Presentation Skills

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Why is this presentation needed?

I have observed that scientific presentations are often:

- Technically sound, but boring
- Graphically interesting, but uninformative
- Graphically overwhelming
- Not memorable

My goal is to help you avoid these pitfalls

What kind of presentations are we talking about?

- Seminars, colloquia and reviews (e.g., ACS,NSF,NIH) that concentrate on disciplinary excellence
  - ✓ High tolerance for technical detail
- Lectures to people who may or may not be familiar with your discipline (e.g., TSR&TP, Rotary Club)
  - ✓ Moderate tolerance for technical detail
- 30-second elevator conversations (e.g., elected officials, administrators)
  - ✓ Little or no tolerance for technical detail

The same set of tools can be used to prepare for each of these situations

There are two critical factors for a successful presentation

- Know your objective
- Know your audience

A presentation should have 1-3 objectives

- Inform
- Persuade
- Sell

Know your objective(s) before you start

Two things to consider

- A presentation may not sell an idea – but it sure can unsell one

- "The National Science Foundation does not fund good ideas. It funds good proposals."

  Thomas Fogwell

  Former Director, NSF Division of Applied Mathematics

Prepare

"When I get ready to talk to people, I spend two thirds of the time thinking about what they want to hear and one third thinking about what I want to say."

- *Abraham Lincoln*

Be aware of potential prejudices in the audience

"What you are speaks so loudly that I cannot hear what you say."

- *Ralph Waldo Emerson*

Analyze your audience beforehand

- How much do they know about the topic?
- How much jargon will they understand/tolerate?
- What are they likely to find interesting about the topic?
- What are their biases?
- What's in it for them?

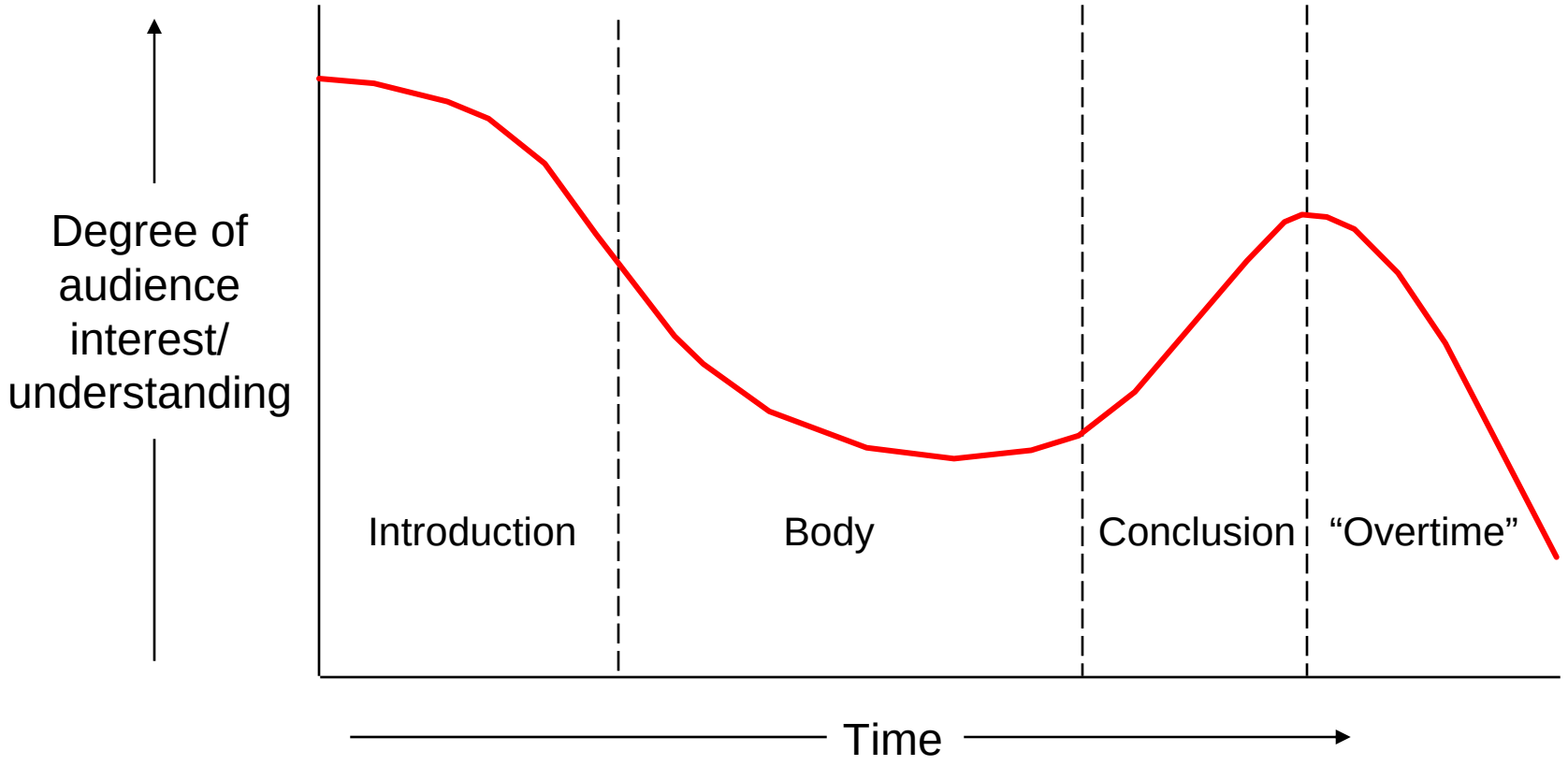
What questions should you ask in preparation?

- Why am I giving this talk–and what result do I expect or want? (This is not always easy)
- What is the level of technical and programmatic (context) understanding of my audience?
- Do members of the audience actively like or dislike
  - ✓ my discipline?
  - ✓ my program?
  - ✓ my boss?
  - ✓ my campus?
- Who can help me answer the above questions?

Surprise!

- The audience wants you to do well
  - ✓ Use the opportunity to your advantage

Anatomy of a presentation



What order should your ideas follow?

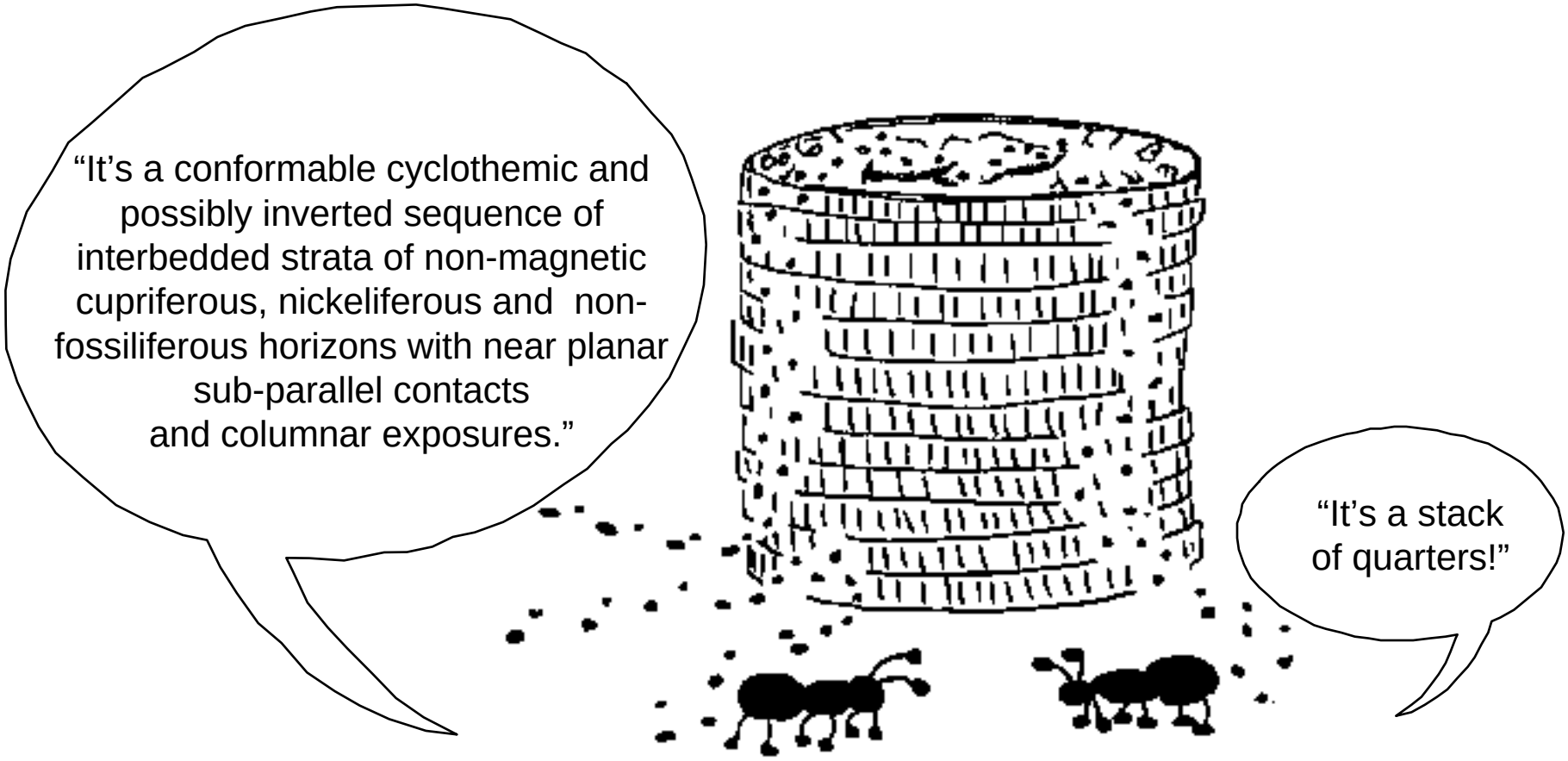
- Context
  - ✓ What's the need/motivation
  - ✓ The objective cannot be "to study…"
- Methods
  - ✓ What are the steps
  - ✓ What are the tools
- Results
  - ✓ What accomplishments define success
  - ✓ What is unique about you, your group, or your campus
- The consequences of success
  - ✓ Fame – and for whom
  - ✓ Funding

What discipline should you impose on yourself?

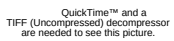
- One slide per two minutes
- Simple, simple, simple slides!
- Try to convey one primary concept and only a couple of secondary ones
- Make assertions and defend them, don't derive answers
- Learn how to readjust the pace and control the audience

The object is to elicit questions and respond, not force the audience to beat answers out of you

Excessive use of jargon can kill a clear message

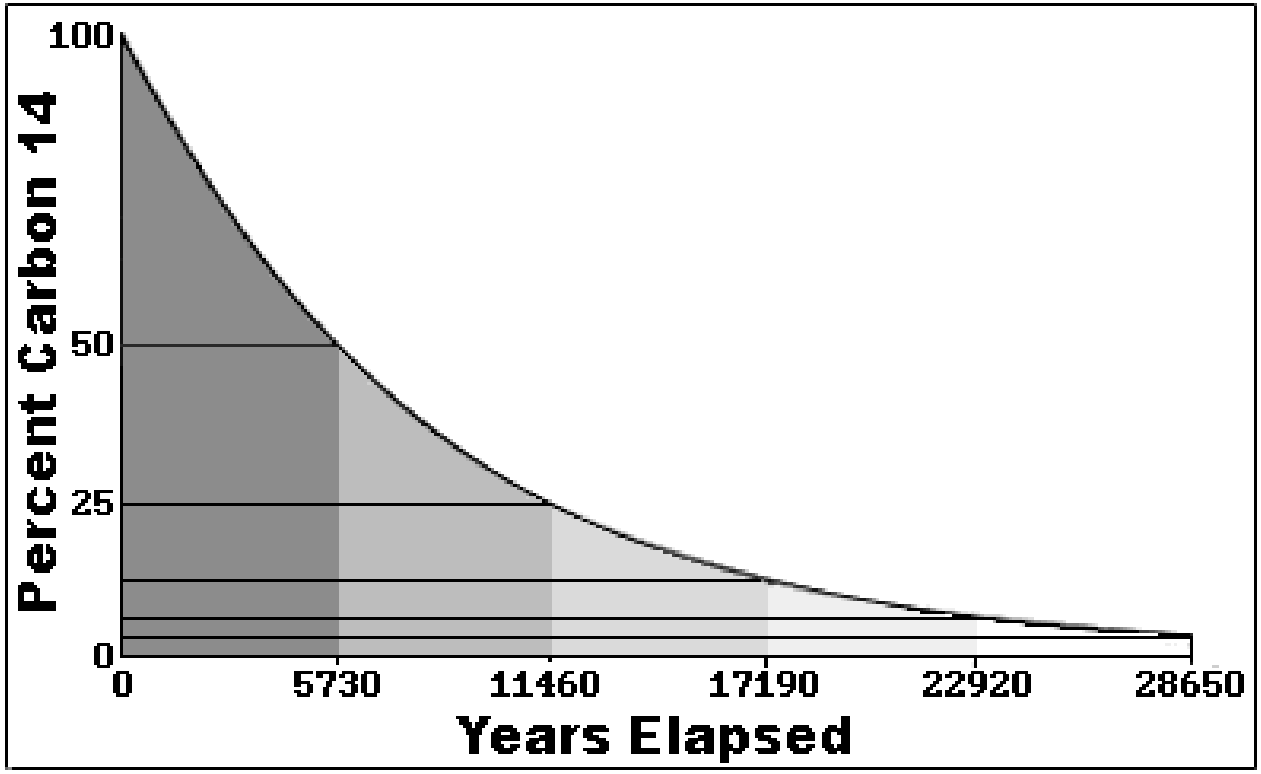


There is no excuse for poor graphics



- Never apologize!
- Use proper font size and simple layouts
- Resist the use of multiple tables and/or figures on one slide

Use figures instead of tables whenever possible



- Orient the audience to the figure before describing the results
- State a main conclusion for each figure - don't leave it to the audience to decide

How to achieve credibility

- Know the concerns of the audience and specifically address them
- Present both sides of an argument
- Don’t express an opinion without evidence
- Avoid the use of superlatives unless you are prepared to support them
- For proposals: present resources (i.e., cost, schedule, people) and tie them to accomplishments (i.e., milestones)

3 Common Pitfalls
(ways to distract and discourage the audience)

- Reading full sentences aloud (the audience can read 3X faster than you can talk)
- Performing a “data dump”
  - ✓ The audience will not have time to examine large amounts of data
  - ✓ The audience is not interested in how hard you worked
- Running over time
  - ✓ This may kill both you and the innocent

Consider the irritating mannerisms of others

What tricks should/can you play?

- If there are obvious questions, pose them on one slide, answer them on the next
- If there are obvious matters of dispute, acknowledge them up front and deal with them on your terms
- Figure out which issues or questions you may want to hand off to your collaborator or mentor–scripting is fair
- If you're presenting in a sequence of talks:
  - ✓ Do attend talks before yours
  - ✓ Don't repeat background information
  - ✓ Do connect your work to that of others – everybody wins

What questions should you anticipate?

- Who are the other researchers in this area?
- How good are you (or your group) relative to the competition?
- What agencies support this research?
- To what national need is this work relevant?
- What unique resources or capabilities are brought to this work?
- What ties does your work have to other activities?

Audiences can retain only so much in one sitting

- Explicitly state your main points up front—don't assume that they will be self evident
- Don't expect your words to stick the first time—repeat key points
- Do end the presentation with strong, positive points to ensure that your main message gets across
- Answer questions with a few sentences - offer to follow up with individuals after your presentation

How should you close?

- Make a simple summary slide that says
  - ✓ What you've done and why it's important
  - ✓ What you're going to do next
  - ✓ What the consequences of success are

You cannot survive lack of clarity on these topics

Other points to ponder

- A good presentation establishes a connection between the presenter and the audience
  - ✓ A written report is more effective if the objective is data transfer
- Practice is good, rehearsing is not
  - ✓ Recitation or reading puts an audience to sleep
  - ✓ Focus on key points, use a conversational style
- Don’t be afraid to develop your own style

Resources

- Tory Defoe, "*The Truth Is, You Gave a Lousy Talk*," Chronicle of Higher Education (December 21, 2007)

- Jan D'Arcy, "*Technically Speaking: A Guide for Communicating Complex Information*," Battelle Press (1998)

- A copy of this presentation is available on the TSR&TP website - http://tsrtp.ucdavis.edu/

Summary

- Know your audience
- Understand the purpose of your talk (inform/persuade/sell)
- Limit the use of jargon
- Remember, it's a presentation not a written report
- Clearly summarize main points