Logic: funnel flow structure

"The Lead": The most important info
Who? What? Where? When? Why? How?
Approximately 30 words (1-2 thin paragraphs)
May include a "hook" (provocative quote or question)

"The Body": The crucial info
Argument, Controversy, Story, Issue
Evidence, background, details, logic, etc.
Quotes, photos, video, and audio that
support, dispute, expand the topic

"The Tail": extra info
Interesting/Related items
May include extra context
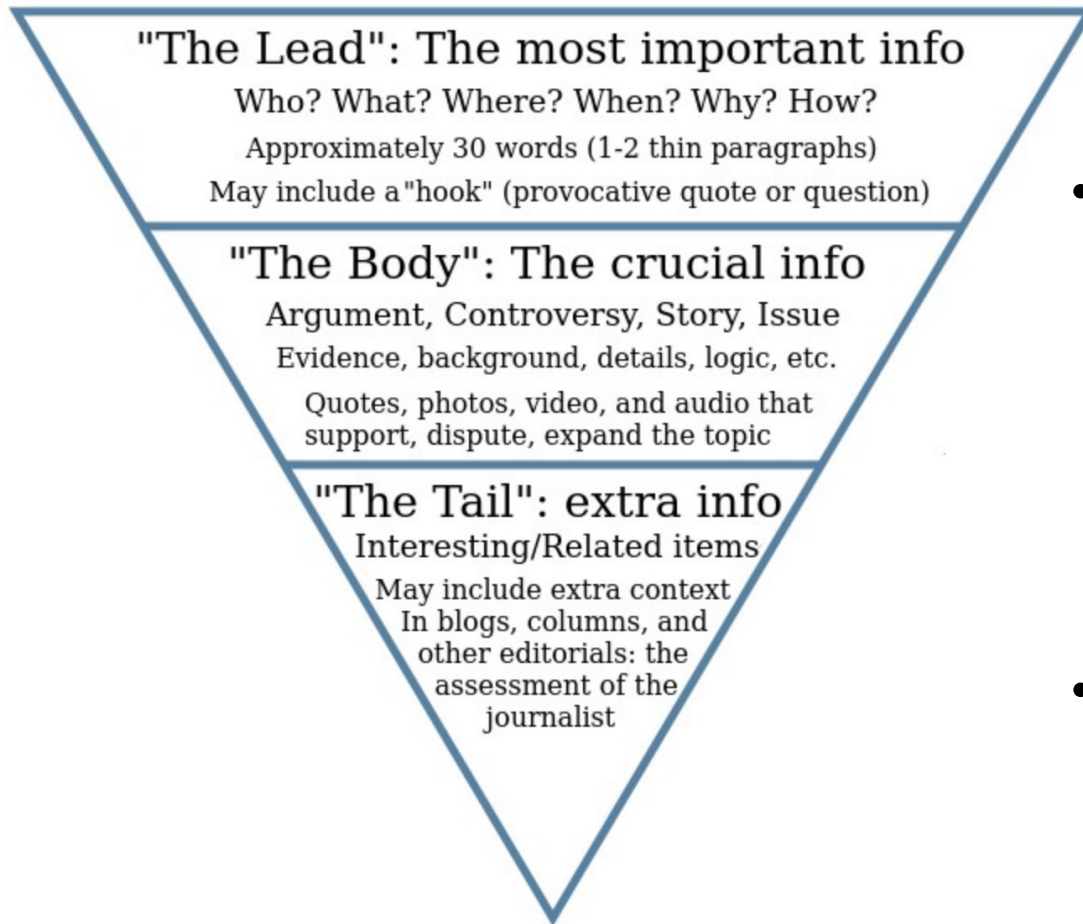In blogs, columns, and
other editorials: the
assessment of the
journalist

- Inverse pyramid: start big and get smaller
  - This applies both to the structure of a section and to each paragraph in the structure

- DO NOT: build up to a surprising conclusion. This is not Avengers; conclusions come first

Generic outline of a research paper

- Title
  - Exact
  - Clear and complete, but succinct
  - Strong and noticeable or boring
- Abstract
  - Optional: one sentence intro
  - Key information expressed concisely
  - Enticing and inspirational
  - Descriptive

The title and abstract are the two elements
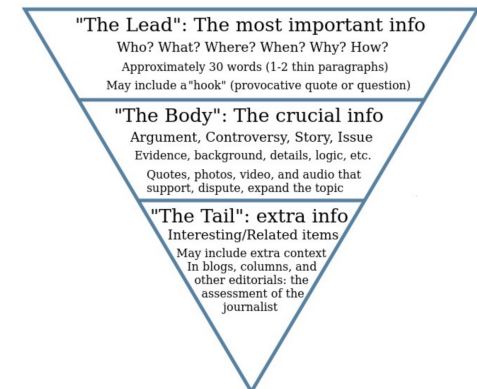that will attract readers to your work!

Generic outline of a research paper

- Introduction / Context
  - Motivation and importance of problem (the "why?")
  - Background, history, context, previous literature (the theory)
  - Current state and unknown/s (the questions)
  - What and how of current contribution (the hypothesis)
  - Approach, scope and limitations (the objective)
  - Layout of presentation (the roadmap)
  - Note: does not actually begin the argument

The introduction prepares the reader and generally follows a cohesive "funnel flow" or "inverse pyramid" structure.

Generic outline of a research paper

- Middle
  - Observations or equations (methods and materials)
  - Data reduction or equation development
  - Analysis techniques and figures/narrative, in digestible portions
  - All of above in enough detail for a trained scientist to repeat work
  - Findings (results) and interpretation
  - Discussion of and implications of results; compare to others'

- End
  - Summary, conclusions, future work (nothing new)
  - Acknowledgements
  - References

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Stages of Writing

- Pre-writing - thinking/planning

  – gather information

  – generate ideas

  – plan composition: content, format

  – consider layout and design

- Composing

  – turn notes into coherent sentences

  – develop paragraphs

- Revising

  – re-write with vision

  – develop logical flow

- Editing

  – pay attention to word choice, grammar

  – engage in creative/convincing phrasing

- Submission & Evaluation

  – Referee comments

- Publication / Distribution

  – Proofing

  – Production

Stages of Writing

- Organize
- Procrastinate
- Produce draft
- Revise
- Proofread
- Obtain feedback

These stages are not always chronological

Beginning (and Ending) Considerations

Take the reader's perspective

- Be aware that readers are selective and need to be drawn in

- Place reader/user needs first

- Make communication efficient and accessible

- Consider appropriate document mechanics and structure

- Set context and convey relevant information

- Choose proper tone, voice, rhythm

- Use clear language

- <u>Lead reader from the familiar to the unfamiliar</u>

- Anticipate reactions of readers

- <u>Above all, connect ideas</u>

Starting the Document

Start from <u>Outline</u> OR <u>Figures</u> (OR Introduction)

- Adjust and refine the outline as you write

- Remember that less is more!
  – Sometimes ideas need to be cut
  – Focus reader attention on main points and supporting logic
  – Provide enough detail, but too much gets confusing

- Make sure the Title and Abstract
  – reflect content of paper
  – draw both people and search engines to your work
  – I usually write the abstract and finish the title as the last step in the draft