

Invited Plenary talk

Donald deB. Beaver

Williams College
Williamstown, MA 01267
USA

It is my distinct pleasure to have been invited to speak to you again on the occasion of this seventh COLLNET meeting and the International Workshop on Webometrics, Informetrics, and Scientometrics. It is gratifying to see so many familiar faces, and I look forward to the programs which follow.

Unfortunately I have no new research results to report since the meeting last July in Stockholm, so my remarks will be general and brief.

It is now almost 45 years since I first met Derek Price at Yale, and adopted his enthusiasm for quantitative approaches and measures of activities and achievements in science and technology. It has been about the same length of time since Gene Garfield came out with the first volumes of the Science Citation Index. Since then the “science of science” has grown enormously, branched out, and developed new techniques. Our meeting here this week bears testimony to the wide variety of quantitative methods used in studying and characterizing scientific activity and structure.

It is 69 years since the founding of the American Society for Information Science and Technology, 56 years since the first publication of JASIST, 28 years since Scientometrics began publication, 19 years since the first meeting in Belgium of what in 1993 became the International Society for Scientometrics and Informetrics with Hildrun Kretschmer as its first president, and nearly 6 years since the first COLLNET meeting in Berlin.

It is also barely 6 years since the emergence of the new field of what has come to be called “webometrics,” and I, for one, confess to being quite uncertain about its direction and future prospects. The growth and development of the World Wide Web is bringing unprecedented change to scholarship and communication, and to the pre-Web institutions devoted to the creation, transmission, and preservation of knowledge. Some examples of pre-Web institutions are universities, research laboratories, scholarly societies and journals, museums, and libraries. Barring global catastrophes, It is quite probable that in a few decades, those institutions and their world will be transformed technologically, although their functions will remain the same. At the same time, the Web itself has taken on the character of an institution, albeit one in a continual process of transformation and self-realization.

The main problem with all this change lies in establishing new criteria for the adequacy and validity of technical knowledge, to complement those of the past, and perhaps eventually to replace, them. It is a commonplace that science is many-brained, and transnational, but that character will be even broader and more inclusive than ever before. As what appears on the Web increasingly plays a role in education and publication, it is not clear who the gatekeepers, the authorities who validate what passes for reliable knowledge will be, and how they are to be identified.

This problem is substantive and substantial, but it is not ours. Ours is to track and measure the changes that occur in the processes of the production and representations of scientific and technological knowledge. We will succeed to the extent that we can develop new and more comprehensive quantitative approaches to the myriad ways in which the production, communication, and dissemination of such knowledge takes place. Understanding those processes should complement and enrich more qualitative understanding of the substantive status of that knowledge.

By the foregoing, I do not mean to overemphasize the quantitative. Such approaches and their results mean little in the absence of qualitative context. Numerical patterns, indexes, and statistics all require systematic and careful interpretation, not simply quantitatively, but also qualitatively. The organizers of our conference acknowledged as much in their announcements for this conference which included in its thematic overview the phrase “Combination and integration of qualitative and quantitative approaches.”

We are in a time of uncertainty, of transition, one might say, revolution. The objects of our attention, science, scientists, and scientific institutions are changing. During this period, the older, interrelated branches of informetrics, bibliometrics, and scientometrics, will continue to produce analyses and findings of interest to scholars, research directors, evaluators and performance assessors, and policy makers.

But what luck for webometricians to be in at the beginning of a new order, to be pioneers in the development of a new art! New research careers have opened up, and in a few years, the founders of this new discipline will have clarified, defined, and established its fundamental conceptual framework.

Whatever the future promises, let us at this meeting celebrate and take pride in our diversity of approaches and methodologies, and the international breadth of our research and institutional affiliations.