
How to write a paper

Hannah B. Suthers

Labor: The first rule is that labor is always long; there are several false labors, or drafts of your paper, before the real thing.

The best way to start writing is to — start writing! It is next to useless to wait for an inspiration. It is just as useless to try to put a neat, catchy title down first on the clean piece of paper. You should avoid a cute title anyway; the purpose of the title is to inform the reader of the content.

You need to plunge in to get your mind flowing; then, when you are humming along, you can work out the form. So plunge in as though you were answering a friendly question from a neighbor: *What are you doing?* Your answer to your neighbor is in effect the *introduction* to the paper and the *purpose* of your study.

Or plunge in by telling how you go about your project, your equipment, tricks, tactics, bait, time of day, regularity of trapping or netting. Here are the *materials and methods* of your paper.

Or your neighbor asks you, *How is it going?* What are you finding out? Write down your would-be answer and you have the basis for the *results* section of the paper.

So the first technique is to get the story down, as though you were telling it to someone. Never mind the grammar or the spelling. If your mind is working quickly, and you know how to type, type double-spaced, one side of the paper, so you can write in changes, or even cut up the paper to rearrange the paragraphs. If you are thinking out something as you go along, use pen and paper so you can scratch out words and work them over. Leave space between the lines so you can write in changes later.

Now you have something to think about. It is easier to think about your work if you make a *clean, unscratched copy* of your first draft. Keep pen and paper handy for ideas that pop up. Even paper and pen and a flashlight at the bedside are not unreasonable. Saves you getting out of bed and walking across the cold room.

Aids along the way: Now that the first exciting



onset of labor is over, you must get down to the work of writing. You will find it helpful at this point to make an *outline* of your story so that you can plan carefully how to arrange it. You will need an *introduction* in which you may want to discuss earlier work on the same subject and how your work builds on it. Then you need a statement of *purpose*, the aim of your project. Your *materials and methods* follow, then *results, discussion and summary*. Shorter informal papers don't need all these parts.

Arrange your data in *tables, charts or graphs*, so that you can take a good look at them. If your data are not really telling you what you first thought, ask why — you may come up with something quite interesting. There are several papers for banders on *how to analyze data*. References to these are in "An Amateur Attempts Data Analysis" by H.B. Suthers (*EBBA News* Vol. 37 Supplement 1974) available from the author.

Ask for help from your high school children (or grandchildren), babysitter, or your high school math teacher; he may want the data for a class project. You see, help is available in every community.

You will have to work through a few *rewritings* of your paper in which you try to accomplish the following:

- 1). The shortest version in the most understandable language;
- 2). Concise writing with no repetitions except in the summary;
- 3). Correct grammar and spelling.

Your Editor wants a manuscript no longer than 15 pages, double-spaced typing, including graphs, tables and literature cited.

Some guidelines from the CBE (Conference of Biological Editors) Manual are about decisions we have to make concerning person, tense, and voice.

Let's look at them:

Person: decide early which person to use:

the 1st person (I, we) is natural for telling what you did

the 2nd person (you) is convenient for giving directions

the 3rd person (he, she, it, they) has definite advantages for telling what happened.

Tense: be logical:

record observations and completed procedures in the past.

write directions, generalizations and references to ongoing conditions in the present tense.

Voice: active voice is less likely to be ambiguous "I discovered" rather than "it was discovered." By whom?

Somewhere in the process you may want someone to read your paper for suggestions on grammar, syntax and word choice: your spouse, student, or an English teacher. Show it to someone who does not know about your project. Thus you will find out if you left out some important detail assumed by you but not generally known. This trick helps eliminate annoying "in-group jargon" that should be written in English, not "bird-bandese."

This process takes time. If your brain is too tired to re-work something, then you can use your allotted time by typing clean copy or getting the references in the correct form. Remember that each line written or typed is a line that wasn't done yesterday!

Appended is a list of manuals and writer' aids. In brief, your Editor wants:

- 1). the *Latin name* of each bird the first time it appears in your paper,
- 2). a *typed, double-spaced* manuscript on one side only of 8½ x 11 bond paper. This spacing is necessary for editor coding. Margin should be 1 inch. all around.
- 3). *Tables, lists of band numbers and literature cited*, need to be double-spaced also. See issues of NABB for the format of a table and the literature cited.

4). The *North American Bird Bander* needs 2 copies of the manuscript tables and graphs. Some editors require 1 original plus 2 copies that will be sent to reviewers. Check the inside cover, or the January issue of the journal, for instructions to authors. Be sure to keep a *complete exact copy for yourself!*

5). Your *tables or graphs* each go on a separate piece of *unlined* paper. The caption under your graph goes on yet another piece of paper. Leave the *lettering* off your original graph (but not the copy) as the lettering will be machine printed. Type the lettering on the copy of the original graph.

6). *Photographs* should be sharp and of good contrast. Glossy black and white or color prints are acceptable, but not slides. Use a small piece of *tape on the back* to fasten a photo to a piece of white paper. Write your name and number of the photo on this paper. **DON'T** write on the back of the photo: it mars the surface!

You can go absolutely out of your mind *drawing graphs and figures* with *india ink*. It can blob and smear at the end of a 4-hour job. But you don't have to lose your sanity. There is a new foolproof way. No, not a Bic Banana or felt pen — not these. They show up smudgy in the camera copy. The new way is to use the press-on lines and rub-on numbers; names and sources are appended. The Editor requests that the graphs be done on white paper, not on graph paper, because lines show up in the camera copies for printing. The trick is to draw your rough graph with heavy lines on a piece of graph paper. Then put white paper on top of this and the lines will show through to guide you. The graph is usually made twice the size that it is to be published. For protection, *mount your graph or figure* on a stiff backing, such as the back of a writing pad, white poster board or Bainbridge board. Cover it with tracing paper for protection.

Delivery: Mark Twain said that his typewriter did not know how to spell! My typewriter certainly forgets a lot of its spelling after 11:00 at night. So the manuscript has to be *proofread* and neatly corrected. Double check tables, numerals, band numbers, dates after authors' names. Be sure that the literature cited items agree with the citation in the text. Check data points on the graphs. Put your name and address on the upper corner of the Ms., your last name and page number on all others.

When your paper is typed and proofread, the tables, figures and captions are done, and the necessary copies are made, you are ready for

delivery! You will need a covering letter to the Editor, that goes something like this: Enclosed is a manuscript (title) for your consideration. Please return it if it is not accepted; return postage is enclosed.

Send your manuscript flat — that is, not folded — in a large mailing envelope or padded book mailer. Be sure to include the return postage. A good way to send it is by Certified Mail, with Return Receipt requested. The return receipt is a postcard attached to your mailing envelope. The Post Office mails it back to you when your manuscript is delivered.

If your paper is read and criticized by a reviewer, do not be surprised if you have to rewrite parts or all of it before it is accepted. This is usual procedure. Be sure you keep a copy of your rewritten version also.

Family Planning: Now one happily produced a brain child leads to another, so you need to think about family planning. At the Annual Meeting, ideas were given on how to start various projects. The time to start writing is at the beginning of your new project. Outline your project, and write up your purpose, materials and methods, and background literature before you begin your field work. This way, you are not likely to overlook some detail, or important data that you should be taking to achieve your purpose. Darn! If I had only known to take down the bill color! This won't happen to with planning ahead.

Happy banding! Happy writing!

Style manuals & writers' aids

Army, M.T. & C.R. Reaske. *Ecology: A Writer's Handbook*, with a full glossary of Ecological terms. Random House, New York, 1972.

Committee on Form and Style of the Conference of Biological Editors. *Style Manual for Biological Journals*, 1st Edition. American Institute of Biological Sciences, Washington, D.C., 1960. 2nd Edition 1964.

Committee of Form and Style of the Council of Biology Editors. *CBE Style Manual*, 3rd Edition. American Institute of Biological Sciences, Washington, D.C., 1972

Gunning, Robert. *The Technique of Clear Writing*. McGraw Hill, New York, 1952.

Leggett, G., C.D. Mead and W. Charvat. *Prentice Hall Handbook for Writers*, 5th Edition. Prentice-Hall Inc., Englewood Cliffs, NJ 1970.

Perrin, P.G. *Writer's Guide and Index to English*. Scott, Foresman and Co., Chicago, Ill. 1942.

Woodford, F.P., Editor. *Scientific Writing for Graduate Students, A CBE Manual*. The Rockefeller U. Press, New York, 1968.

Graph & figure-making aids

Chartpak, pressure sensitive graphic tape. Glossy or matte finish. Width 1/32" on sample graph. Avery Products Corp., 1 River Road, Leeds, Mass. 01053. Phone (413) 584-5446.

Letraset instant lettering, spacematic heat resistant adhesive. Style in sample is Futura Bold, size 14 point. Letraset U.S.A. Inc., 33 New Bridge Road, Bergenfield, N.J. 07621. Phone (201) 387-0700

Para-tape pressure lettering, heat resistant. Paratone Inc., 512 W. Burlington Ave., La Grange, Ill. Zip-A-Line Charting and Drafting tapes, Zip-A-Tone shading, screens, color tones.

E.Z. Letter Quik Stik, pressure lettering, P.O. Box 829, Westminster, MD 21157.

Look in the Yellow Pages under Artist's Supplies or Drafting Supplies for local dealers. Some stationery stores carry these lines. 📍

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A summary of bird banding in Rocky Mountain National Park and Estes Park area: 1961-1976

Allegra Collister

In the course of a 16-year study of bird life in the Rocky Mountains, a somewhat irregular program of banding has been pursued. Irregular, because my home is in Longmont, Colo., about 35 miles distant from Rocky Mountain National Park. This mountain project was only a small part of a much larger banding program carried on in the Long-

mont area. To facilitate research in the Park I was granted an appointment as a Park Service Collaborator, renewed on an annual basis.

The Park ranges in altitude from approximately 7,500 feet to 14,256 feet at the summit of Longs Peak. Most of the banding reported here was done