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Types of papers. Six types of signed papers are published: Articles, Reports, Letters, Technical Comments, Meeting Reports, and Book Reviews. Familiarize yourself with the general form of the type of paper you wish to submit by looking over a recent issue of the journal, and then follow the instruction for that type of paper.

Reviews. Almost all Articles, Reports, and Technical Comments, whether solicited or not, are sent to two or more outside referees for evaluation of their significance and soundness. Forms showing some of the criteria reviewers are expected to consider are available on request.

Editing. Papers are edited to improve the effectiveness of communication between the author and his readers. The most important goal is to eliminate ambiguities. In addition, improvement of sentence structure often permits readers to absorb salient ideas quickly. When editing is extensive, with consequent danger of altered meanings, papers are returned to the author for correction and approval before type is set. Authors are free to make additional changes at this stage.

Proofs. One set of galley proofs or an equivalent is provided for each paper. Keep alterations to a minimum, and mark them only on the galley, not on the manuscript. Extensive alterations may delay publication by 2 to 4 weeks.

Reprints. Reprints are provided at cost. An order blank accompanies most proofs. Special arrangements can be made to obtain reprints of letters and book reviews.

Writing Papers

Organize your material carefully, putting the news of your finding or a statement of the problem first, supporting details and arguments second. Make sure that the significance of your work will be apparent to readers outside your field, even if you feel you are explaining too much to your colleagues. Present each step in terms of the purpose it serves in supporting your finding or solving the problem. Avoid chronological steps, for the purpose of the steps may not be clear to the reader until he finishes reading the paper.

Provide enough details of method and equipment so that another worker can repeat your work, but omit minute and comprehensive details which are generally known or which can be covered by citation of another paper. Use metric units of measure. If measurements were made in English units, give metric equivalents.

Avoid specialized laboratory jargon and abbreviations, but use technical terms as necessary, defining those likely to be known only in your field. Readers will skip a paper they do not understand. They should not be expected to consult a technical dictionary.

Choose the active voice more often than you choose the passive, for the passive voice usually requires more words and often obscures the agent of action. Use first person, not third; do not use first person plural when singular is appropriate. Use a good general style manual, not a specialty style manual. The University of Chicago style manual, the style manual of the American Institute of Physics, and the *Style Manual for Biological Journals*, among others, are appropriate.

Manuscripts

Prepare your manuscript in the form used by *Science*. Use a good bond paper for the first copy. Submit two

carbons. Do not use "erasable" or thin paper for the first copy. Double-space title, abstract, text, signature, address, references (including the lines of a single reference), figure legends, and tables (including titles, columns, headings, body, and footnotes). Do not use single-spacing anywhere. Put the name of the first author and the page number in the upper righthand corner of every page.

Paging. Use a separate page for the title: number it page 1. Begin each major section—text, references and notes, and figure legends—on a new sheet. Put each table on a separate sheet. Place figure legends and tables after the references.

Titles. Begin the title with a word useful in indexing and information retrieval (not "Effect" or "New").

References and Notes. Number all references to the literature, footnotes, and acknowledgments in a single sequence in the order in which they are cited in the text. Gather all acknowledgments into a single citation, and keep them short ("I thank," not "I wish to thank"). Cite all references and notes but do not cite them in titles or abstracts. Cite several under one number when feasible. Use *Chemical Abstracts List of Periodicals* for abbreviations of journal names. If the journal is not listed there, provide the full name. Use the following forms:

- Journal:** H. Smith, *Am. J. Physiol.* **98**, 279 (1931).
Book: F. Dacheille and R. Roy, *Modern Very High Pressure Techniques* (Butterworth, London, 1961), pp. 163–180.
Chapter: F. Dacheille and R. Roy, in *Reactivity of Solids*, J. H. De Boer, Ed. (Elsevier, Amsterdam, 1960), p. 502.

Illustrations. Submit three copies of each diagram, graph, map, or photograph. Cite all illustrations in the text and provide a brief legend, to be set in type, for each. Do not combine line drawings and photographs in one illustration. Do not incorporate the legend in the figure itself. Use India ink and heavy white paper or blue-lined coordinate paper for line drawings and graphs. Use heavier lines for curves than you use for the axes. Place labels parallel to the axes, using capital and lower-case letters; put units of measurement in parentheses after the label—for example, Time (sec). Plan your figures for the smallest possible printed size consistent with clarity.

Photographs should have a glossy finish, with sharp contrast between black and white areas. Indicate magni-

fication with a scale line on the photograph.

Tables. Type each table on a separate sheet, number it with an arabic numeral, give it a title, and cite it in the text. Double space throughout. Give each column a heading. Indicate units of measure in parentheses in the heading for each column. Do not change the unit of measure within a column. Do not use vertical rules. Do not use horizontal rules other than those in the heading and at the bottom. A column containing data readily calculated from data given in other columns can usually be omitted; if such a column provides essential data, the columns containing the other data can usually be omitted.

Plan your table for small size. A one-column table may be up to 42 characters wide. Count characters by counting the widest entry in each table column (whether in the body or the heading) and allow three characters for spaces between table columns. A two-column table may be 90 characters wide.

Equations and formulas. Use quadruple spacing around all equations and formulas that are to be set off from the text. Most should be set off. Start them at the left margin. Use the solidus for simple fractions, adding the necessary parentheses. But if braces and brackets are required, use built-up fractions. Identify hand-written symbols in the margin, and give the meaning of all symbols and variables in the text immediately after the equation.

Articles

Articles, both solicited and unsolicited, may range in length from 2000 to 5000 words (up to 20 manuscript pages). Write them clearly in reasonably nontechnical language. Provide a title of one or two lines of up to 26 characters per line and a subtitle consisting of a complete sentence in two lines with a character count between 95 and 105 for the sentence (spaces between words count as one character each). Do not break words at the ends of lines. Write a brief author note, giving your position and address. Do not include acknowledgments. Place title, subtitle, and author note on page 1. Begin the text on page 2.

Insert subheads at appropriate places in the text, averaging about one subhead for each three manuscript pages.

Keep them short—up to 35 characters and spaces. Do not use more than one degree or level of subheads.

Provide a summary at the end.

Do not submit more than one illustration (table or figure) for each 4 manuscript pages unless you have planned carefully for grouping. With such planning, many illustrations can be accommodated in one article. Consult the editorial office for help in planning.

Reports

Short reports of current research results may vary in length from 600 to 2000 words (up to 8 manuscript pages) of text. Limit illustrative material (both tables and figures) to one item for each 3 manuscript pages. Three items is the maximum. A research report should have news value for the scientific community or be of unusual interest to the specialist or of broad interest because of its disciplinary nature. It should contain solid research results or reliable theoretical calculations. Speculation should be limited and is permissible only when accompanied by solid work.

Title. Begin the title with an important word (preferably a noun) that is likely to be useful to indexers. The title may be a conventional one (composed primarily of nouns and adjectives), a sentence (containing a verb), or a structure with a colon (Nictitating Membrane: Classical Conditioning and Extinction in the Albino Rabbit). Limit it to three lines of complete words of no more than 32 characters per line (spaces between words count as one character each). Do not use abbreviations. Type the title in the middle of page 1.

Abstract. Provide an abstract of 45 to 55 words on page 2. The abstract should amplify the title but should not repeat it or phrases in it. Qualifying words for terms used in the title may be used. Tell the results of the work, but not in terms such as “———,” “was found,” “is described,” or “is presented.”

Text. Begin the text on page 3. Put the news first. Do not refer to unpublished work or discuss your plans for further work. If your paper is a short report of work covered in a longer paper to be published in a specialty journal, you may refer to this paper if it has been accepted. Name the journal. If the manuscript has not

been accepted, refer to it as “in preparation.” Omit references to private communications. Do not use subheads.

Signature. List the authors on the last page of the text and give a simple mailing address.

Received dates. Each report will be dated the day an acceptable version is received in the editorial office.

Letters

The Letters section provides a forum for discussion of matters of general interest to scientists. Letters are judged only on clarity of expression and interest. Keep them short and to the point; the preferred length is 250 words. The editors frequently shorten letters.

Technical Comments

Letters concerning technical papers in *Science* are published as Technical Comments at the end of the Reports section. They may add information or point out deficiencies. Reviews are obtained before acceptance.

Meeting Reports

Meeting reports should summarize two to four of the most important scientific results and give an interpretation of them in terms that can be understood by a wider audience than that represented by those who attended the symposium. Focus your report on events that will have interest, news value, and significance to an audience of varied background. A definitive report is not possible, and a catalog of who spoke on what subject is dull.

Book Reviews

Book reviews for *Science* are solicited. Describe, appraise, and evaluate the book. Write for a general scientific audience. Consider the book's scope, purpose, contents, and potential usefulness, and state your opinion of the book clearly and concisely.

Cover Photographs

Particularly good photographs suitable for use on the cover are desired if they can be published in connection with any type of paper.