astrous than omitting an important part of the argument or some important piece of evidence.

2) Authors frequently mislead their readers by emphasizing matters of marginal importance, and touching only lightly on the central issues.

3) Papers are often badly arranged. Arguments get separated from the propositions they are designed to support, definitions come long after terms are used, and observations which belong in one section intrude irrelevantly in another.

I freely confess to a love of beautiful English prose. (Wilson's listing skips my favorite passage: the first two pages of *The Sotweed Factor.*) Even in scientific exposition one occasionally encounters beautiful writing, and I enjoy it there as much as in John Barth's writings. However, graceful prose contributes only slightly to clarity of exposition, as any reader of *Finnegans Wake* will testify.

Wilson suggests that authors are more interested in impressing than enlightening their readers. This is often the case. But while writing one paper a man may read 100, and as a reader he *is* interested in clarity. That is why clear exposition is stressed by editors and referees, second only to value and correctness of the work reported.

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My basic disagreement is with what Wilson calls "good writing." Judging from what he says and how he says it, I take his definition to be a false one that is commonly accepted when quality of technical writing is discussed. It becomes a straw man that is often demolished (quite rightly) while technical writing as a class progresses from bad to worse.

This false definition requires "good" writing to be prose that reads smoothly and falls trippingly from the tongue. It is concerned largely with sentence and paragraph structure, choice of words, active and passive voice. But it misses more fundamental issues.

A better definition of good writing—scientific or nonscientific—would start much deeper. It would be concerned with content, order of presentation, accuracy, clarity—matters like these. The questions it would answer are: "What material is to be presented?" "What is essential and what is extraneous?" "What order of presentation makes it easiest to understand?" "What order is most logical?" "What will confuse the reader?" "How shall the writer remove the confusion?" Of course prose quality is included, but it has the relation to good writing that building materials have to good architecture.

Wilson makes a good point when he says that the way to produce good writing is to find some and imitate it. But the examples he chooses illustrate my view as well as his. Churchill's writing is good not because its prose flows but because his facts are accurate, his ideas are significant, and his presentation is forceful. Barzun's *Science the Glorious Entertainment* is bad because although the prose is adequate, the author's understanding of his subject is shallow.

Surely there is need for good technical writing. One of the greatest reasons is to relieve library shelves of unread trivia and to give readers the science they want in the time they have to get it. But the way to get good writing is to establish valid criteria and not to exchange the faults of the writing scientist for those of the technical writer.

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Wilson advises: ". . . in writing up the paper: let the best writer in the group draft it, then take it to an editor in your organization." My point concerns the qualifications of that editor. He mustn't know too much! If he knows as much as the writers do about the (usually) narrow field involved, he is too likely to accept the jargon and gobbledegook used within that field. With special knowledge of the field, he can understand the writer's intentions in jargon vocabulary and in muddy sentences (both unintelligible to the nonspecialist reader), and will naively let them pass as written.

The effective editor must be one who has respect for clear prose, and the ability to write it. . . . Only through the intervention of such an editor will the reader get a clear report.

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Wesleyan's Science

A letter from Arthur H. Westing (18 July), which presents statistics on the size of science faculties at liberal arts colleges, credits Wesleyan University with a faculty of whom 20 percent are in science. Apparently we have leaked out some misinformation. In fact, 57 of 225 full-time faculty members, or 25 percent, are in the scientific fields specified by Westing. In a burst of chauvinism let me add that we have nearly completed a $13 million science center and have new Ph.D. programs in chemistry, biology, physics, and mathematics. We believe that the inauguration of small, high quality programs is helping to improve our already excellent undergraduate instruction in science at this liberal arts college.

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Spectrometry Service

I wish to clarify a "News in Brief" item (3 Oct., p. 89) regarding a high-resolution mass spectrometry program supported by the National Institutes of Health. NIH has contracted with Battelle Memorial Institute, 505 King Avenue, Columbus, Ohio 43201 and Arthur D. Little, Inc., Cambridge, Massachusetts 02140 to provide mass spectral service to the biomedical research community. This service is available at no cost to these scientists with primary consideration given to projects supported under NIH funds. Inquiries should be addressed directly to the contractors. Interested scientists who are engaged in non-NIH-supported biomedical research programs will require prior approval from NIH and should send their inquiries to: Special Research Resources Branch, Division of Research Resources, Building 31, Room 5B13, NIH, Bethesda, Maryland 20014.

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Complete Creature

John Platt, in his editorial entitled "The university as a five-legged animal" (15 Aug., p. 649), forgot the tail. The tail is the bureaucracy which wags the rest of the animal.

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