"Current Comments"

Information, Power, and the *Science Citation Index*®

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I've never thought of myself as a power-hungry man, but it is true that like most people I find myself thinking now and then of what I'd do in a particular situation if only I had the power. In such day-dreaming, one frequently overlooks the knowledge required. Knowledge, indeed, can itself represent a very potent form of power. And information is the first step on the road to knowledge. (Unfortunately, knowledge and wisdom don't go hand in hand.)

Many years ago, when there was less concrete evidence for the claim, we once advertised the *Science Citation Index*® as the "most powerful information tool ever developed." It turned out that the ad caused us considerable anguish because of the reaction, particularly among our British colleagues, against a so-called "Madison Avenue" approach in this advertisement of a scientific index. We stopped using the ad, but each passing year has demonstrated the great "power" that the *SCI*® or any other large index or encyclopedic work can provide.

I am one of a small "elite" of scientists who have personal sets of the *Science Citation Index*. I use it almost every day for a wide variety of reasons. It gives me a sense of great power. Sometimes, when I receive a phone call from a reader of *Current Contents*®, I thumb through the *SCI* as we are talking. When I ask him what he's been doing since he published his superclassic on metabolism of trace elements in the Siberian toad, need I say that the effect can be electrifying!

There are probably only a thousand scientists in the world with a research budget large enough to "justify" a personal subscription to the *SCI*. Another 10,000 could "afford" the annual expenditure of $750 for the *SCI* at our departmental grant rate, but few would probably admit to any desire, in connection with a personal subscription, for "power" through information. Yet I once met a scientist in Germany who used a substantial part of his research grant to buy the *SCI*. He regularly wrote critical reviews of the literature in his field, and used the *SCI* almost daily. I believe that clever fellow has since become director of his Institute, and I've often wondered how many favors he extracted from his colleagues who had needed permission to use his *SCI*. Since then, the Institute's library has ordered the *SCI* for general staff use, but the new director maintains his personal subscription as a key factor in the "political" battles waged between scientists in their every-day struggles to keep abreast, and, if possible, at least one step ahead.

A great deal has been written about competition among scientists,[1] and

perhaps some of the above may strongly suggest the priority-conscious scientist whose description by Watson[2] so many people have taken as evidence of power-hungry egomania within the ivory towers. That is merely an exaggeration of a trait, certainly not restricted to scientists, that Darwin expressed nicely when he said, "My love of natural sciences . . . has been much aided by the ambition to be esteemed by my fellow naturalists."[3] There is nothing culpable in such a striving. This normal desire for reputation and "power" of a sort notwithstanding, there are scientists I have encountered who resent and reject the *SCI* on the assumption that, if not indeed primarily designed for the purpose, it is too easily used to pander to ego satisfaction—someone else's of course.[4,5] The fact remains, however, that the *SCI is* being used in analysis and planning of science policy, in evaluation of research performance,[6] and even in prognostication of Nobel awards.[7,8] Whatever the motives of users, and whatever others' evaluation of them, perhaps the *SCI* will after all turn out to be the "most powerful information tool ever developed."

1. See for example:
   Ziman, J.M. Some pathologies of the scientific life. *Advancement of Science* 27(131): 7-16, 1970;
   Gaston, J. Secretiveness and competition for priority of discovery in physics. *Minerva* 9(4): 472-492, 1971;
   Merton, R.K. "Priorities in scientific discovery; a chapter in the sociology of science." In: Barber, B. & Hirsch, W., eds., *The Sociology of Science* (New York: Free Press, 1962).
2. Watson, J.D. *The Double Helix.* (London: Weidenfield & Nicholson, 1968).
3. Quoted by Gaston, J. *op. cit.*, p. 472.
4. Garfield, E. Citation indexes in sociology and historical research. *Current Contents* No. 34, p. 4, August 26, 1969.
5. ----------. Publication counting vs citation counting in evaluating research. *Current Contents* No. 22, p. 5-7, June 2, 1971.
6. Hagstrom, W.O. Inputs, outputs, and the prestige of university science departments. *Sociology of Education* 44(4): 375-397, 1971.
7. Garfield, E. Citation measures used as an objective estimate of creativity. *Current Contents* No. 34, p. 4-5, August 26, 1970.
8. ----------. & Malin, M.V. Can Nobel prize winners be predicted? Paper presented at the Annual Meeting of the American Association for the Advancement of Science, Dallas, Texas, December 28, 1968.