Words to the Wise on Writing Scientific Papers

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(November 2021)

Make an argument; tell a story; take a position and see how well you can defend it: What do you think? Where is this prose going? What's the goal here? Try out an argument like trying on a hat. See how it fits; you don't have to keep it.

Style

Write for the educated public, not for the professor. Explain why the problem interests you, and why it should interest the reader. What important implications does it have? Do not simply say "*It is important that...*"; say why. For example:

"The culture war argument, if correct, would have real consequences for public policy. It would lead government to engage in less economic redistribution and provide fewer social services than in a world where citizens merely voted their economic self-interest."

(Ansolabehere, Rodden, and Snyder, 2007)

Show, don't tell. Avoid instructing the reader how to react. Don't say "*Surprisingly, ...*," "*Interestingly, ...*," "*Importantly, ...*"; be surprising, interesting, important.

Voice

Use direct quotations sparingly, and keep them short. Better: paraphrase in your own words, and then cite the source.

Use footnotes only where absolutely necessary; they distract from the flow of the argument. Ask yourself whether it is crucial to make the footnoted comment. If so, and if it would be disruptive in the text, only then use the footnote.

Proofread. If readers have to correct typos, spelling, and grammar, they will be distracted from the ideas. People cannot read at both levels (proofreading and ideas) simultaneously, and proofreading errors take readers down to the lower (proofreading) level.

Don't reference things you have not read. If necessary, write "*Brown, 1977, as cited in Smith, 1980,*" if you are using second-hand sources. If you are not sure about a word's meaning, look up its meaning before using it.

Do not use the passive voice (“*It has been shown that...*” or “*Subjects were given...*”). Use the active voice to say who initiated the action (“*According to several studies, people ...*” and cite the source, or “*The experimenter gave subjects...*”). The proper preference order for subjects of sentences are

- People — after all, this is social and behavioral science. (“*People like to read about other people.*”)
- Concepts. (“*Human interest attracts us to read about other people.*”)
- Sections. (“*The introduction argues that people like ...*”)
- Authors. (“*We hypothesize that people like ...*”)
- Least Preferred: Nobody. (“*It has been shown that ...*” (by whom?). “*Human interest is shown by reading.*” Better: “*Reading shows human interest.*”)

Summarizing literature

Do not construct paragraphs that are essentially flashcards strung together. Instead, after reading a series of articles, think about them and decide what point you want to make with them. Then provide only as much summary as necessary to support your argument. Then, advance the argument in the next paragraph.

This has concrete implications for sentence structure. Foreground the ideas; background the authors (unless they are pivotal). Write each article’s main point as a simple declarative sentence, then add the parenthetical reference. A string of sentences all beginning with authors’ names subordinates the ideas.

Do not organize it like this ↓	Instead, try this ↓
Theme: Racism = <i>X</i> .	Theme: Racism = <i>Y</i> in 3 ways.
Jones and Brown say in Article 1	Way 1 (Jones and Brown, Smith)
Smith, in Article 2, says...	Way 2 (Doe)
Doe, in Article 3, says ...	Way 3 (Jones and Brown, Doe)
	3 ways to view the <i>Y</i> aspect of racism
See? Racism is about <i>X</i> .	Own conclusion re: strengths & weaknesses

Grammar and punctuation

Independent clauses (that is, complete sentences) can be joined in a compound sentence only by: “and,” “but,” “or,” “for,” “yet,” “so,” and a semi-colon. For example, “*If citizens care only about income, then the median voter ... will typically demand a large amount of redistribution, and political parties will respond*” (Ansolabehere, Rodden, and Snyder, 2007). Independent clauses cannot be connected by “however,” “that is,” or commas. Avoid such run-on sentences.

Punctuation (such as commas) goes inside quotation marks in American English, as in the examples above. The exception is semi-colons.

Use “which” in front of phrases that are optional for describing the preceding noun, but use “that” in front of phrases that are necessary for identifying the preceding noun. For example,

“Ann Hopkins also filed a lawsuit alleging sex discrimination, which she won, even though [Price Waterhouse] appealed it up to the Supreme Court.”

(Fiske, 1993)

Attend to apostrophes in possessive nouns. Correct: “*the single subject’s response*,” “*all the subjects’ responses*,” and “*Jones’s theory*.” Also note that no possessive pronouns contain apostrophes: “my,” “our,” “your,” “his,” “her,” “its,” and “their.”

Avoid sexist language. Do not use the generic masculine, “man,” or assume that all examples concern males. Instead, write around the problem by using plurals (“*If readers..., they...*” instead of “*If the reader..., he....*”). Avoid using “s/he,” “she/he,” “he or she.”

Commonly misused words

Abbreviations: “et al.” is an abbreviation of “et alia,” which means “and others” in Latin. Therefore “et” has no period but “al.” always does. “cf.” means “compare with” or “but see.” Use “e.g.” to mean “for example,” as in providing concrete illustrations, and “i.e.” to mean “that is,” as in explaining something in other words.

Be careful of “affect” and “effect.” Affect (verb) means to influence. Affect (noun) means emotion or feeling. Effect (verb) means to bring about, cause, or accomplish. Effect (noun) means a result.

“Schemata,” “data,” “stimuli,” and “media” are plurals. “Research” is singular and cannot be plural.

“Comprises” means to include, contain, consist of, be composed of. Thus, “*the alphabet comprises letters*” or the “*alphabet is composed of letters*” are both correct, although the latter is passive voice. “*Letters comprise the alphabet*” would not be correct.

“Situation in which” is correct, but “situation where” is not.

Buy and memorize W. Strunk & E. B. White, *The Elements of Style*.

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For further reading

- McEnerney, L. (2014). [The Craft of Writing Effectively](#) (video).

For graduate students and above, on how academic writing is distinct.

- Zinsser, W. (2016). *On Writing Well: The Classic Guide to Writing Nonfiction*.

A successor to *The Elements of Style*, with more detail and guidance on non-academic applications like journalism and memoirs. Focus on parts 1 (Principles) and 2 (Methods).

- Imai, K. (2018). [General Tips for Writing a Scientific Paper](#).

A process for writing research articles in the social sciences with a quantitative analysis component.

- *Nature* Formatting Guide: [How to Construct a *Nature* Summary Paragraph](#).

One template for how to write an abstract.