SCIENCE POLICY AND INFORMATION NETWORKS AN INTRODUCTION (POLITIQUE SCIENTIFIQUE ET RESEAUX DOCUMENTAIRES - UNE INTRODUCTION)

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ABSTRACT

In 1970 Canada defined and began implementation of a science information policy designed to expedite the flow of S & TI. The NRC was assigned the responsibility for the development of a national decentralized S & TI system. The concept was not new but the directive provided formal recognition of and authority for the further development of the existing national system wherein the NSL serves as the focal point. Good progress has been made in speeding up responses to requests for information, in promoting and publicizing existing information services, and in developing a national SDI service. However, the geographical and political nature of Canada place almost insuperable constraints on any attempts to accelerate the rate of progress. A small planning group appointed by the President of the NRC has made recommendations, which if implemented could overcome these constraints and provide the impetus we now seek. (En 1970 le Canada a défini et commencé à mettre en oeuvre une politique de l'information scientifique conçue pour accélérer la circulation de l'IST. Le CNRC a été chargé de mettre au point un système national décentralisé d'IST. L'idée n'était pas neuve mais cette directive reconnaissait et autorisait officiellement le développement plus ample du système national existant, dont la BSN est la cheville ouvrière. Entre autres progrès importants, on a accéléré les réponses aux demandes de renseignements, favorisé et mieux fait connaître les services documentaires existants et perfectionné le service national de diffusion sélective de l'information. Toutefois, les conditions géographiques et politiques du Canada imposent à toute tentative d'accélérer le progrès des restrictions presque insurmontables. Une petite équipe de planification nommée par le président du CNRC a présenté des recommandations qui, si elles sont mises en oeuvre, pourraient triompher de ces obstacles et assurer la viguer tant souhaitée.)

SCIENCE POLICY

Two years ago, while presiding at an international conference on governmental responsibility for providing information to industry, the Right Honourable Wedgwood-Benn, then Minister of Technology for the UK, said that "in the 70s information of all kinds will emerge as the most valuable of our national and international resources".

I do not think Mr. Wedgwood-Benn was attempting to act as a prophet - he was simply drawing attention to the fact that there is a vital relationship between the industrial, economic, and social development of a country and the ability of that country to channel relevant information to the right person at the right time. With the acceptance of this axiom, the major countries of the world now regard the development of policies and techniques to ensure maximum exploitation of information, particularly scientific and technical information, as a matter of major concern.

Canada, in spite of our predilection for endless self-examination and procrastination, has taken positive action to achieve this maximum exploitation of information. Indeed, Canada appears to be the first country to have established a science information policy and to have taken steps to implement it.

In January, 1970 following a series of studies on scientific and technical information (S & TI) in Canada which culminated in the publication of Science Council Report No. 6, the NRC was assigned by the federal government responsibility for the development of a national S & TI system. The directive specified that the system should be developed "in concert with existing information organizations", should be under the general direction of the National Librarian, and that the National Research Council of Canada (NRC) should appoint an advisory board to formulate general policies.

At first glance this directive appeared to offer a completely new concept and approach which would facilitate the dissemination of information in Canada. However, this concept was not new, for over the years Canada had developed the foundations of a national S & TI system. Nevertheless it did provide formal recognition of and authority for the further development of an existing and successful operation.

By 1970 there were already two identifiable and viable networks within this national system. First, there is a national network of 270 of Canada's major libraries which through a variety of voluntary cooperative measures make their resources available nationally by means of loans and photocopies. The files of scientific and technical journals held by these libraries are linked by means of the computer-based Union List of Scientific Serials in Canadian Libraries. Since journals constitute at least 80% of the resources of a scientific and technical library, this network ensures that Canadians have access to 80% of the world's scien-

tific and technical literature. Here quite clearly the decentralized concept of utilizing resources wherever they exist is in full force.

The second network within this national system is the CAN/SDI program, a current awareness service wherein 1400 subscribers are alerted to the existence of recent papers covering their specific fields of interest as published in the world's scientific and technical literature. This too is a decentralized system with 400 subject or information specialists, located in all parts of Canada, serving as interfaces between the CAN/SDI system and the ultimate user.

The focal point of this national S & TI system is the National Science Library (NSL) or perhaps as it could be more correctly entitled, the Canadian Centre for S & TI. The NSL's resources and services, which have been developed in close cooperation with other major libraries (particularly federal, university, and industrial libraries) are designed to supplement and complement local and regional resources. This back-stopping operation is also intended to ensure that the scientific, engineering, and industrial communities of Canada have ready access to the information required in day-to-day activities. The weaknesses of the system - a lack of knowledge of existing services, delays in the delivery of needed documents or information, failure to recognize, strengthen and tap local sources of expertise, high communication costs - are inherent in the geographical and political nature of Canada. During the last two years our major concern has been to seek ways and means by which these weaknesses and constraints to progress can be overcome.

The directive to the NRC further stated that the development of a national S & TI system should be under the general direction of the National Librarian. Here again was an attempt to formalize and strengthen an existing situation. The National Library (NL) and the NSL have a long tradition of cooperation and collaboration in the development of information resources and services. In recent years, with the establishment of the National Library's responsibility for developing bibliographical standards, and with the increasing use by the NSL of mechanized techniques for processing information, the NL and NSL have established a variety of joint working groups or task forces to guarantee the establishment of compatible information handling systems regardless of the subject matter covered.

The need for a committee or group to advise NRC in dealing with national S & TI problems was recognized as early as 1958, when the Associate Committee on Scientific Information was established. The appointment of the Advisory Board for Scientific and Technological Information (ABSTI), in keeping with the third point in the directive to NRC, has created a body with the power and prestige to spark action which was not possible under the former Associate Committee.

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With the assignment to the NRC of new responsibilities for national S & TI services, considerable progress has been made in expediting the flow of S & TI in Canada. An increasing number of users of information are now familiar with services available to them; requests for publications and information are met more promptly (36 hour response time by the NSL); and through CAN/SDI 3800 researchers in government, industry, and universities are regularly alerted to current developments in their fields of interest. Despite these developments, it is very evident that a large percentage of the potential users of S & TI do not have ready access to information which is relevant and timely.

In May 1972 the President of the NRC appointed a small planning group to critically examine the current situation and to recommend steps which should be taken to accelerate the development of a national S & TI system. The group immediately recognized that we were endeavouring to develop not so much a national S & TI system, but rather a national network of scientific and technical information services. In addition to the constraints mentioned above, the group also identified factors which although less obvious, do constitute major roadblocks in the path of progress. As a result of its study, the group has made several recommendations relating primarily to the development of greater collaboration between the major information disseminating agencies in Canada, the identification of user needs, and the utilization of specialized information centres as nodes within the national system. These recommendations, if implemented, could provide the impetus to progress which we are now seeking.

The papers to be presented at this afternoon's session relate directly to the problems I have been discussing. Three of the papers describe ongoing specialized information systems which could logically constitute nodes within the national system. The fourth paper, by our keynote speaker, Dr. Aurèle Beaulnes of the Ministry of State for Science and Technology, deals with the problems of defining a science policy and the role of science information. MOSST is vitally concerned with having available all relevant information which will assist the Department in making decisions regarding the promotion of scientific and industrial research activities in Canada. In this connection, the NSL is working closely with MOSST to establish an inventory of scientific activities in Canada. MOSST's expertise and guidance is also invaluable to the NRC/NSL in creating a closer liaison between federal and provincial agencies having major responsibilities for the dissemination of scientific and technical information.