

Is a Unified Index to  
Science Still Relevant?

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On-line searching of centralized bibliographic data bases seems to be approaching epidemic proportions. It certainly is the 'in' thing to use time-shared networks for this purpose. However, the availability of local minicomputers could one day reverse the epidemic trend toward networking.

One consequence of on-line searching through SDC, Lockheed, and other systems, is the ready accessibility of large numbers of diverse data bases. It is as though you had in front of you a library's complete collection of indexes--ranging from the *Science Citation Index*<sup>®</sup> (*SCI*<sup>®</sup>) to *Chemical Abstracts (CA)* and *Biological Abstracts (BA)* and *Index Medicus*. This abundance of data bases, however, creates its own new set of problems. One becomes acutely aware of both the differences and the overlaps between the many discipline-oriented and multidisciplinary services. Having completed a search of *CA*, should one go on to search *BA* or *SCI*, and if so, how?

Martha Williams, at the University of Illinois Information Retrieval Research Laboratory, has recognized

this problem and proposes to create a 'data base selector,' a kind of master dictionary or thesaurus-guide that will tell you which data base to search, for any given retrieval problem.<sup>1</sup> This data base selector will in effect 'unify' diverse indexing languages into a single searching language.

About twenty years ago I wrote a paper on this very problem.<sup>2</sup> Within a few years I gave up hope that such a unified index to science would ever be constructed. But it now seems that the requirements of the new on-line technology may overcome the barriers to constructing a printed unified index to science.

In the paper which follows you will read the thoughts of an idealistic young man unmindful of human intransigence. It is interesting that within five years ISI<sup>®</sup> was already publishing the first volumes of the *SCI*. Apart from the value of citation indexing, *SCI* became the unified index to science *par excellence*.

As an appendix to this paper, there was published an example of what was then considered automatic classification. Actually, the distinction

between automatic selection of indexing terms and automatic classification is too involved to review here. Those interested in pursuing these distinctions further may wish to refer to an earlier piece in which I discussed automatic classification.<sup>3</sup>

The concept of a unified index to science has always been at the heart of the *SCI* data base. If it had been economically possible--that is realistic--to do so, we would have made the *Social Sciences Citation Index*<sup>®</sup> (*SSCI*<sup>®</sup>) an integral part of the *SCI*, of a unified *Sciences Citation Index*. The *SSCI* would have been merely another--though considerable and extremely significant--enlargement of *SCI* coverage. But it would have been unrealistic and economically impossible.

Our experience told us then, and tells us now, that even within the so-called 'hard sciences' too many people still think and work with a disciplinary tunnel-vision. Added to this 'behavioral' problem was the fact that the social sciences had still to benefit from the money and effort that had been lavished on information processing in the hard sciences,

especially chemistry and physics. It was much too early to expect that social scientists would be willing to use, or able to afford a unified index to science.

Even today, many researchers in the hard sciences prefer a discipline-oriented information program. Chemists in particular have been much less broad-minded than their biomedical colleagues in grasping the concept and appreciating the advantages of the multidisciplinary approach in information retrieval. Thus we at ISI have an ironic and illogical, but nevertheless impressive argument to take what may seem to knowledgeable and appreciative *SCI* users to be a real backward step. It is the argument to publish discipline-oriented citation indexes. If we take such an apparent backward step, let me assure you it will only be one of those backward steps that is occasionally necessary before taking two or three firms steps forward. If you can't lick 'em, join 'em--and *then* lick 'em. And, having licked them, drag them moaning and groaning, kicking and screaming, into the bibliographic future. See you there!

#### REFERENCES

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3. Garfield E, Malin M V & Small H. A system for automatic classification of scientific literature. *J. Indian Inst. Science* 57(2):61-74, 1975. Reprinted in *Current Contents*<sup>®</sup> (CC<sup>®</sup>) No. 42, 20 October 1975, p. 7-16.