

Citation Indexing and
the Sociology of Science

April 14, 1971

The delay in publication of scientific papers is a constant source of frustration for their authors. Perhaps no segment of the literature is subjected to greater publication delays than that which eventually appears in the bound volumes emanating from international meetings and symposia. In May 1969, I presented a paper¹ which brought together much of my theoretical and practical work on the subject of indexing. During the twenty months it took to publish that work I was not scooped, as so often happens these days, but a number of developments did take place which made it obsolete without an appropriate supplement. I tried to rectify the situation by publishing a short paper in *Nature*² which has been reprinted in *Current Contents*³. Indeed, the subject has been anonymously editorialized (a regrettable practice) in *Nature*⁴ and amplified by Cawkell⁵. I in turn have responded to the challenge with a letter⁶ whose publication has been delayed by the British postal strike.

Of even greater significance, insofar as the topic concerns science policy studies or the sociology of science, there have appeared in sociology journals not usually seen by most CC[®] readers a series of studies which provides almost incontrovertible support for the claim that citation analysis can be correlated quite well with other more subjective methods of analysis. Perhaps the most striking study to follow up the work of Cole⁷ is that of Hagstrom⁸, who has obtained an amazingly high correlation with Cartter⁹ in evaluating graduate academic departments. These and several other relevant papers¹⁰⁻¹⁵ are listed below and will be discussed in the future.

Following this editorial, the paper I originally read in Amsterdam is reprinted in its entirety. Quite frankly, this is the most economical method of getting it into the hands of those who have expressed interest in the topic. As is our custom, reprints are available.

1. Garfield, E. "Citation Indexing, Historio-Bibliography, and the Sociology of Science." in *Proceedings of the Third International Congress of Medical Librarianship, Amsterdam, 5-9 May, 1969*, ed. by K.E. Davis & W.D. Sweeney (Excerpta Medica, Amsterdam, 1970) pp. 187-204.
2. Garfield, E. Citation indexing for studying science. *Nature* 227:669-671, 1970.
3. *Current Contents/Life Sciences* 13(46):45-51, November 18, 1970.
4. Anonymous. More games with numbers. [An editorial in] *Nature* 228(5273):698-699, 1970.
5. Cawkell, A.E. *Science Citation Index*. [A letter to the editor of] *Nature* 228(5273): 789-790, 1970.

6. Garfield, E. Where the action was, is and will be. *Nature*, in press.
7. Cole, S. & Cole, J.R. Visibility and the structural bases of awareness of scientific research. *American Sociological Review* 33(3):397, 1968.
8. Hagstrom, W.O. "Inputs, Outputs, and the Prestige of American University Science Departments." Paper presented at the Annual Meeting of the American Association for the Advancement of Science, Chicago, December 28, 1970.
9. Cartter, A.M. *An Assessment of Quality in Graduate Education*. (American Council on Education, Washington, D.C., 1966).
10. Cole, S. & Cole, J.R. Scientific output and recognition; a study in the operation of the reward system in science. *American Sociological Review* 32(3):377-390, 1967.
11. Bayer, A.E. & Folger, J. Some correlates of a citation measure of productivity in science. *Sociology of Education* 39(4):382-390, 1966
12. MacRae, D. Jr. Growth and decay curves in scientific citations. *American Sociological Review* 34(5):631-635, 1969.
13. Parker, E.B., Paisley, W.J. & Garrett, R. "Bibliographic Citations as Unobtrusive Measures of Scientific Communication." (Stanford University Institute for Communications Research, Stanford, 1967, 125 pp.)
14. Price, D.J. deS. Is technology historically independent of science? A study in statistical historiography. *Technol. Culture* 6(4):553-568, 1965.
15. Whitley, R.D. Communication nets in science; status and citation patterns in animal physiology, *Sociological Review* 17(2):219-233, 1969.