

Informative Words for Authors of Abstracts

There are four things that make this world go round: love, energy, materials, and information. We see about us a critical shortage of the first commodity, a near-critical shortage of the second, increasing shortage of the third, but an absolute glut of the fourth.

—ROBERT A. DAY

In the preface to his book *How to Write and Publish a Scientific Paper*,¹ Day uses the four words energy, information, love and materials to underscore his general advice to authors of scientific papers. Before he presents more specific advice on the writing of conference reports, theses, and review papers, and continuing in his preface, Day advises authors on how to alleviate the problem of the glut of information.

We in science, of necessity, must contribute to the glut. But let us do it with love, especially love of the English language, which is the cornerstone of our intellectual heritage; let us do it with energy, the energy we need to put into the scientific paper so that the reader will not need to use much energy to get the information out of the paper; and let us husband our materials, especially our words, so that we do not waste inordinate quantities of paper and ink in trying to tell the world more than we know.

That which is appropriate for the writing of all other components of a scientific or scholarly paper is also appropriate for the writing of the abstract.

Hints for Writing Good Informative Abstracts

Do:

scan the document purposefully for key facts
slant the abstract to your audience
tell what was found
tell why the work was done
tell how the work was done
place findings early in the topical sentence
put details in succeeding sentences
place general statements last
separate relatively independent subjects
differentiate experiment from hypothesis
be exact, concise, and unambiguous
use short, complete sentences

Don't:

change the meaning of the original comment on or interpret the document
mention earlier work
include detailed experimental results
describe details for conventional apparatus
mention future work
begin abstracts with stock phrases
use involved phraseology
use questionable jargon
waste words by stating the obvious
say the same thing two ways
use noun form of verbs
over-use synonyms
use a choppy, telegraphic style

The above *dos* and *don'ts* which were compiled by Weil et al.², are presented to show another example of rules which apply to the preparation of abstracts.

The two major types of abstracts which are appropriate for the *Proceedings* are as follows:

Informative abstracts Abstracts that contain key results, conclusions, or recommendations from documents resulting from basic or applied

research and development. Information on methodology, purpose, or scope also may be included when important.

Purpose-oriented abstracts Abstracts in which information on the primary objectives, scope, or methodology is presented before details of results, conclusions, or recommendations.

When writing an abstract of a document reporting on experimental research, tests, surveys, or case reports, reread the textual materials on the results or findings. While reading, mentally condense this information, or write it on paper, to aid your judgment of its pertinence and significance. Extract the most relevant conclusions; write them in sentence form, tersely, in descending order of significance. The style that is best in an abstract is one which quickly conveys the necessary information. Clarity is essential; vividness is not. For most papers and portions of monographs, an abstract of fewer than 250 words is adequate. For notes and short communications, fewer than 100 words should suffice.

Literature Cited

1. DAY, R. A. 1979. How to write and publish a scientific paper. ISI Press, Philadelphia, Pa.
2. WEIL, B. H., I. ZAREMBER, and H. OWEN, 1963. Technical-abstracting fundamentals. III. Publishing abstracts in primary journals. *J. of Chem. Documentation* 3(2):132-136.

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Abstracts

Three copies of an abstract should be submitted to the Divisional Chairman at the time the title of a paper is submitted for the Fall program. All abstracts are acceptable for publication in the *Proceedings*, either separately or with papers that are published in full. Two copies of the abstract should be marked "for the editor." The third copy of the abstract should be marked "for the divisional chairman," and may include information about time, projection facilities needed, etc. The abstract should be prepared according to the form currently used in the *Proceedings* (see the latest copy of the *Proceedings*). The abstract should be complete, clear in itself and not over 5% of the length of the paper. Normally abstracts should not exceed 200 words in length. Abstracts and notes are not reprinted (except for those which are included at the head of a paper published in full).

Deadline at the Editorial Office

When sent via the Divisional Chairman as prescribed, or directly, all material to be considered for publication in the *Proceedings* must reach the editor within 20 days following the Fall Meeting. This deadline is necessary to insure that the publication process remains on schedule.

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- A. Refer to the latest copy of the *Proceedings* for the accepted style of abstracts and papers, and follow this, especially in literature citations, headings, footnotes, table and figure construction.
- B. Type on 11 x 8½-inch bond paper with a new ribbon, leaving some margin. Double space everything, including title, author's name, department and institution, footnotes, quotations, legends and literature list. Manuscripts must be submitted in duplicate. The original will become the printer's copy; if it must be retyped, it will be sent back to the author for this.
- C. Footnotes are to be kept to a minimum. Necessary footnotes are numbered consecutively throughout, and referred to in the text as superscripts, without parentheses.
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 7. Doe, J. B., and R. C. Roe, 1949. New light from old radioactive carbon. *J. Amer. Biol. Soc.* 34:278-305.
 8. Milazzo, G. 1963. *Electrochemistry*. Elsevier Publ. Co., New York, N. Y. 708 p. References cited should be numbered consecutively (in the alphabetized list) and should be referred to in the text by number in parenthesis on the line of type and before the period if at the end of a sentence.
- E. Do not underline anything except scientific names, words to be italicized, and titles of books when they appear in the text only, not in literature list.
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