Presenting research: *Structure*, *story*, and *support*

Bogdan Vasilescu
SSSG 1/23/2017

Slides from:
Felienne Hermans
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Research is communication

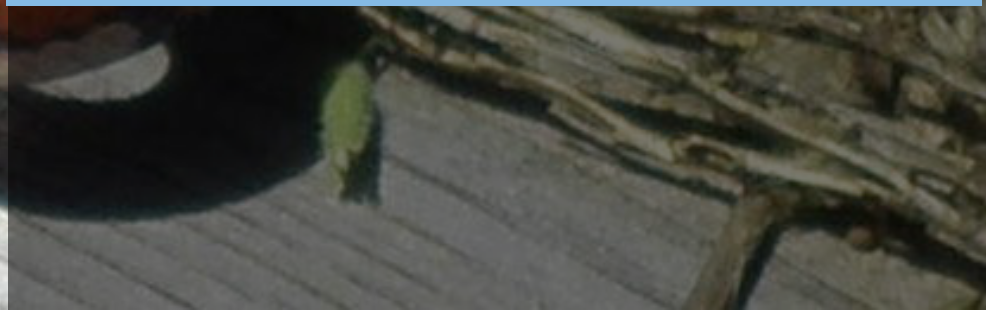
The greatest ideas are worthless if you keep them to yourself.

Public speaking is not easy

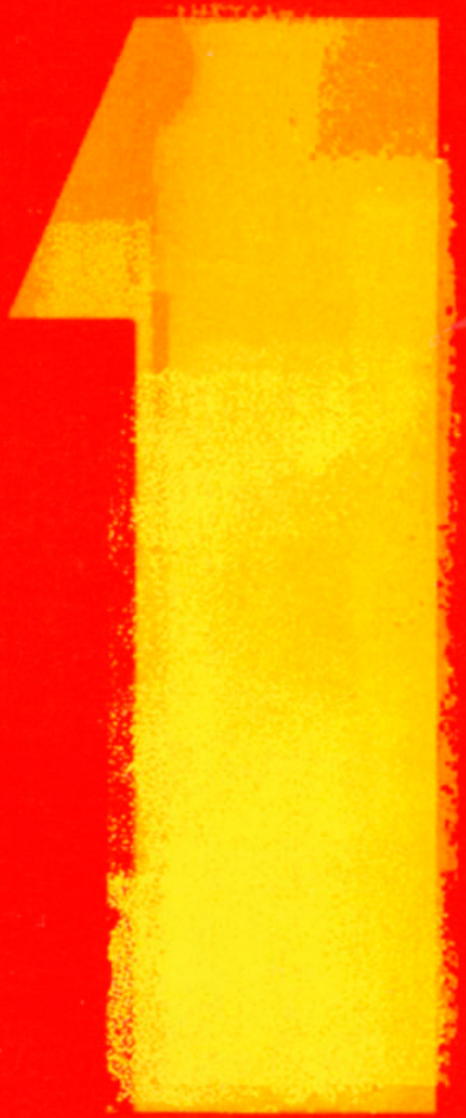
Top ten fears

1. Snakes	51%
2. Speaking in public	40%
3. Heights	36%
4. Being closed in a small space	34%
5. Spiders and insects	27%
6. Needles and getting shots	21%
7. Mice	20%
8. Flying on a plane	18%
9. Dogs (sorry, Lassie)	11%
9. Thunder and lightning	11%
9. Crowds	11%
10. Going to the doctor	9%

*Gallup Poll, February 18-21, 2001
(1,016 respondents + or - 3%)



Good news: only one rule to presenting




Don’t lose
your audience

Don't lose your audience

Goal

Get your audience from the beginning to the end of your talk, without them being tempted to fall asleep/look out of the window/check their email.

From
"I sat through a talk"
to
"I'm glad I went to that talk"

Don't lose your audience

Put audience first!

A research talk gives you access to an invaluable commodity: the time and attention of other people. Don't waste it!

This presentation gives you tools for getting your audience through your talk.

In other words:

minimize ‘exit moments’, moments where the audience might drop out.


Don't lose your audience
1) Right structure
2) Adding stories
3) Support


Don’t lose your audience
1) Right structure

Don't lose your audience

Did you ever wonder during a presentation:

- "Why is the speaker telling me this?"
- "Where is this going?"

That is the sign of a badly structured presentation.

1) Right structure

"Energy spent on trying to follow you is not spent on listening to your message"


Structure gets your audience from A to B

"Successful presenting is constantly answering the questions the audience has in mind"

"Successful presenting is constantly answering the questions the audience has in mind"

In other words, you are having a CONVERSATION


What people think about
when they prepare a talk


What you should think about
when preparing a talk

What kind of work do you do?

What kind of work do you do?

First I will tell you how local government works in the US

Then I will elaborate on the position of city treasurer

Finally, I will tell you about some legal troubles I am currently facing.

Please, no more outlines!

You have two minutes to engage your audience before they start to doze.

They are thinking:

- ***Why should I tune into this talk?***
- ***What is the problem?***
- ***Why is it an interesting problem?***
- ***Does this talk describe a worthwhile advance?***

First I will tell you how local government works in the US

Then I will elaborate on the position of city treasurer

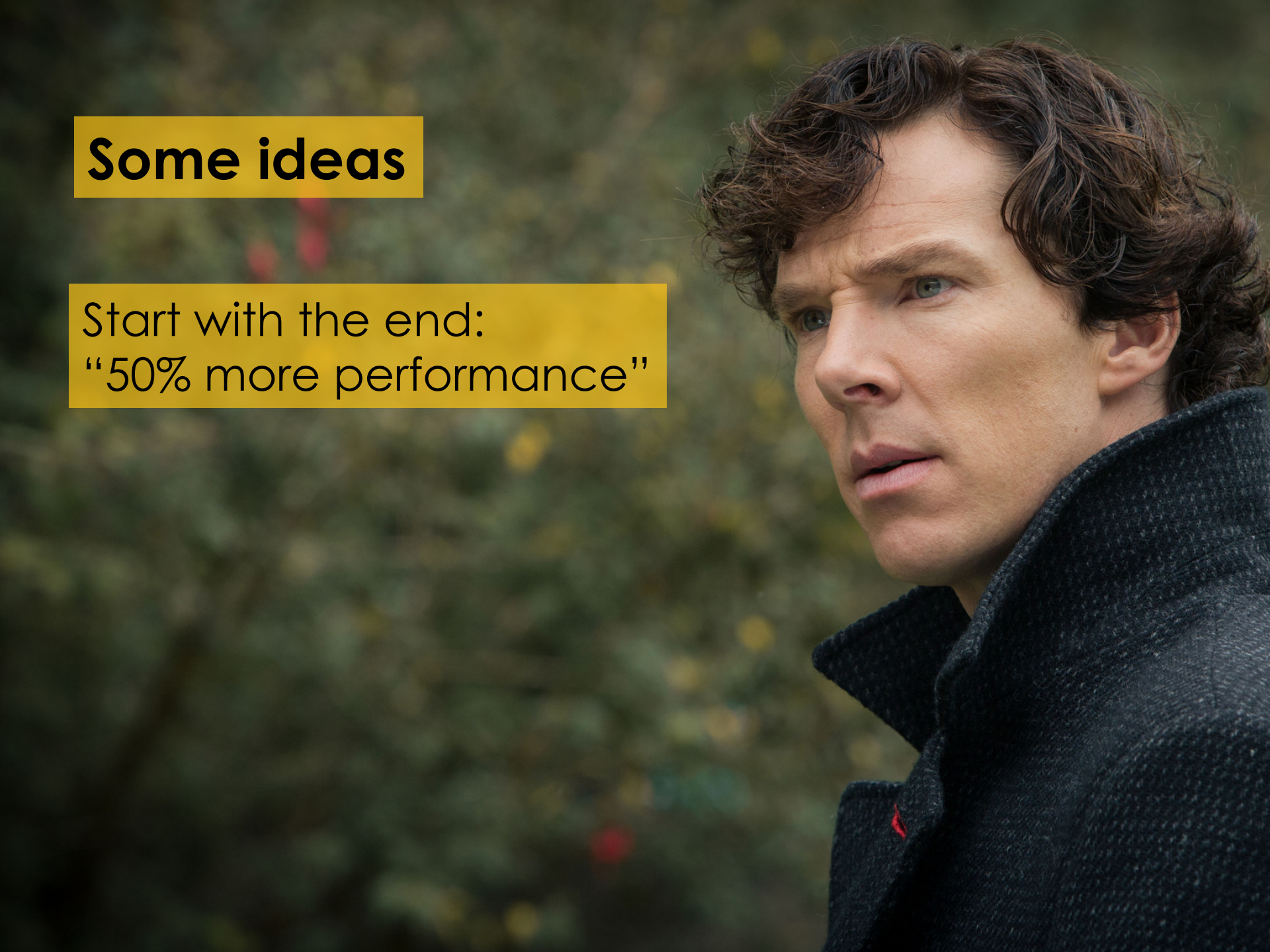
Finally, I will tell you about some legal troubles I am currently facing.


Think about
conversation
if you structure a presentation

What to put in?

1	2	3
Motivation (20%)	Your key idea (80%)	There is no 3
Why should I tune into this talk?	“If you remember nothing else, remember this.”	

Some ideas


Some ideas
Start with the end:
“50% more performance”

Some ideas

Start with the end:
"50% more performance"

Example: Java class files are large (brief figures), and get sent over the network. Can we use language-aware compression to shrink them? Yes, and I'm going to show you how we can do 50% better than the best generic zipping technology.

The Sky Is Not the Limit: Multitasking Across GitHub Projects

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ABSTRACT

Software development has always inherently required multitasking: developers switch between coding, reviewing, testing, designing, and meeting with colleagues. The advent of software ecosystems like GitHub has enabled something new: the ability to easily switch *between* projects. Developers also have social incentives to contribute to many projects; prolific contributors gain social recognition and (eventually) economic rewards. Multitasking, however, comes at a cognitive cost: frequent context-switches can lead to distraction, sub-standard work, and even greater stress. In this paper, we gather ecosystem-level data on a group of programmers working on a large collection of projects. We develop models and methods for measuring the rate and breadth of a developers' context-switching behavior, and we study how context-switching affects their productivity. We also survey developers to understand the reasons for and perceptions of multitasking. We find that the most common reason for multitasking is interrelationships and dependencies between projects. Notably, we find that the *rate of switching* and *breadth* (number of projects) of a developer's work matter. Developers who work on many projects have higher productivity if they focus on few projects per day. Developers that switch projects too much during the course of a day have *lower* productivity as they work on more projects overall. Despite these findings, developers perceptions of the benefits of multitasking are varied.

CCS Concepts

•Information systems → Data analytics; •Human-centered computing → Empirical studies in collaborative and social computing; •Software and its engineering → Open source model;

Keywords

Multitasking; GitHub; productivity

ICSE '16, May 14 - 22, 2016, Austin, TX, USA

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1. INTRODUCTION

Multitasking is a staple of high performing professionals, programmers included. It is the ability to stop working on a task, switch to another, and return eventually to the first one, as needed or as scheduled. The goal is to optimize human resource allocation, while reprioritizing tasks dynamically [17]. When done well, or at least in a disciplined way, multitasking can yield dividends [1, 4]. Clearly, if a task in the queue has a higher priority than the current one, switching them can improve performance. For example, programmers encounter this when starting a new coding task, while their previous, urgently needed fix undergoes testing. If testing uncovers bugs, the urgent fix will require attention, and the new coding task will be put on the back-burner.

Multitasking comes at a cost though [9]. Humans, programmers included, have a certain, limited amount of *cognitive flexibility*, the mental ability to switch from thinking about one concept to thinking about another. Limitations apply to both the number of concepts we can juggle, as well as to the difficulty in switching between them. For example, coding simultaneously 7 simple functions is easier than coding 8 of them. Likewise, switching between two small matrix multiplication problems is more difficult than switching between two small integer additions. As we can imagine, reaching our innate limitations can result in decreased performance on all tasks and perhaps even diminished quality. It is unknown how far multitasking can be pushed safely, although some anecdotal evidence is available.

Software developers have long been pushing the limits on multitasking [27] because of the innate modularity of the development process and the independence of module processing (*e.g.*, one can code while tests are being executed). In open-source software, developers also commonly contribute to multiple projects in the same time period, bridging different communities [20, 30]. With the advent of social coding tools like GitHub, this has intensified. It is not uncommon to find prolific developers contributing code to 5-10 GitHub projects in the same week. In fact, contributing to as many GitHub projects as possible is an accomplishment, valued by peers and employers alike [32].

There are various reasons why developers are more prolific on GitHub compared to other platforms. The features and usability provided by GitHub play a big role [34]. It is one example of how novel technology benefits programmers, and it empowers them; GitHub's platform is responsible for the inception of many projects, that otherwise wouldn't have existed [34]. And the payoffs are also substantial [34]. With

In any case

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Don't copy the paper

What your talk is for

Your paper
= the beef

Your talk
= the beef advertisement

What your talk is for

To give your audience an intuitive feel for your idea

To make them foam at the mouth with eagerness to read your paper

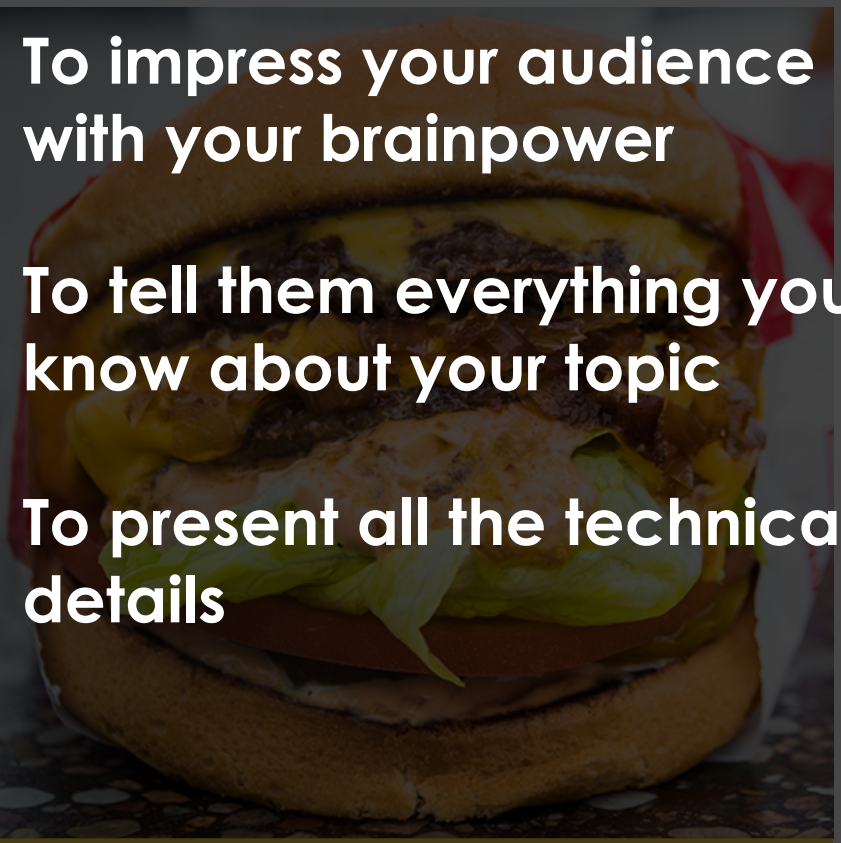
To engage, excite, provoke them

To make them glad they came

Your paper
= the beef

Your talk
= the beef advertisement

What your talk is *not* for



To impress your audience with your brainpower

To tell them everything you know about your topic

To present all the technical details

Your paper
= the beef

Your talk
= the beef advertisement


Don't lose your audience
1) Right structure
2) Adding stories

"Successful presenting is constantly answering the questions the audience has in mind"

"Successful presenting is constantly answering the questions the audience has in mind"

So how do you get the questions in?


Stories


Stories
Of an average presentation, how much is remembered after 3 hours?


Stories
40%
Of an average presentation, how much is remembered after 3 hours?

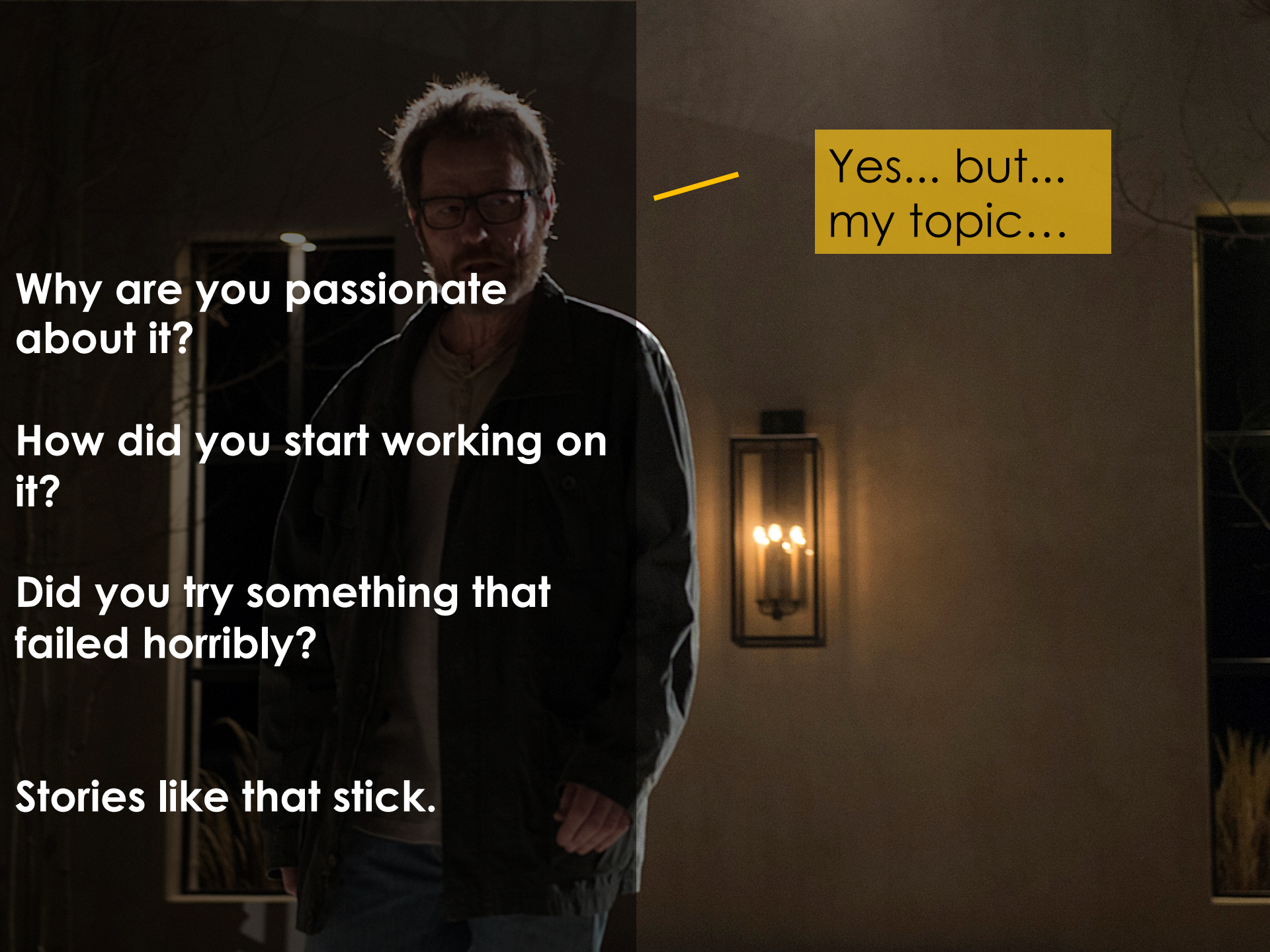

Stories
Of an average presentation, how much is remembered after 3 **months**?


Stories
5%
Of an average presentation, how much is remembered after 3 months?


Adding visuals and storyline increases this to…


60%
Adding visuals and storyline increases this to…


Yes... but...
my topic…



Why are you passionate about it?

How did you start working on it?

Did you try something that failed horribly?

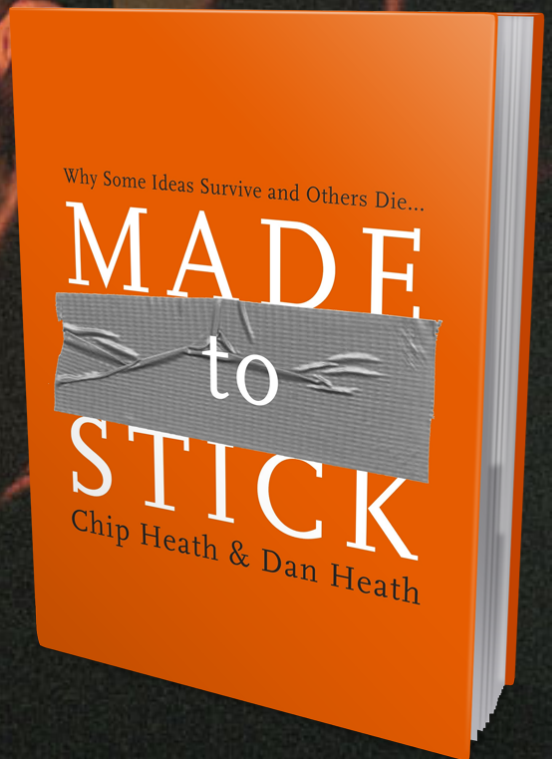
Stories like that stick.

A good story


Why Some Ideas Survive and Others Die...
MADE
to
STICK
Chip Heath & Dan Heath

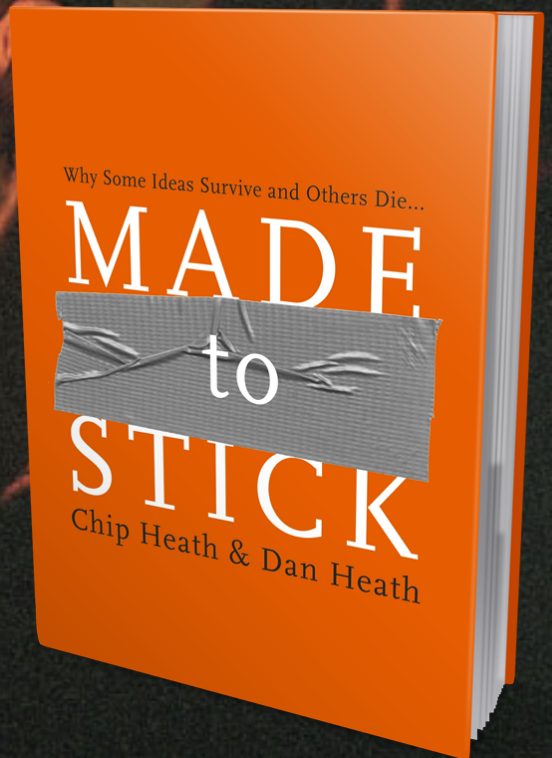
A good story

S Simple
U Unexpected
C Credible
C Concrete
E Emotional
S Stories



A good story

S **Simple**
U Unexpected
C Credible
C **Concrete**
E **Emotional**
S Stories



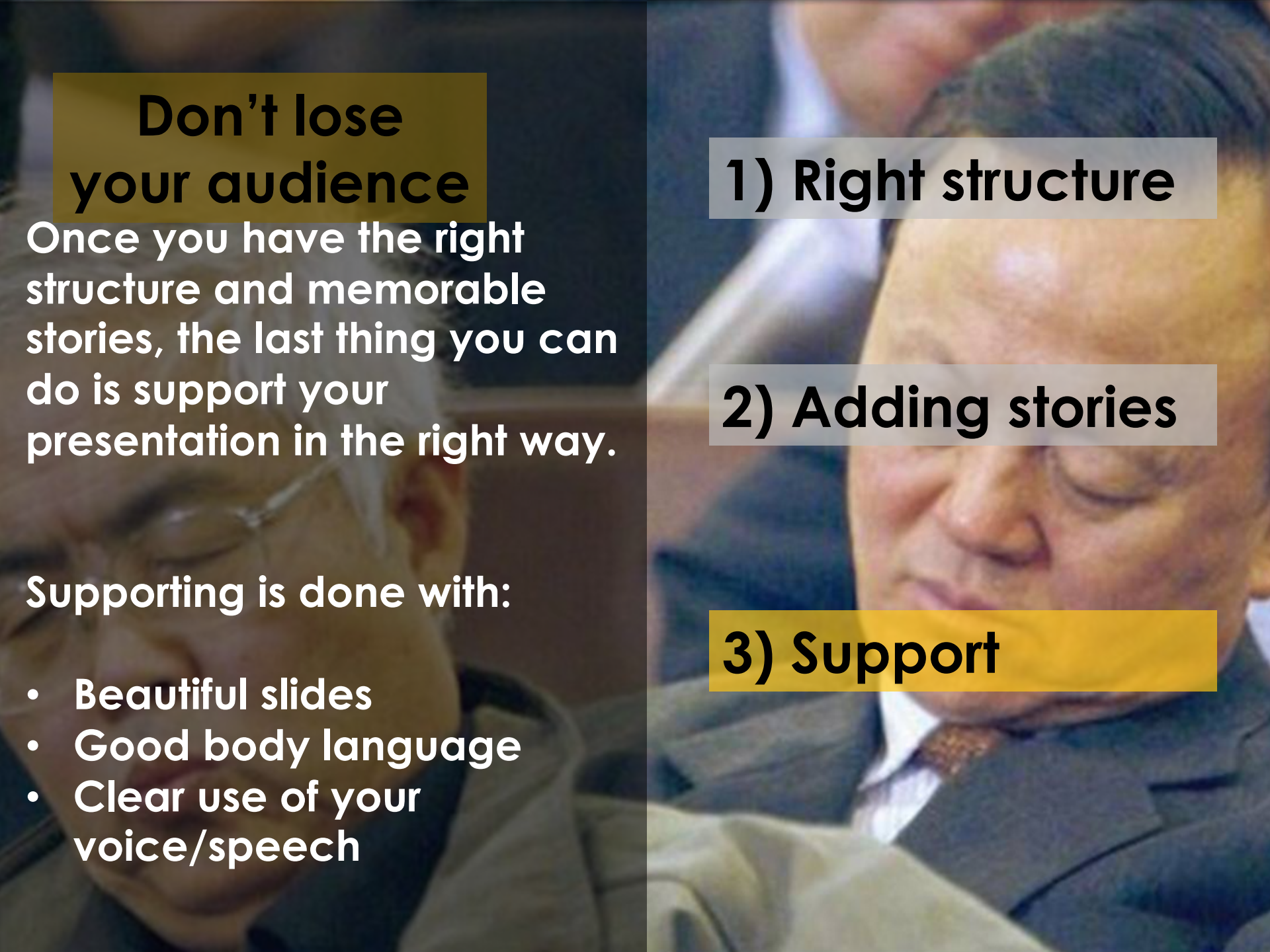
Examples stick

S **Simple**
U Unexpected
C **Credible**
C **Concrete**
E Emotional
S Stories

Use examples:

- **To motivate the work**
- **To convey the basic intuition**
- **To illustrate The Idea in action**
- **To show extreme cases**
- **To highlight shortcomings**


Don't lose your audience
1) Right structure
2) Adding stories
3) Support



Don't lose your audience

Once you have the right structure and memorable stories, the last thing you can do is support your presentation in the right way.

Supporting is done with:

- Beautiful slides
- Good body language
- Clear use of your voice/speech

1) Right structure

2) Adding stories

3) Support

My preferences for slide design:

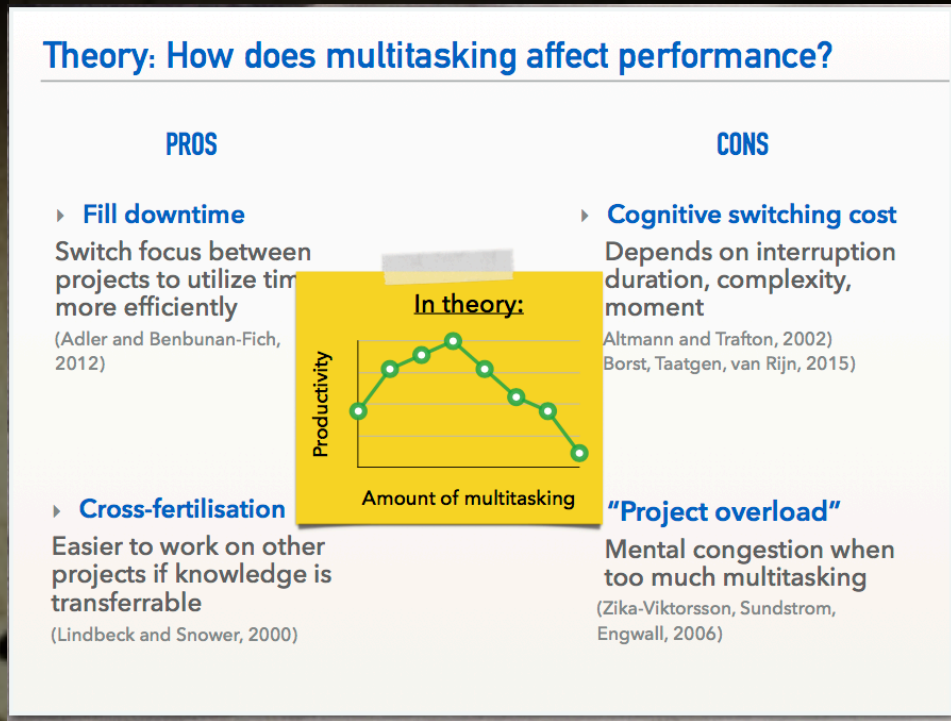
- Consistent style
- Cohesive: one thought per slide
- Little text: audience reading slides stops listening to you
- Title is informative and does not repeat
- Corporate template depending on audience

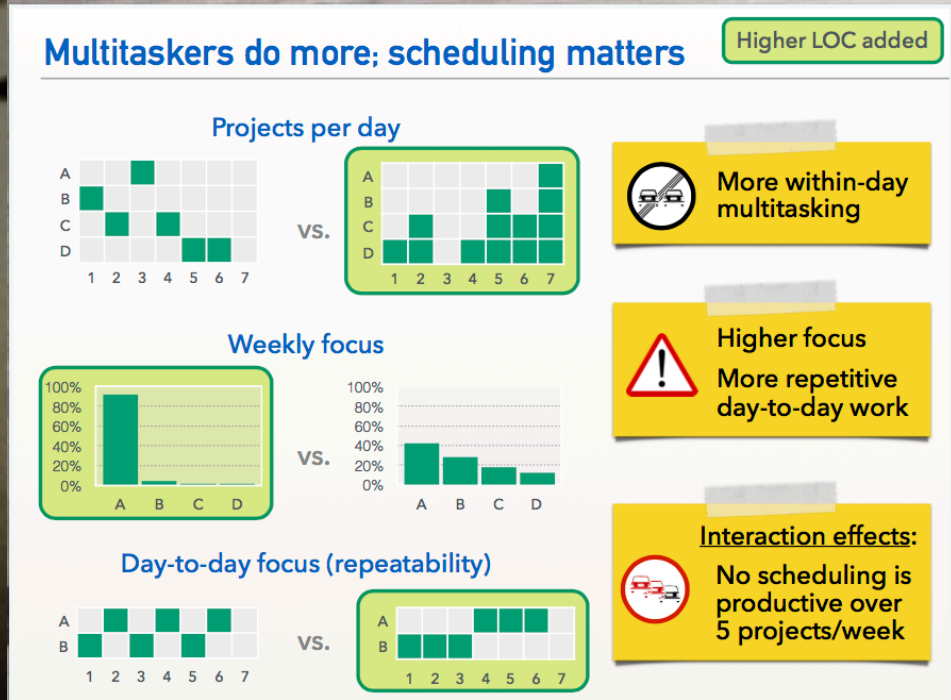

THE END

Questions???

Remember, this slide will most likely be on the screen the longest. So:

- Acknowledge sponsors
- Add your contact details
- Summarize your results to **encourage questions** (slide minis)
- Questions are not a problem. Questions are a **golden golden golden** opportunity to connect with your audience





Body language

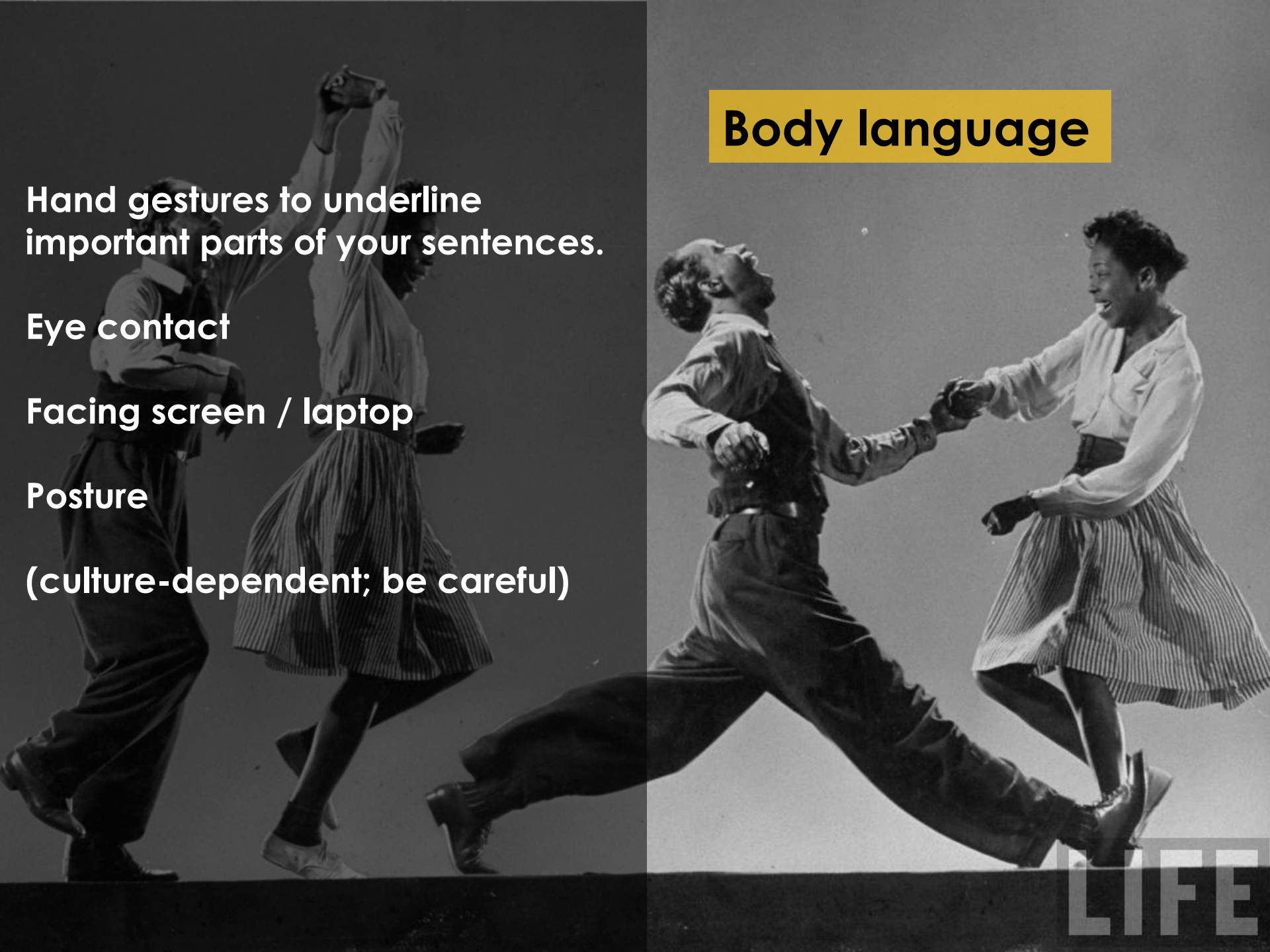
Hand gestures to underline important parts of your sentences.

Eye contact

Facing screen / laptop

Posture

(culture-dependent; be careful)



The final tool for supporting your talk is your voice.

- **Enthusiasm** makes people dramatically more receptive.
- **Pauses** help
  - Pause at least before and after important sentences.
  - Ironically, the best way to get a room's attention is to shut up!


Don't lose your audience
1) Right structure
2) Adding stories
3) Support


Don't lose your audience
1) Right structure
2) Adding stories
3) Support
One more thing…

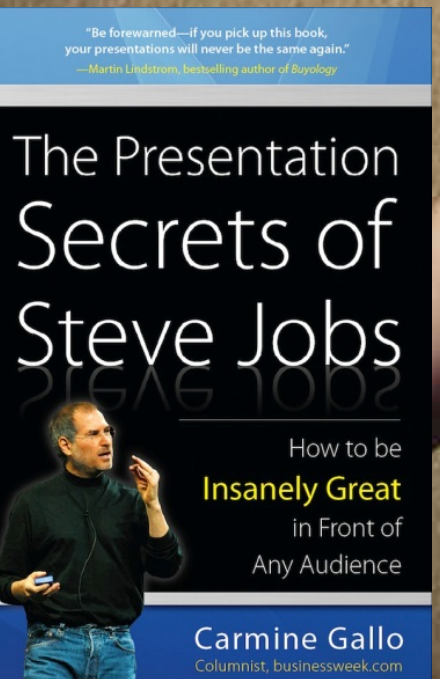

PRACTICE !

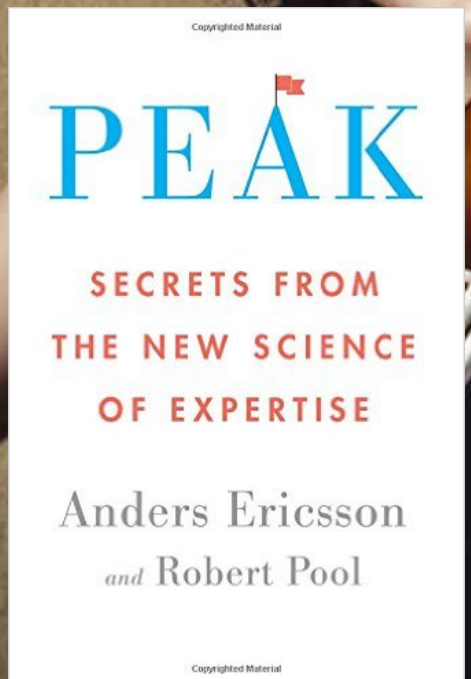
PRACTICE !

No one is born a violin player or a marathon runner.
Everyone needs practice.

Even Steve Jobs practised for every talk.

Pittsburgh has:
- Toast masters club
- Improv comedy club
- …





If you remember nothing else, remember this:

What your talk is for

Your paper
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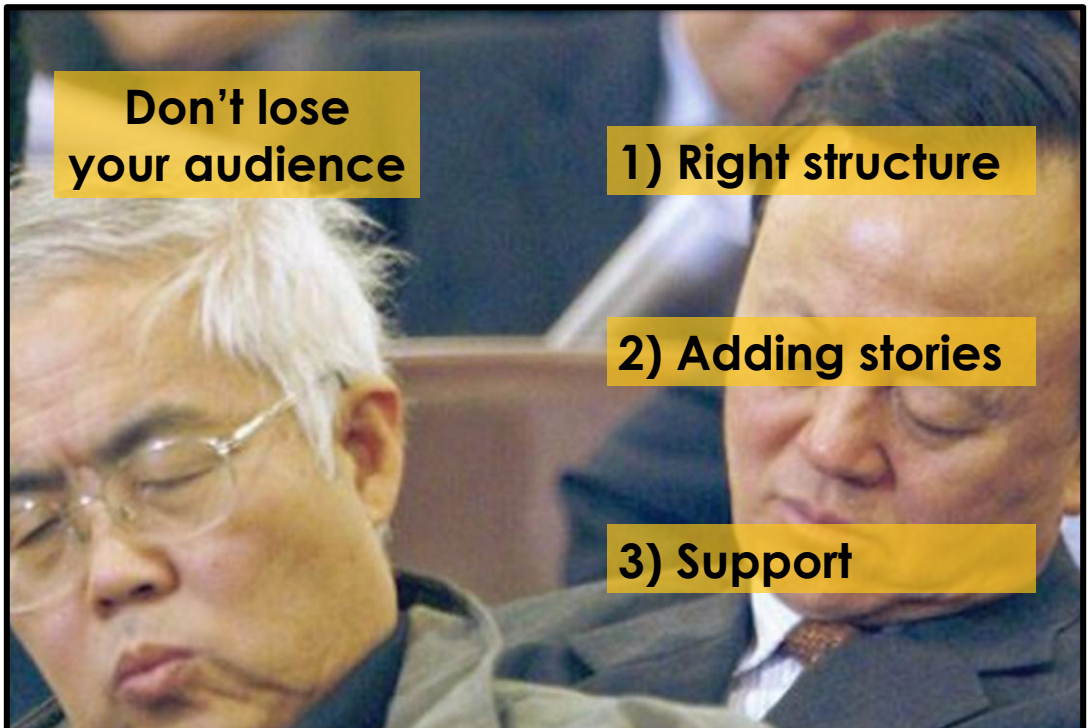

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