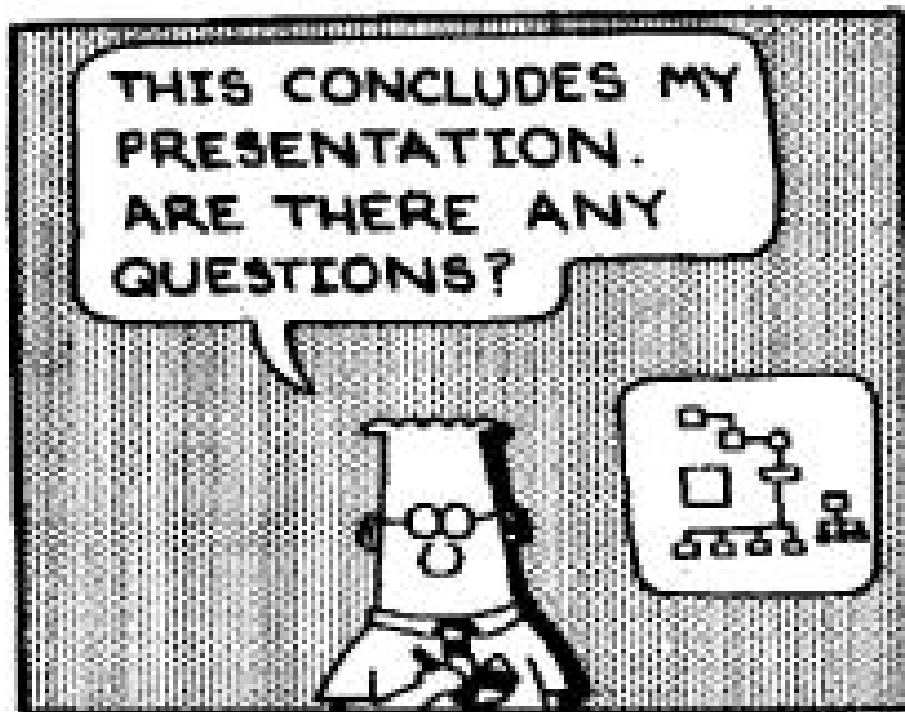
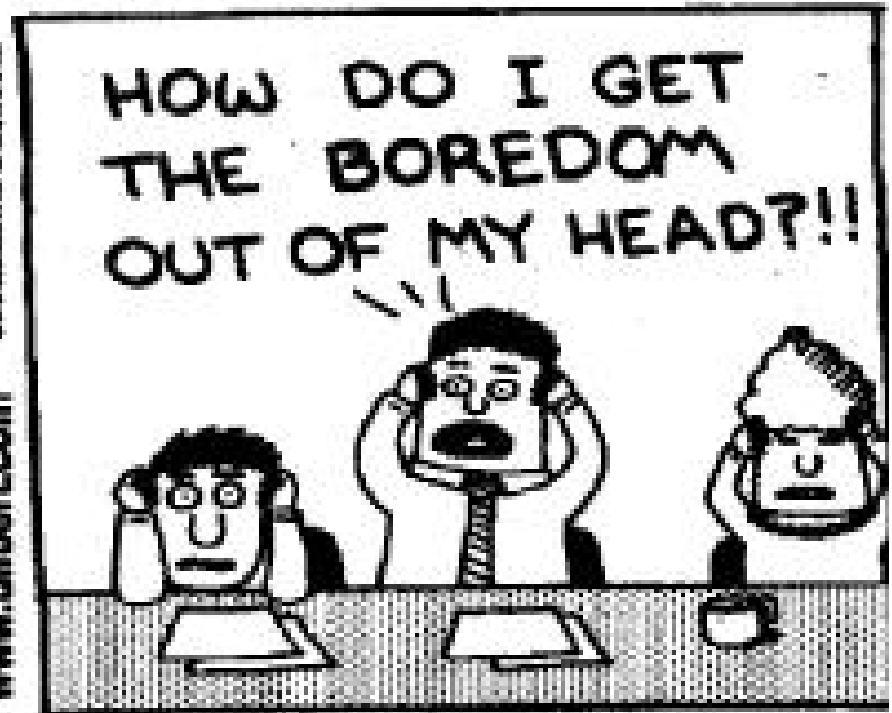


This is what we want to avoid ...



www.dilbert.com



Why you think today's topic is a waste of time...

I'm an engineer — I do numbers, not words

I'm an engineer — How hard can it be?

I'm too busy—I can't get all my work done as it is

LaTeX/Word will correct all my **miss steaks**

Technical editors will edit my papers

The science is what's important;

“communications” is just fluff

I'm just not a good writer/speaker and
there's nothing I can do about it

Over the course of your career, you'll communicate science in many different ways to many different audiences

Presentations at group meetings, work shops, conferences, and job interviews

Publications in journals

Teaching and training

Grant proposals

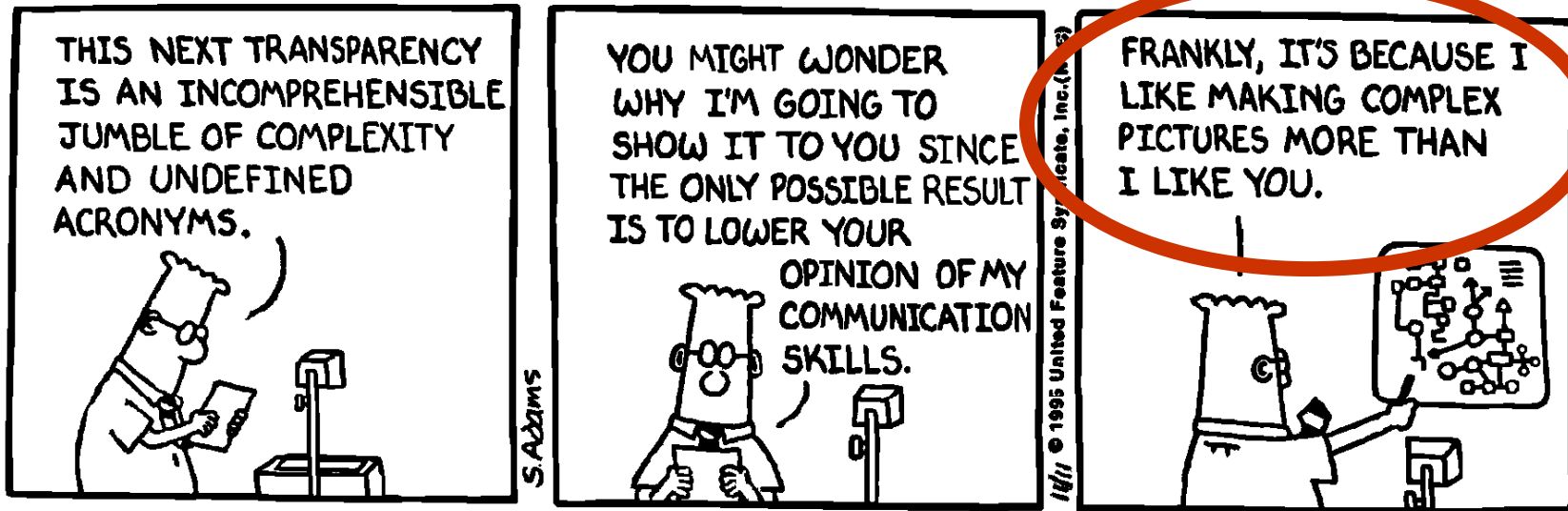
Reviews of other people's manuscripts and proposals

Applications and nominations

Evaluations and recommendations

Websites and electronic media

Communication is an active two-way process that transmits **information** and **meaning** from one individual or group to another



Communication is not broadcasting—it is successful *only* when the **receiver** **understands** the content of a message *as the sender intended it*

We may not be experts at public speaking, but we are all experts at listening to talks, and remember ...

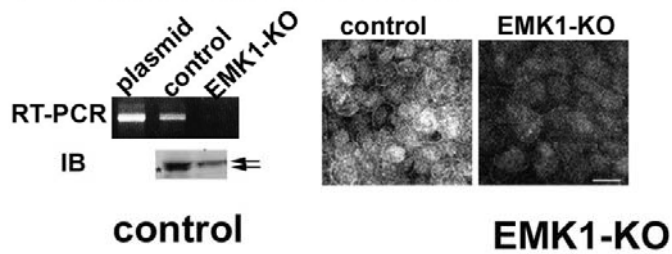
you will never have a second chance to make a first impression

A few things to always remember

- Make sure you have something to say !!!
This is not just the results but your interpretation of the results
- When planning your talk think about its purpose, the audience you will be talking to, and the setting.
 - Don't assume the audience will all be experts.
 - Never underestimate your audience!
- Check on the time that has been allotted to you (8min - 1hr)

What do you think of the following slides?

A EMK1-knockdown



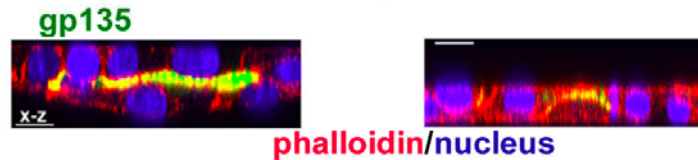
Emk1 knockdown inhibits lumen formation in MDCK cells:

-RT-PCR: EMK1 is effectively knocked down in MDCK cells 24 hours after transfection with P-SUPER (control) or P-SUPER-siEMK1 plasmid; knockdown confirmed on the right with antibodies to EMK1.

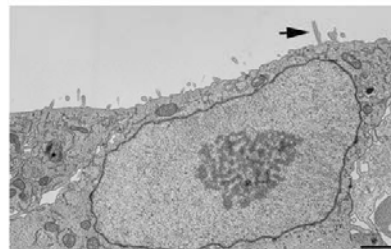
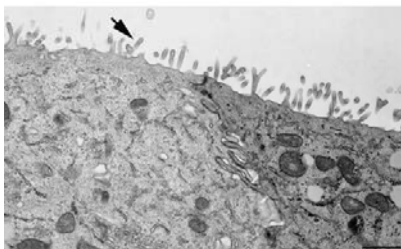
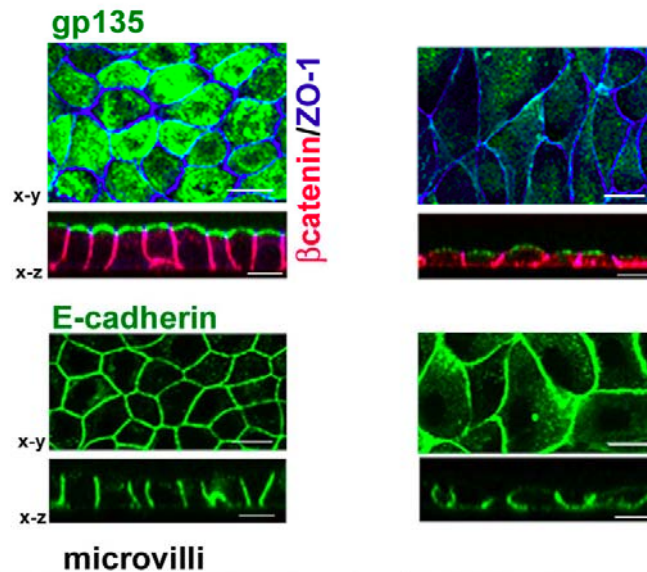
- Collagen overlay assay: cells cultured 24 h on collagen I before being overlaid with additional collagen on the apical surface, analyzed 24 h later. Note the lack of lumen in EMK1-KO cultures.

- Ca switch: control or EMK1-KO cells were plated in low Ca medium 24 h upon transfection with pSUPER or pSUPER-KO. After 12 h, cultures were switched to normal medium for 24 h. Transmission EM of cells sectioned perpendicular to the substratum shows lack of microvilli in EMK1-KO cells.

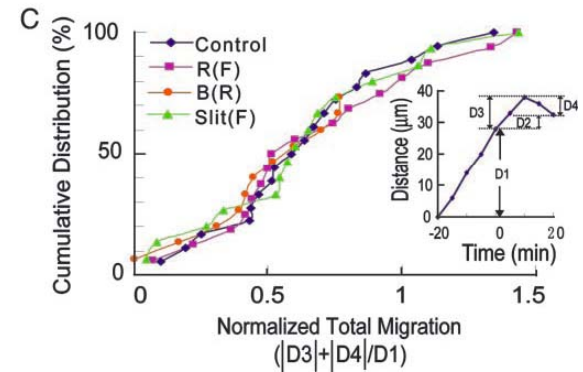
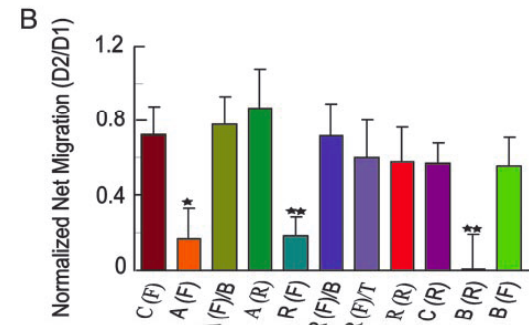
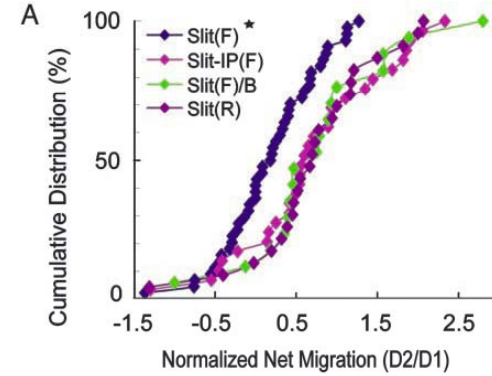
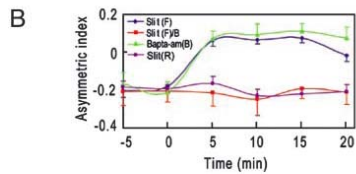
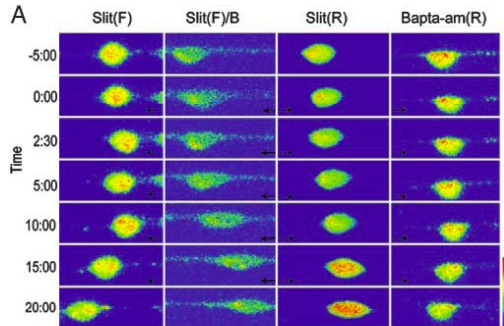
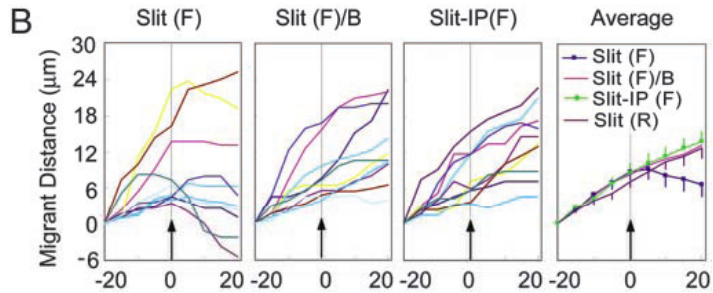
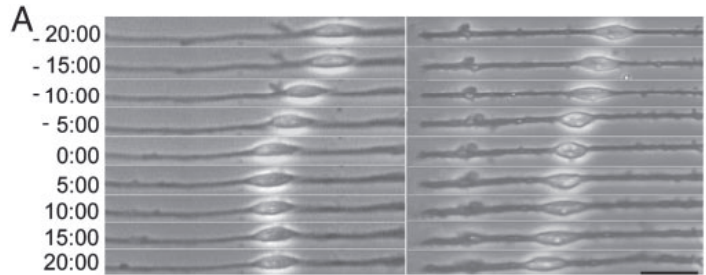
B collagen overlay



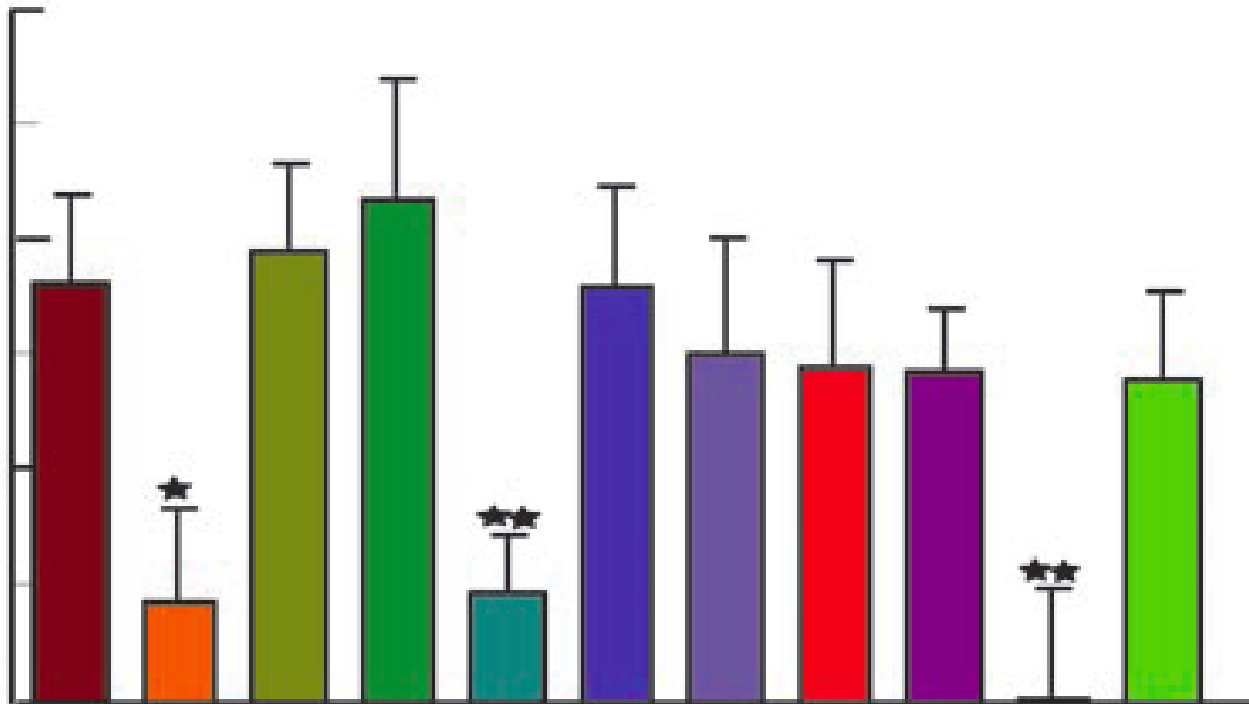
C Ca-switch



Results



What about this one?



Or this one?

Changing to 2-norm and measuring margin in $(\mathbf{w}; \mathbf{i})$ space:

$$\begin{aligned} \min_{y > 0; \mathbf{w}; \mathbf{i}} \quad & \frac{1}{2} \|\mathbf{y}\|_2^2 + \frac{1}{2} \|\mathbf{w}; \mathbf{i}\|_2^2 \\ \text{s. t.} \quad & D(\mathbf{A}\mathbf{w} - \mathbf{e}\mathbf{i}) + \mathbf{y} > \mathbf{e} \end{aligned} \quad (\text{QP})$$

At the solution of (QP): $\mathbf{y} = (\mathbf{e} - D(\mathbf{A}\mathbf{w} - \mathbf{e}\mathbf{i}))_+$,
where $(\mathbf{a})_+ = \max\{\mathbf{a}; \mathbf{0}\}$

Hence (QP) is equivalent to the nonsmooth SVM:

$$\min_{\mathbf{w}; \mathbf{i}} \frac{1}{2} \|\mathbf{e} - D(\mathbf{A}\mathbf{w} - \mathbf{e}\mathbf{i})\|_2^2 + \frac{1}{2} \|\mathbf{w}; \mathbf{i}\|_2^2$$

So, what was wrong?

- Not memorable, too much information
- Confusing, clear take-home message does not come across
- Absolutely no information given
- No time spent explaining
 - "I would explain it but I will not since I am running of time ..." or "I will not bother you with the details"
 - **THEN DON'T SHOW IT AND NEXT TIME BE BETTER PREPARED!!!**

Say *exactly* what you mean . . .

Say *exactly* what you mean . . .

“Evidence of a positively charged electron was found in cosmic ray tracks produced in a vertical Wilson chamber. Of 1300 photographs, 15 were found to contain this unexplained particle. Analysis of the tracks indicates a particle of positive charge, having a magnitude comparable to that of an electron.”

The photographs did not contain any “particles.” The photographic film recorded tracks that could not be explained by the behavior of known particles.

Say exactly what you mean . . .

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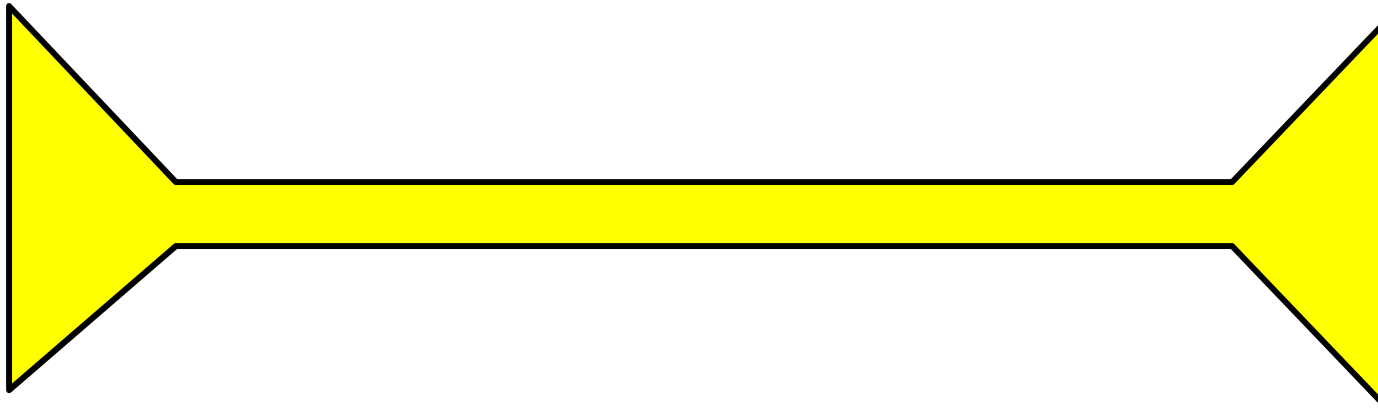
The photographs did not contain any “particles.” The photographic film recorded tracks that could not be explained by the behavior of known particles.

Some tips

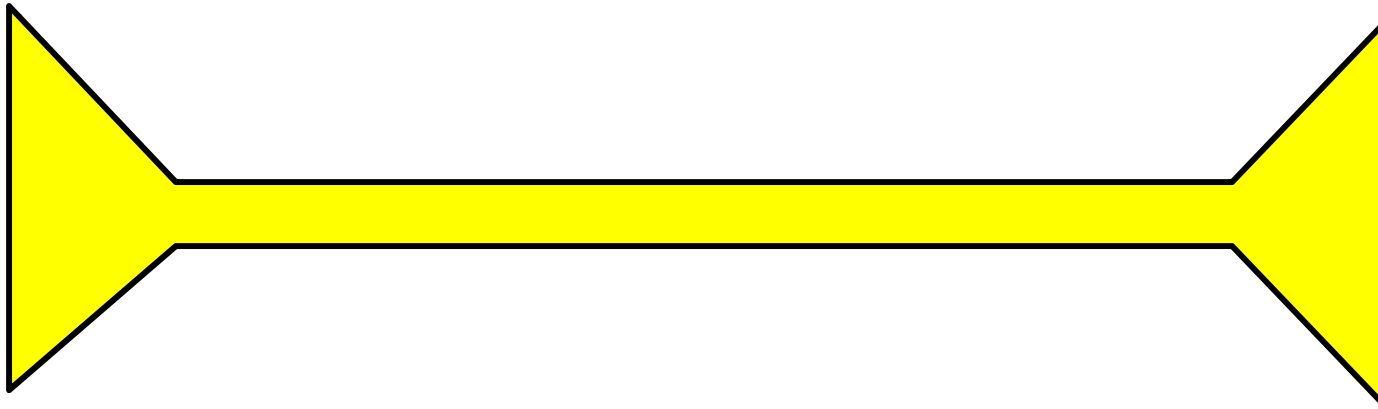
- For each slide have a descriptive title that conveys a key message
- Use talking points and follow them
 - People do not like to be confused ... say one thing, read another, mean something else, and audience gets something different
- Have a simple clear message for each slide and a main take home message for your talk

The structure of a good talk: start broad,
get specific, and end broad

The structure of a good talk: start broad,
get specific, and end broad



The structure of a good talk: start broad,
get specific, and end broad



Start with the biggest questions
and get progressively more specific

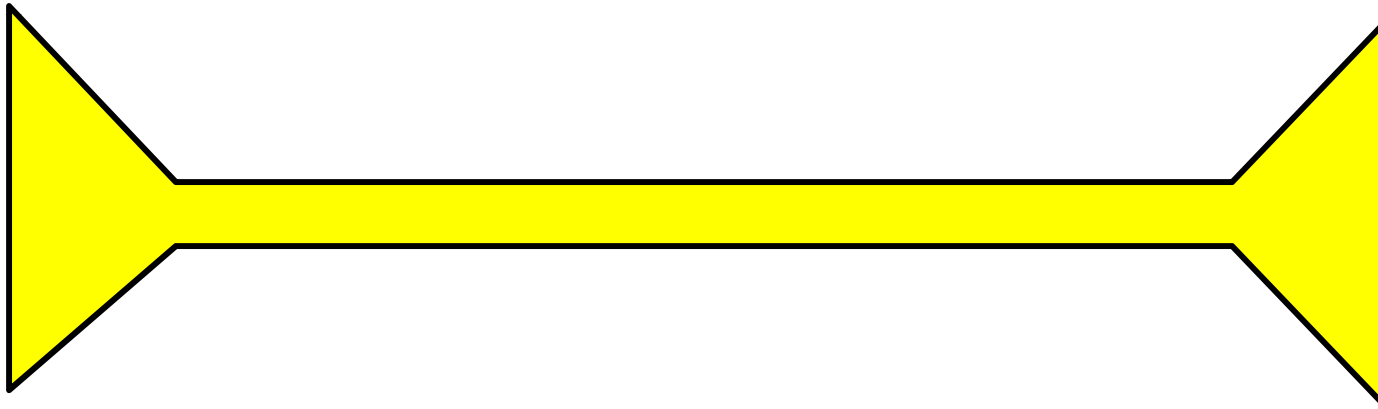
A powerful tool in a talk is a "home slide"

Design and introduce a "home slide" that you'll come back to at each major transition in your talk

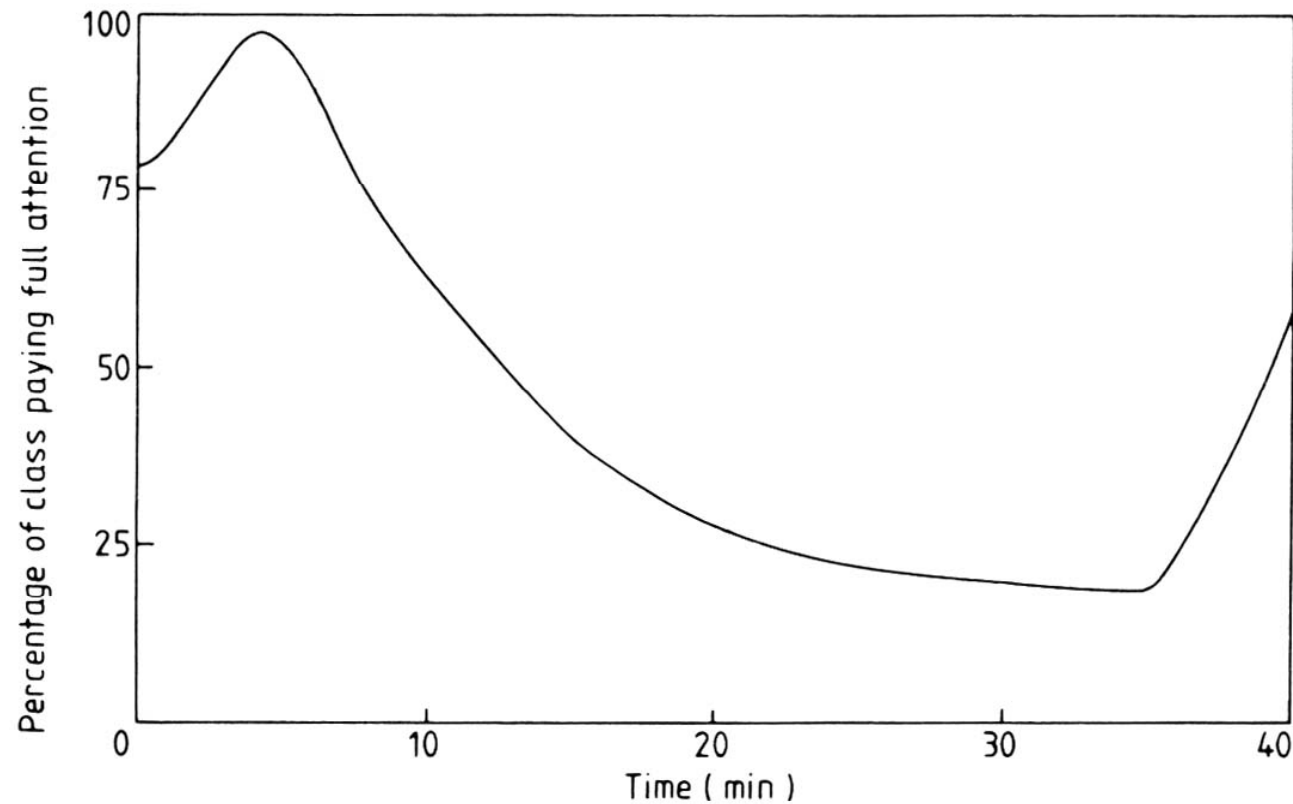
Sometimes this is a virtual slide which is not really used in your talk BUT you should have it in your mind in order to make sure your talk flows nicely

The structure of a good talk: start broad,
get specific, and end broad

The middle is the meat of the talk...

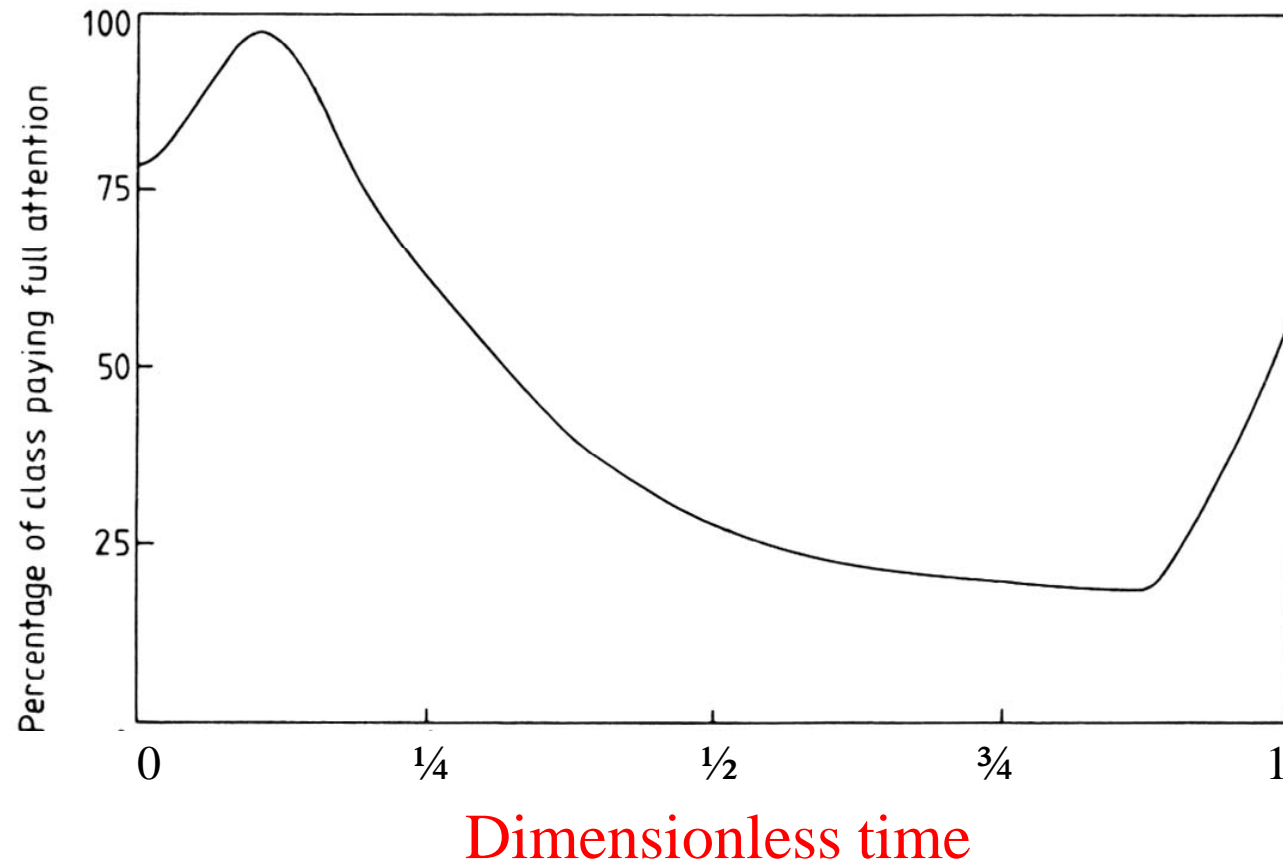


...but talks are delivered to audiences with (very) limited attention spans



Audience attention curve

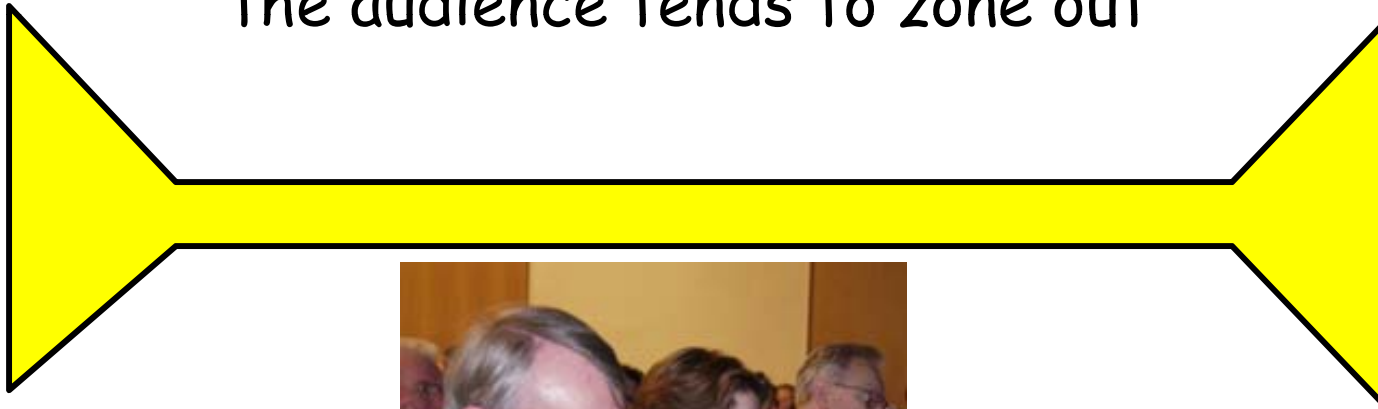
...but talks are delivered to audiences with limited attention spans



No matter how long the talk, you will lose people ..
The more you lose the worse it is!

The structure of a good talk: start broad,
get specific, and end broad

The middle is also the time at which
the audience tends to zone out



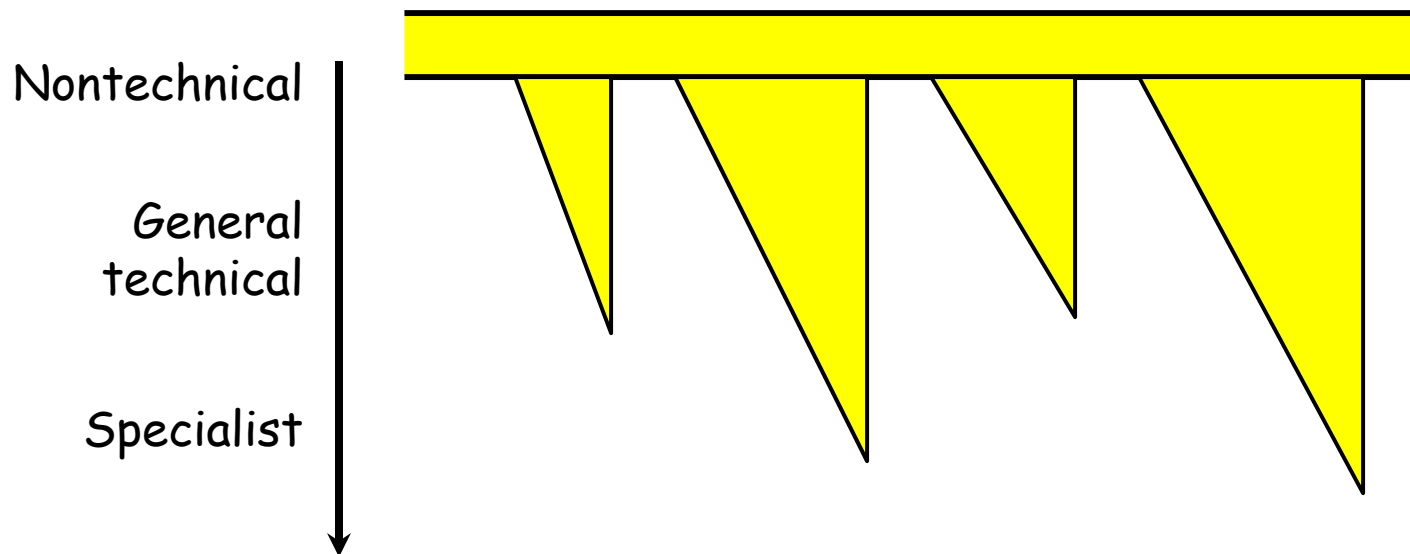
The structure of a good talk: start broad, get specific, and end broad

- After going into depth, come back to your home slide to make transitions



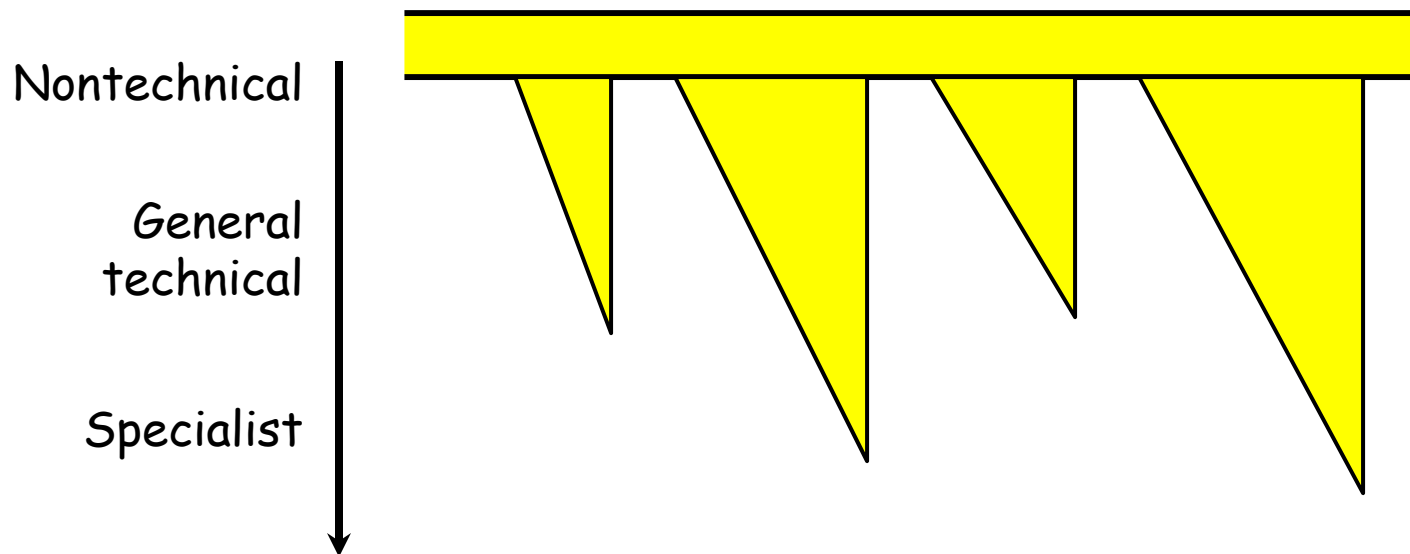
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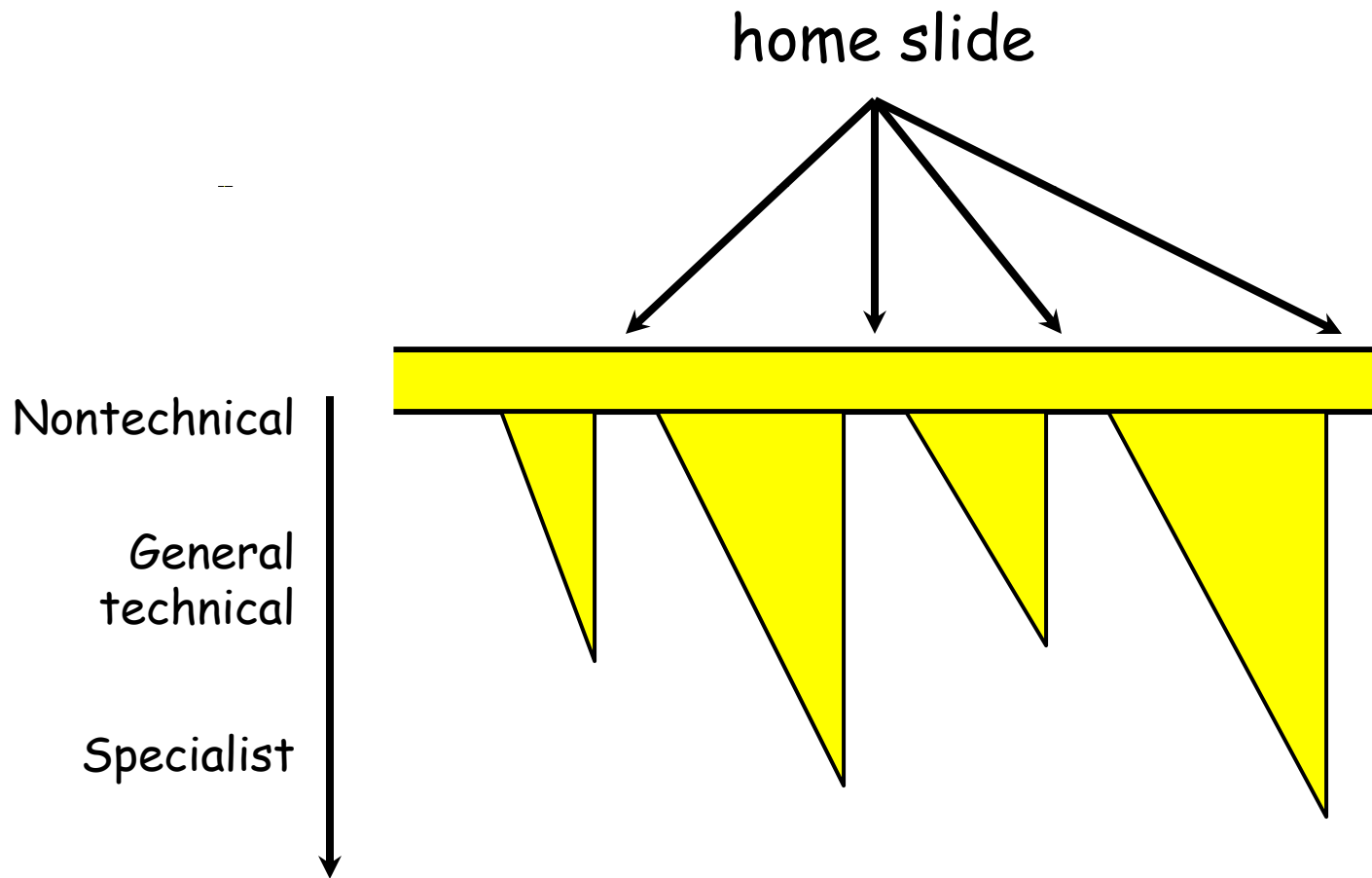


The structure of a good talk: start broad, get specific, and end broad

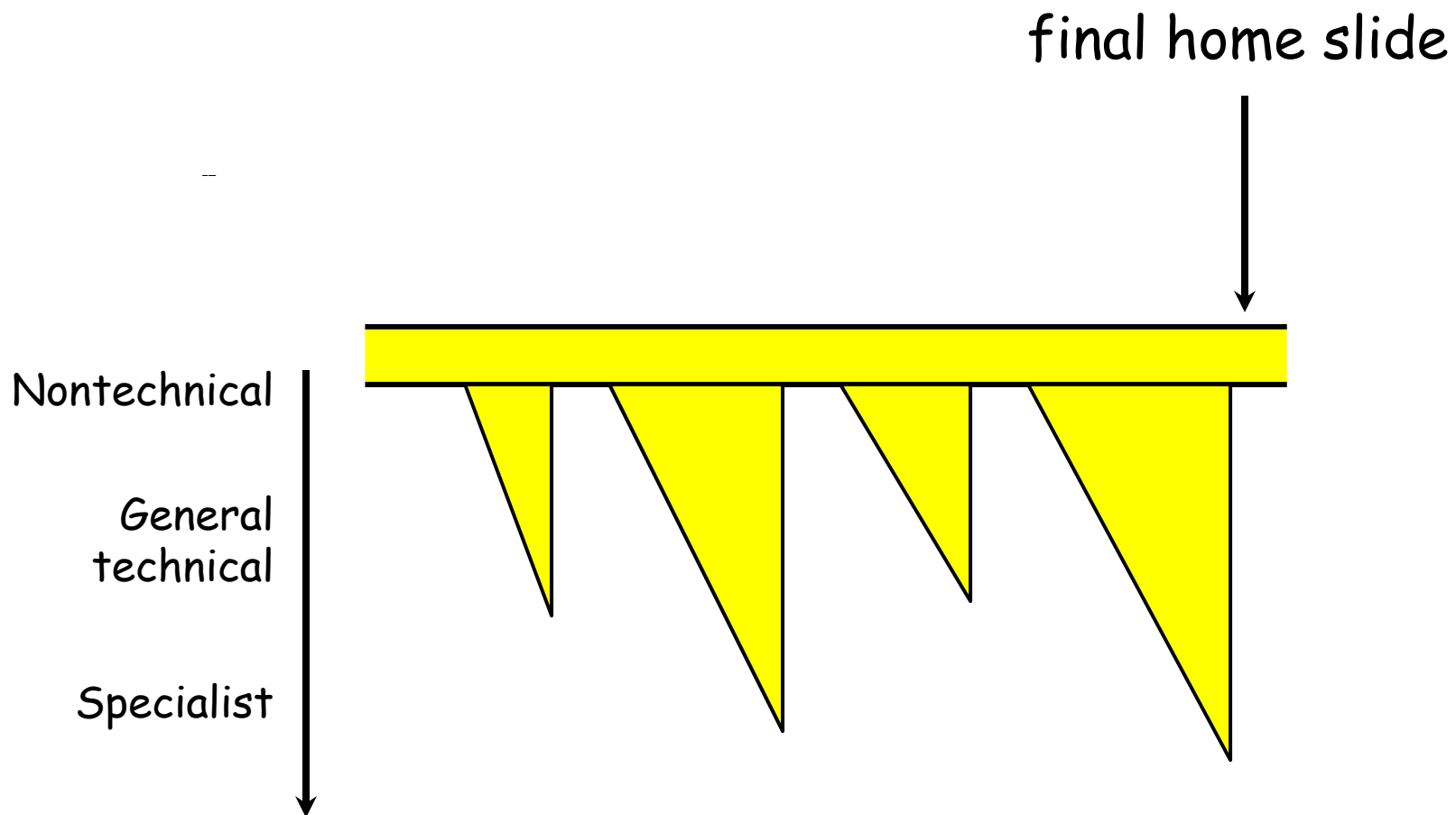
Have something for **everyone**
Have something for a **few**
- Have something (1 slide) for **no one!**



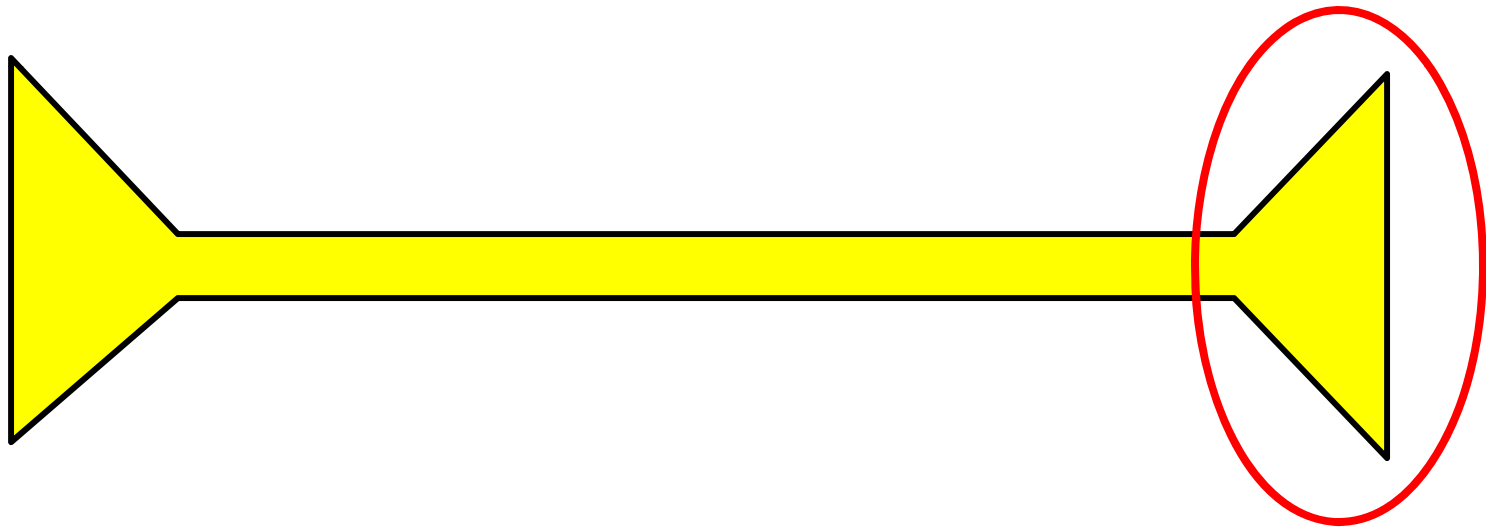
Use your home slide repeatedly to build a theme over time and enable the audience to catch up



Over the course of the talk, you can progressively build a fairly complex model



The structure of a good talk: start broad,
get specific, and end broad



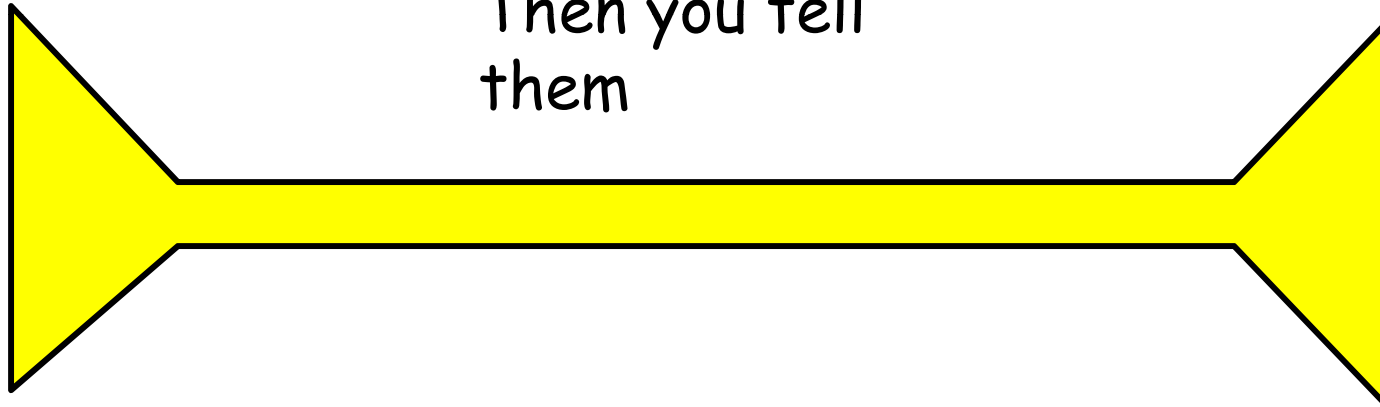
Focus now on conclusions

The structure of a good talk: start broad, get specific, and end broad

First tell them
what you will
tell them

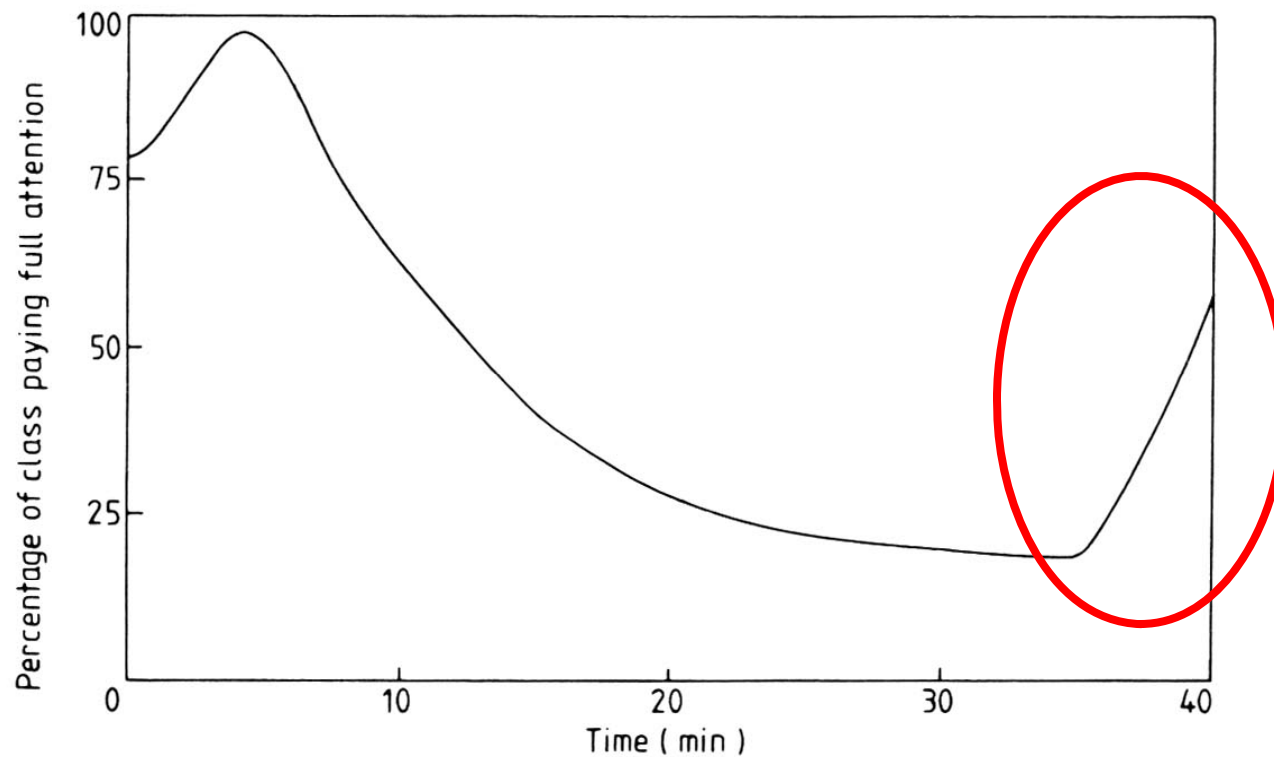
Then tell them
what you told
them

Then you tell
them



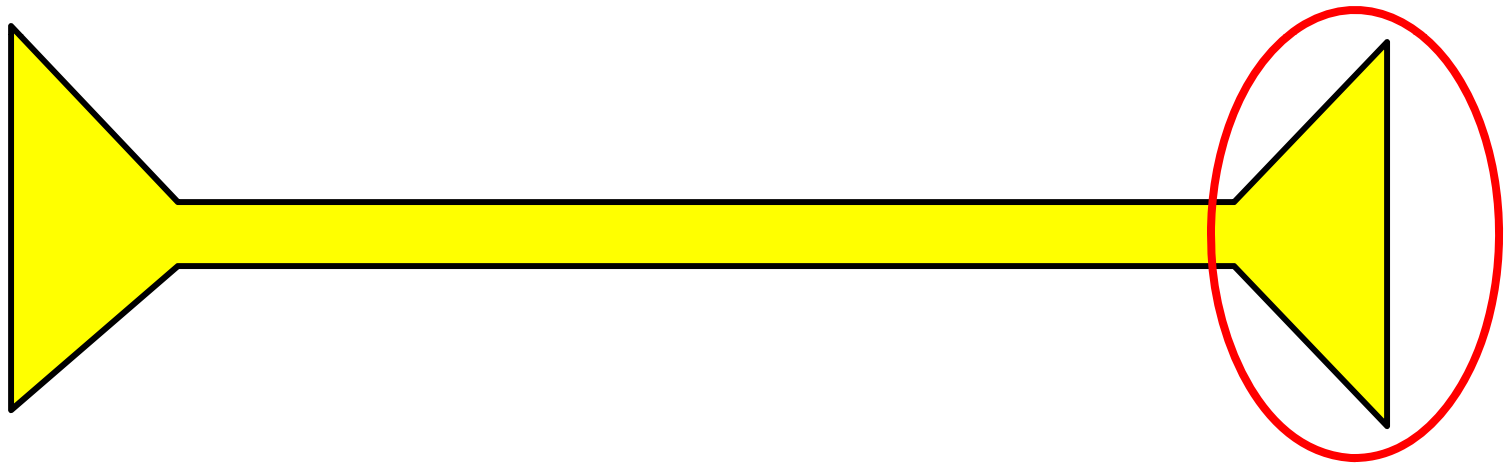
Be careful .. This does not work **ALL THE TIME!**
Sometimes meetings are very technical and very specialized and you will get people upset. In that case you have to be technical and excruciatingly detailed (**KNOW YOUR AUDIENCE**)

Audience attention increases as you signal the end of the talk - so avoid false endings!



Audience attention curve

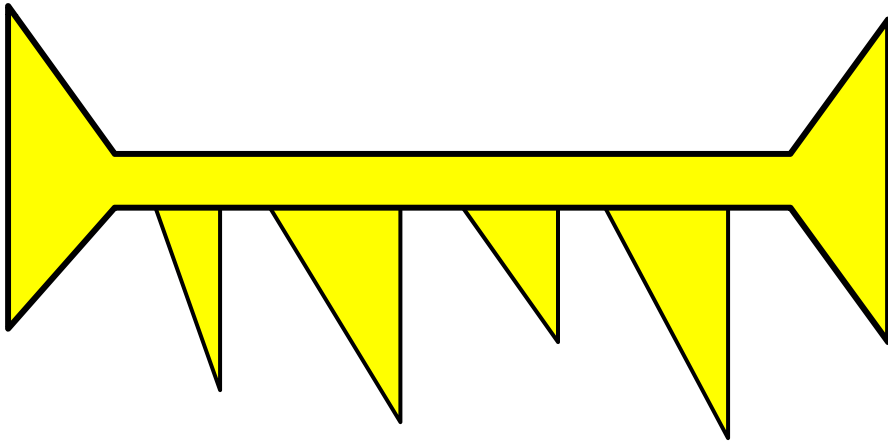
The structure of a good talk: start broad,
get specific, and end broad



End with the most specific conclusions
then build back out to the "big picture"

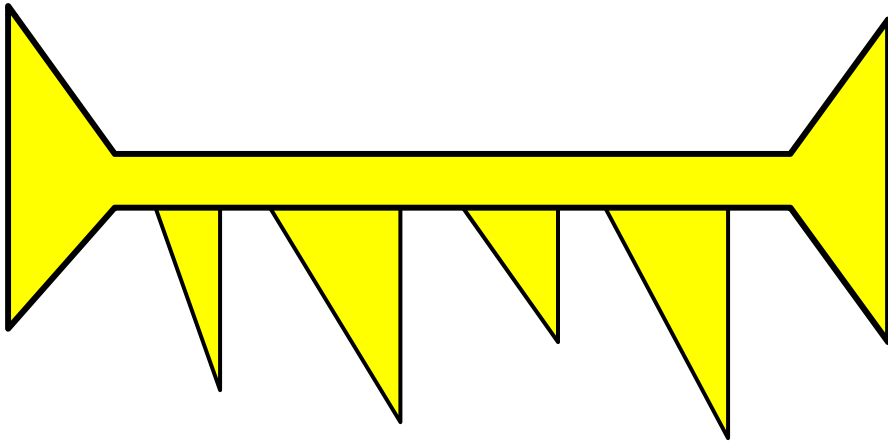
Organizing a great talk

- Be smart about Powerpoint

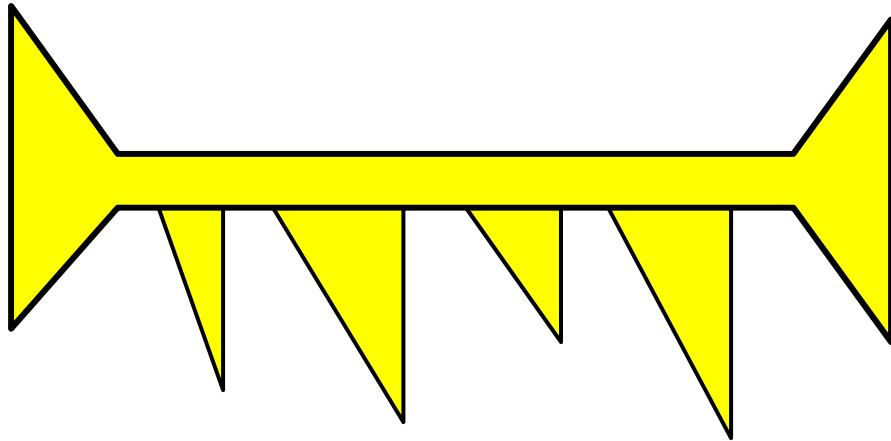


Organizing a great talk

- Be smart about Powerpoint
- Your introduction should start broad then get specific

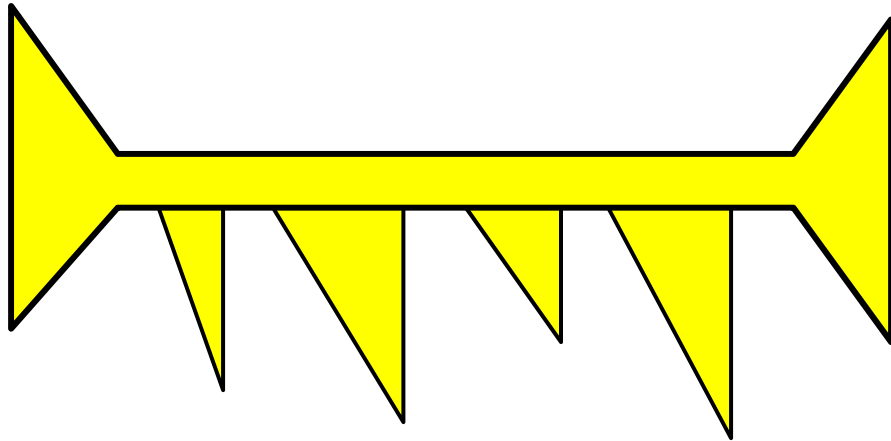


Organizing a great talk



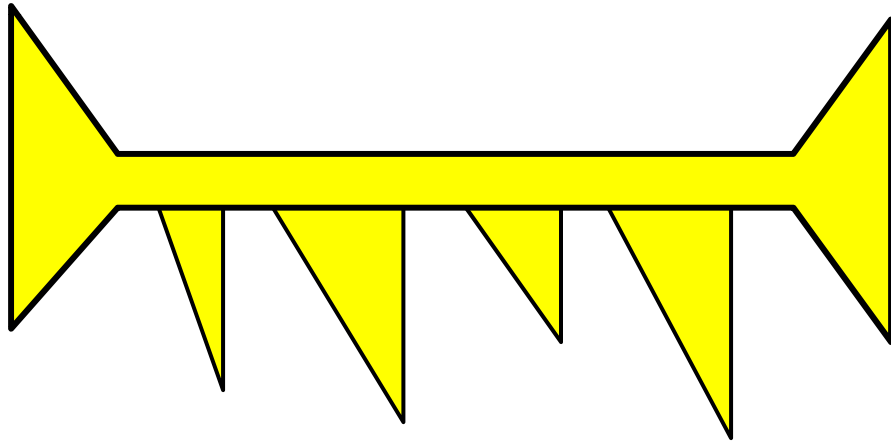
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Organizing a great talk



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- Use a home slide to make transitions effectively

Organizing a great talk



- Be smart about Powerpoint
- Your introduction should start broad then get specific
- Think of your talk as consisting of episodes (viewgraph research)
- Use a home slide to make transitions effectively
- Your conclusion should start specific but end broadly

There is more to giving a good talk than showing good slides

- Do face the audience and make eye contact
- Be enthusiastic !!!
- Don't pace up and down, don't stand rigid
- Don't wave your pointer all over the slide
- Be consistent in your format, fonts, font size
 - Help people follow you talk
 - Encourage real questions and do not have people struggle to understand the basic concepts!
- $\#slides = t(min)/2$
 - You cannot spend $< 1min/slide$

There is more to giving a good talk than showing good slides

- Do practice beforehand & **Iterate !!!**
- Seek feedback
- Don't use too many gimmicks (if the content is lousy this can be a BIG problem)
- Answer questions honestly and do not make up stuff on the fly.
- If you do not know something it is fine ...
BUT some things you should know
 - Q: why are you doing what you are doing ?
 - A: because my advisor told me so

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Here are some of the things many listeners want from a talk

CONTENT Conveys new information Poses an interesting question Conveys how people in other fields think Describes important ideas Novel discovery	CLARITY AND ORGANIZATION Understandable Avoids jargon Uses clear and simple visual aids Well organized Enables me to catch up if I space out Doesn't run over time
STYLE AND DELIVERY Keeps me awake Varies voice Conveys enthusiasm Doesn't stay in one place Friendly and approachable	EXPERTISE Credible Inspires trust and confidence Answers questions clearly

Layout

Limit text blocks to no more than two lines each.

Layout

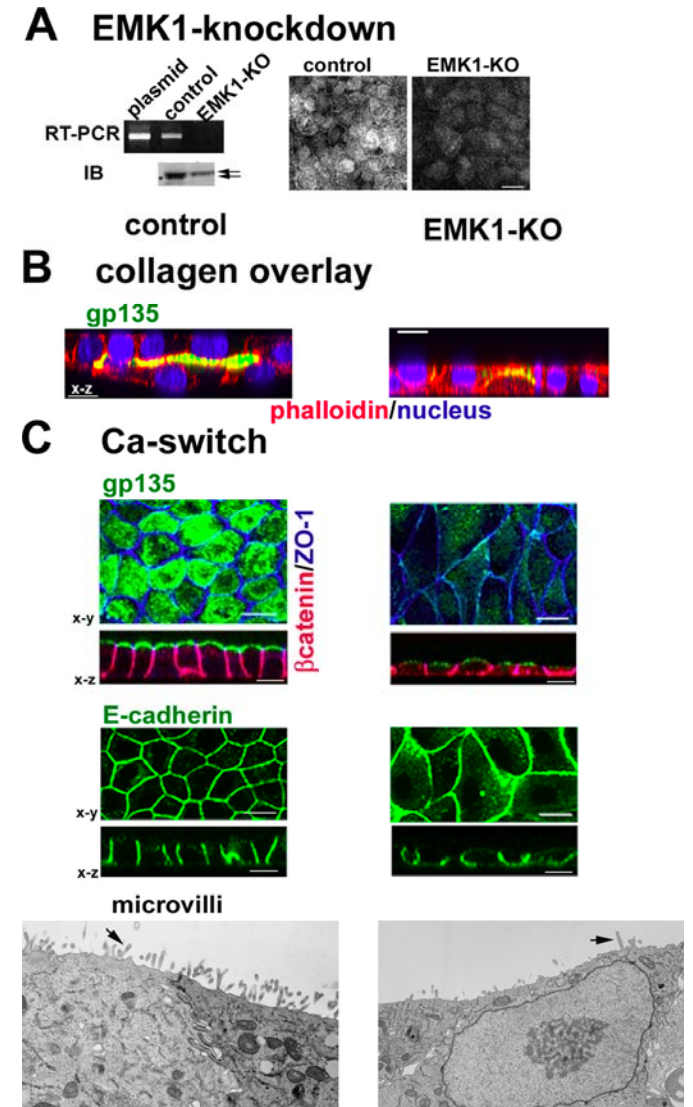
The reason for limiting text blocks to two lines is that when the text block goes on and on forever, people in the audience are going to have to make a huge effort to read the text, which will preclude them from paying attention to what you are saying. Every time you lose their focus, your presentation suffers!

Layout

Be generous with empty space.

Layout

If you try to cram too much into a slide, and place things too close to the sides, they can get cut off if you're using a poor projector. In any case, the slide looks all cluttered and junky.



Style

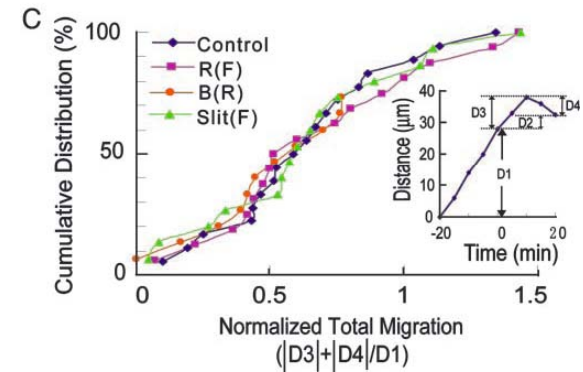
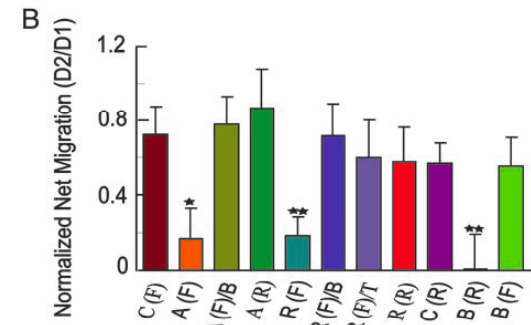
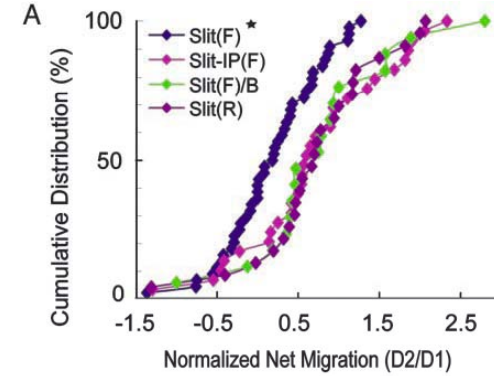
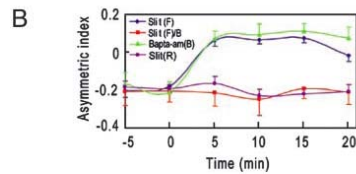
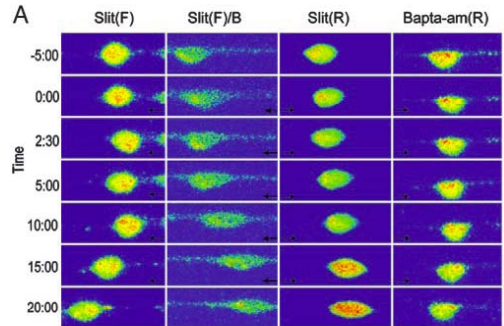
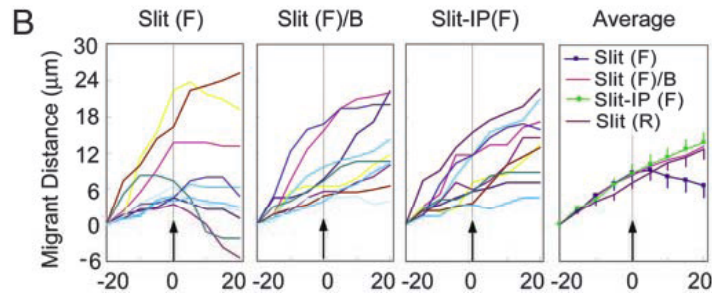
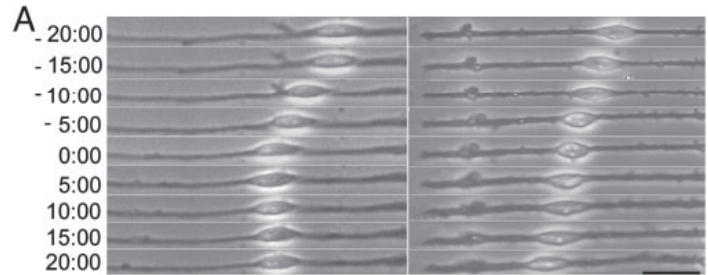
Try your best to include a simple image on every slide.

Style

Limit the number of items on each slide.

Each slide should make just one or two points!

Style



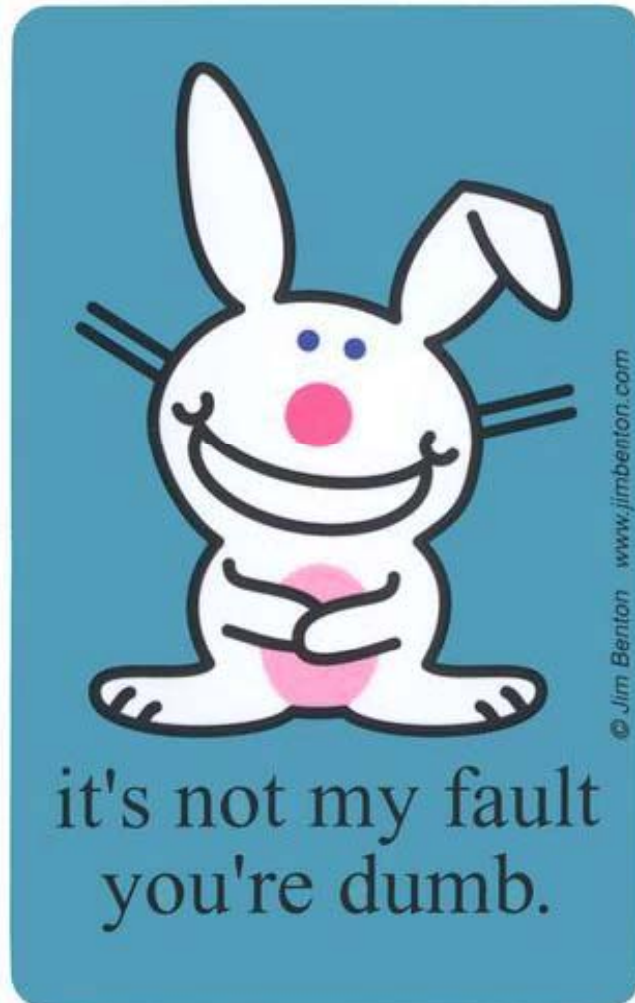
Arrrgh!

Style

Don't try to show too many slides.

Often, less is more.

If a presentation fails and nobody understands anything, it is probably our fault!!!



Michael Alley

THE CRAFT OF SCIENTIFIC PRESENTATIONS

CRITICAL STEPS TO SUCCEED AND
CRITICAL ERRORS TO AVOID

