

Do's and don'ts of scientific referencing

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Abstract

References are key elements of a scientific paper in that they provide the context for the new work under discussion. The accuracy of many published references is suspect, thereby often rendering them useless. This article points out for authors common, preventable deficiencies that may stand in the way of quick acceptance of manuscripts by journal referees or editors, and use by readers. A brief technology update deals with referencing software and world-wide web references.

Introduction

References link the paper with other relevant articles and books (e.g. Cronin 1984). References may tell you where to find additional related information, or may support statements you make in the text (especially in the Introduction, Methods and Discussion sections). In most scientific journals it is customary to list all references at the end of an article, and use a number (the 'Cambridge system') or the author's name and the year of publication (the 'Harvard system', illustrated in this draft) as reference marks. In books, references are sometimes placed as footnotes on the page where they are cited.

In referencing, there is a difference between an assignment or thesis on the one hand, and a scientific publication or treatise on the other. The main function of a thesis is to *impress* examiners (after all, you want to pass). Cite as many *relevant* publications in your introduction and discussion as you can fit in (if your supervisor lets you get away with it) to show off that you have covered your field of study. Similarly, review papers aim for comprehensive literature coverage of a topic.

By contrast, the scientific research paper is your contribution to a field that others may know much better than you do. Cite *essential* references only, make sure *all* cited works (and only those) are listed in the endnotes or footnotes. Double-check (no, triple-check) the accuracy of spelling of authors' names, papers' titles, journals' names, volume and page details. An incorrect or partially correct reference wastes readers' and librarians' time or may be entirely useless.

Most publishers provide detailed guides to authors in which they explain or illustrate their in-house style. Use these guidelines (e.g. Anonymous 1997; Kell 1998), or simply study format and style of previously published papers in the journal to which you will submit your manuscript: learn by example.

Common errors

In my PhD thesis (Jasperse 1992) I identified from editorial experience 12 common errors:

1. Incorrect spelling of referenced author names (in particular uncommon names or with non-English accentuation), of article, journal or book titles, or of publishers and place of publication.
2. Numerical mistakes in referenced year and/or page numbers, or their omission.
3. Use of abbreviations that are uncommon or unstandardised, and not explained (e.g. for an international readership).
4. Ambiguous reference by failing to clearly separate two or more publications by the same author in any one year.
5. Omitting from the references list, some authors mentioned in the text.
6. Listing superfluous references that are not mentioned in the text.
7. Referring to unpublished material as being published.
8. Non-sequential listing of publications by the same author.
9. Not ensuring that the list has a strictly alphabetical order of authors.
10. Unsystematic mixing of single- and multiple-author references.
11. Inconsistent listing of anonymous articles (e.g., from newspapers, or reports prepared by a committee, government department, or international organisation).
12. Failure to observe typographical guidelines provided by the publisher (consistency of style).

The first two items are the most serious, as they will not be able to be corrected by anyone but the author during the publication production process. If there is time and they know their job, professional editors will usually refer back to the author items 3 to 6, query item 7, and be able to correct items 8 to 12 themselves. That's not winning you any favours though, and may cause serious delays in publication. It's your call.

Technology updates

Since I identified the above errors, two key technological developments have taken place:

- availability of excellent referencing software
- publishing on the world-wide web

Let's deal briefly with these.

Referencing software

Referencing software is essentially a database that allows you to *input* all available details of any publications you may have consulted, in a standard form. It will then not only allow you to *retrieve* from that database only the references you need, but also to *export* them in a pre-determined format that is appropriate to the target publication. For example, one journal may prescribe references in one form, e.g. 'First author comma initial full stop semicolon second author comma initial full stop year colon title then *abbreviated* journal name in italics volume number in bold colon first page number en-rule last page number'. Say you submitted the paper but the editor or referee felt another journal would be more appropriate. Snag: that journal uses another style, e.g. 'First author initial ampersand initial second author year full stop title then journal name *in full* volume number first page number hyphen different part of last page number'. To make such changes manually to a long reference list is a laborious and error-prone task. Simply using a different pre-defined export format almost eliminates that job. A package that works well is EndNote (no commercial endorsement intended; there are others; or you could build your own).

World-wide web references

Increasingly papers are published or 'reprints' are mounted on the world-wide web. Should they be considered published? The jury is still out on this. A significant change in mindset took place when the International Code for Zoological Nomenclature allowed new species descriptions to be published in 'works produced after 1999 by a method that does not employ printing on paper' (International Commission on Zoological Nomenclature 1999). But 'the Code' provides no clear guidelines as to how such descriptions should be referenced—and it still requires deposit of print-outs in 5 major libraries.

The main problem is that websites come and go, and within websites documents are moved to new locations. My personal preference is to avoid web references where a printed alternative exists. Give only the shorter, organisation's website address (assuming they will have a good local search engine); or give the full document address (Universal Resource Locator, URL) only in combination with last viewing date (illustrated below for Jasperse 2000). You will need to seek specific editor's guidance on this matter, but for building your reference collection you would store the full URL with the date of viewing. Print out the section of text that is of interest, just to make sure you have an accurate record of what you referred to!

References

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- Kell, F. 1998. References in SIR journals. Unpublished guidelines (3 p.) for the New Zealand science journals, available from The Royal Society of New Zealand, PO Box 598, Wellington.