1

This is a talk about my OPINIONS as to what makes a good talk. There is no data – there's no proof I'm right. Besides, I like to hear myself maunder on.

These are ideas for a 15 minute talk – the most common beginner's talk.

Quick Summary

- **Simple**
  - **For least specialized in audience.**
  - **Simple slides**
- **Conclusion first**
  - **No mystery stories.**
- **Short**
  - **3 points max**
  - **Finish on time**

2

You don’t want to snow your audience – what would you be trying to prove?

I’m never insulted by being told what I already know – there are sometimes new insights, and the lower level approach is where they surface.

- **A Content**
  - **Most important, often obscured by**
- **B Presentation**

3

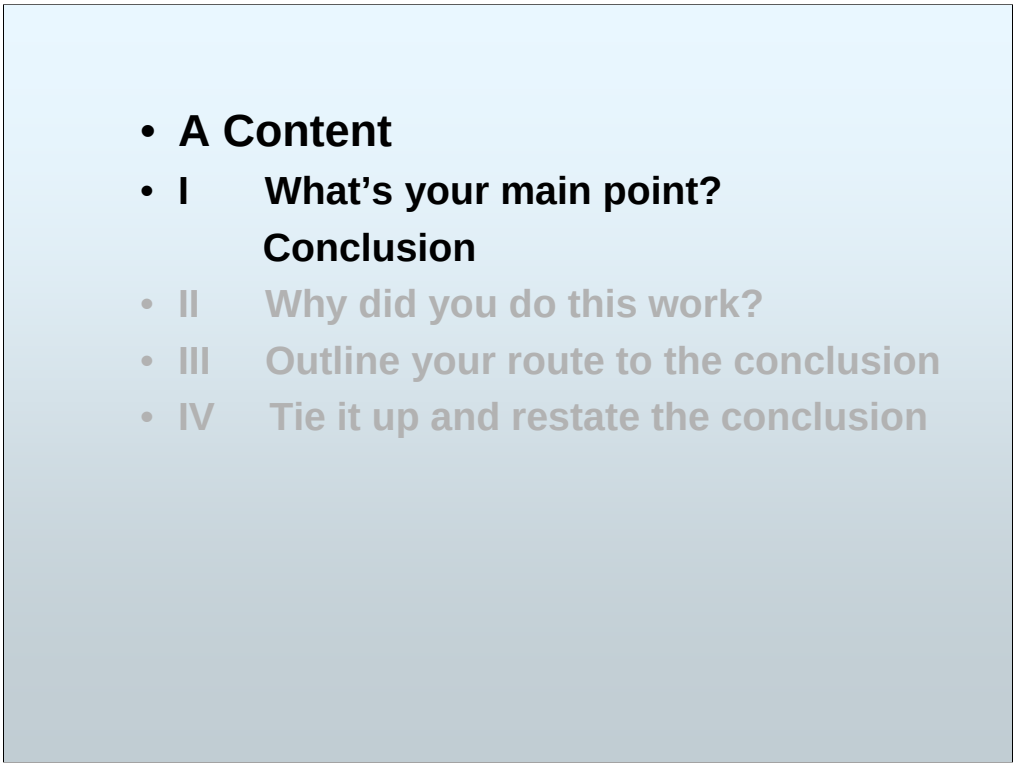
The most important thing in a talk is the content. But I'll actually spend more time on the presentation, because there are more traps there, and those are more fun to talk about.

OUTLINE!!

Write an outline to get yourself organized. I often find myself doing that halfway through, and wish I'd taken my own advice by starting with one.

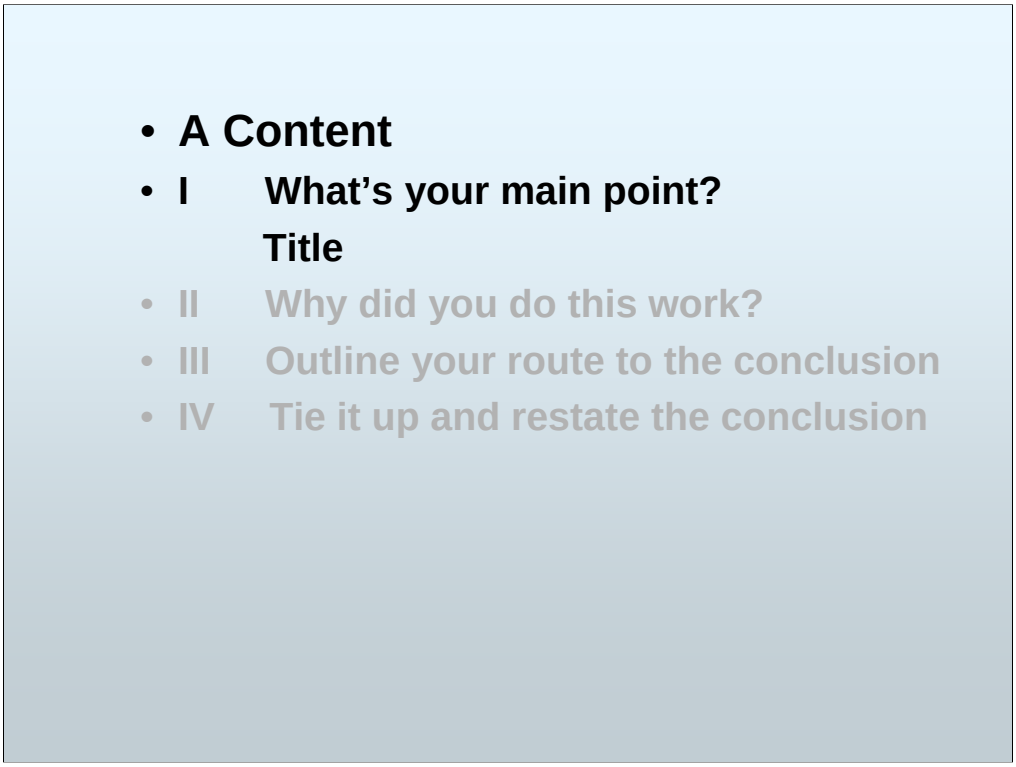
- **A Content**
- **I What's your main point?**
- **II Why did you do this work?**
- **III Outline your route to the conclusion**
- **IV Tie it up and restate the conclusion**

4



6 << Sorry these are now misnumbered. I deleted a slide.

If you can't find a single main point, go back to your outline (you DO have an outline?) and try to figure it out. You absolutely need it for your title, and if you find there are more points, maybe you should re-think.



7

Put that main point in the title. And keep the title short. I don't go to talks that take three lines to write the title, and I don't go if I can't understand at least the jist of the title.

Four-vector representation of the gauge invariant electromagnetic momentum

8

Here’s a bad title.

9

Here’s a good one.

- **A Content**
- I What's your main point?
- **II Why did you do this work?**
  Possibly the most important message.
- III Outline your route to the conclusion
- IV Tie it up and restate the conclusion

10

A talk is a great time to remember that you're doing all this labor for a reason. Not to find if AGC can combine with alphaalphabetatrinitrohydrasyl to create AGC', but because there may be a way to cure Huffington's disease and make the world a better place

- **A Content**
- I What's your main point?
- **II Why did you do this work?**
  Put it in external context
- III Outline your route to the conclusion
- IV Tie it up and restate the conclusion

11

External

Photons are important:
MRI
Microscopy
CT Scans

in diagnosis of many diseases

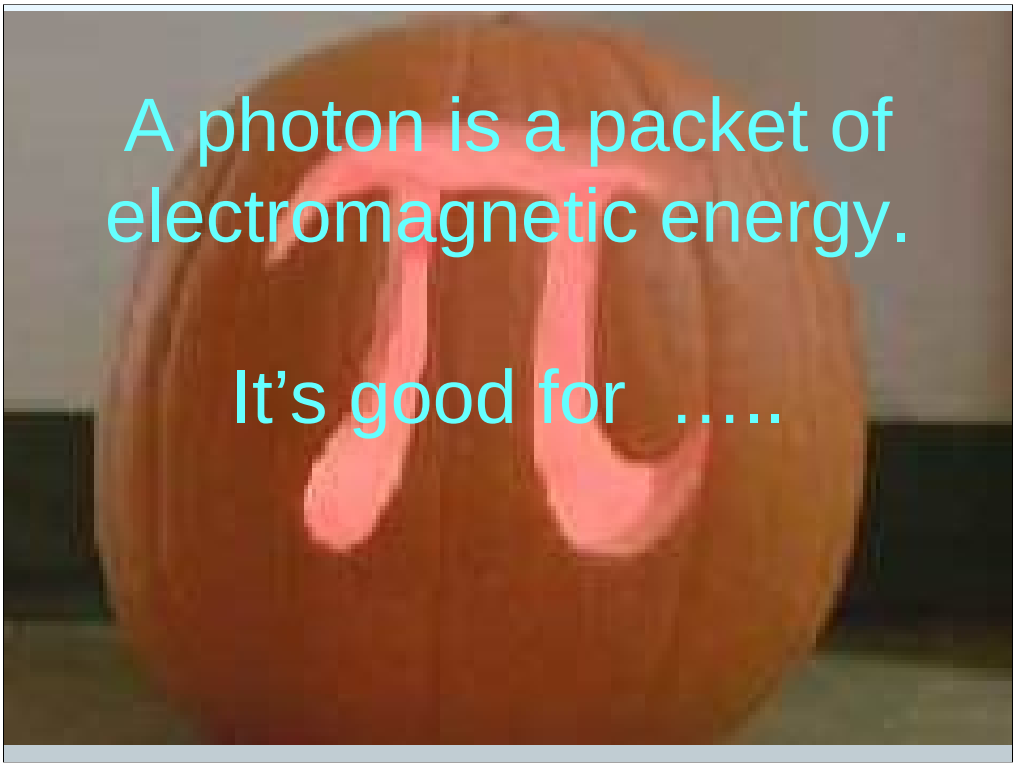
12

These are reasons to want to know what photons are.

- **A Content**
- I What's your main point?
- **II Why did you do this work?**
  Why is this a good choice for solving the external problem?
- III Outline your route to the conclusion
- IV Tie it up and restate the conclusion

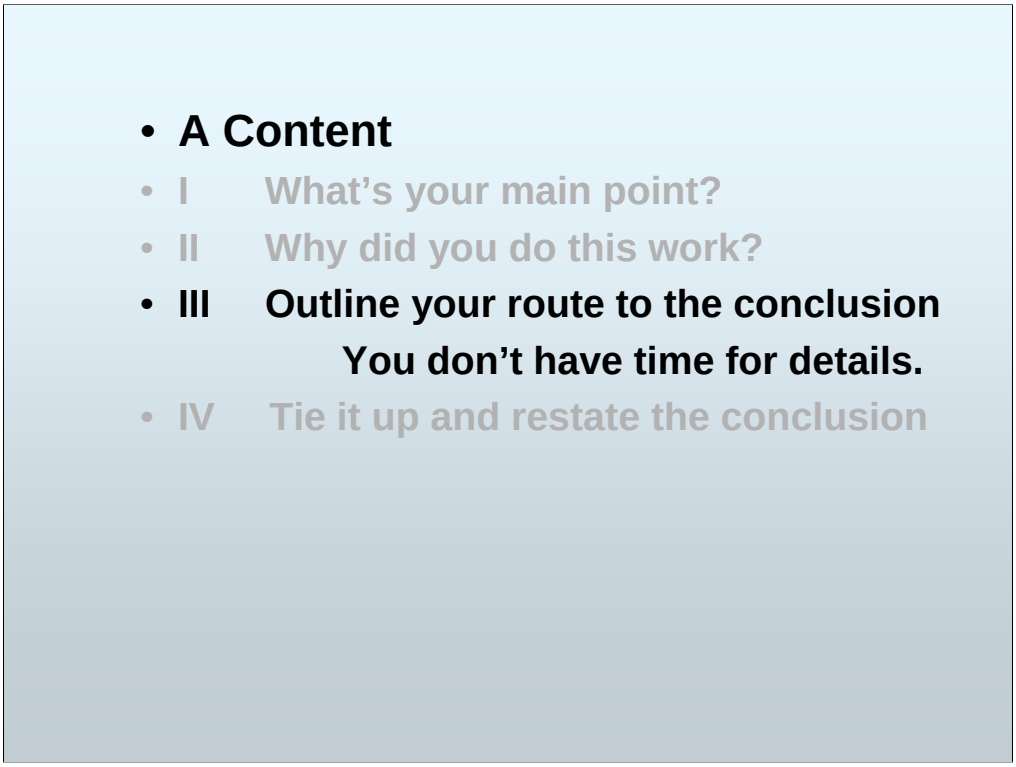
13

Now you can get a little more specific, and tell about why you chose AGC instead of BGC.



14

Like this



15

This is where you tell what fun it was – or what a drag?

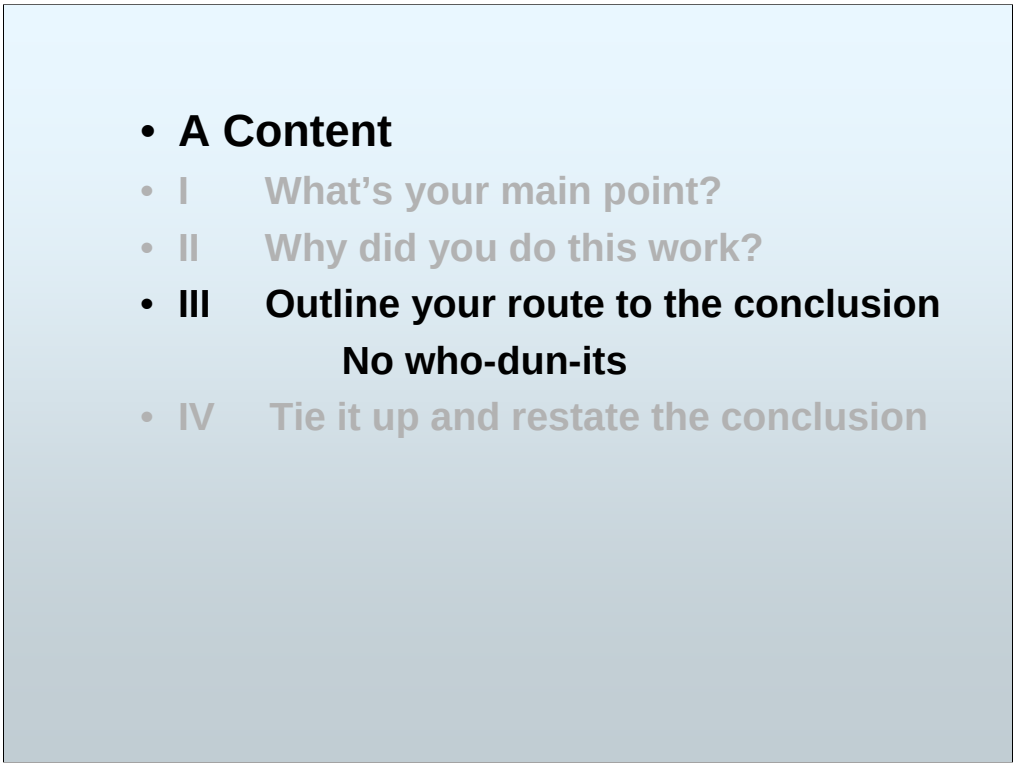
In a longer talk, you can get even deeper into the nuts and bolts, but first tell them WHY you went the way you did. I know, and you know, and maybe your audience does, that you really had no clue beforehand, but it makes a nice tale to show the roadmap first.

- **A Content**
- I What's your main point?
- II Why did you do this work?
- **III Outline your route to the conclusion**

  Tell the story BACKWARDS
- IV Tie it up and restate the conclusion

16

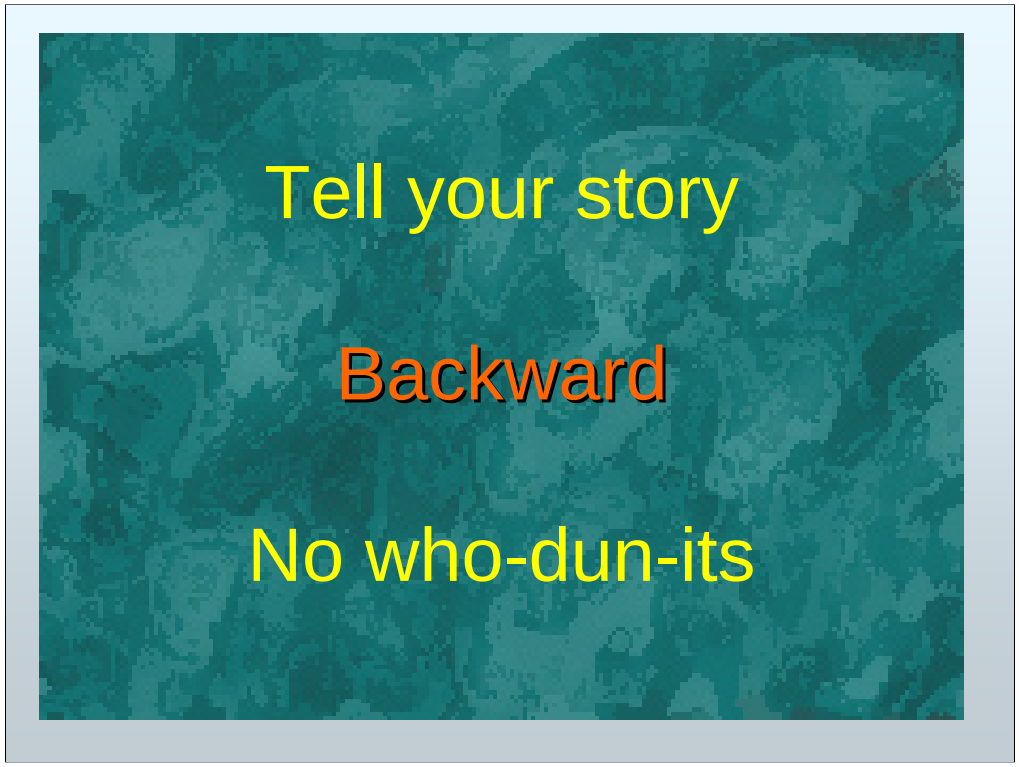
A discursive tale of how you arrived at your conclusion will very likely never get there. Tell us the answer first, then decide what is critical to convince us that it is the answer.



17

You had a lot of fun following the trail to your conclusions, but the audience didn't come to hear the blow by blow tale.

Always remember that they want to go home.



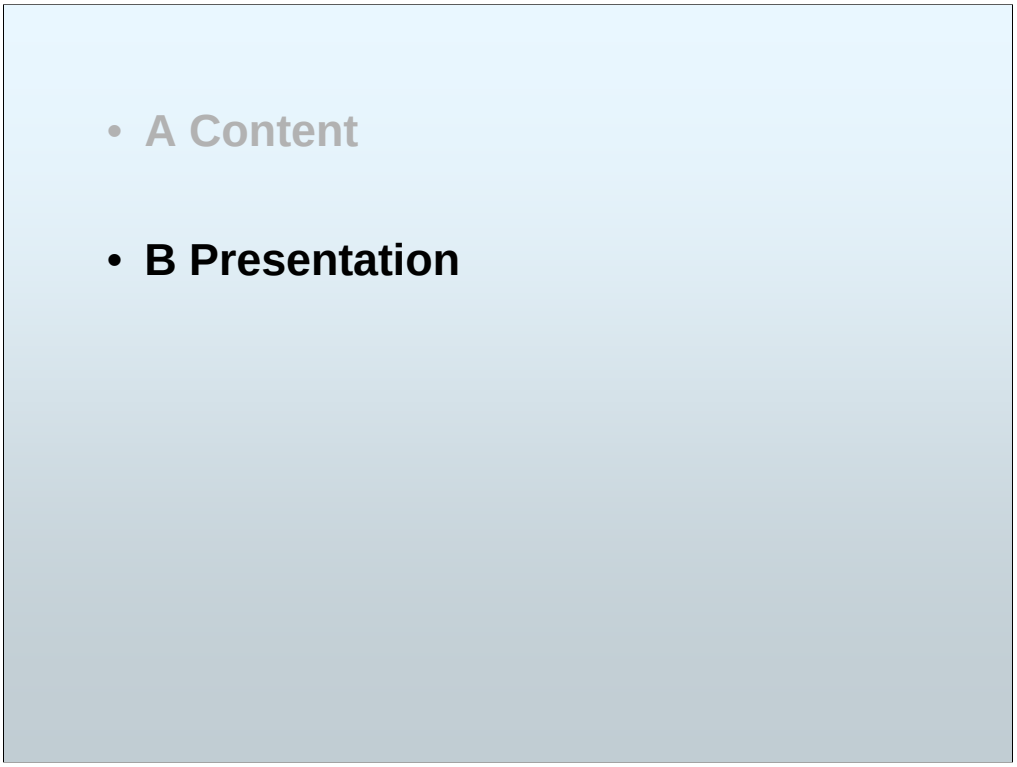
18

- **A Content**
- I What's your main point?
- II Why did you do this work?
- III Outline your route to the conclusion
- **IV Tie it up**

  Restate the conclusion

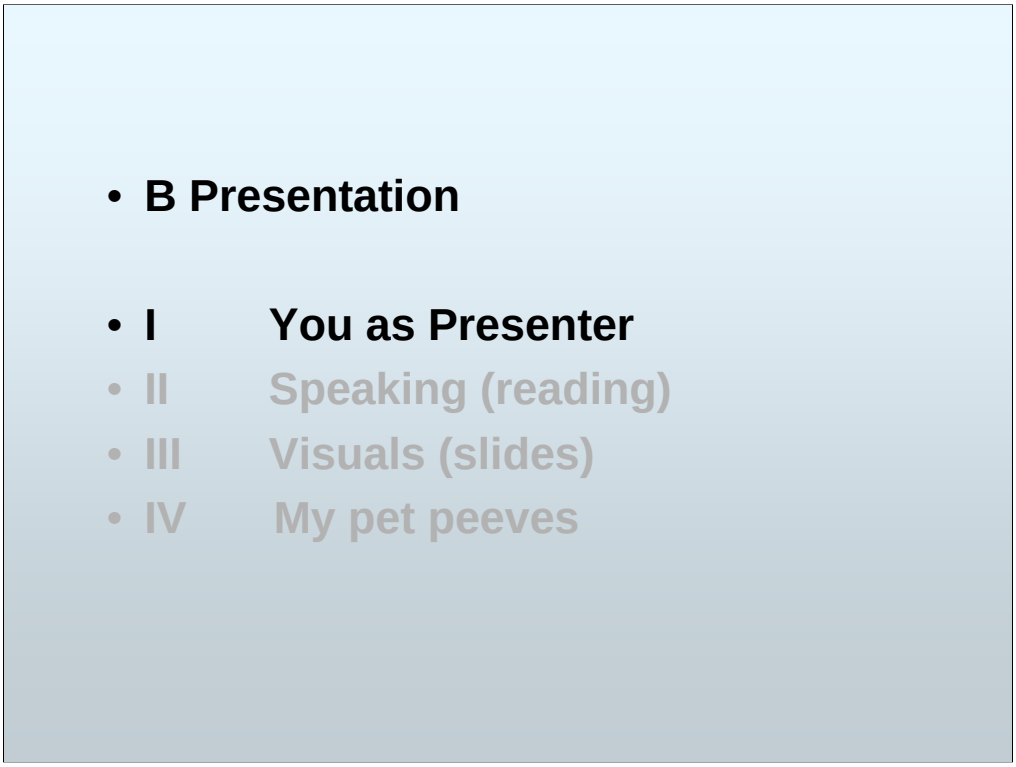
19

Tell 'em what you told them



20

Now we get to the fun stuff



21

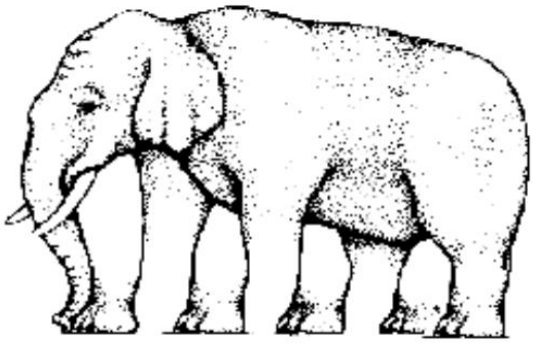
How to behave up there in front.

Don’t hide behind a podium.

Calm down! If your anxiety comes out as wiggling, your audience will squirm too.

Look at your audience. If they are drifting off to sleep, that’s how you find out.

Check out the room



How many legs does this elephant have?

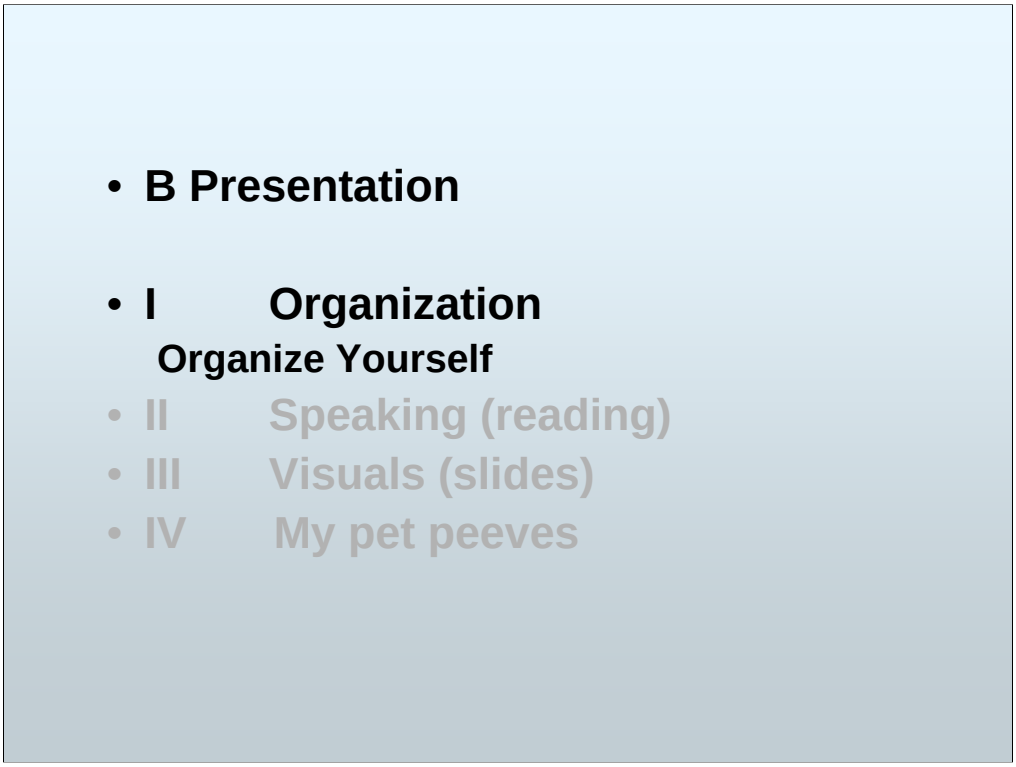
You might have to adjust to an auditorium when you thought it would be an intimate tête á tête.

23

Speak to the least specialized members of your audience. Know who your audience are. If it's mixed - say MDs and scientists, or senior scientists and students, you want to know that before the talk, not afterward.

24

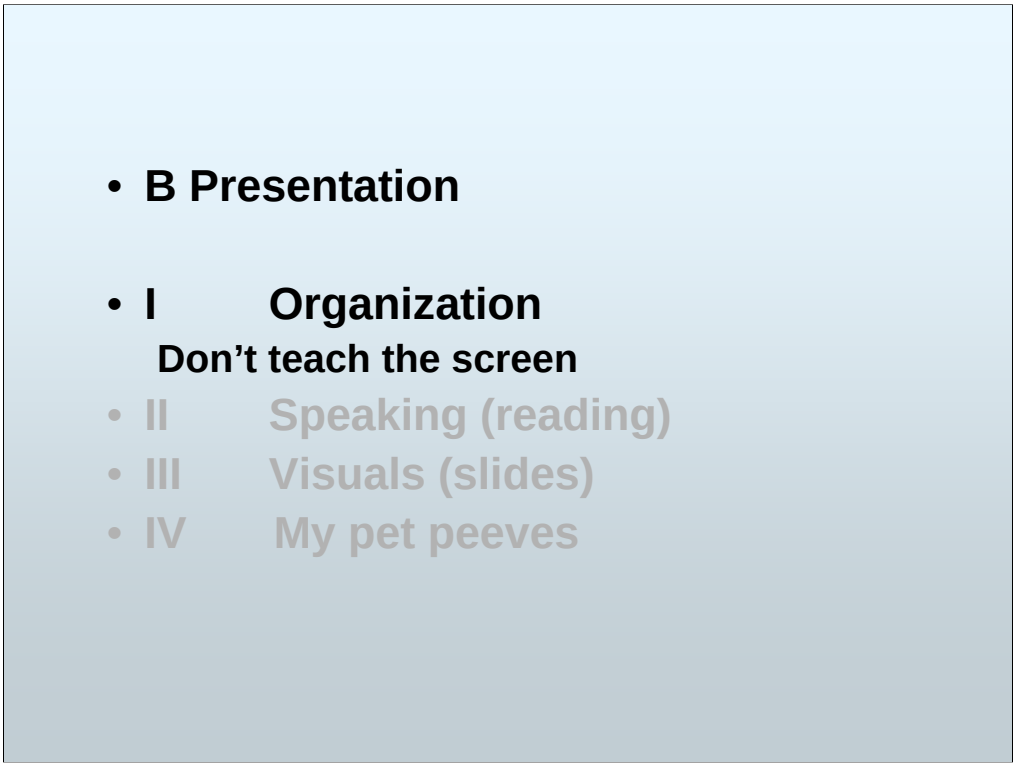
It might be hard to find the specialists, and you might be wrong about which is who.



25

Organize your material and yourself

Write an outline to get yourself organized. I often find myself doing that halfway through, and wish I'd taken my own advice by starting with one.



26

Face the audience. The screen already knows

Use Laser pointer sparingly

- **B Presentation**

- I Organization
- **II Speaking** (reading)
- III Visuals (slides)
- IV My pet peeves

27

- Use short, simple words - Anglo-Saxon are best.
- Sesquipedalian circumlocutions inculcate somnolence.

  Instead - *wake them up!*
- **Eschew Obfuscation**

28

English has two vocabularies – Anglo Saxon and Norman French. For talks the first is better when possible, and probably also for papers.

Norman French: illumination

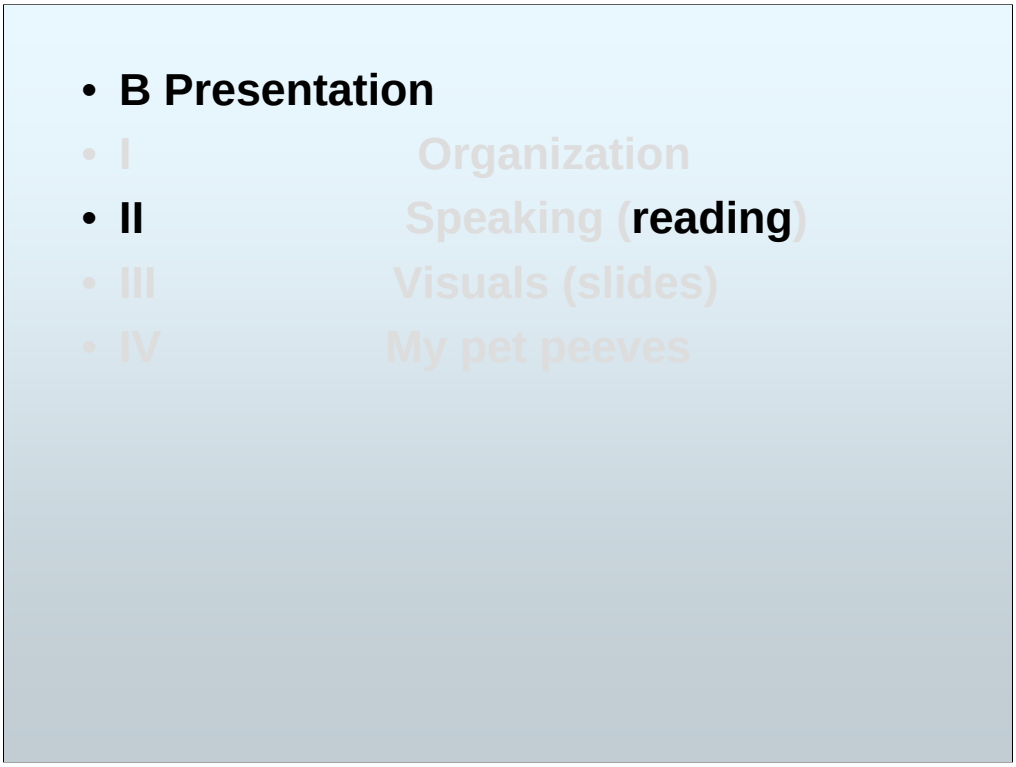
Anglo-Saxon: light

One of the most powerful speeches of the 20th century spoke of:

Blood, Toil, Tears and Sweat

The font for **Eschew Obfuscation** is old English text MT. It's a TrueType font.

Remember that for much of your audience English is a second language, so speak slowly and simply.



29

It's OK to read your talk if you just can't do it from notes. Reading, however, is dull compared to speaking, and it's very hard to get energy into the talk.

IN DIRE NEED

Read your paper unless you are absolutely comfortable.

But don’t read your slides.

30

If English is a second language and you don’t think in it yet.

31

Slides are a major part of your presentation, so work on them.

Good slides make a good talk.

Make them

- Mostly empty space

32

Good slides make a good talk.

Make them

- Sparse

33

Good slides make a good talk.
Make them

Big

- Be sure they can be read from the back of the room

34

Good slides make a good talk. Make them

- Single topic
- Don’t put two graphs on the same slide,
  Show two slides.

35

One slide with a single part changed can effectively be shown again – and again. Much better than crowding all those parts onto one slide that’s shown once.

References:

- 1. Mermin, N.D. *What's wrong with those talks? Physics Today* **45**(11):9-11, 1992.
- 2. Edward Tufte. "*The Visual Display of Quantitative Information*". Graphics Press, 2001 Look him up on Wikipedia
- 3. http://www.kickstartcart.com/app/adtrack.asp?AdID=52810

36

You can put references as tags at the bottom of slides throughout the talk, but I prefer to see the critical ones all at once, with perhaps a handout. The ones at the bottom seem more like little boastings – unless they are to someone other than the speaker.

- **B Presentation**

Some people learn better by reading.
Allow this

BUT:

37

TEXT SLIDES

- Over four score and seven decades ago philosophers brought forth into this world a new mathematics, conceived in correct computational formulae and dedicated to the proposition that two plus two equals four. Now we are engaged in a great educational war, testing whether algebra I or any form of mathematics so conceived and so dedicated can long endure. We are met on a great virtual battlefield of that war. We have come to dedicate a portion of that field to those who are giving up the quality of their education so that California's Math Framework might live. It is altogether fitting and proper that we should do this.

38

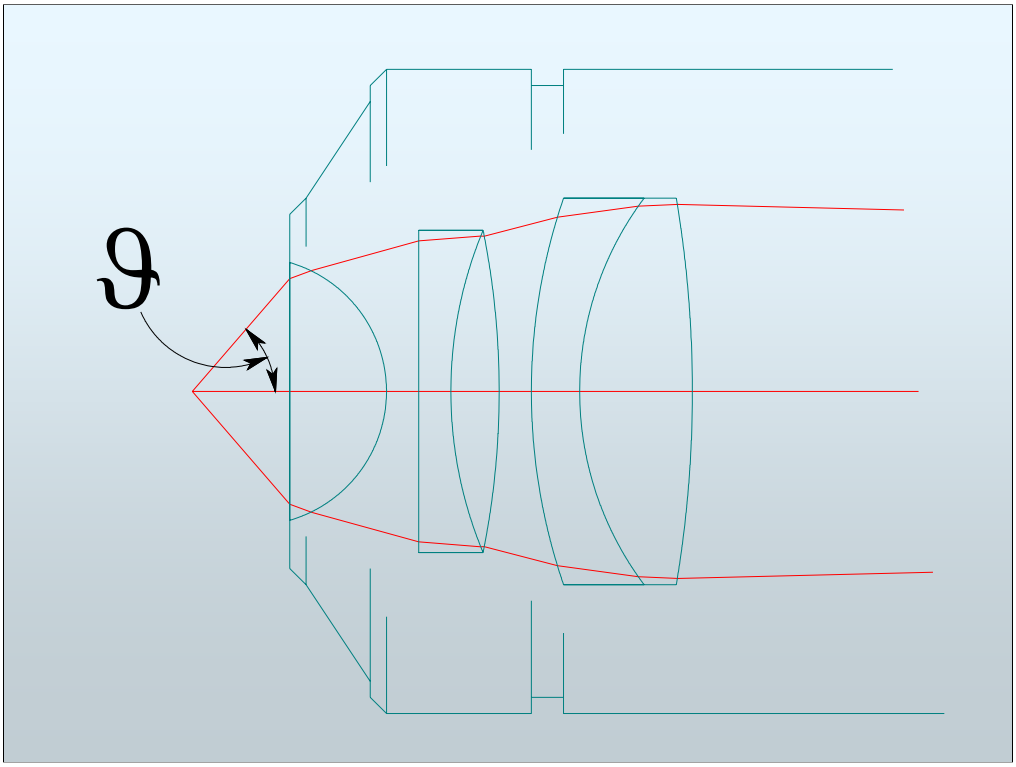
Your audience will read anything you put up, and ignore what you're saying while they do it.

TEXT SLIDES

- Over four score and seven decades ago philosophers brought forth into this world a new mathematics, conceived in correct computational formulae and dedicated to the proposition that two plus two equals four. Now we are engaged in a great educational war, testing whether algebra I or any form of mathematics so conceived and so dedicated can long endure. We are met on a great virtual battlefield of that war. We have come to dedicate a portion of that field to those who are giving up the quality of their education so that California's Math Framework HAVE YOU BEEN LISTENING TO ME? OR WERE YOU READING THIS JUNK?

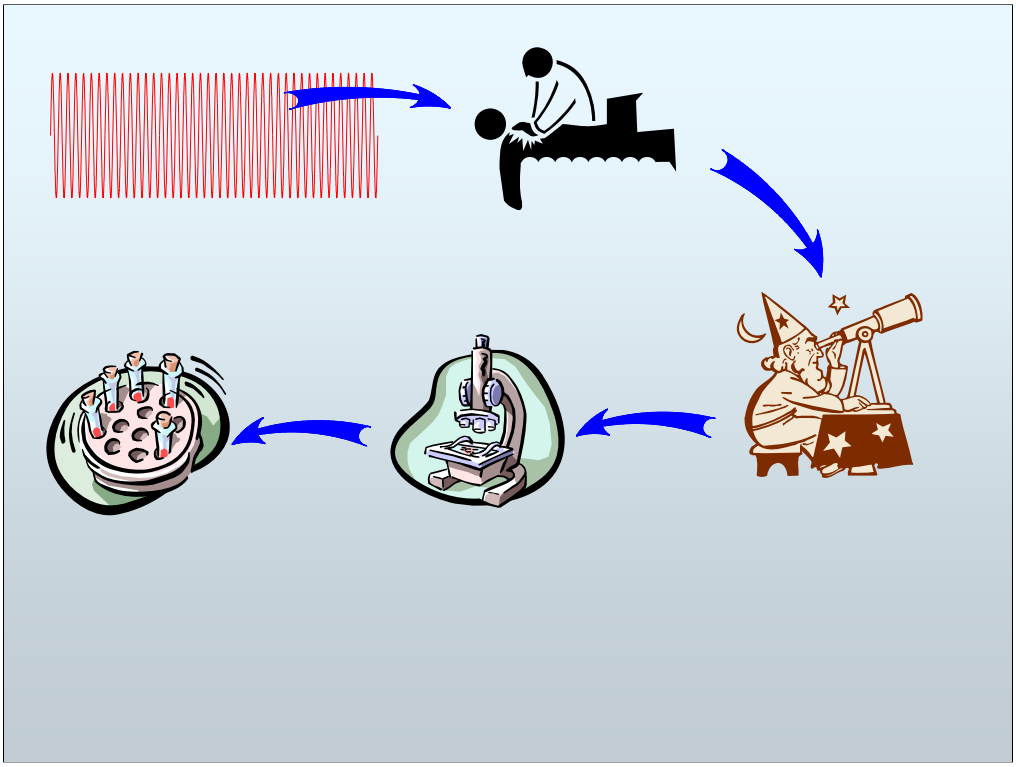
39

HAVE YOU BEEN LISTENING TO ME? OR WERE YOU READING THIS JUNK?



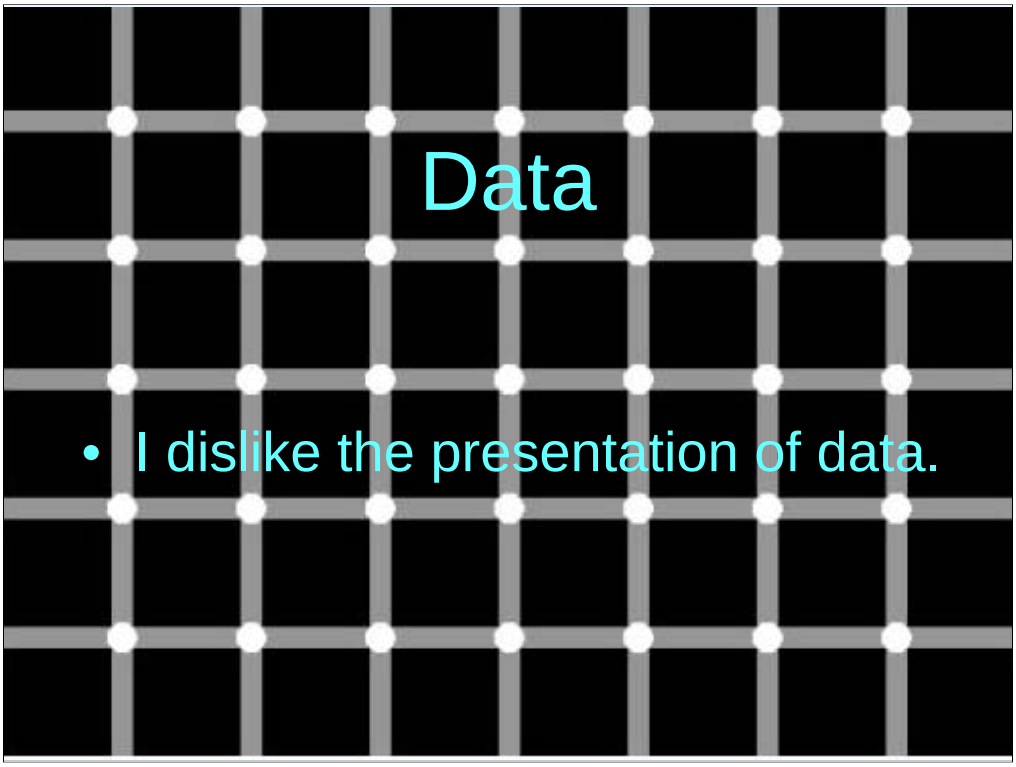
40

It’s better to explain with a drawing.



41

Or a cartoon - Like this. I’m often aware that in talks out of my field, a cartoon showing the route is the most important slide in the lot.



42

I want to know you did the work, and it might help, in the body of a long talk, to show details that listeners can evaluate and possibly comment on. However, it's too often just filler or part of the "how we got there" story.

You cannot look directly at the black dots. Boy, is that distracting!

- If you do show data - make it compact.
    - Summary graphs, summary tables or EXAMPLES of raw data.
- Ask yourself “why might they think I’m lying?”

43 SAMPLE data are OK, to show the quality of what you’re basing your conclusion on.

But once is enough.

Most **histology** slides are of interest only to the specialists among your listeners, most **blot** slides look like most other blot slides, and seem to be merely proof that you aren’t lying.

- Equations

  "You lose 50% of your audience with each equation" – A Doukas

Finally, our last two equations come from the $\hat{\xi}_+$ and $\hat{\xi}_-$ components of Eq. (C1), with $L=M=0$:

$$i(1/\sqrt{3})uj_0(u)[a_{10}{}^{+}+a_{1-1}{}^{0}]-(\tfrac{2}{15})^{1/2}\sum_n \frac{4\pi(2/a^3)^{1/2}(9-R_{2n}{}^2)m_{2-2n}}{(u^2-R_{2n}{}^2)(1-6/R_{2n}{}^2)^{1/2}} = -4\pi(\tfrac{2}{15})^{1/2}\sum_n\left(\frac{2/a^3}{1-6/R_{2n}{}^2}\right)^{1/2} m_{2-2n}, \quad \text{(C14)}$$

$$-i(1/\sqrt{3})uj_0(u)[a_{11}{}^{0}+a_{10}{}^{-}]-\tfrac{4}{3}\pi\left(\frac{2}{5a^3}\right)^{1/2}\sum_n \frac{(9-R_{2n}{}^2)m_{20n}}{(u^2-R_{2n}{}^2)(1-6/R_{2n}{}^2)^{1/2}}$$

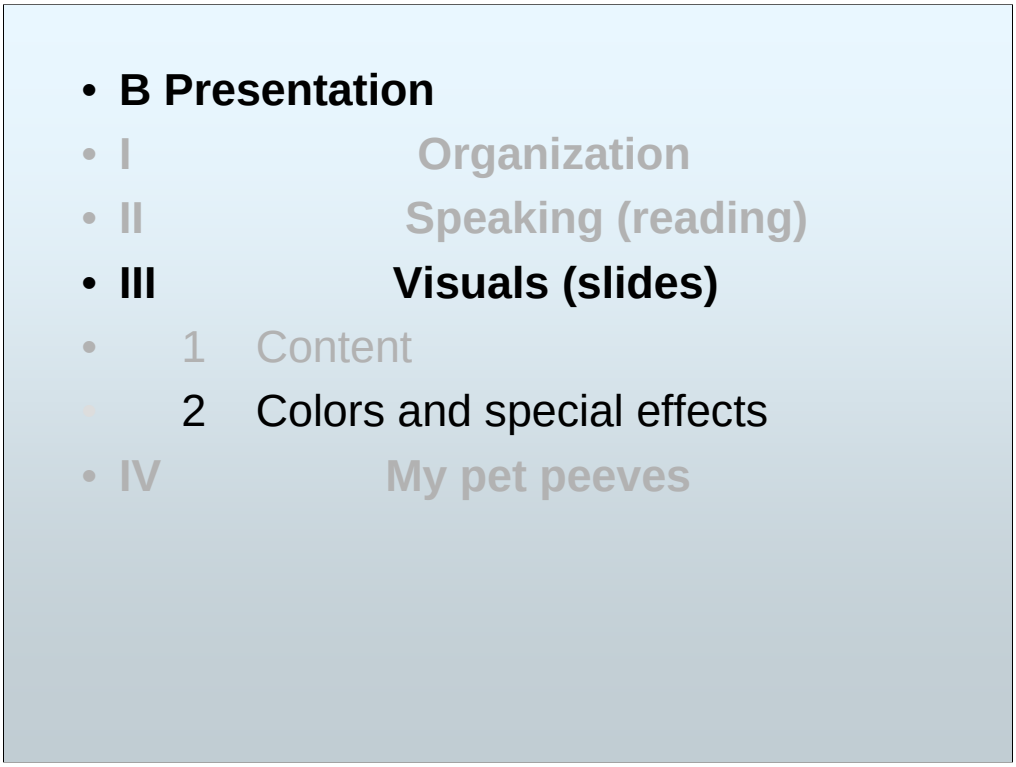
$$+\tfrac{2}{3}4\pi\left(\frac{2}{a^3}\right)^{1/2}\sum_n \frac{m_{00n}R_{0n}{}^2\epsilon_n}{u^2-R_{0n}{}^2} = -\tfrac{4}{3}\pi\left(\frac{2}{5a^3}\right)^{1/2}\sum_n \frac{m_{20n}}{(1-6/R_{2n}{}^2)^{1/2}} - \tfrac{2}{3}4\pi\left(\frac{2}{a^3}\right)^{1/2}\sum_n m_{00n}\epsilon_n, \quad \text{(C15)}$$

$$\epsilon_n=(\sqrt{3}/\sqrt{2}) \quad \text{if} \quad n=0,$$

$$\epsilon_n=1 \qquad \text{otherwise.}$$

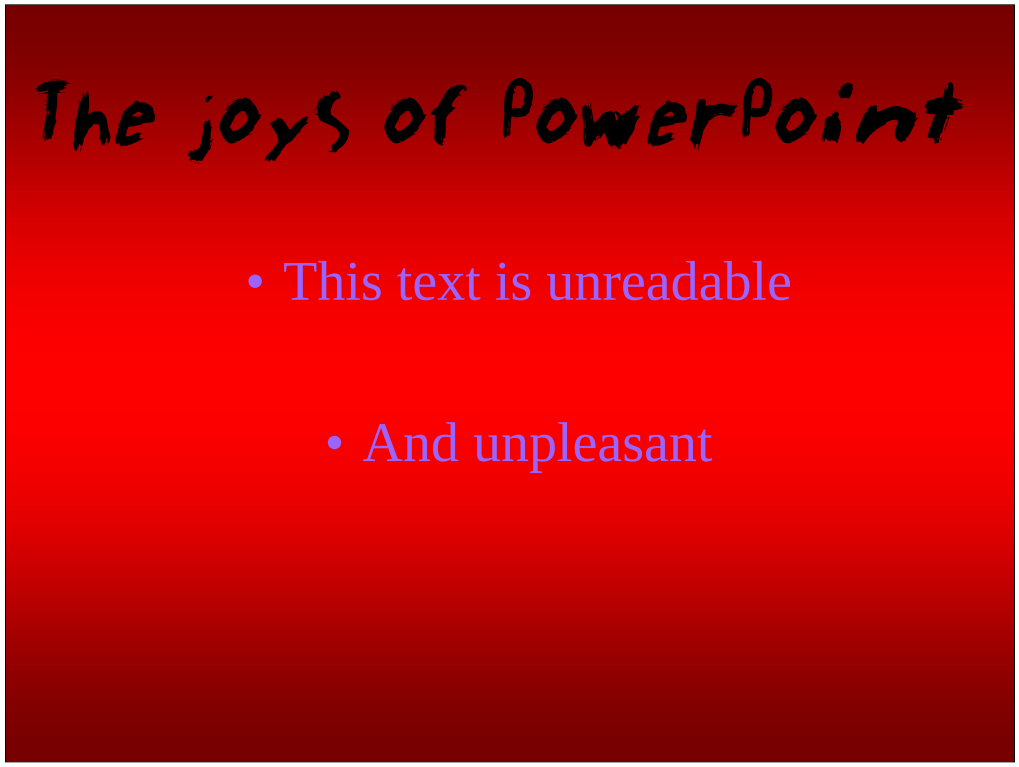
44

I love equation slides – that's my language. But I need to recognize that it's not the language of most of my audience.



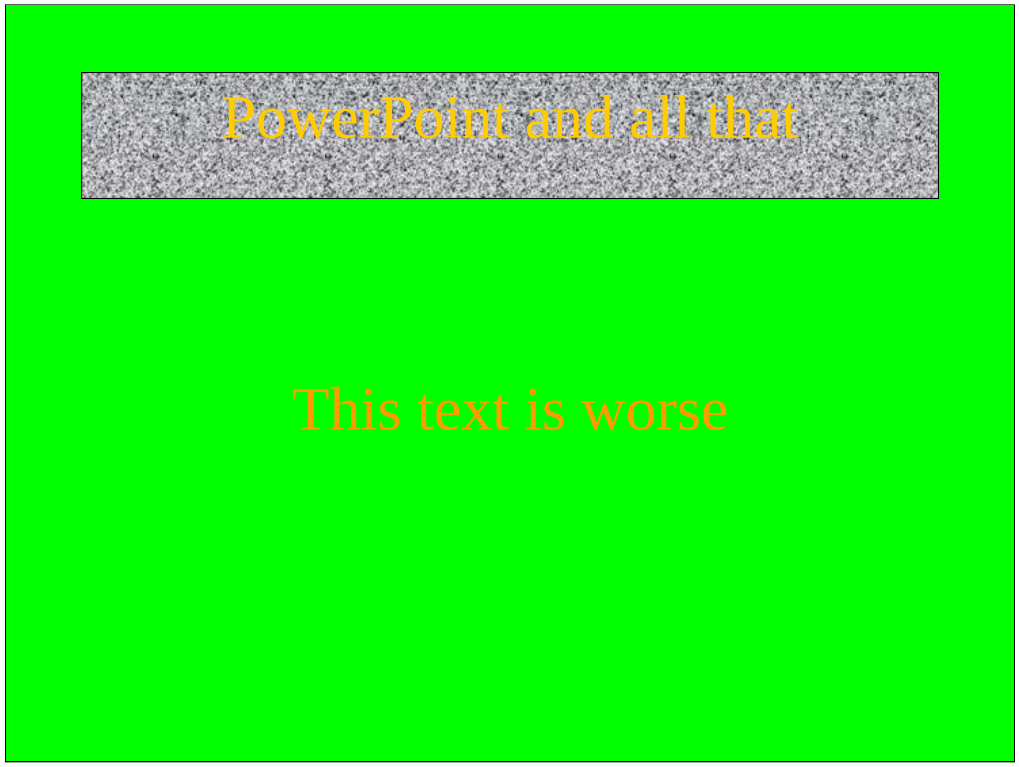
45

Here comes the fun. It's easier to find the flaws in fancy slides than in simple ones. So…



46

Unreadable on my monitor. Check to see on the projector.



47

The background in the upper box is one of PowerPoint’s standards. Beware.

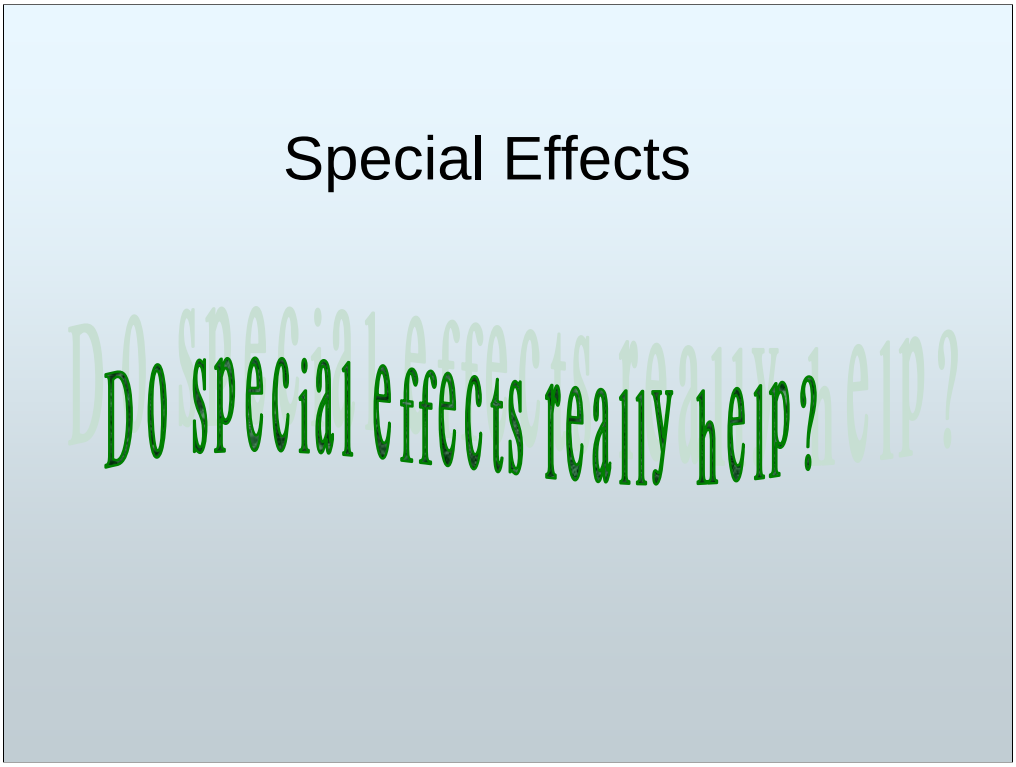
48

49

The upper font is “chiller”

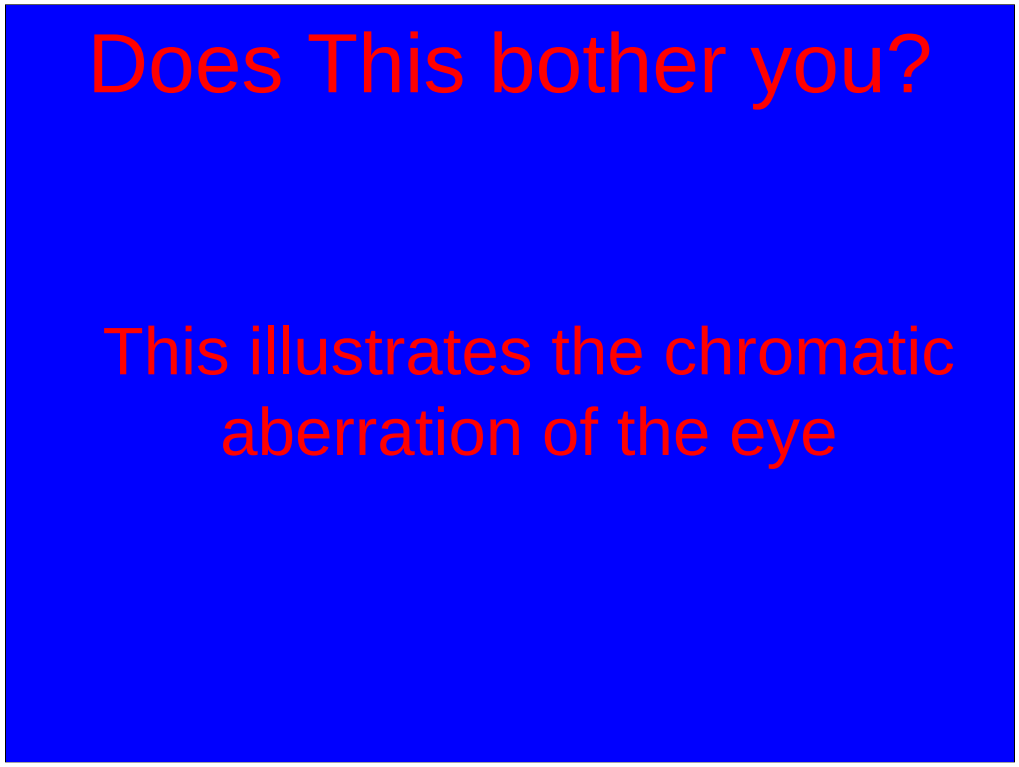
The lower one is “parchment”

They once came out differently on my laptop, since I forgot to load them in there. A typical goof.



50

Click twice



51

For some people this is really disturbing, for others not too bad.

The red text seems to float in front of the blue. Sometimes that's a really bad effect.

- **B Presentation**
- **I Organization**
- **II Speaking (reading)**
- **III Visuals (slides)**
- **IV My pet peeves**

52

Some Dos and Don’ts

- NEVER RUN OVER YOUR TIME
- Don’t suck on a bottle. If you need water, drink from a cup.
- NEVER RUN OVER YOUR TIME

53

Going past your time limit is insulting to your audience, who may be hungry. It’s a good way to blow a job talk.

- Unexplained abbreviations

VEGF in the SLO with CCD for BDPA or DPPH

54

I know what VEGF stands for, also CCD and SLO. But does my audience?

Quick Summary

- **Simple**
  - **For least specialized in audience.**
  - **Simple slides**
- **Conclusion first**
  - **No mystery stories.**
- **Short**
  - **3 points max**
  - **Finish on time**

2

You don't want to snow your audience – what would you be trying to prove?

I'm never insulted by being told what I already know – there are sometimes new insights, and the lower level approach is where they surface.

56

END