

COMMON ERRORS IN TECHNICAL WRITING

JOHN OWENS

LaTeX is a wonderful system for text processing. However, in reviewing and reading many papers, I often see the same errors, over and over again. Especially for my students ... please don't ever give me your paper to read that has any of these errors.

A wonderful book for the details of technical writing is Mary-Claire van Leunen's "[A Handbook for Scholars](#)", currently in its second edition from Oxford University Press.

1. Number one pet peeve: Indicating "and others" in citations. If you cite one author in body text, it should be "AuthorOne". Two authors: "AuthorOne and AuthorTwo". Three authors: "AuthorOne, AuthorTwo, and AuthorThree" (although in practice I think "AuthorOne et al." is common). Four or more authors: "AuthorOne et al.". "et al." stands for "et alia". It does NOT have a period after "et" and DOES have one after "al". It is NOT italicized or underlined (van Leunen, p. 27: "Write it without either underlining or italics.>").
2. Number two pet peeve: Using cites as words. van Leunen again: "Brackets are not words. A bracketed number is just a pointer, not a word. Never, ever, use a bracketed number as if it were the name of an author or a work." (p. 20). So instead of "A similar strategy is described in [15]."), use instead "A similar strategy is discussed by AuthorOne et al. [15]". The way you can get this right in your head is considering a journal that does cites as superscripts (like the old Graphics Hardware style). It looks really stupid to say "A similar strategy is discussed by ¹⁵." I don't like this particular style for citation, but it does make sure cites aren't used as words.
3. If at all possible, arrange your reference list in alphabetical order by author's last name. Going in cited order is much less useful to readers of your paper. The only reason I've heard that cited-order is useful is in a survey article where nearby (and presumably related) cites from the paper are next to each other in the bibliography. I don't find this argument particularly compelling.
4. When writing citations in LaTeX, do them in this form:


```
text text text~\cite{Foo:2000:BAR}
```

The ~ means non-breaking space (which is what you want -- you don't want a linebreak between the text and the cite).

Also, do

```
\cite{AuthorOne:2000:ABC,AuthorTwo:2002:DEF}
```

instead of

```
\cite{AuthorOne:2000:ABC}\cite{AuthorTwo:2002:DEF}.
```

Finally, always alphabetize grouped cites so they appear in numerical order (instead of [8, 6, 10], arrange the cites so it looks like [6, 8, 10]).

`\usepackage{cite}` supposedly puts them in proper order for you automatically (!) and also changes [1,2,3,4,6] to [1-4,6] which is handy.

5. Use `\shortcite` when appropriate. `\shortcite` is used in sentences like "AuthorOne discusses this point further in her dissertation [AuthorOne 2002]." It looks silly to put AuthorOne's name twice. Instead, use `\shortcite{AuthorOne:2002:AOT}`, which makes the sentence "AuthorOne discusses this point further in her dissertation [2002]." Of course this only makes sense if you are using a cite format that lists author name / year (like Siggraph or most dissertation formats).
6. Make sure, in your BibTeX file, that you properly bracket `{}` words in titles that must be capitalized like GPU or PDE, or proper names. Example (the "Loop" should always be capitalized since it's a last name):

```
@inproceedings{Bischoff:2000:THI,
author = "Stephan Bischoff and Leif P.
Kobbelt and Hans-Peter Seidel",
title = "Towards Hardware Implementation Of
{L}oop Subdivision",
```

7. (Thanks to Matt Pharr.) When writing equations, LaTeX assumes that a series of letters without spaces represents a set of distinct variables and typesets them accordingly: with an extra bit of space between each of them, in order to emphasize that they are distinct entities. Therefore, if you want an actual word, use `\mathit` (math italics) or `\mathrm` (math roman): x_{max} , not x_{max} . ("Superscripts and subscripts are in italic type if they represent variables, quantities, or running numbers. They are in roman type if they are descriptive." [ref]) (The `\text` command is particularly useful for this purpose.) For text in an equation (sentence or phrase, so longer than what you'd want to use `\mathit` or `\mathrm` for), use `\mbox`. It looks particularly bad if you don't do this properly and the word has 'f' characters in it, since LaTeX leaves extra room around them because of the fancy 'f' character it uses in math mode.
8. Writing units. If you're writing, say, "ten meters", these are WRONG: "10m" or "10m". It's "10 m". There IS a space between the measurement and the unit. The unit is NOT italicized. The space between the two should be a thin space (`10\,m` in LaTeX). The

[SIStyle](#) package is useful here (“`\SI{10}{m}`”).
([Reference, from NIST](#), and [TUGboat article](#) on typesetting math)

9. More on units (thanks to Matt Pharr). 10 kb == 10 kilobits. 10 kB == 10 kilobytes. Get the b/B thing right. Prefixes that make the unit BIGGER (kilo, mega, etc.) should be capitalized, with the historical exception of “k”. Prefixes that make the unit SMALLER (milli, nano, etc.) should NOT be capitalized. (To be strictly accurate, do consult the [wikipedia article on binary prefixes](#) for binary multiples.)
10. Interword spaces. “TeX assumes a period ends a sentence unless it follows an uppercase letter.” (Lamport p. 14) So, put a `_` (where `_` means “space”) in a sentence like `smith et al.\ say that ...`. And, if an uppercase letter ends a sentence, do a `\@` before the period: `In the class, I gave Bob a C\@.`
11. Please write in first person and avoid the passive voice. Academic writing does not have to be stilted and boring. Chicago Manual of Style: “When you need the first person, use it. It's not immodest to use it; it's superstitious not to.”

Also, complaints about grammar / word choice:

1. “its” vs. “it's”. “its” means “belonging to it”. “it's” means “it is”. If you can replace “its”/“it's” with “it is”, then put in the apostrophe. If you can't, don't put it in. In general, and contrary to popular belief, the apostrophe doesn't mean “an s will follow”. Other [rules on apostrophes](#) in graphical form, and the esteemed [Apostrophe Protection Society](#) dedicates itself to proper usage of this oft-misunderstood punctuation mark.

[John Owens](#) | Last updated Fri Feb 02 2007 01:12:31.