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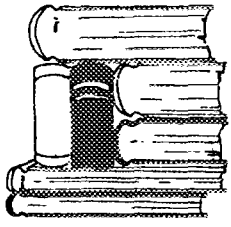
WHAT IS A JOURNAL?



What is a journal? What is a book? Librarians speak about *serials* and *periodicals* -- publications which are issued continually or periodically. In contrast, *monographs* are one-shot publications. However, the rising flood of "monographs" reflects a mechanism publishers and authors have used to by-pass conventional journal publication. If a monographic "book" appears, containing 80 papers by 150 co-authors, what is the important difference between it and a journal which appears quarterly and contains 20 articles per issue? While a somewhat more uniform redaction may be involved in a book bound with a hard cover, this is not necessarily the case. Journal supplements frequently have the same qualities. Many "books" turn out to be proceedings of conferences. *Current Contents* inevitably may have to deal with this growing journal-like literature. However, much of this information appears sooner or later in conventional journals. Some authors feel relatively inhibited about repeating themselves in a "book". It is considered highly improper to do so in a journal. The refereeing process is supposed to prevent such repetition.

Actually, each author is a "journal" publisher. Today we don't use eponyms for journal titles, though a few linger on as e.g. Hoppe-Seyler's "Zeitschrift" or Justus Liebig's "Annalen". I sometimes think it would simplify matters if prolific authors published their own journals. Citation studies have shown that the statistical distributions for these author-journals would be comparable to those of conventional journals. Ten per cent of the authors publish half of the articles. Similarly about 10% of the journals contain half the articles! Author journals might require a degree of immodesty not generally considered fashionable today. However, isn't that what people are doing by issuing pre-prints, reports, etc. to by-pass conventional journal publishing methods?

Author-journals might eliminate the time lag for refereeing -- which is needed in multi-author journals. If a scientist has a reputation for writing readable and/or provocative articles, people will want his journal even if it is not refereed. However, if he regularly publishes trivial, long-winded and unedited articles containing spurious data, he will soon be found out, and his readership will fall off rapidly. Such people would do well to seek out colleagues as referees before publishing.

The primary publication situation at present is rather chaotic because journal policies vary considerably. Government subsidies, to cover page charges and/or purchase of reprints, insure that most authors can publish in one journal or another regardless of merit. Most manuscripts rejected by one journal are sooner or later published by another journal.

Restrictive policies by established journals tend to stimulate the formation of new journals. The freedom to do so insures a necessary degree of freedom from dogma, prejudice, etc.

Various schemes have been proposed to resolve the conflicting functions of scientific journals. Each proposal presumably eliminates the disadvantages of existing methods while retaining the advantages. Some people feel that establishment of "priority" is the most important function of journals, hence the need for "quickies". This feeling is probably more prevalent among younger scientists. More mature scientists deplore the desperate means sometimes employed to establish priority.

Other scientists are more concerned that their publications receive wide distribution. Only the best known journals can accomplish this. An article in *Science* reaches over 100,000 readers. An article in a small journal may reach a few hundred or less.

Interdisciplinary research adds to the complexity of journal publication. Journals like *Science* or *Nature* are increasingly considered a desirable place to publish because most other journals are so highly specialized. One proposed solution to this problem is a daily "newspaper" of science. Another proposal is the depository system. Papers would be listed by title in journals, *Current Contents*, etc. Copies of articles would be obtained from the central depository much the way *Current Contents* readers order original article tear sheets (OATS).

Aesthetics is an important aspect of publication not to be ignored and accounts for our persistent desire to publish in journals or books. It gives one a greater sense of pride to distribute reprints of a "printed" paper than a mimeographed or multilithed document prepared by typewriter. Graphic arts improvements may soon change anachronistic attitudes. The office typewriter will soon be able to produce a document of high aesthetic value.

Finally, there is the question of retrievability. In selecting a journal for publication, retrievability is an important factor. If the journal is covered by abstracting and indexing services this lessens the chance your paper will be buried. If you publish in an obscure journal, your article may be lost to posterity, not only because it has limited distribution, but also because it cannot be found in a reasonable literature search. Many readers have indicated to me a preference to publish in a journal covered in *Current Contents*.

Timing, size of audience, aesthetics, and retrievability are important factors in scientist-to-scientist communication. One would like criticism by one's peers through refereeing, though not at the price of long delays. The prestige of publishing in a well-known journal becomes less important as the importance of priority increases.

In a future issue, I should like to show how citation indexing will help in this situation -- particularly as regards criticism by one's peers, retrievability, and wide dissemination. The *Science Citation Index* will be an important adjunct to the "journal" however you define it or whatever form it may take.