

## 39 WRITING AND PUBLISHING SCIENTIFIC PAPERS

*Adrian Barnett*

### WHY YOU SHOULD PUBLISH

Expeditions often get to parts that other fieldworkers do not reach. The data that they gather are often of immense value, either as information snap-shots in their own right or as the basis for future work. Yet, although most RGS–IBG-approved expeditions produce a report, the number that also produce contributions to scientific journals are very low indeed. Given the quality of some of the work done by expeditions, the main reasons for this must be ignorance and fear – ignorance of the process by which to get the information published and fear that it wouldn't be good enough anyway.

Be confident. Pre-fieldwork people: there's no reason why your data shouldn't be as good as anyone else's; just make sure that you collect them correctly. Post-fieldwork people: remember your literature search? Would you have been pleased to come across a paper containing the data that you now have? If the answer is "yes", then publish.

However, getting your results published can be quite a time-consuming and, sometimes, tedious process. But it *is* a worthwhile exercise. There is a great inequality between the amount of information available about, say, ecology in Europe and North America and that available for most other countries in the world. This is all the sadder, considering that this northern bias in knowledge is in inverse proportion to the distribution of global biodiversity, e.g. between January 1989 and September 2000 the *Zoological Record* listed 2798 papers on British mammals. The UK has 50 species of known mammal. In the same period, there were 1231 papers on mammals in Brazil (400 species), 170 in Colombia (363 species) and 190 for Costa Rica (206 species). With 122 papers, the UK's common woodmouse (*Apodemus sylvaticus*) had almost as much written on it in this time as did all the mammals of Colombia! This pattern occurs not just in mammals; it is present in almost any subject at which you care to look.

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**ISN'T A REPORT ENOUGH, THEN?**

Reports are valuable sources of information, but should be regarded as only the first stage of information processing. Reports are great for bringing everyone's data together, but not that good at disseminating the collated information. This is mainly because, generally, even the best-funded expedition can afford to produce only a few dozen copies of its report. Even when they are deposited in all the appropriate places, they are not always easy to find. As they are not refereed, people may be uncertain how much value to place on their contents or conclusions. Publication of your results in a journal gives them more credibility and makes them more accessible to a wider audience; for example, in November 1993 the *Journal of Zoology [London]* had 1143 subscribers, and in 1992 the *Journal of Ecology*, *Journal of Animal Ecology* and *Journal of Applied Ecology* had, respectively, 3600, 3200 and 3000 subscribers. The *Geographical Journal* reaches 10,000 people worldwide in 173 countries, of whom 1700 are subscribers. As many of these subscribers are libraries, the potential readership is obviously even larger than these numbers suggest.

**SOME COMMON MISCONCEPTIONS ABOUT PUBLISHING SCIENTIFIC PAPERS**

The following are not true:

- You have to pay the journal to publish your paper.
- The journal will pay you to write the paper.
- You have to have a degree or PhD before you are allowed to publish.
- You have to be attached to a university faculty before your work will get published.
- You can publish only discoveries of truly earth-shattering greatness.
- No paper will be accepted unless it has statistics in it somewhere.
- Only long and complex papers get published.
- You need to publish all your results at once and in the same journal.
- You need to put in everything you did and everything you found in the same paper.

**WHERE SHOULD YOU PUBLISH****Choosing your journal**

Don't set your sights too high. Your first paper will probably not get into *Nature* or *Science*. From your literature searches you will know what journals cover your field. Try one of those. To increase your chances of publication try one that is not top-flight. There is no shame in this; it is just the pragmatic realisation that some journals

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may be more open to publishing work by undergraduates than others. Any academics you know will probably be more than happy to tell you which journals these are.

### **Publishing in the host country**

Journals published in less developed countries are sometimes held in low esteem because some do not have as rigorous a system of peer review as others elsewhere, they just don't look as good or they get printed on lower quality paper. Don't let this put you off. It should be seen as a duty and a mark of courtesy to publish in a journal from your host country. Even better, publish in the language of that country: not everyone reads English. In countries where financial resources are often limited, academic journals printed in Europe and North America are often too expensive to be widely available. Nationally printed ones can bridge that gap.

### **Publishing elsewhere**

Many host country organisations are likely to have exchange programmes to help defray their costs; funding constraints may also limit print runs. This means that some host country journals don't get circulated as widely as others in the same field. Accordingly, you may also wish to publish a second paper elsewhere. This seems to be acceptable, providing the language is different, the texts and data-sets are not so totally alike that you can justifiably be accused of autoplagiarism, the title is not identical and the authors appear in a different order.

### **Multi-language summaries**

When publishing outside the host country you should endeavour, whenever possible, to include a summary in the language of the host country. If no one in your team feels up to this, arrange it with someone in the host country before you leave. The British Council may also be able to help.

## **HOW YOU SHOULD PUBLISH**

### **The publication process**

#### *Submission*

Journals do not work like popular magazines. You do not ring up the editor and ask if they would like something on a specific subject. You have to write the manuscript and prepare everything fully. Then, *using registered mail*, submit three copies and wait for a response.

#### *What happens next?*

Precise details will depend on the journal. Generally you will get an acknowledgement of receipt from the editor. She or he will keep one copy and send one each to

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two anonymous referees (generally acknowledged experts in that particular field) who will then review the manuscript. They return their copies to the editor with their comments and, once she or he has noted them, the modified manuscripts are passed on to you. This is known as peer reviewing.

***How long does all this take?***

This rarely takes less than 2 months. But it can sometimes take much longer, especially if one of the referees is away. Just keep tabs on the process and drop a note to the editor every few months to check on how things are coming along. Don't get neurotic about it and remember that editors have a lot of papers to deal with.

Providing space for referees' comments between lines is why you are asked to double space the text that you submit. Providing space for other comments is why you are asked to give it wide margins.

***What then?***

Modify the text in line with the referees' recommendations and resubmit. Don't get upset if your text comes back covered in blue pencil. It doesn't mean that he or she thinks that it is bad – it's just that people are trying to be helpful (after all, referees aren't paid – it's a service provided *gratis* for the general benefit). Make the suggested modifications, but also use this as an opportunity to put in any new references or angles that you have found (editors like it when papers are as up to date as possible – it makes their journal look good, although don't make the modification process to such extremes that it's almost a new paper or people will start wondering why you originally submitted a draft and wasted their time).

If you do not follow a referee's recommendations either to the letter or at all, explain why in a letter accompanying the modified manuscript, but don't be stropky or cheeky if you do so. Sometimes the recommendations from the two referees will be in direct contradiction to each other. If so, say in your letter to the editor which you have chosen and why.

Once you have sent it back, the modified version will go round the system again. It may even have to go round twice. The manuscript may then need to be approved by a controlling committee. Eventually you should get a note saying that your paper has been accepted for publication. The paper will be set by a printer, and then you get galley or page proofs.

***Printing and proofs***

The gap between acceptance of the paper and receiving an envelope full of reprints because your paper is published can be up to a year, or longer. You should receive a set of page or galley proofs with a deadline date for their return – make sure that you meet this deadline. If you are likely to be away when the proofs are due, ensure that you delegate the checking and return of the proofs to someone else.

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### *Scrutinise the proof*

The proof is a typeset version of the text. Barring accidents, what is there is what will appear in print unless you change it. Look at the text very closely. Check spelling, typography, line and paragraph order, etc. If making modifications, you can either write your instructions in (but do so very clearly) or use printer's marks. Some journals will send you a set of printer's marks with the original reviewer's comments (this is helpful because the reviewers will have used such notations on your text); other journals will not do this and you will have to talk to a librarian to locate a sourcebook.

When you get a proof, work on it as soon as you can. Your paper is going to appear in the next issue and the editor is waiting. If you do not send any modifications you might have quickly, the editor will assume that everything is OK and will publish it as it is. With the proofs, an offprint order form will often be included. Make sure that this is completed and returned.

Nowadays, when many manuscripts are submitted electronically, it is rare for such errors as typos and chunks of text being out of order to creep into a text once it is in the journal's hands. However, some journals are still typeset by hand (especially in tropical countries). Check such proofs really thoroughly (especially for homonyms, but also the tables).

All this may all sound silly, tedious and trivial. But remember, if the text has errors, people might start to think that you are equally sloppy with your data collection and interpretation, and begin to mistrust your paper.

### *Do papers ever get rejected?*

Yes, sometimes it comes straight back from the editor, other times the reviewers recommend its rejection. But normally you will be given some reason why. Don't despair, just re-jig the thing and send it to a different journal. Unless it's really rubbish, it will find a home eventually.

### *Safeguards*

Keep copies of your disk, computer file and/or the manuscript. Things do get lost in the post or in the editing system. For the same reason, and to guard against computer viruses/crashes, keep hard copies of the manuscript at all stages of editorial modification.

## **Preparing for publication**

### *How many papers?*

How finely do you slice the information in the data-set? Obviously it depends on what you've got. But a common split is one general paper based on the data in the whole report and one on each of the main research projects. Each of these might be

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subdivided into short papers on, say, reproduction, diet and community ecology of a particular group such as birds. You might also want a special subject paper on, for example, the conservation importance of the area that you've visited. This is not all done so that you can get a massive list of publications, but because many people find it much easier to work this way. Doing papers as small discrete units can make things much more manageable; the text has much less of a tendency to sprawl, you can set sharper targets, and so tend to get much less bogged down and depressed while researching and writing the papers.

### *How long should a short paper be?*

Short papers are generally less than six pages, including references, and are variously known as "notes", "research reports", "reports from the field", etc. – depending on the journal. Single observations of interesting behaviours or geographical phenomena are often published as half-page notes.

### *Stepping back*

When you have finished the final version and are happy with it, stick it in a drawer for a week and then look at it again. It's amazing how many blemishes you can then see on your formerly pristine piece.

### *Pre-submission peer review*

Once you have done the first draft, send a copy of the manuscript to other expedition members. Stress that it is a draft and ask for comments. Once you have received these, pass a modified version to an academic adviser for further comment. Once all this has been done, you are ready to submit.

### **When you should publish**

Publish as soon as possible after you get back and have had a chance to write the report. If you leave it, other things will crop up and you are likely to forget some of the subtleties of your work.

### **Planning for publishing**

#### *Pre-expedition work*

Make sure that you are really familiar with the relevant literature before you go. This should mean that you can spot and follow up interesting things when you are in the field, and it will also reduce the time that you have to spend on literature searches when you get back.

#### *Budgeting for paper production*

Papers cost time and money to produce. Allow for this when drawing up your budget

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and planning post-fieldwork tasks. As a guesstimate, say that each paper is going to cost £50 in postage, photocopying and library services and take maybe 10 days of solid work to get it written up and ready for a pre-submission peer review.

### *Budgeting for data analysis and specimen identification*

You will also have to allow time to analyse your data and budget, and time to check field specimens that you may have to have identified. Museums don't have the staff, time or money nowadays to do it for you and are likely to charge for their time.

### *Literature searches*

These are absolutely essential for the production of a worthwhile paper or notes. For the biological sciences *Zoological Record*, *Ecological Abstracts*, *Ecology Abstracts*, *Excerpta Botanica*, *Forestry Abstracts* and *Abstracts in Anthropology* provide the best starting points.

There are other compilations (e.g. *Biological Abstracts*, *Citations Index*, *Current Contents*), but these are generally held to be of less use in primary literature searches.

Some of the groups for which a lot of work gets published have a specialist publication that appears regularly at short intervals (every 1–2 months, e.g. *Current Primate References* for primates). This can help you find the most up-to-date publications on a specific species in that group.

### *Organising data in the field*

Make sure that you take your data in a way that will be easy to analyse later. Write up your notes daily. Use abbreviations as little as possible. Keep regular notes. Trust nothing to memory. Organise your notes with the clarity that would allow someone unfamiliar with them to extract and analyse the data with ease.

### *Protecting the field data*

Your data should be regarded as the most important thing you get from the expedition. Always make copies of your data and deposit them in a safe place; one set left in town and one set sent home is a good way.

Make a duplicate copy of your data while you are still in the field (copying them up every night is best). When you are travelling give one copy of your notes to someone else. Treat your data book as the most valuable thing after your passport and do not let it out of your sight.

### **How to decide who is on the list of authors and in what order**

It is important to agree on this. Different people on the team can have very different reasons for thinking that they have earned a right to be listed as an author, even as first author. Did they do most of the literature search? Did they do most of the data analysis? Did they collect most (or all) of the data in the field? Did they identify all

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the specimens? Be certain that everyone knows whether or not they will be authors and agree on the order of the authors for each paper.

A system used by Bristol University Zoological Department provides a good rule of thumb. Divide the workload into four parts: the original idea, the carrying out (fieldwork and logistics), the data analysis and writing up. If an individual has been involved in two or more of these parts they are on the list of authors. If they were involved in one part, place them in the acknowledgements section. The order in the list of authors is a fine mixture of reward and realpolitik.

If you have worked with host country counterparts, it is only fair to include them as authors. First authorship by a national of the host country may speed acceptance of a paper in a host country journal.

***What's in a name?***

Hopefully, your papers will be read for many years to come. So, even if you have a nickname now and are happy with it, you may not want to be known as "Biffa" Smith in 30 years' time. Best to use your legal name.

People may want to contact you – either for reprints or to discuss your results. This may not happen for several years after the paper is published. You should therefore try to include a contact address that will last and/or can be relied upon to forward things. If you give the name of an institution, (1) ask them first and (2) make sure that you keep them abreast of subsequent changes in address.

Another approach is to c/o the paper, with an academic supervisor's address and name – or bring them on to the author list and use them as the contact point. An email address is also a useful contact point, providing you keep it up, of course.

**Some notes on style*****Conventions***

Each journal has its own unique publishing conventions. You are expected to follow them. They govern everything from the way in which references are to be cited in text – e.g. (Smith, 1978, 1979; Jones, 1990; Apfelbaum, Schmidt and Gaynor, 1991) or (Apfelbaum *et al.* 1991; Jones 1990; Smith 1979 1978) or any of many other variants – to the use of "%", "&", ":" and ";" and the way references appear in the bibliography, to how to do tables and figures. Journals regularly publish "notes to contributors", usually on the inside back cover (check the most recent one – they sometimes change).

Follow the instructions to the letter when doing the original manuscript. The instructions for authors don't always cover every eventuality (how to cite two different authors with the same name, for example). So, if in doubt check recent papers in the journal of your choice until you find an example of what you are worried about. Or email the editor. A journal will not re-format your text to fit in with its conventions. You must ensure that your text agrees with their way of doing

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things otherwise it is very likely to get sent back. Doing so can be the most niggardly and tedious of tasks, but it saves you doing it all over again later.

### *Title*

Keep it short, simple and informative. Make it the kind of title that you could see in a literature search and have a good idea of the content of the paper and its relevance, without actually seeing it. If possible, include the country and location within it. If you focus on a particular species, include its Latin name in the title. “Random observations on South American mammals” (a real title!) is probably my favourite example of how not to do it.

### *American English*

Remember that if you are going to submit to a journal published in the USA that you will have to do so in American English (“color”, “behavior”, “program”, etc.). Doing this will irritate your spell-checker only slightly less than not doing it will irritate an American editor.

### *Written style*

Remember that many of the people who read your paper may not have English as their first language. Try to write with clarity and precision. Avoid ambiguity (remember how annoyed you feel when you aren't sure exactly what an author means).

Descriptive prose has little place in a scientific paper. Save it for the popular pieces that you should also be writing.

Try to avoid needless jargon or tortured pseudo-scientific burbling (“the methodological parameters were operationalised”). You are, theoretically at least, supposed to be informing people rather than impressing them.

Use short sentences. Try very hard not, unless it cannot possibly be avoided, to write sentences that, in an effort to cover all possible points of view in the compass of the same sentence, tend to ramble on rather a lot, sometimes a great deal, indeed occasionally an inordinate amount, and may contain so many subclauses that, unless one keeps a very careful eye on what is happening, which naturally is not always possible, even under the best of circumstances, despite one's training for such eventualities, one does rather tend to lose the thread of what is actually being said.

### *Footnotes*

These seem to be generally disliked by both readers and editors. They are best avoided wherever possible. Their only *raison d'être* seems to be if you have a very big new piece of information to put into a galley proof and it's so big that it won't easily fit into the existing text without tearing it apart. If notes have to be added they are best at the end of the manuscript.

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**Quotes**

Never use a quote unless you have first authenticated it. When you do use it you should include the page number as part of the citation (e.g. “The sea is salty” [Smith, 1979, p. 43]). If you are quoting from a book, make sure that your reference list mentions which edition of the book was used.

If you quote from a foreign language and provide a translation, you should say so in the citation (e.g. Schmidt, 1970 – my translation). Check carefully the current rules concerning lengths of quotation and permissions.

**Dividing the paper up into sections**

Short papers are often exempt from such requirements and the whole text just appears as one uninterrupted piece. However, for longer papers, most journals ask that you divide your text up into: Introduction, Site description, Methods, Results, Discussion, Conclusions (the names may vary). It can take a lot of concentration to ensure that sentences do not bleed ideas from one section to the next. Such occurrences can spoil the clarity of your piece. Avoiding them is one of the reasons for stepping back now and again, and for letting others have a look at the text before you send it off.

**Some notes on figures and references****Authenticating references**

Always authenticate your references. Never quote a reference in your paper that you have taken out of another paper and not seen: first, because you have to be sure that the cited author actually said what you’re being told he said and, second, to be certain that your source author actually cited the reference correctly in the first place. Errors creep in to reference lists all the time. Do not perpetrate or perpetuate them. Duff references make life harder for others and reflect badly on you. In some cases you can look really silly (because the citing of completely fictitious references does occur now and again).

If you can’t avoid it, at least do the decent things and say “not seen” – either in the text or in the references (depending on the journal). Only do this for really obscure or ancient stuff, however. Otherwise referees and readers will, not unreasonably, ask “why?”

**Abbreviating references**

If the journal offers you the choice, try to cite the source title in full. It can be somewhat annoying to waste time trying to find something that has been over-abbreviated down to “Ag. Fd. Pn. Wd.”, only to find that a non-standard abbreviation has been used (especially if its title is not in English, making educated guesses somewhat harder). There is no internationally agreed standard for abbreviating journals. Leland Alkire’s *Periodical Title Abbreviations* can be of help. On the web, there is also “All that JAS”, a site from the University of Iowa that lists a large number of standard

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sources of journal abbreviations in many fields including biosciences.

### *Accents*

You must add your own in both text and references. If your computer or printer won't do it for you, then doing it by hand is acceptable. Editors are unlikely to do this for you. It's an extra, fiddly thing but without it your work looks sloppy and it may offend people of the host country whose language you are mangling.

### *Figures*

Some journals refer to maps as figures, others refer to them as maps. Check before submitting. Graphs and anything else that isn't a "table" is usually a "figure". Generally, it is a waste of time to do your own paste-up job and put your figure in your own text. Few editors accept this. Figures should be submitted at the same time as the text and the rest of the paper, mounted on card (size A4 generally), and be in their final form. Always make sure that, on the back of the figure, you clearly write the author's name, address and the full title of the paper. This minimises the chance of the artwork being lost or mislaid. Indicate in pencil in the margins of the text where you would like the figures included.

### *Maps*

Generally a map is a helpful inclusion. But a badly drawn map can be more confusing than none at all. Keep them as simple and as uncluttered as possible. Don't put in anything that you've not referred to in the text, unless absolutely necessary. You cannot photocopy someone else's map and stick it in with your paper. It is rare for journals to take the trouble to touch-up or re-draw a badly done map. Computers now allow clear maps to be produced with relative ease.

Try to use standardised spellings for your place names. Many countries have officially recognised gazetteers that list place names. As an adjunct to your map(s), try to include in the text of your paper the code of any large-scale maps to the area that are available and include the grid reference of a nearby town or recognisable feature. Don't forget the scale and orientation and give your source for maps/aerial photos either in the text or at the foot of the map itself.

## **Tables and appendices**

### *What to put in*

Tables should not be used to pad your paper. They should contain numerical data or lists that it would be unwieldy to include in the main body of the text. Make sure that they are self-explanatory. Expand all abbreviations and numerise column headings in a key. Give the table a title that describes exactly what it is designed to show. Ideally, the data in the table should be comprehensible to someone should they read just the table alone.

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**A note on a dry-season collection of butterflies from South Western Guinea, West-Africa**By: **Madeleine L. Prangley\***, **Adrian A. Barnett\*** and **Cheik Oumar Diallo\*\***

\*formal address

\*\*formal address

email address [senior author only]

Address for correspondence: [normally that of the first author; repeat even if the same as above]

Contains: three pages of text (excluding this one), and two pages of references. Plus acknowledgements, two figures and one table.

Running header: Butterflies from Guinea [this will appear at the top of each page of the paper and helps maintain continuity during printing]

Key words: Butterfly, community ecology, deforestation, Guinea, Monsoon forest. [normally a maximum of 10 words and written in alphabetical order, not in any order of importance they might have within the paper]

**Submitted as a note to the *Journal of African Butterfly Studies* on 11 March 2002.**Figure 39.1 *Format for manuscript cover page***What to leave out**

Leave out anything that is trivial and not germane to the text and to the points made in it. The material in a particular table should amplify a particular point not smother it. Try to avoid really long columns of figures; try to break the table up into subsections if this looks as if it is going to happen.

**Appendices**

Journals differ, but generally appendices are reserved for large papers and are places where lists of raw data are presented. Avoid them.

**Presenting the manuscript**

Whether you are submitting by post, email or both, the manuscript ("typescript", if you want to be really pedantic) and its entourage of references, tables, figures, etc. should have a covering page which follows the format given in Figure 39.1.

All of this should be accompanied by a short letter to the editor of the journal saying that you wish to submit this note/paper for publication. Some people like to put in a couple of paragraphs about the paper and what it is trying to achieve. To find out whether this is going to help or not, take advice from anyone who knows the editor of the journal to which you are submitting.

**WHAT TO DO ONCE YOU'VE GOT THE PAPER PUBLISHED****Correction of misprints – asking for an erratum**

Now and again things go wrong at the printers and what gets printed isn't what you

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and the editor agreed on. Mistakes like this most often take the form of references missing from the bibliography or a missing figure or paragraph. In such circumstances you may contact the editor and politely request that an erratum be printed. Say exactly what you want to be printed. Editors normally leave space for this eventuality and your erratum should be out within the next couple of issues. Don't bother to request an erratum for minor errors of typography or spelling. If you didn't catch them in the galley proof (or they weren't there then), unless they really spoil the meaning, they are probably too trivial to bother about. You don't normally get reprints of your erratum, so photocopy it and make sure copies go out with your reprints. When citing your paper, accompany it (in parentheses) with the location of the erratum.

### Ordering reprints

Most journals will give you a certain number of reprints free of charge. If you want more you may have to pay for them. What you do about this depends on the number of free ones that the publisher will give you and how confident you are that people will write to you asking for a reprint. Generally, you can only get extra copies printed off at the time the journal is going to press.

### What to do about reprint requests

Convention says that you should supply reprints (free of charge) to anyone who asks for them for the benefit of wider scientific knowledge.

If you have an erratum for a paper, keep a list of who asked for reprints and send them a copy of the erratum when it comes out.

It is common to make a pdf file of your published paper and send that instead of a paper reprint. Check first; some people simply prefer a paper copy.

### Information dispersal

Send out reprints (or photocopies) to all those in the acknowledgements and to anyone else whom you think might be interested (e.g. government departments, national and university libraries in the host country). This is common courtesy but also helps to get the information spread as widely as possible.

## MISCELLANEOUS

### Acknowledgements

Remember to thank the government officials and academics in the host country as well as the sponsors and people in the UK – but put host country people first, at the top of the list. Otherwise, you can create a bad impression and mess things up for later expeditions. You can't thank everybody in every paper, so rotate some of the less vital ones through the acknowledgements of various papers.

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**Data – singular or plural?**

This is used both ways. Plural is correct, so it's "data are presented" rather than "data is presented". (The singular is "datum".) But check recent editions of the journal of choice for guidance.

**Numbers**

It is common practice to write out the numbers from one through to ten and use numerals thereafter. The only exception is when numbers start a sentence – then they are written out in full (e.g. "Twenty-nine palms ..."). Journals differ on whether they write 1000 or 1,000 or 10,000 or 10 000 – check the "Advice to contributors" in the journal.

**Internet information**

The internet is great, but it's not peer reviewed. It's best to be sure of any facts that you get off the net. Try to check them with an authority before slipping them into print. That's how errors get perpetuated.

**Citing websites**

Web addresses change frequently. Try citing just enough to get people to the homepage. They can move around from there. Also, as information changes all the time, you should give the date of your visit as part of the bibliographical citation. Note: not all journals are happy about websites as citations. You may have to use a "personal communication" citation.

**Citing films**

Sometimes a critical piece of information will come from a TV programme. If it is simply a fact, you should be able to track down the researcher and get their original source. But, if it is the visual event itself (the display of some rare bird, say), it is valid to cite the TV programme. How this is done depends on the journal and is rarely given in the guidelines. Generally you do it something like this: *The Lure of the Gerbil* (BBC/NHU, 2002). Then you ring up the production company and find the name of the producer, the date of first showing and their library code for the programme. That way any one who wants to should be able to get a copy at a later date.

**Product information**

If you specify a particular product in your methods, do include an address where the manufacturer can be contacted. Don't bother with the phone number, but you may cite a web page (either in the text or as part of the acknowledgements or in a small appendix – journals seem to vary on this, not really having sorted themselves out about it yet).

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**Things in parentheses**

Make sure you know what (pers. comm.), (in litt.), (ibid.) and all those other odd abbreviations mean before you start using them yourself. For a personal communication, check with the person first that they are happy with you doing this. For an unpublished document, again try to ensure (if the document's not too ancient) that it is OK to use it.

**FURTHER READING**

- Alkire, L.G. (ed.) (1989) *Periodical Title Abbreviations*. Volume 1: *By Abbreviation*. Volume 2: *Titles to Abbreviations*. Detroit: Gale Research Inc.
- Barrass, R. (1986) *Scientists must Write*. London: Chapman and Hall.
- Booth, V. (1993) *Communications in Science: Writing a scientific paper and speaking at scientific meetings*. Cambridge: Cambridge University Press.
- Cooper, B.M. (1964) *Writing Technical Reports*. Harmondsworth: Pelican Books.
- Council of Biology Editors, Style Manual Committee (1995) *CBE Style Manual: A guide for authors, editors and publishers in the biological sciences*. Cambridge: Cambridge University Press.
- Davis, M. and Fry, G. (1996) *Scientific Papers and Presentations*. London: Academic Press.
- Day, A. (1989) *How to Write and Publish a Scientific Paper*, 3rd edn. Cambridge: Cambridge University Press.
- Day, A. (1993) *Scientific English: A guide for scientists and other professionals*. Phoenix: Oryx Press.
- Godfrey, J.W. and Parr, G. (1960) *The Technical Writer*. London: Chapman and Hall.
- Hans, E., Bliefert, C. and Russey, W.E. (1989) *The Art of Scientific Writing from Student Reports to Professional Publications in Chemistry and Related Fields*. Weinheim: BVHC Verlagsgesellschaft.
- Huth, E.J. (1994) *Scientific Style and Format: The CBE manual for authors, editors and publishers*, 6th edn. Cambridge: Cambridge University Press.
- Mitchell, J. (1974) *How to Write Reports*. London: Fontana/Collins.
- O'Connor, M. (1991) *Writing Successfully in Science*. London: HarperCollins Academic.
- Paradis, J.G. and Zimmerman, M.L. (1997). *The MIT Guide to Science and Engineering Communication*. Cambridge, MA: MIT Press.
- Partridge, E. (1973) *Usage and Abusage: A guide to good English*. London: Penguin.
- Pechenik, J. and Lamb, B.C. (1994) *How to Write about Biology*. London: HarperCollins.
- Perelman, L.C., Paradis, J. and Barrett, E. (1997) *The Mayfield Handbook of Technical and Scientific Writing*. Mayfield Publishing Co.
- Royal Society (1974) *General Notes on the Preparation of Scientific Papers*, revised edn. London: The Royal Society.
- Shortland, M. and Gregory, J. (1991) *Communicating Science*. Harlow: Longman.
- Zehr, J. (1993) *Creating Environmental Publications: A guide to writing and designing for interpreters and environmental educators*. Stevens Point, Wisconsin: Foundation Press, University of Wisconsin.