



are "self-citations". If the self-citation rate, with some justification, exceeds a typical 20%, citations in our data base will fail to reach a figure within the 1000 most-highly cited group. Putting aside self-citation a journal may simply publish too few articles to reach the "critical mass" necessary to get it on the 1000 most-cited list.

No journal, however infrequently cited, is likely to escape the SCI citation network for long, but as we've seen, absolute citation frequency doesn't tell the whole story. That's why we've developed the "impact factor", that is, the number of times cited in relation to the number of articles published. This "impact factor" discounts the advantage that larger, established journals have in absolute citation counts. For example, *Accounts of Chemical Research* published less than 1% of the articles published by *Journal of the American Chemical Society*, but those few review articles were cited 5 times as often as the average *JACS* article. That tells us that the journal may be quite important, even though it isn't on the most-cited list.

Unfortunately, gathering and unifying the citation data for smaller journals becomes an increasingly more ex-

pensive and tedious process because there are so many to consider. As each new cited journal is identified we must count the number of articles it has published in 1967 and 1968 if we are to use 1969 as a basis for computing its impact factor in comparison with other journals. Obviously the base time-period will change in the future. While there are occasionally some major surprises in this game, most of the journals we don't cover fall into the average or low-impact group. It then becomes a very subjective matter as to which journals should be given priority. What is one to do about such journals? By contrast, what is one to do about journals already covered that have no better and perhaps worse ratings than the new candidates? Users are distressed by discontinuities in coverage. But such "sentimentalities" tend to prevent the process of "natural selection". Carried to absurdity one would find that preference is being given to uncited material that is in the system while the new but more heavily cited material remains outside the system. For the time being the only choice is growth in coverage, unless economic decisions require the inevitable and probably wiser decision to let the chips fall where they may.

1. Garfield, E. A basic journal collection; ISI® lists the fifty most-cited scientific and technical journals. *Current Contents*, No. 2, p. 3-5, January 12, 1972.
2. -----, What is the "core" literature of biochemistry as compared to the "core" of chemistry? *Current Contents*, No. 5, p. 6-9, February 2, 1972.
3. -----, Citation statistics may help scientists choose journals in which to publish. *Current Contents*, No. 6, p. 5-6, February 9, 1972.
4. -----, Citations-to divided by items-published gives journal impact factor; ISI lists the top fifty high-impact journals in science. *Current Contents*, No. 8, p. 6-9, February 23, 1972.
5. Institute for Scientific Information, Inc. *Science Citation Index® 1970 Guide and Journal Lists*. (Philadelphia: ISI, 1971), p. 13-14.