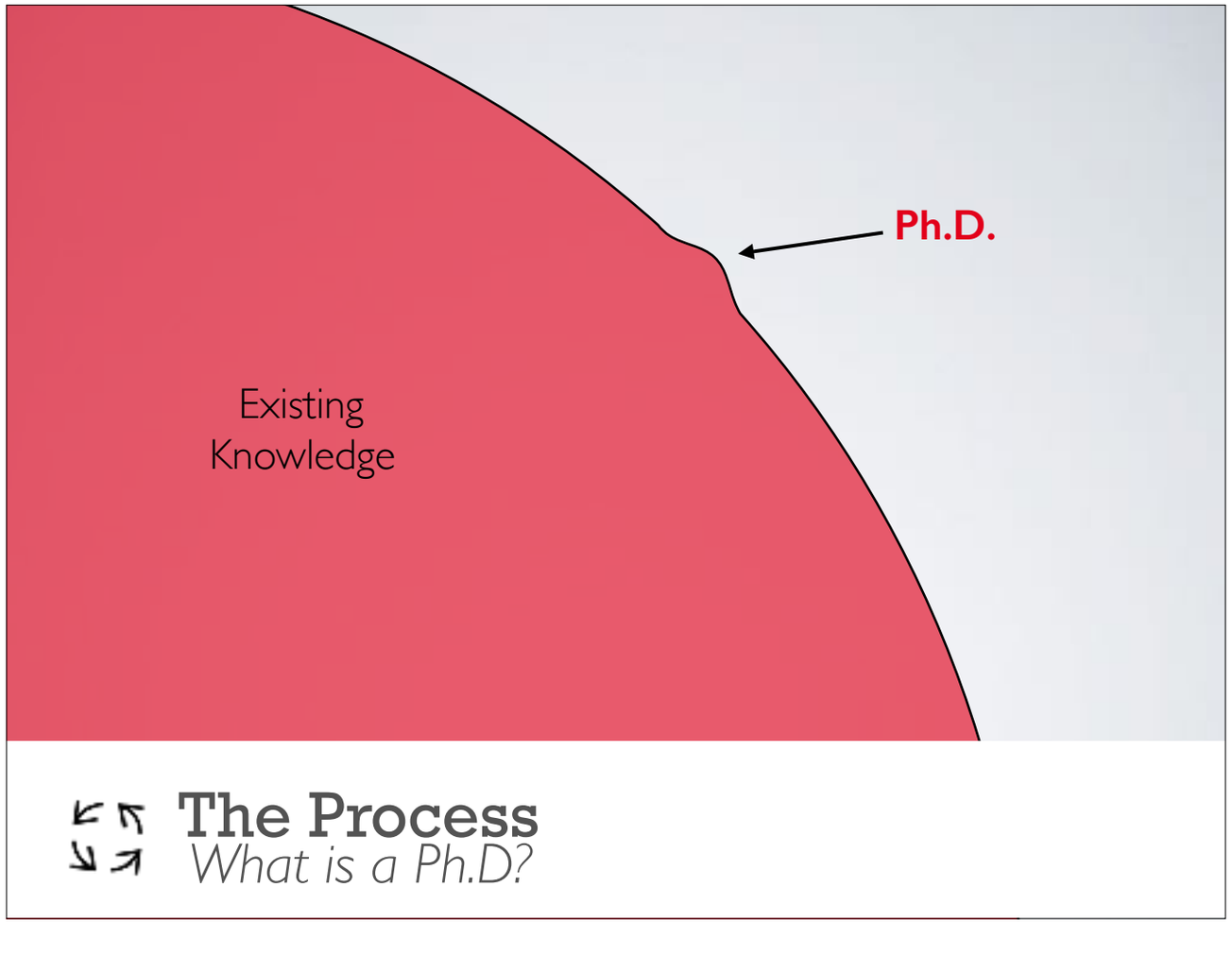
Imagine the circle contains all the knowledge, for example, in software engineering



The Process

What is a Ph.D?

For three to four years you try to figure out where the boundary is, and how to make a tiny bump in it.



The Process

What is a Ph.D?

You push that boundary until you are able to show to the boundary guardians (aka your thesis reviewer) that your work made a dent in such boundary

Unfortunately, many new students associate a Ph.D. with a big bump

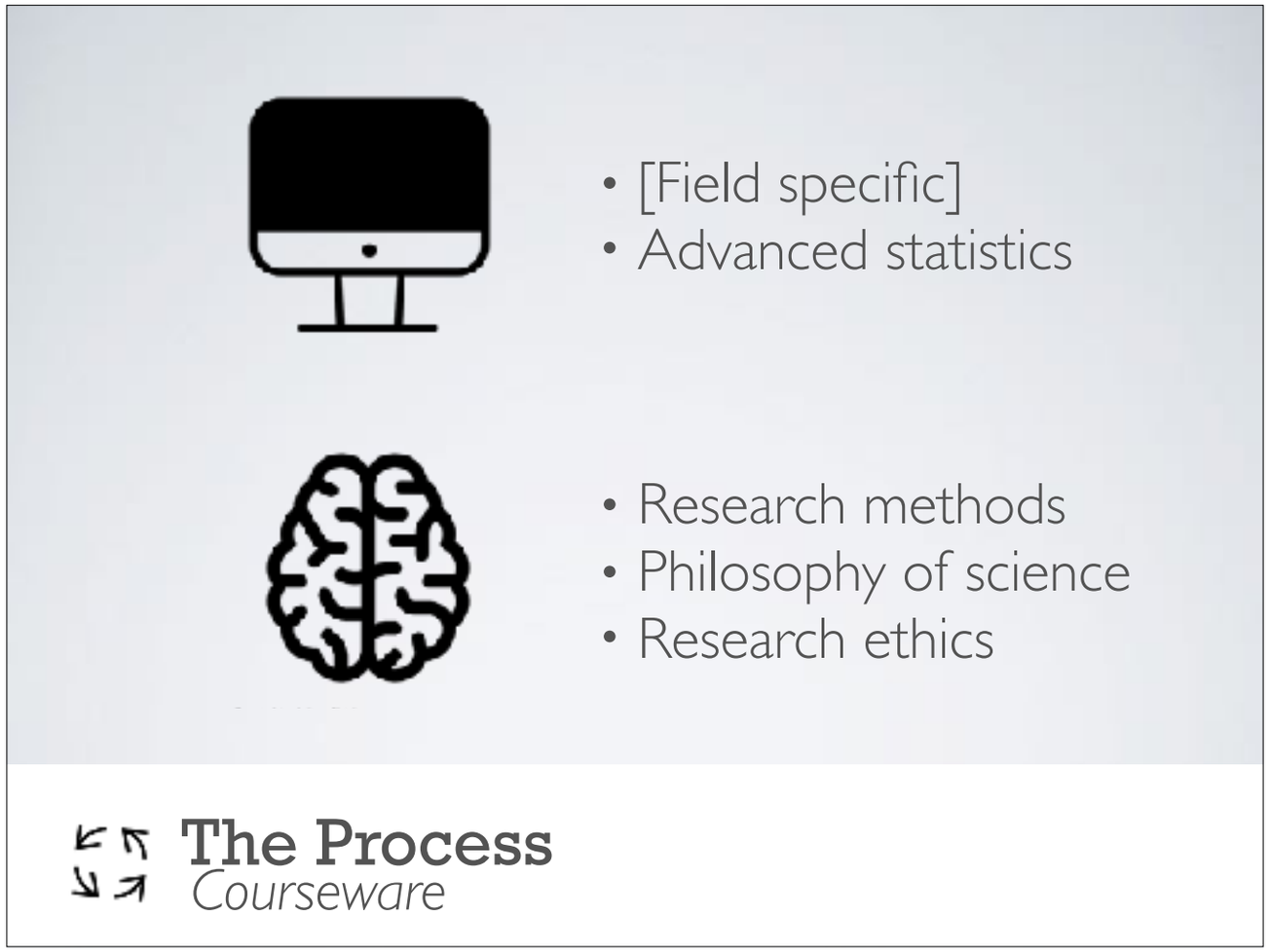
the idea that PHD == big breakthrough has mainly 2 negative consequences:

- You will have problem to understand when the thesis is finished
- You will think you are not good enough

So, you just have to make a dent only once and here is your PHD. You demonstrate that you can consistently make several dents and here is your tenured professorship

- Dedicate one day a week
- *Deliberate reading* 2-4 **key** papers
- Skim through the others
- Google Alerts is your friend

The Process
Literature



Hands-on vs. heads-on courses

Heads-on give you tools for deciding how to “attack” the boundary and what are the admissible weapons
Epistemology —> method chapter of the Ph.D. thesis

The Process
Writing

Start writing a paper as soon as you have an idea for it.
It will help to crystallise the main points (motivations, contribution, limitations)

Do the experiments later and integrate the results in the draft you have already written.

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The Process

Writing

avoid Least Publishable Unit: the strategy of artificially inflating quantity of publications.

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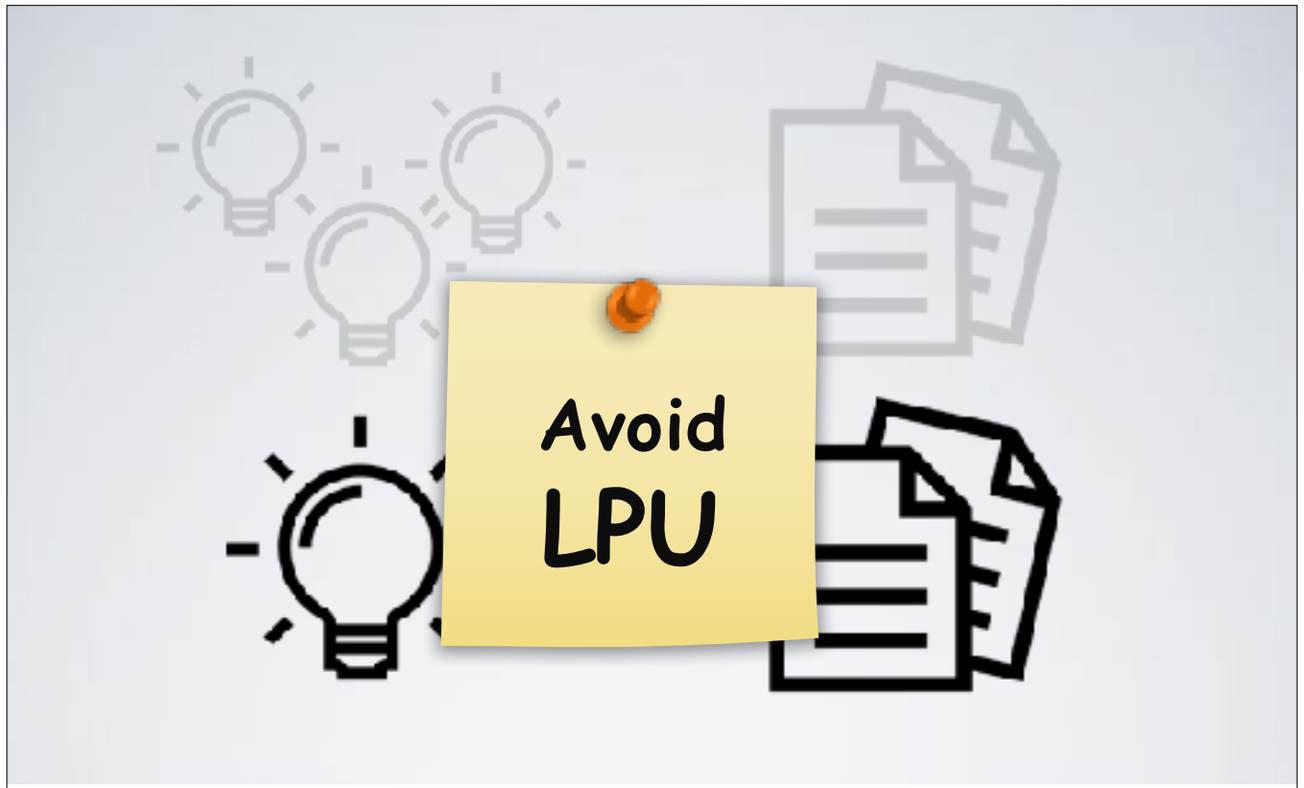

The Process
Writing

avoid Least Publishable Unit: the strategy of artificially inflating quantity of publications.

- Acknowledge competitors' work
- Acknowledge your work weakness

The Process
Writing

Giving credit to someone is not like giving money
Your work does not lose value if you acknowledge others
Warmly acknowledge people who have helped you
Be generous to the competition.
Acknowledge weaknesses in your approach

- Examples, examples, examples
- Time spent ∝ Pages

The Process
Writing

Most of time in writing should be invested in making yourself understood by your readers —> **Give them the intuitive explanation of your idea first**
use EXAMPLES and only then present the general case

Do not go over your personal journey during the study.
We might have got the idea that because one part of the study took a lot of effort, then it does need to be explained in extreme details.
But that it is not interesting to the reader —>choose the most direct route to the idea.

- Examples, examples, examples
- Time spent ✗ Pages

The Process
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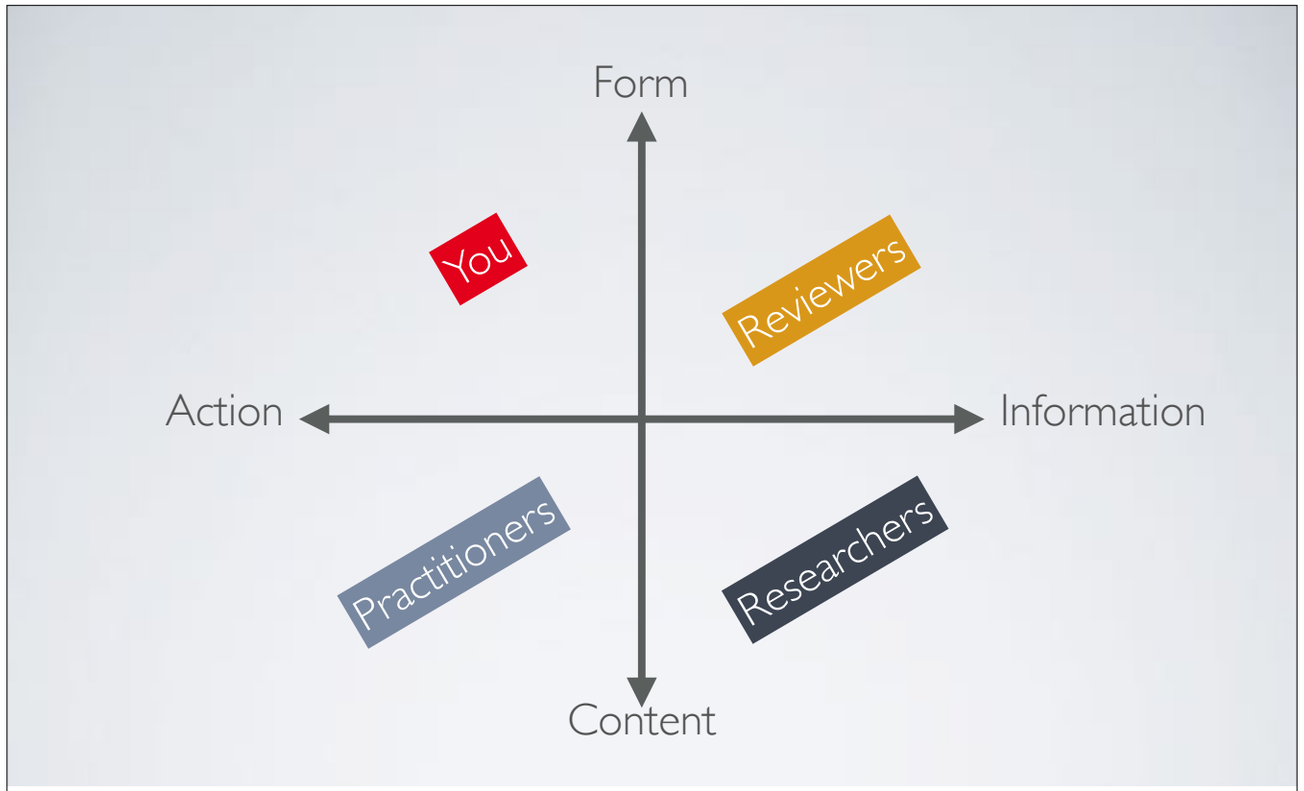


The Process
Writing

You and your examiners are probably more concerned with the form of the thesis: is it coherent? Do all the chapters follow on from each other? Have all the research questions been answered? They will look for some specific patterns.

Other researchers might be reading for specific content. They probably wont read the whole paper but skim through looking for what they need (usually focusing on the visuals only).
Examiners and other researchers will be interested in generating research based on things they find in the thesis.

Practitioners will be similar to researchers, but they may need more background as they will not be as immersed in the literature.
Hopefully practitioners will be to actionable insights.

The challenge for is how to make the ideas and content which is relevant to each audience accessible

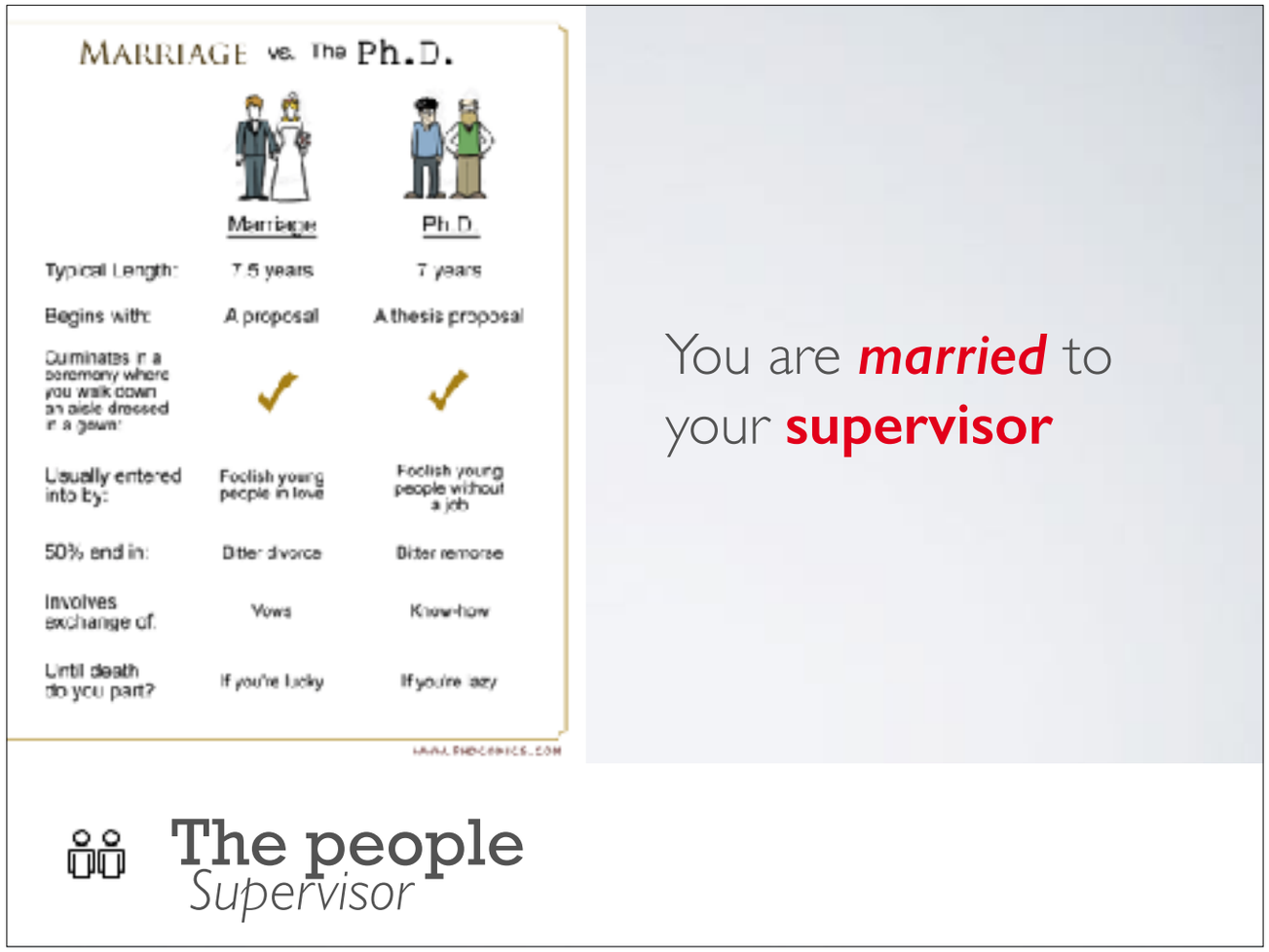
- Critic → Occasion to clarify things
- Be grateful

The Process
Reviews

- Read every criticism as a positive suggestion for something you could explain more clearly
- Fix the paper so that what you meant is apparent even to the stupidest reader.

The People

Science is a community of people



Establishing ground rules and managed processes of working together and using the regulations and systems for structured, regular progress meetings will help.

- **E-mail** > Talking
- 15min/week **stand-up**
- **Meetings** *as-you-go*

The people
Supervisor

Do not talk to your supervisor when taking important decisions. Send emails instead.
This way you write what you had said instead and you may have easy access to it when writing down some important decision points of your thesis

- Requests **1 week** in advance
- **Tell** when you are done
- ***Business*** *is* ***business***

The people
Supervisor

Experiment a bit with the time that suits you supervisor the most… I found that 1 week for letter of referral, feedback about a paper section is ok.

Manage your supervisor —> tell him/her when you are done do not wait to be told. If answer is “no” then re-iterate!

Sometimes you do good, sometimes you do bad and you supervisor will tell you. The critique will be about your work, not about yourself!

Studies and reports increasingly show that mental illness is on the rise in academia. One of the biggest reasons that it's rising is because many academics are perfectionists and are not willing to accept failure as part the process of learning.

Imposter syndrome is a concept describing individuals who are marked by an inability to internalize their accomplishments and a persistent fear of being exposed as a "fraud".
Despite evidence of your competence, you are convinced that you are a fraud and do not deserve what you have achieved. You tend to dismiss your success as luck, or as a result of deceiving others into thinking that you are competent. (Wikipedia)

- There is **life** after Ph.D.
- Apply for positions **early**
- Be a **business** professional

The people
Yourself

Don't wait until you're about to defend your thesis to start developing your business skills.

- Doc. Symposia & Conferences
- (Scientific) social media presence

The people
Other researchers

Science is a community, so get to know people personally!
Order of importance: your peers at Doc Symp (you will be the decision-makers of the future) — Workshops (usually cosier and hyper-focused) — Conferences

Most likely here you will meet you thesis/paper reviewers and your defence opponents

Social media: Interact with other scientists when you are not at a conference:
- Ask quick question/give deeds
- Advertise yourself (e.g., your latest publication)

Use twitter wisely:
- create lists based on hashtags of popular conferences
- handpick the most interesting researchers in your community

For longer content related to your research blog.
Blog about your papers/lectures/nice tricks that you learn as part of your research

Finally, do not forget other communities that are interesting for your career development.
So called *transversal* communities which are interested in topics that are relevant for your work
Example: Eclipse

People from other fields give you insights about how things are done in their field.

Resources

The Process

- *What is this thing called science?* - A.F. Chalmers
- *Scientific writing 2.0* - J.L. Lebrun
- *A Ph.D. is not enough* - P.T. Feibelman
- Publons Academy

- *Prof. Matt Might* blog
- *The Thesis Whisperer* blog

- Prof. D. Berry's *Advices for finishing that damn Ph.D.*
- Prof S. Peyton Jones' *How to…*

The People

- *Ph.D. grinding* - P.J. Guo
- *When a Chinese students meets a German supervisor* - K. Zhang
- *A degree of betrayal - S. Caplan*

Fin

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