

Revising and Editing: an overview

- Structure
 - ◆ Macroscopic
 - ◆ Paragraph
 - ◆ Sentence
- Clarity -- “Boil it down”
- Grammar and Numbering
- Referencing and Editorial Style: The ACS Style guide

Editing for Structure: Macroscopic

- Is the title succinct, accurate and effective?
- Does the abstract represent the whole content?
- Does the Introduction set the state concisely?
- Is the remainder of the text logically constructed?
- Is all the text really needed?
- Is any needed content missing?
- Do the data in the text agree with the Figures/Tables?
- Are the references correct?

Paragraphs

- Is the intent of the paragraph clear?
- Supporting sentences are meant to be supporting...
- Is the conclusion concise? Is there a logical link to what comes next?
- Keep things trim: ~150 words in a science paper.

Sentences

- All sentences should be succinct, clear and, preferably, 20 words or less.
- Recall Orwell: “Good prose is like a window pane.”
- When using the 1st person, do so sparingly.
- Short sentences jolt and jar!
- Typically SVO applies: Subject Verb Object

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Editing/Revising for Clarity

- Don't Hedge
- Uncouple “strings of pearls” or “noun stacks”
- Remove empty fillers -- “sparkling generalities”
- Omit verbal “hiccups”
- Edit out tautologies

Hedging

- There is a tendency to over-use qualifiers such as:
 - ◆ “may be”
 - ◆ “could be”
 - ◆ “seem”, “suggest”, and “appear”
 - ◆ “possibly”
 - ◆ “putative”
 - ◆ and nouns such as “speculation”, “conjecture”, “inference”

Stacks of Nouns

- This happens often in Science writing, using multiple nouns as a modifying phrase
 - ◆ “sample reagent reaction condition”
 - ◆ “cured acrylamide hydrogel assay”
 - ◆ “metastatic malignant intra-abdominal tumors”

Empty fillers and “sparkling generalities”

- Do not tell your audience what is exciting... show them that something excites
- Generally, “it ... that” phrases are pointless
 - ◆ “it is interesting to note that”
 - ◆ “it is considered that”
 - ◆ “it is this that”
 - ◆ “in light of the fact that”
 - ◆ “it is generally accepted in the field that”
 - ◆ “it seems that there can be little doubt that”

Hiccups and Tautologies

- Tautologies are statements that are repetitively true
 - ◆ consensus of opinion
 - ◆ past history
 - ◆ five in number
 - ◆ large in size
 - ◆ red in color
 - ◆ collaborate together

- Hiccups can be thought of as prepositions that we normally insert into speech:
 - ◆ all of
 - ◆ enter into
 - ◆ refer back

Shortening modifying phrases

- do not overuse restrictive (“that”) clauses
 - ◆ “The organism that Chu (3) isolated was a bacterium that consumed methane that is produced by methanogenic archaeons.”
- be aware of unnecessary prepositional phrases (“of”)
 - ◆ “The coupling method of Hecht was used in to the retrosynthetic analysis presented...”
- remove redundancy and verbosity
 - ◆ “Due to the fact that the Fe-only hydrogenases in most cases are produced in conditions rich in CO...”

Word Choices

- **Colorless verbs:** demonstrate, exhibit, present, observe, occur, report, and show
- **Pale verbs:** accomplished, achieved, attained, carried out, conducted, done, effected, experienced, facilitated, given, implemented, indicated, involved, made, obtained, required, performed, proceeded, produced
- **wooly words:** area, level, character, conditions, field, nature, problem, process, situation, structure, system.
- **vague qualifiers:** fairly, few, minimal, much, quite, rather, several, slight and very.
- **obscure antecedents:** all, it, its, this, that, their

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A dozen fumblegrammar rules for scientists

1. It is recommended by the authors that the passive voice be avoided.
2. Subjects and verbs even when separated by a word string has to agree.
3. Writing science carefully, dangling participles must not appear.
4. If you reread your writing, you will find that a great many very repetitious statements can be identified by rereading and identifying them.
5. Avoid using “quotation” marks “incorrectly” and where they serve no “useful” purpose.
6. The naked truth is that editors will read the riot act to any Tom, Dick, and Harry that uses clichés; avoid them like the plague.
7. In formal scientific writing, don’t use contractions or exclamation points!!
8. If we’ve told you once, we’ve told you a thousand times, a writer who uses hyperbole will come to grief.
9. In science writing, and otherwise, avoid commas, that are, really, unnecessary.
10. Subjects and their verbs whenever you notice and can do so should be placed close.
11. Remember it is better not to, if you can avoid it, split an infinitive.
12. Proofread your manuscript carefully to be sure you didn’t any words out.

Adapted from Safire (1990)

Grammar Woes

○ The Passive Voice

- ◆ instead of SVO ... sentences are OV(S), the object receives the action of the verb
- ◆ do not overuse the passive voice
- ◆ Difference between “passive and precise” and “passive and vague”

Passive Voice, continued

- “It is recommended by the authors that...”
- “The chair conformation was observed to constrain the approach of the amine functionality in an attack of the C-2 position.”
- “The data which were obtained by Johnson were probably indicative of ...”
- “It was discovered that a sustained coordinated effort will be required...”

Grammar: Subject Verb Agreement

- To Check: omit all connecting phrases between the subject and verb, and see if they agree.
- To Fix: reassign the plural or singular state, and bring the subject and verb closer together in the sentence.
 - ◆ “A high concentration of sialic acids which are a group of substances principally composed of amino sugars attached to polysaccharides, lipids, or proteins are found in the mammalian epididymis.”

Grammar: collective nouns

- collective terms indicate quantity, and are nouns
 - ◆ when they are indicating units, they take singular verbs
 - ❖ “50 milligrams **is** the right amount”
 - ◆ when they are considered directly, they take plural verbs
 - ❖ “ 50 milligrams **were** added to the reaction mixture”
- Phrases like *a total of*, *the sum of*, etc can be harder!
 - ◆ “a total of 35 data sets **were** examined” is wrong
 - ◆ but “a total of 35 data sets **was** examined” sounds strange

Grammar: common tense problems

- Use tense to indicate the status of the work
 - ◆ Use present tense when a fact has been published
 - ❖ Ligand field theory predicts that a change in...
 - ◆ Present perfect tense for repeated events
 - ❖ “Nesting behavior of MCD data has been used under many experimental conditions...”
 - ◆ Past tense for singular published or unpublished data
 - ❖ “O’Halloran reported (7) that the CueR receptor...”
 - ◆ Present tense for your current finds, data, and figures
 - ❖ “Titration in the presence of 1mM cyanide reveals (Fig. 1)...”

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Referencing and Style ... from the ACS

○ References -- Format

- ◆ cite references by superscript text,¹ **outside** of the punctuation!²
- ◆ or by *italic numbers* on the line, and in parentheses **inside** the punctuation (3).

○ Either way, the author name can be part of the text:

- ◆ if there are two authors only, use both names;
- ◆ if there are multiple names, use corresponding author name, followed by “*et al.*”
- ◆ if there are multiple publications,³⁻⁵ then use the “Name and co-workers (6-7)”

Referencing ... from the ACS Style Guide

- All numbers are given in numerical order (2, 5-8).
- Authors names are separated by a semi-colon, and the list is stopped with a period.
- The Title field (when given) has Capitals in each titular word, and ends in a period.
- Cite the references in a logical place:
 - ◆ recent developments (cite)
 - ◆ other developments (cite)
 - ◆ was reported recently (cite)
 - ◆ previous results from Name et al. (cite)
 - ◆ the procedure of Name et al. (cite)

Other bits of ACS Style Guide goodness

○ Also included in the Style Guide:

- ◆ Formats for Software, Online content and Presentations
- ◆ Acceptable abbreviations for journals
- ◆ Acceptable chemical names and numbering schemes for many common chemicals
- ◆ Conventions for including formulas, spectroscopic data and chemical abbreviations.

Editorial Style Considerations

○ Hyphenation:

- ◆ well-studied and very well studied
- ◆ Difference between hyphens (anti-Markovnikov) and em dashes (retro-Diels–Alders)
- ◆ Unit modifiers of spelled-out numbers (five-coordinate)
- ◆ Do not hyphenate unit modifiers if one is a proper name (Lewis acid catalyzed, not Lewis-acid catalyzed)

○ Italics:

- ◆ Use it sparingly!
- ◆ Use it for a word being defined initially; perhaps, when you are specifying a particular meeting
- ◆ **Do not** use for common Latin (vs, et al., i.e., in situ)
- ◆ **Not** for pH, M (molar) or N (normal)