THE NORTH AMERICAN ROLE IN INTERNATIONAL INFORMATION SYSTEMS

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by

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Madame Chairman, ladies and gentlemen, it was about ten days ago I guess, that I learned that I would be following the Honourable Member for Peace River at this session of your Conference, and I began to wonder what I could do to bridge the gap from what he might be saying to what I would be trying to say. As so often happens, it was my secretary who came to my rescue. This time, however, it was a little bit easier for her - because, before she worked in my office she worked in Mr. Baldwin's office. And, when she moved, she carried with her a favourite quotation from the writings of Mr. Baldwin. I'd like to read it to you: "Decisions are reversed every day in all walks of life - government decisions as well as private decisions - in order to better reflect the true desires of the greatest number of people. These changes are made usually as a result of some strong protest made to the right person. That is what democracy is all about."

Well, ladies and gentlemen, I am very happy to take that as the text of my talk this afternoon. So you can see right away that I also intend to make a rather political statement. My talk, by the way, is also scheduled to be given to the American Society for Information Science in Syracuse on Thursday. The title is the same, but the talk will not have quite the same content. I am here today as a Canadian talking to Canadians, so I can be quite forceful in my political statement. On Thursday, I will have to try to be diplomatic!

Both here and in Syracuse, I want to talk about a new movement that I perceive in the world. A movement towards the building of better and fairer information systems. Ones that are truly based on the sharing of knowledge among countries - countries co-operating as equals in a common endeavour. In the international information systems, I see a wonderful new opportunity that is being

presented to our profession. I do not see Canada as, at present, being in the vanguard of this movement. I believe, quite frankly, that if we were in the vanguard of this movement we could influence it to better fulfill Canadian needs, and to better reflect Canadian interests. I want to use this platform here today to propose that we should place ourselves, as Canadians, more in the vanguard of the movement I am going to talk about.

But, perhaps before talking about the new movement, I should reflect a little bit on the state of affairs as it has existed up to now. How do Canadians get their access to world literature?

Well, as you know, Canadians are rather fortunate. We are a fairly affluent country. We don't have foreign-exchange restrictions. So Canadians can participate quite readily in the invisible colleges. We can travel, we can attend conferences, we can use the long-distance telephone and all the other paraphernalia of the invisible college to make contacts, to obtain information orally, and, through personal recommendations, to identify things that we want to read. These informal mechanisms are very important, and we also use the more formal mechanisms to get our access to the world literature. Traditionally, of course, we have used the big abstracting and indexing services - Chemical Abstracts, Biological Abstracts, Index Medicus and so on. And now these have been computerized. The data bases are available to us. We can reach them through telecommunication links to the United States. We are, more and more, using systems like DIALOG and RECON to enter these data bases and to identify the information we want to acquire. The cost is not so unreasonable. Some attempts have been made to keep more of this business in Canada. The National Research Council's CAN/OLE is one of the main attempts to keep more of this business in Canada.

That's good. But, to a very large extent, we are still

dependent on importing the data bases from the United States. DIALOG more so, but even CAN/OLE, involves an outflow of money from Canada to pay for work done mainly in the United States. That, of course, is the way the Canadian economy works in many different fields. And it's not so bad provided we get products that are useful to us, the products we want and need. But is it entirely what we want and need? There are features of this type of system that remind me of our dependence on the United States for other products - for automobiles, for example. We buy automobiles designed in the United States only to find that they have features we do not want or need - that they have built-in obsolescence, and are no match for the salt on Canadian roads.

I don't think that the situation with regard to the US data bases is quite that bad. But, on the other hand, I do feel that what we acquire through these means is not as well-tuned to Canadian needs as we would like it to be. The US data bases do a good job of covering the journal literature, even the Canadian journal literature - and, for the pure sciences,this is the main thing. But, the US data bases do not do a good job of covering the report literature, the shadow literature as it is often called.

And when you move from the pure sciences to the applied sciences, coverage of what interests Canadians becomes weaker; and when you move from the technological sciences to the social sciences, the coverage of what interests Canadians becomes weaker still. How good is the New York Times Index for covering Canadian news?

We are only consumers of these products. We have essentially no voice in the management of these US systems: in determining what is put into the data bases, how it is presented, how it is indexed - and we have virtually no voice in the marketing policies or in the pricing structures.

Okay, so my message today is that there is a new movement, one that can perhaps get us out of that position of dependency on other people's decisions, other people's management, other people's work. But what is it?

Well, I want to make clear that I am not preaching that we should become totally self-reliant and do everything ourselves in Canada. Canada produces only about three to five per cent of the new information generated in the world. Quite clearly, if we want to be totally self-reliant, we would have to identify and describe not only that three to five per cent generated within Canada, but also the other ninety-five to ninety-seven per cent, because that is also of interest to us. The task would need enormous resources and be quite impossible.

But even though we cannot identify the 100% of information generated in the world, we can and we should try to identify and describe the three-to-five per cent that is generated in Canada. Because that is what is most useful to us.

Information does not appear spontaneously, it does not appear by accident. Information appears because someone invested some money - in studies, in surveys, in research. Canadians are investing Canadian money with the object of producing information needed by Canadians. The information produced in Canada is therefore that which corresponds to an aggregate perception of Canadian needs as expressed through the investment of money. If we do nothing else, we at least should know what we are producing in our own country.

Now, of course, the National Library does cover the major imprints in Canadiana. But Canadiana does not get inside the journals to identify the individual articles; it does not get inside books of conference proceedings to identify the individual

papers and it does not, except more than marginally, do a very good job of covering the laboratory reports and other shadow literature.

So what I am saying is that we should have under bibliographic control the information that is generated in Canada. That can be done in many ways. There are many options for how we can organize to do that. For my part, I would like to see a role for the Provincial Governments as well as for the Federal Government. I think that one can invoke local and regional pride in a job of this kind.

But how ever it is done, even if we did have a complete inventory of information produced in Canada, that, of course, would still not meet all Canadian needs. We would still need access to information produced in other countries.

The subject of my talk today - the new movement - is one that would permit Canada to concentrate on the job of identifying and describing information produced in Canada while, at the same time, having the assurance that other countries will do the same with their information and that all countries will then share their inventories. Thus, in exchange for what we do to describe Canadian information, we shall receive from the rest of the world what the other countries have done to identify and describe their information.

The sharing can be done, either by a whole series of bilateral exchanges, or by some central agency merging the records from all countries and then making the complete global data base available to each country for its use. This may sound like a utopian dream. And it would perhaps be fair to describe it as that, if it were not for the fact that, in one subject field, the dream is already realized; such an arrangement has existed now for seven years. I'm talking of the International Nuclear Information System, or INIS.

Canada does participate in INIS, and at Chalk River there is a team of people who identify and describe information produced in Canada dealing with the peaceful uses of atomic energy. The records that they write describing information produced in Canada are sent to the International Atomic Energy Agency in Vienna, which also receives similar records from all the other forty-or-so participating countries - in fact, all the significant producers of atomic-energy information in the world. Each country writes its records according to norms that have been established by the International Agency - and Canada along with all the other countries played its part in defining these norms. The records from Canada submitted to INIS cover not only the published literature - the journal articles and the books, etc - but also cover the shadow literature too. It remains, of course, the sovereign right of each country to say, this we release and that we don't release. Participation in INIS does not require the Government of Canada to report information that we wish to keep to ourselves, whether for reasons of national security or for the protection of Canadian commercial interests.

Every month the International Atomic Energy Agency produces, and makes available to all participants, the latest increment to the data base, that is all the new records received during that month. The increment to the data base is sent out on magnetic tape, and Canada also receives copies of the announcement bulletin which is generated, with indexes, from the magnetic tape.

Canada helps to pay, of course, for the management of the system - but, in so doing, it has a voice in the management of the system. Our contribution to INIS is made through our contribution to the regular budget of the International Atomic Energy Agency. It is about 7% of $1 500 000 per year. When the magnetic tape arrives here, it is ours to exploit in whatever way we chose. We can keep it

in the public sector or, if we prefer, we can make it available for exploitation in the private sector.

But, to recap very briefly, the point I want to make is that the job which is done in Canada, the job that qualifies us for membership in INIS, is the very same job that we ought to be doing anyway - making an inventory of our own information. Having done what we need to do for our own purposes, we can also trade that off to the other participants and obtain in return the equivalent information from all the other countries.

INIS was the first such system; it started up in 1970 and now covers better than 90% of the world's production of information within its subject field. The second such system, which is rather more ambitious because it attempts to cover a sector of the economy that produces an even greater quantity of information, is the system know as AGRIS, the International System for the Agricultural Sciences and Technology, which was started by the Food and Agricultural Organization of the United Nations in 1975.

Canada is not participating in AGRIS, or at least not directly. Since agriculture is, much more than atomic energy, specific to particular climates, particular soils, and particular forms of rural economy, I believe that what is Canadian in agriculture is even more important to Canada than what is Canadian in atomic energy. It is sad, that despite the several years that have passed since the planning of AGRIS began, the Government of Canada has not made a clear-cut decision about our participation, and the pros and cons of participation have not been the subject of a public debate.

I wish that we did participate, and I think that we should. In any case, the matter should be discussed for this is something that could be beneficial to a very important segment of our economy.

AGRIS is now covering about 40% of the world's agricultural literature. There are about 70 countries participating in it, some to a much greater extent than others. It takes a long time for a country to gear up to participate in a system like AGRIS and to comprehensively report the national production of relevant information. In two short years one cannot expect a co-operative system to achieve comprehensive coverage, even if all the political decisions have been made. In two years 40% is not so bad.

Another very sad thing about Canada's non-engagement in the development of AGRIS is that we have not had the opportunity to influence the design of the system and to make it more responsive to our particular needs in terms of geographic description, indexing and so on.

But if it were only INIS and AGRIS, I guess these things would get sorted out in time. The problem is that the success of the first two systems is now generating a wealth of proposals for more systems to be built on the same cooperative formula, each country reporting its own information and getting the whole world's in exchange.

There is a proposal for POPINS, which would be an information system covering population questions.

There is a proposal for DEVSIS, which is an information system which would cover the economic and social aspects of development, particularly in the Third World, and the cooperation of industrialized countries in the economic and social development of the Third World.

There is a proposal for SPINES, an information system for science-policy questions.

There is a proposal for ARKISYST, an information system on architecture and town-planning and other aspects of urbanism.

There are quite a few more in the mill.

Some of these proposals seem soundly based. Others seem to be not so soundly based. But, before Canada can have specific policies with respect to SPINES or DEVSIS or POPINS, Canada needs a general policy to define its attitude towards international cooperative systems of the INIS type. We do not have such a policy.

I believe that, through participation in such systems, we could best serve Canadian interests and get out of our state of dependency. We would gain a voice in system management and decision-making. We would acquire what we need in exchange for what we ought to be doing anyway, which is making an inventory of our own information. We would enjoy the multiplier effect, getting indexed records of 100% of the world's information in exchange for indexed records of the three-to-five per cent which is generated in Canada.

But I believe, too, there is another dimension to this, which we ought to take into account. We are, in international politics, in a period of agonizing reappraisal of the relationships between the rich countries of the world and the poor countries of the world.

My organization, the International Development Research Centre which was created seven years ago as a result of the vision of Maurice Strong and Lester B. Pearson and with the unanimous consent of all parties in Parliament, is an experiment in finding new ways for Canada to cooperate with the Third World. And we, the staff members of IDRC, are very close observers of this agonizing reappraisal, and to some extent we are participants in the debate. Information is a pretty important component in the debate. The poorer countries, the less-developed countries, perceive more and more that information is an important resource for development.

They want access to the information that will help them in their policy-making, in their development-planning and in the implementation of their development programs. First they need access to their own information - because they do have very important information of their own. But also, because they are developing countries, they often don't have their own information organized and they often lose it in the filing cabinets of their bureaucrats.

The developing countries also want access to foreign information, especially that information which would be appropriate to their own activities. But they want this information by mechanisms which will not put them in a position of dependency.

I imagine most of you have heard of the declaration on the New International Economic Order passed by the General Assembly of the United Nations a couple of years ago. I wish that statesmen could still write declarations in the beautiful language of, say, the American Declaration of Independence. Unfortunately, this is not so, and the New International Economic Order is defined in language that is very clumsy. But, running as a thread throughout the declaration, is the constant reiteration of a demand for a sharing of knowledge among all nations on a basis of equality.

A few weeks ago, I was in Nairobi, Kenya. The peddlers of DIALOG were also in Nairobi. They were demonstrating how you can link Nairobi to California through a satellite, how you can search the computer files, identify items that might be of interest to you, and even hit the right keys to place an order for photocopies of particular documents to be airmailed to you. It is terrific. It is very, very impressive. And it really impresses the senior bureaucrats and the members of government - until they look at the costs.

There are the costs of maintaining the telecommunication links, the cost of computer time, the costs of the reproduction and airmailing

of the documents. And these are not costs that the Kenyans can pay in Kenyan shillings; they are costs that Kenyans have to pay in U.S. dollars.

The more thoughtful people in Nairobi were recognizing that this was no way for them to escape from the position of dependency. Clearly Kenya could use it if Kenya were to allocate enough of its foreign exchange reserves for the purpose. But would that really develop its own manpower? Would they really understand how the data bases are constructed, and can best be exploited? Kenyans would have no control over what they were using - no control over the content, no guarantee that Kenyan information is going to appear on the system, no voice in the management of the thing, and no mechanism to avoid a price-hike of 100% the year after next.

In Kenya and other countries, the more thoughtful people are saying that, how ever dramatic the demonstration is, it is not the answer for us. And, in fact, what Kenya has decided to do, is to participate in the cooperative systems as they develop. Kenya has made a decision to participate in AGRIS; it has people being trained; and it has allocated some of the funds available to it from the United Nations Development Program to buy the necessary equipment and to train the people who will operate Kenya's AGRIS input and output centre.

In Kenya, and in many other countries for which the condition of dependency is a bit more obvious than it is for Canada, this is seen as the direction to head. It gives them the opportunity to ensure that their own information is recorded in the data base and can be recovered when they want it. It gives them a voice in the management of the system. They know that the system is stable, and that design parameters will not be changed, next year or the year after, as a result of decisions over which they have no control; the system won't be changed without consultation, a consultation in which every active country can take part.

Each active country gets the magnetic tapes free of charge in exchange for its input. And, when it wants to buy other products of the system, such as microfiche copies of shadow literature or additional copies of the printed version of the index, it can do so by paying in its own local currency.

Canada is looked upon by many of the countries of the Third World as a country that understands their problems. I think they often look to us for leadership. I think they often look to us to help them find a way through the maze of different options. They know that we have suffered the penalties of multi-national corporations invading our economy - the same as they have suffered, even more drastically, the penalties of having multi-national corporations invade their economies. They look to us to work with them in finding non-dependent solutions to the problems of information transfer.

Canada stands to gain direct benefits for itself and the respect of the Third World, if we put ourselves in the vanguard of the movement to build truly cooperative international information systems. That is the message I bring you today.