

Not a Research Article

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Types of Scientific Communications

- Research Article
 - Case History
 - Oral Presentation
 - Poster Presentation
 - Thesis
 - Opinion – Book Review, Editorial, etc.
 - Popular Article
 - Meeting/ Conference Proceedings
 - Review Paper
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Thesis

- Usually longer than a research paper
 - Almost always has more detail
 - The audience will be small
 - Two Golden Rules
 - Find the format required by the University and follow it
 - Talk with your committee members and make sure that they are happy!
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Some Other Things that Might Help

- Do NOT wait to start writing until you have all of the data.
 - “Good enough” probably isn’t.
 - Longer is not always better.
 - Not a chronology or a history of your studies.
 - If there are external reviewers you do not know, make sure the thesis looks nice. First impressions are important!
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Expectations Elsewhere

- Thesis prepared as a series of journal manuscripts plus a general introduction and conclusion.
 - Sometimes no defense until at least one manuscript is accepted.
 - Introductory chapter often based on a proposal written for a preliminary/qualifying exam.
 - Oral defense often mandatory.
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Opinion – Book Reviews

- Usually short – 250-1000 words
 - References are limited
 - Summarize the broad scope of the book and the perspective from which it was written
 - Indicate your biases and priorities and what you looked for
 - Summary of the book, perhaps chapter by chapter and critical as warranted
 - Overall summary and recommendations as to who should purchase
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Opinion – Editorials

- Often the most read part of the journal
- Readership may be very wide
- Usually short – 250-1000 words
- References are limited
- Have many purposes
 - Sell a new idea, approach, program or policy
 - Mark a milestone and reflect on its implications
 - Congratulations on an achievement
 - Comment on a relevant public policy

Popular Article

- Almost guaranteed to have more readers than anything else you'll ever write
- Sections are topical, not IMRAD
 - No Materials and Methods section
 - Results presented are very limited
 - Introduction must capture very divergent readers
 - Discussion must state conclusions and implications clearly and simply
- Figures (good ones) are essential
- Tables – only if necessary

The Data Are Always Right!



But the relevance of the detail varies!

Meeting/Conference Proceedings

- Not discussing – 1/2 page abstracts
- May have significant prestige associated with them, if derived from an invited presentation
- Often look like a journal article
- Quality and timeliness of publication varies
- Circulation often limited to meeting attendees
- Usually follow IMRAD section layout
- In biology, usually are not reviewed, or at most reviewed by an editor
- Publishing novel data here can jeopardize publication elsewhere

Review Paper

- Usually a synthesis
- If invited, then often prestigious and widely read
- Length varies by the publication location
- Review journals often have high impact factors
- Introduction and Abstract may be the same
- Conclusions should be justified and easy to find
- May project synthesized results to new areas and questions

Finding the Pieces

- Never trust your memory – take notes now and throw them away later
- Photocopy (or scan) relevant papers for reference (and take notes on them)
- Data presented as text, tables or figures.
- May use images from other sources (cited & with permission) or may construct your own tables and figures
- Be very careful to avoid plagiarism

Carry over from Scientific Research Papers

- ❑ What message do I want to convey?
 - ❑ Who is the target audience?
 - ❑ Organization and planning are critical
 - ❑ The thinking is really what counts
 - ❑ Specify hypotheses and objectives
 - ❑ Keep it as simple and clear as possible
 - ❑ Divide the work equitably amongst the authors
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Some Writing Guidelines

- ❑ Focus on material related to stated objectives and hypotheses
 - ❑ Be selective in terms of material presented
 - ❑ Do not repeat table/figure titles; explain only points from tables or figures that are not obvious
 - ❑ Make sure text/figures/tables are consistent!
 - ❑ "Table xx", "Figure yy" and Joe & Sally (2009) should never be the subject of a sentence – not an annotated bibliography
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Checking the Article

- ❑ Do the headers, subheaders and topic sentences form an effective outline?
 - ❑ Are criticisms presented dispassionately?
 - ❑ Are arguments for significance supported by defined (preferably simple) statistical protocols?
 - ❑ Are the conclusions and the data supporting them easy to find?
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But There Is So Much Data!

- ❑ The journal does not want everything that has been published!
 - ❑ "The compulsion to include everything, leaving nothing out, does not prove that one has unlimited information; it proves that one lacks discrimination." S. Aaronson (1977)
 - ❑ "The Authors have clearly demonstrated that they can collect elegant data that they can neither interpret nor analyze." Anonymous *AEM* reviewer (2003)
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Final Thoughts

Scientific writing ...

- ❑ comes in many forms
 - ❑ is essential for career development
 - ❑ most commonly occurs in English
 - ❑ benefits from simplicity and clarity
 - ❑ is managed almost exclusively by volunteers
 - ❑ can be as challenging to write as anything else
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The End
