

A Study of Canadian Journal Data  
Illustrates the Potential for Citation Analysis

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It is surprising how much of my daily correspondence comes from people seeking information on the quality of journals. Since I have published essays in this space on the journals of the French,<sup>1</sup> Italians,<sup>2</sup> New Zealanders and Australians,<sup>3</sup> Latin Americans,<sup>4</sup> Scandinavians,<sup>5</sup> Japanese,<sup>6</sup> Germans,<sup>7</sup> East Europeans,<sup>8</sup> and Russians,<sup>9</sup> it is natural that I would be expected to continue the exercise.

Most readers realize—I hope—that these studies are not just taken off a shelf here at ISI®. Assembling the data for each citation study takes considerable preparation and research. Sometimes new computer programs may be required. Naturally, checking and rechecking of data is mandatory before interpretation can begin. Thus, the studies you see in these pages usually represent weeks, and sometimes months, of work.

For those too impatient to wait for ISI to study the specific aspect of

the journal literature of interest to them, original, interesting and valuable citation studies can certainly be done by people outside of ISI. Such studies can be accomplished through the use of the citation data which is available through ISI's *Journal Citation Reports*® (*JCR*™), *Science Citation Index*® (*SCI*™) and *Social Sciences Citation Index*™ (*SSCI*™). Or, unique data compilations can be obtained through ISI's contract research department.

An example of one study based on ISI data by Claude T. Bishop, editor-in-chief of the Canadian journals of research at the National Research Council of Canada, is reprinted here.<sup>10</sup> Bishop has used data from our *JCR* to support his contention that "Canadian science journals are better than some think." I have been planning to study the Canadian literature in detail, but this paper has caused me to accelerate my plans. One thing

that still needs to be accomplished is a special computer run that treats all Canadian journals as though they were one large journal. As with other countries, we also need to know more about the impact of Canadian research published outside of Canada. All this information is now being compiled and analyzed at ISI.

Some important earlier citation analyses on Canadian journals were done by Herbert Inhaber of the Science Policy Branch of the Canadian Department of the Environment.<sup>11,12</sup> Inhaber developed a list of the 17 most highly cited Canadian journals based on 1969 *JCR* data. Of the 17, all but one appear among the top 22 journals on Bishop's list, which is based on 1974 *JCR* data. While the top Canadian journals appear to have essentially remained the same over the years, some changes in position do seem to have occurred. For example, the *Canadian Journal of Biochemistry* dropped from the third position on Inhaber's list to the fifth position on Bishop's. The *Canadian Medical Association Journal* went from fourth on Inhaber's list to third on Bishop's, and the *Canadian Journal of Botany* went from fifth on Inhaber's list to fourth on Bishop's.

It is interesting to note the different conclusions offered by Bishop and Inhaber. Both agree that there

are less than two dozen Canadian journals among the world's most highly cited. However, Bishop asserts, "There are some excellent journals being published in Canada, with a significant number falling in the top 25% or so of rated journals, comparable with the best in the world." Inhaber states that "Canadian journals rank fairly low on an international scale based on citations." It seems we may have a classic case of what happens when an optimist and a pessimist view the same thing. *Current Contents*<sup>®</sup> readers will have to wait for the results of ISI's study for another opinion.

I would be delighted to see more studies like Inhaber's and Bishop's developed outside ISI. There is certainly no shortage of potential topics! Such citation studies can be national or regional in scope. In some cases, cities or individual universities could be studied. In one pioneering study, J.H. Westbrook of the General Electric Research Laboratory used citation data to rate industrial laboratories.<sup>13</sup>

Future researchers could also investigate the differences in impact and immediacy of letters journals or synoptic journals. There have been some interesting studies in the social sciences, but the field is essentially wide open. We have recently completed our first *JCR* for the *Social Sciences Citation Index*.

And certainly the introduction of ISI's *Arts and Humanities Citation Index*<sup>TM</sup> in 1978 will provide scholars with some fascinating opportunities

for comparative studies. The scholarly potential of the citation relationship has hardly been tapped.

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3. ————. Journal citation studies. 27. Australian and New Zealand citers and citees. *Current Contents* No. 38, 20 September 1976, p. 5-10.\*
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5. ————. Journal citation studies. 28. Scandinavian journals. *Current Contents* No. 41, 11 October 1976, p. 5-11.\*
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8. ————. Journal citation studies. 29. East European journals. *Current Contents* No. 45, 8 November 1976, p. 5-12.\*
9. ————. Highly cited articles. 20. Articles from Russian journals. *Current Contents* No. 45, 10 November 1975, p. 7-10.\*
10. **Bishop C T.** Canadian science journals are better than some think. *Science Forum* 57 10(3):20-2, June 1977.
11. **Inhaber H.** Canadian scientific journals: Part I, coverage. *Journal of the American Society for Information Science* 26:253-7, 1975.
12. ————. Canadian scientific journals: Part II, interaction. *Journal of the American Society for Information Science* 26:291-3, 1975.
13. **Westbrook J H.** Identifying significant research. *Science* 132:1229-34, 1960.

\*Reprinted in: **Garfield E.** *Essays of an information scientist*. Philadelphia: ISI Press, 1977.