THE UNITED STATES-CANADIAN COMMUNICATIONS AND INFORMATION RESOURCES RELATIONSHIP AND ITS POSSIBLE SIGNIFICANCE FOR WORLDWIDE DIPLOMACY

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Program on Information Resources Policy

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The information base for this paper ends in September 1979, just prior to the opening of the World Administrative Radio Conference (WARC '79).

Abstract

This paper follows up on a previous study, The Role of Communications and Information Resources in Canada* It examines the major points at issue in the communications and information resources area between the United States and Canada and relates these to U.S. stakes in such problems around the world.

Specific bilateral communications and information resources issues examined are computer communications (compunications), transborder data flow, the publishing industry and taxation on advertising, TV broadcasting, especially the border broadcasting problem, radio broadcasting by land mobile units, satellite communications, including spectrum allocation and direct broadcasting TV, and questions regarding economic rivalry in high technology industries.

The paper shows that while U.S.-Canadian communications and information issues may differ from other countries in specifics, none is in any way unique to the relationships between these two countries alone. Even the seemingly exceptional situation of the imposition of too much U.S. content on Canada's society through the print media, films, and broadcasting, has its counterparts. It mirrors the fears, if not yet the actualities, of other countries concerning what they perceive as cultural damage from outside influences. These fears are largely fears of the unknown -- fears of the results of technological change, and especially of the rapid dissemination of information.

An interesting point for the U.S. in the consideration of future policy is that the sentiments voiced by Canadian forces are not confined to Canada. The polite complaints by Canada regarding such things as cultural context, transborder data flow, broadcasting, space allocation, are increasingly being voiced in shriller terms by more and more nations around the world. This is easily witnessed in the context of the UNESCO Mass Media Resolution, in the debates on the New International Order, on Direct Broadcasting-TV, and so on.

* Harvard University, Program on Information Resources Policy, Publication P-79-1, June 1979, and in Telecommunications Policy, December 1979.

PART I

INTRODUCTION

Only a few short years ago the importance of international communications and information issues to the United States and to the rest of the world was largely theoretical. But the rapid development of new communications and information technologies is now portending vast consequences for matters of security, trade, economics, and the free flow of information, as well as for general patterns of political and diplomatic activities between nations. Many of the formerly conjectural issues have now become realities. They are, however, still in their beginning stages. The June 1977 hearings of the Subcommittee on International Operations of the Senate Foreign Relations Committee (The McGovern Committee) were instrumental in demonstrating the need for closer attention to these matters.(1)

The following all point to the growing importance of information and communications phenomena in the international arena:

... The WARC '79* debates over frequency allocations and the need for decisions on present or potential requirements for geo-synchronous orbits for various nations.

... The problems of transborder data flow, now being actively considered by the OECD,** the Council of Europe and the EC.***

... The demands by the less developed nations for a New International Information Order.

... The controversies within the United Nations (UN) and bilaterally over remote sensing.

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* World Administrative Radio Conference

** Organization for Economic Cooperation and Development

*** European Community

... The outcome of the 1978 Mass Media Resolution, and other problems of free flow of information, which are being handled through UNESCO* and the U.N. General Assembly.

... The closely associated problems of research and development, multinationals, and branch economy difficulties, all of which are under discussion in UNCTAD,** UNCSTD,*** UNIDO,**** OAS,***** the U.N. General Assembly, and at bilateral Head of State levels.

In an effort to understand what effect these increasing numbers of communications and information phenomena will have on the world's political, social, economic, cultural and legal interactions, and what they may mean for future U.S. diplomacy, an in-depth examination of U.S. communications and information relationships with one country, Canada, was begun in September 1978. A first paper, The Role of Communications and Information Resources in Canada,(2) looked in detail at communications and information resources in Canada, largely from a Canadian point of view. The present paper is an interim step between that investigation of Canada's specific problems and the general problems of the world as a whole.

In undertaking this work, it was hoped that the issues and problems found in Canada and within the U.S.-Canadian context would not be limited by their nature to this one geographic area. Rather, it was hoped that they would have universal qualities relating them to such problems and issues around the world.

* United Nations Educational and Scientific and Cultural Organization
** United Nations Conference on Trade and Development
*** United Nations Conference on Science and Technology for Development
**** United Nations Industrial Development Organization
***** Organization of American States

U.S.-Canadian general relationships are unique in their closeness, and their communications and information relationships have been found to have certain seemingly unique features by virtue of geographic proximity and relatively similar needs and tastes. But the communications and information issues found to exist between the two countries are considered by the author to be in no way exceptional to those now existing, or which can be expected to exist soon, between the U.S. and nations around the world. As communications and information reduces or eliminates the importance of physical distance even further, this can be expected to become more and more the case. The reader in invited to be aware of the overall U.S. stakes in worldwide communications and information as he reads this paper, and to make his own judgements as to whether the Canadian situation is applicable or relevant to broader U.S. concerns.

Canada is probably exceptional in the world community in that it has been the first country to recognize the full range of connections among the various communications and information resources across a spectrum which runs from the print media to films and advertising, to broadcasting, to computers and computer communications, to the telephone and telecommunications systems, to communications satellites, to remote sensing, and to portions of industrial know-how and research and development.(3)

Canada has been the first country to see and to extensively study the importance of these phenomena, both singly and as a group, to its political processes, its economic policies, and its cultural and legal thinking. It has been among the first to use the newest of these

resources to establish strong communications to remote areas, and to stay in the forefront of new technology developments. And, more than any other country, Canada is now moving increasingly towards a comprehensive communications and information resources policy to guide its domestic and international affairs. Canada's approach to these problems therefore presents a case study of various communications and information questions which we can expect to see cropping up around the world.

A basic attitudinal difference between the U.S. and Canada -- indeed, between the U.S. and the rest of the industrialized world -- has come to light during these investigations, which is qualitative in nature. This is that the Canadian government and the governments of Western European nations and Japan as well as many developing countries view the swift changes taking place in the communications and information field as primarily political events. The U.S., on the other hand, has tended to see them largely as technical and commercial problems, which it has had plenty of technicians, engineers, businessmen, and capital to solve. And, when the U.S. has seen them as political problems, it has viewed them in isolation rather than as part of a whole. This is, of course, an enormous simplification of both viewpoints, but the basic divergence exists, nevertheless.

By looking back a bit in history, this divergence in attitude can be seen to be important. In the late 1960's, a controversy arose between the U.S. and its OECD* partners which was an amalgamation

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* The Organization for Economic Cooperation and Development is composed of the following members:

Australia	Finland	Luxembourg	Turkey
Austria	France	Netherlands	United Kingdom
Belgium	Greece	New Zealand	United States of America
Canada	Iceland	Norway	Yugoslavia
Denmark	Ireland	Portugal	
Federal Republic of Germany	Italy	Spain	
	Japan	Sweden	

of a variety of concerns. The Western European countries, especially, felt that huge U.S. research and development expenditures were leading the U.S. to the threshold of a second industrial (technological) revolution, with themselves being left behind. They were afraid of being unable to compete with marketable products derived from the more modern U.S. technology. They felt they were being outstripped rapidly by the U.S., which was putting the fruits of (at that time, post-Sputnik) science to economic use. Although there was a considerable envy of U.S. technological achievements, there was a general fear of American domination and distaste for the "Americanization" of European society. The short, all-encompassing term which came to describe this sense of frustration and insecurity, which varied in details from country to country, was "The Technological Gap".(4) The "Gap" -- largely in the computer and space areas, and managerial in nature, and thus in the information resources sector -- still has not been fully bridged. A decade later, the Europeans, are still trying to catch up in electronics, computers and space. Notwithstanding the U.S. continued lead, to many Americans Europe's progress in these areas is felt to be threatening, especially since West Germany has replaced the U.S. as world leader in exports of manufactured products, and Japan is now threatening to push the U.S. into third place.

The point that is important here is that not until the U.S. recognized the "Gap" for what it was -- namely a political rather than a technological expression -- and treated it as such was it possible through U.S. diplomacy to defuse this issue as a divisive factor among advanced country relationships.

We must not ignore similar historical signposts, which can be found throughout this paper, pointing to sharpening international conflicts, this time in the communications and information context. This time the issues are clearly not confined to the advanced countries; they have found expression in both the industrialized and the developing worlds.

GENERAL U.S. GOVERNMENT CONCERNS

In examining the importance of international communications and information issues to the U.S. in the Canadian or any other context, it is necessary to see them from the perspective of overall U.S. political, economic, and national security objectives.(1) Like any other technology, communications and information technologies are invaluable national resources and can be major determinants of economic and political power. The main end objective of this study is to understand how the use of communications and information resources can assist or deter the implementation of the most important items on the U.S. foreign policy agenda.

In the world at large, U.S. government interests in communications and information issues are, and must first of all be concerned with maintaining the military and economic security of the free world. The U.S. also seeks free flow of information, the protection of electronic highways, the free access to news by correspondents and the news media, and the relatively unencumbered evolution of new technologies. In addition, there is a major interest in the uses of communications and information technology for the promotion of development, where its potential is great but almost entirely unexploited or even understood.

High on the list, and not incompatible with these interests, is the protection of U.S. business and U.S. markets.

As a world power, the U.S. has extraordinary global security and economic responsibilities to fulfill which require a dynamic domestic economy. The U.S. economy, strong throughout the Sixties and into the early Seventies, is suffering a downturn in productivity, with concommittant rising inflation and unemployment, a situation made almost chaotic by the energy crisis. In this, the U.S. is not alone. The situation is shared, in whole or in part, by its OECD partners, where aging capital plants and, especially, lowered innovation contributes to the problem.(2)

The U.S., in addition, has a long-standing unfavorable Balance of Payments and Balance of Trade. The Department of Commerce expects the U.S. to end 1979 with a $23.4 billion trade deficit, compared with 1978's $28.5 billion deficit. This drop was credited to some improvement in exports, but largely to a reduction in petroleum imports. In 1978, manufactured products were in deficit by $6 billion.(3) The U.S. dollar, for years the leading international currency, has meanwhile weakened on the international market.

Nowhere among the U.S. and its allies are economic conditions optimal. Each nation is looking for a way to stabilize currencies, to stop runaway inflation, to reduce high unemployment, and to stimulate lagging productivity and trade. Imaginatively used, new developments in communications and information technologies and their related software could well give hope for providing a strong economic stimulus, especially in the U.S. where this is a major economic sector already.

To demonstrate the rapidity with which technological changes are taking place, the workhorse of communications and information resources, the computer, has been compared to the car. By 1990, the computer's upper logic speed will have increased 10,000 times over that of today, while its logic costs will have been cut 40 times and its memory costs 400. This annual 40 percent compound savings has been in effect all along. Applied equivalently to the automobile, the sort of Cadillac which costs $10,000 in 1947 could already be bought today for $5. By 1990 it could be had for fifty cents. And if this 1990 Cadillac incorporated the same performance improvements as the computer, it would get 3,000 miles to a gallon of gasoline and run about the world at an average speed of 10,000 miles per hour.(4)

U.S. business is confident that this sort of increasing efficiency and changing costs over the next decade will dictate a greater use of computers and other communications technologies, and is preparing for it. Satellite Business Systems (SBS), for instance, predicts a domestic U.S. business communications market of $61 billion by 1980 and to exceed $100 billion by 1985.(5)

Changing Costs Over the Next Decade

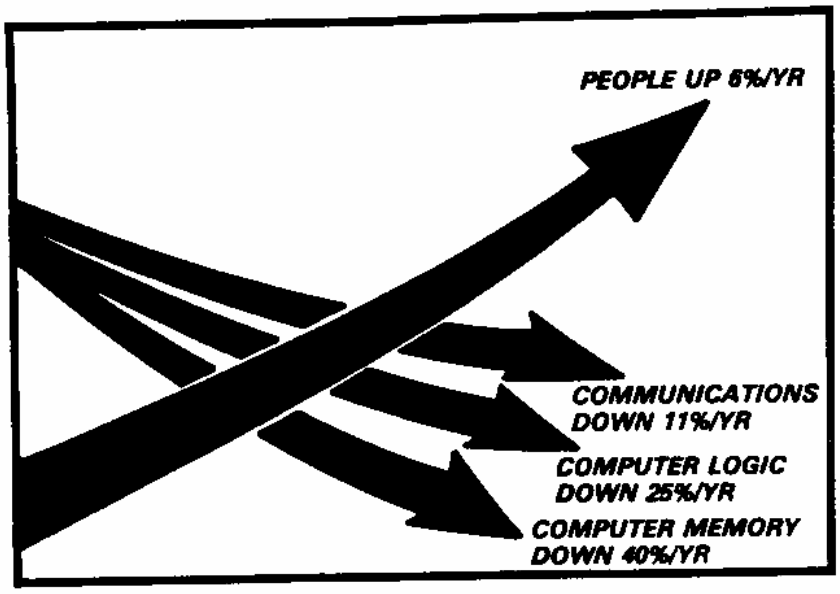

Figure 1

Source: Edward W. Scott. "Multifunction Application at a Medium/Large Site", Automated Business Communications, International Data Corporation, Waltham, MA, April 1979, p. ES-7.

Businesses and governments of other countries are also thinking in these terms. The Japanese have projected their own data communications market as rising from 21 billion yen in 1968 to 1782 billion yen in 1983, an 85-fold increase in 15 years. And the British and French have both taken measures to secure their countries' positions in the face of these quick changes.(6)

THE CANADIAN VIEW OF COMMUNICATIONS AND INFORMATION RESOURCES

The following is a summary of the main observations made in the first paper:[1]

1. Canada is moving increasingly toward a comprehensive communications and information resources policy, integrated into the mainstream of its political, economic, cultural and legal thinking.

2. Canada's three main concerns as a nation are unity, economic viability and cultural identity and it was in this context that the role of information resources was examined.

3. The Canadian government has recognized the importance of communications and information as vehicles for unity or disunity since the earliest days of the radio. The range of communications and information has since expanded to include broadcasting, both by TV and radio, newspaper, magazine, and book publishing, films, advertising, computers, computer/communications, telephone and telecommunications, communications satellites, remote sensing, and, to a point, industrial know-how and research and development.

4. Because of Canada's proximity to the U.S., Canadian information and communications are thoroughly intertwined with or affected by those of the U.S.

5. Computer/communications (compunications) is a vital economic area for Canada. Problems of transborder data flow (TBDF), currently attributed by Western Europeans to concern for individual privacy, are recognized by the Canadian government and industry to be essentially economic -- a matter of lost jobs, negative balance of payments, and lost top management opportunities. The Canadian government* is leaning toward some control of TBDF, while Canadian industry wants less regulation and freedom to compete.

6. In the broadcasting, publishing and film industries, the Canadian government is greatly concerned by the massive inflows of American content. These concerns are in large part social, since American content is said to deprive Canadians of their own sense of identity and further strains troubled Canadian unity. There is also an economic element, comprised of loss of jobs for creative artists and loss of advertising money for TV and magazines. The Canadian people demand American shows and information, and Canada admits its economy and comparatively small population cannot compete with the influx of U.S. mass media products. A resentful Canadian government has made efforts to curb inflows through tax laws. This has been met by resentful American business, and its guardian, the U.S. Congress.

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* The Liberal Canadian government of Pierre Trudeau. The new government has not yet expressed itself on these issues.

7. The Canadian telephone system is one of the best in the world, and Canadians are leaders in applications of domestic communications satellites. Canadian investment in telephony is proportionally equal to that of the U.S., and Canada's Northern Telecom is rapidly becoming an important competitor to Western Electric in the United States. Whether Canada can afford to maintain its domestic communications satellite system, which now has excess capacity, remains to be seen. Canada is probably the most "wired" society in the world. Forty-eight percent of its TV viewing market has access to cable TV. This is not a triumph for Canadian identity, however, since it was accomplished as a direct response to government attempts to restrict U.S. programming on CBC-TV.

8. A leading problem area in Canada's communications and information resources is its low level of investment in R & D. Canada, with one of the highest standards of living in the world, ranks last among OECD countries in this regard. There is a disproportion between the government and industrial sectors in funds supplied, R & D conducted, and scientists and engineers employed. The Canadian government is disturbed that not enough R & D is performed, especially by its industry. The country's electronics industry, which covers much of the information and communications area suffers especially from this problem, much of which is due to the high level of foreign ownership of companies (usually American). Increasingly severe trade deficits are recorded in high technology manufactured goods. These problems lead some Canadian government officials -- at least for domestic political purposes -- to speak of Canada as a developing country.

9. Canada believes it has come up with a major technological breakthrough which could make interactive TV a reality in Canadian homes by the 1980's. Formerly called Videotex, now Telidon, this system -- said to be impervious to obsolescence in terminal hardware, bit rate, and data base construction -- is believed to have the potential for creating a multi-million dollar industry in new communications hardware and in information services to the public.

10. A healthy industry in the communications and information area is considered a high economic priority by Canada and technological sovereignty in this area is viewed as essential to the future well-being of the country. The development of satellites, of telecommunications, of broadcasting, of publishing industries, of compunications, and last but not least, their own R & D, are felt to be central to finding answers for Canada's most pressing problems.

UNITED STATES STAKES IN CANADA

Communications and information issues related to security and military problems have been excluded from this study. Cooperation in those areas between the U.S. and Canada is unusually close and of a very satisfactory nature. The main U.S. non-security related interests in Canada are concerned with economic and commercial matters, with the free flow of information, and with the maintenance of good political relationships with that country, both bilaterally and within the various international forums.(1)

The United States and Canada have a bilateral trade of $65 billion annually, which is more than U.S. trade with the European communities. U.S. direct investment in Canada is $40 billion, which is more than the U.S. has invested in any other single country. This is about 25 percent of total U.S. direct investment abroad, or about one-third of U.S. overall direct investment in OECD countries. Canada is, in turn, the second largest direct investor in the U.S., ranking only after the United Kingdom.

Canada is an ideal market for the United States, and vice versa. The tastes of the two countries are so similar that products need only slight modification or none at all for export. In addition, transportation costs are minimal and access is simple. The U.S. and Canadian telephone systems are integrated in a single area code system, and businessmen can call Montreal or Vancouver as easily as Chicago or New York.(2)

The telephone system itself is big business between the two countries, with a gross joint message and private line revenue of

about $500 million a year.[3] (The figure for U.S.-Mexico, calculated the same way, is about $225 million -- a little less than half.) Here a system of separation and settlements more domestic than foreign for both sides has been arrange. There is danger that this satisfactory system could lose its equilibrium in a heavy switch to the use of satellites for communications, and is of concern to U.S. and Canadian telephone companies. The old problem of the introduction of new technologies which upsets existing cozy arrangements is involved here, but it does mean that substantial unsettling effects will be created which can contribute to tensions.

Among the most significant commercial and political stakes for the U.S. in the communications and information resources area are those involved in the maintenance of free transborder data flow. The efficiency of U.S. corporate operations and the protection of U.S. export markets are involved here, as is the principle of free flow of information. More important than the present dollars and cents is that any unfavorable precedent set with a friendly country like Canada could have worldwide implications.

A problem for both sides is uncertainty over what the future will bring. Businesses are reluctant to make investments when they suspect political or legal roadblocks may be erected. This is especially pertinent in the area of transborder data flow, where Canada, as well as other members of the industrialized world, are threatening to "do something". American businesses, especially the smaller ones, are edgy about getting in over their heads. Canadian businesses are likewise nervous over restrictions that may hamper their trade. This is

no more true for U.S.-Canadian ventures, however, than it is for U.S. business ventures around the world.

Restrictive trade practices in any form are a big U.S. concern in Canada as elsewhere. The American Embassy in Ottawa, commenting on the latest Canadian communications and information study, the so-called Clyne Report[4] has said:

> We believe Canadian determination to secure a share of the production and employment to be generated by the information revolution will lead to increasing bilateral confrontation over restrictive trade practices in this area in future years.[5]

Restrictive practices could take several forms in Canada. Pressure could simply be put on U.S. companies (and this is happening) to do what Canada wants them to do. Other routes could be through several types of restrictive trade legislation, or non-tariff barriers, or invisible restrictions of various kinds. One restrictive device the Canadians are discussing is that "buy Canada" rules could be employed in government procurement, giving advantages or subsidies to Canadian companies not available to U.S. companies in Canada. Another possible restriction mentioned in the Clyne Report is the development of

> ...design standards that will facilitate adoption of Canadian technology...[6]

to limit outside technology use. This is the real stuff of non-tariff barriers. The same sort of wording is used in the French Nora Report[7] where standardization is discussed as a means for "getting at IBM". Dangers to U.S. business here are potentially great, both in Canada and around the world.

The United States has considerable stakes in Canada in the area of satellites, where there has been good cooperation since the beginning. Satellites and all that goes along with them could mean a booming business for such U.S. corporations as Hughes, SBS and Xerox by the early 1980's if predictions pan out. What happens in U.S.-Canadian relationships in the satellite area is important because of the conflicts it might generate. But these relationships also carry great potential for continued and extended cooperation. This holds true for the U.S. all over the world.

Canada is strong in the area of satellites and wants to become stronger. It especially wants to stay in the forefront of new development in technology. But it lacks the economic base to mount a massive satellite development program. Meanwhile, it wants to protect its access to certain ranges and frequencies, sometimes in conflict with stated U.S. needs. Canadians are afraid of financial losses if U.S. direct satellite communications make it possible for, say, U.S. business in Canada to bypass the Canadian telecommunications system by going directly to U.S. satellites. Again, these are the types of conflicts with the capability for setting worldwide precedents. (see p.51ff)

The U.S.-Canadian problems in the broadcasting area are especially sticky, and here the U.S. has high stakes in the retention of general good will. Border broadcasting fights by U.S. stations over relatively minor amounts of advertising money are presently the noisiest and most confused of these issues. U.S. stations are not on terribly strong

ground regarding their rights to broadcast into another country. And the Canadians have eroded their position by licensing cable TV, thereby legitimizing American broadcasting into Canada.

Beyond the basic issue -- which for some strange reason is not really under discussion -- of one country's right to broadcast into another, and of a receiving country's right to limit those broadcasts, the importance of the present argument lies in its linkage to other issues. The U.S. Congress, in an effort to protect regional constituencies, has escalated the battle by linking it with certain tax deductible travel expenses, and the border stations are now promoting further linkage to the Autopact agreement between Canada and the United States. The battle has been joined by the irritated Canadians, who hint at linkage to tourism to the United States. A free-for-all has more or less ensued, which could, at the very least, be termed counterproductive for U.S.-Canadian relationships. (see p.35ff)

The U.S. has large film and TV programming markets in Canada. But what is seen by Canadians as the overuse or abuse of this material is primarily a Canadian political-social-unity-identity problem. The same problem has been present all along in the print media, and exists in the quasi-illegal direct pickup by Canadian entrepreneurs of U.S. TV broadcasts via satellite from Atlanta, Georgia. Illegal TV receiving stations are now being installed in the Canadian North at the rate of two to three per week, and the Department of Communications is powerless to do anything about this. A new dimension will be added if Canadians adopt direct broadcasting from satellites (DBS), since Canadian ground

receivers can just as well be beamed at U.S. satellites as at Canadian ones. This pickup is not something that bothers Americans much, except that it can exacerbate Canadian tensions in their struggles with domestic issues.

Proximity to the U.S. is considered by some Canadians as well as Americans to be beneficial. It gives the Canadian people the light television shows they like, and in the print media, it affords easy access to everything from exhaustive world news coverage to the latest scientific and technical information. (see p. 28 ff)

In R & D, U.S. business has, in many instances, a stake in maintaining the bulk of its research and development for its Canadian-based branches in centralized U.S. corporate headquarters. The lack of R & D investment in all areas of Canada is one of that country's severest problems. This, the Canadians say, is due in part to a high level of foreign (mainly American) ownership. Pressure is being applied, or being threatened, by Canadians to make U.S. companies do more research and development in Canada. In many cases, U.S. business feels it can accomplish its R & D much more economically or more efficiently at home. It thinks that if the Canadian government wants R & D performed in Canada, it should give incentives to both domestic and foreign-owned companies to make it financially feasible or even attractive. The most important point here is that the U.S. government does not wish to involve itself, even with a friendly country, in the game that it <u>owes</u> other sovereign nations a share of U.S. R & D. (see p. 65ff)

Canada is afraid that unless it can maintain and improve its position in computer communications, in telecommunications, in space technology, and in the general electronics field, it will fall backwards under the onslaught of new discoveries and innovations worldwide. It is not in the U.S. interest, either globally or bilaterally, to see this happen. The stronger Canada's industrial position is, the more helpful, on balance, it will be to the United States in international terms. And, bilaterally, Canadian industrial strength can only make for a better trading partnership. This is nowhere more true than in the communications and information technology area, where much of the U.S. trade future lies. This same observation can, of course, be made regarding other U.S. allies. (see p.65ff)

Finally, the U.S. has a large stake in maintaining the continued benefit of Canadian cooperation both bilaterally and in the international organizations. It would like to work amicably, as it has in the past, on the OECD Guidelines,[8] on WARC '79, in the U.N. Outer Space Committee, on remote satellite sensing problems in the U.N. context, as well as on hundreds of projects of a non-communications and information nature.

GENERAL UNITED STATES-CANADIAN RELATIONSHIPS

U.S.-Canadian relations generally move along harmoniously, and whatver problems exist are handled through hundreds of informal channels between government officials at middle levels. Few issues reach the stage of diplomatic intercourse or ever get to the Canadian

Ministry of External Affairs and the U.S. State Department. Thirty-one American federal agencies and twenty-one Canadian counterparts deal directly with each other, as do some of the states and provinces.(1)

According to a study prepared by the Canadian Parliament in 1968, there were about 6,500 visits back and forth across the border by government officials from the two countries, but only 139 of these were to or from the Canadian Department of External Affairs. The telephone is another channel of direct contact. In one week in 1972, there was a daily average of 340 calls between the U.S. and Canada from U.S. government federal telephone service toll-free lines, and this has doubtless in the meantime increased. As it has been said, the classical image of governments interacting through their foreign offices is clearly inappropriate in the Canadian-U.S. case.(2)

And even when there are problems to be solved at high levels, they are assumed to be solvable. The New York Times quotes an American diplomat as saying, "Somehow, when it comes to Canadian-American dealings, the basic assumption is always that something amicable will be worked out."(3)

And, generally, something is. Former Minister of External Affairs Jamieson, in a March 8, 1979 speech said:(4)

> Canada's rapport with the Carter Administration reflects a special blend of common sense, informality, and mutual regard. Achievements in 1978 were impressive: the new Great Lakes Water Quality Agreement, discussions on transboundary air pollution, cooperation on the northern gas pipeline, major bilateral studies on a strategic petroleum research, and bulk electricity exchanges, agreement by special negotiators on the management of East Coast fisheries, and record levels of bilateral trade... We look forward in 1979 to enhanced energy coordination and improved trading environment, following

> conclusion of the multilateral trade negotiations, progress towards resolution of remaining boundary disputes in the Pacific and Arctic Oceans, and conclusion of a West Coast fisheries agreement...

Since this speech was made, the U.S. and Canada have resolved the Pacific and Arctic Oceans boundary disputes and have concluded a West Coast fisheries agreement.

Private industry of both countries deals directly with the governments of both countries, and attempts to influence both. The attitude and direction that private enterprise takes to try to stimulate and influence these governments may not necessarily follow nationalistic lines.

About 70 million travelers move back and forth across the U.S.-Canadian border annually. About 200,000 persons cross the border daily in one direction or another, and about 75 percent of these people return the same day, so that, on the border, at least, there is a constant mingling of the citizens of the two countries. In one month period (April 1979), 127,318 people entered Canada at Edmundston, N.B., in 64,007 cars, 959 trucks, 72 buses, 482 bicycles, and some on their own two feet. The 1978 border crossings between the U.S. and Canada totaled 68,890,692, with 54 percent involving Canadians heading south.(5)

Secretary Vance, in a toast delivered in Ottawa on November 21, 1978 paid tribute to Canada in the wider context of U.S.-Canadian relationships:(6)

> Canadian-U.S. cooperation in the defense of the North American continent is well-known and appreciated by all North Americans. Canada's role in NATO, the collective defense of the Atlantic Alliance, is highly valued by North Americans and by Europeans alike...

The breadth and the scope of our relationship extend far beyond the relations each of us has with other countries. In addition to being each other's most important trading and travel partners, we draw from the same well-springs to define the standards of an open and humane society. We find inspiration in each other's experience and each other's achievement...

In a relationship as diverse and dynamic and as close as ours it is inevitable that differences will arise from time to time on specific questions as they do among the best of friends and neighbors...

But in the larger sense of the Canadian-American relationship, these are minor details. What really counts is this. My distinguished predecessor, Dean Acheson, who dispensed praise sparingly, used to say that there were few men he had known really well and still wholly admired. After two centuries of living as close neighbors in unbroken peace, Canadians and Americans admire and trust one another, work together as partners in common endeavors, and are pleased that the well-being of our two nations is inseparably linked.

PART II

MAJOR BILATERAL COMMUNICATIONS AND INFORMATION ISSUES BETWEEN THE UNITED STATES AND CANADA

The major points at issue in the communications and information resources area between the U.S. and Canada lie in computer communications and the problem of transborder data flow, in the publishing industry, in broadcasting, especially by TV, but also radio broadcasting by land mobile units, in satellite communications, and in the general area of economic problems, and especially those related to industrial research and development.

(1) Computer Communications (Compunications) and the Problem of Transborder Data Flow

Canada is among the few countries to have attempted to calculate the cost in terms of balance of payments losses, loss of jobs, and loss of managerial opportunities of having data processed in another country. The Canadians have estimated that imported (primarily from the U.S.) computer communications services costs to Canada will have risen to about $1.5 billion annually by 1985, up from about $155 million in 1975. They say that about 23,000 directly related jobs will have been lost to the Canadian economy in the process, simultaneously decreasing the need for Canadian middle and upper managerial positions.(1)

TABLE 1

CANADIAN PROJECTIONS OF LOSSES DUE TO IMPORTED COMPUTER SERVICES[2]

	1975	1978	1980	1985
Cost of Imported Services	$155M		$560M	$1.5B
Proportion of Outside Services Required	30%		41%	52%
Estimated Jobs Lost	4,400	7,500	11,000	23,000
Percentage of Canadian Data Processing Jobs Represented in Losses-Approximations		6%	8%	14%

These figures can be misleading if interpreted as meaning that 23,000 jobs will suddenly spring up outside Canada. Because the U.S. may be able to do the job more efficiently, fewer people overall may be needed to accomplish the same work.

There is a good reason why American businesses want to keep their computer communications services headquartered at home, and why Canadian businesses often want to buy theirs abroad: Canadian tariffs and a twelve percent federal sales tax on equipment, plus higher Canadian than U.S. salaries, make computer services 20 to 25 percent more expensive in Canada than in the United States. The economies of scale within the U.S. also operate to make these services less expensive. Canadian businesses have shown that, as in other communications and information areas, they will go where they find the best prices.[3]

One U.S. official, however, looking at these data, wondered whether, with versatile communications services coming at much lower cost, data processing might become a small fraction of system use, with a growing cost segment in the programming -- the labor-intensive -- part of the system. This same official suggests that Canada, by building up a highly skilled cadre of computer programmers, and by giving incentives to Canadian industries to reconfigure information systems to distributed networks, might be able to ameliorate a great deal of its economic concerns.(4)

In an effort to retain the processing of data within Canada, two pieces of legislation were introduced by the Canadian Parliament in 1978, both of which are in abeyance due to the Spring 1979 Canadian elections. The first was a proposed amendment to the Bank Act, which would have prevented banks from processing, storing, or maintaining data regarding corporate and clients' records outside Canada. The other was an amendment to the Combines Investigation Act, devised to enable Canadian government auditors to put their hands on business records regardless of where they are processed or stored. Under this amendment, no data on any business carried out in Canada could have been transmitted, processed, or stored outside Canada without keeping complete descriptions of the data itself, of the forms in which it could be retrieved, and of the access codes, in Canada.(5)

Two Canadian Parliamentary committee reports reacted quite negatively to the proposed Bank Act amendment, the House of Commons Committee recommending that banks be allowed to process and store data

outside Canada provided the Inspector General of banks be given details of and guaranteed access to the data, and the Senate Committee recommending that the pertinent section either be deleted entirely, or replaced by a narrower provision.(6)

Despite these two negative reports, the Clyne Committee went on beyond the proposed Bank Act Amendment to recommend that the government consider the feasibility of extending its coverage to the insurance and loan industry. The Committee reiterated all the fears which have been expressed in this area by Canadian leaders, and which have been the subject of numerous official reports,(7) including several which examined social, unity, and cultural identity problems. It also made a number of recommendations for dealing with these perceived dangers.

While various Canadian government officials have been contemplating restrictive measures to protect Canada, the Canadian computer services industry feels itself capable of competing if left alone, or given a few breaks. Two or three of the largest Canadian companies export from 10 to 20 percent of their services to the United States, and almost $10 million worth of processing of American data is done annually in Canada. The Canadian computer services industry altogether does about $600 million in business a year.(8)

Canadian industry would like to see the business climate in Canada made less expensive and therefore more competitive. It would like to see the tariffs on computer imports removed, making it cheaper for Canadians to buy U.S. or other foreign-made equipment. Some Canadian industry spokesmen decry the Government's omnibus approach to restricting

transborder data flow, and think the Government should concentrate on correcting abuses rather than seeking universal prohibition.(9)

The new Canadian government has not been in power long enough to have adopted a fixed stance. As a matter of political philosophy, it might be expected that the Conservative government would be more conciliatory to private industry views than were the Liberals. But only time will tell.

Actual legislation by Canada is not the only threat to unrestricted transborder data flow. Pressure is already being put on several U.S. companies by the Canadian government, using unofficial arm-twisting methods, to establish their data processing facilities in Canada rather than leave them centralized in the U.S. Similar pressures are also being put on companies to maintain existing processing facilities in Canada, even when centralization of operations in the U.S. would be more to those companies' liking.(10)

For the United States, the precedential aspects of this question are crucial, since Canada is so far the only country to discuss the possibility of restrictive measures which they openly admit are economic in nature. Elsewhere such threats have been carefully veiled under the general heading of privacy. This is not to say privacy is not a legitimate concern in itself. It is simply not the only or the most important one in the international context even where it is being touted as being so.(11)

Rapid changes in technology may bring this problem to a head in the early Eighties, in Canada as elsewhere, if SBS and other U.S. industry predictions of a domestic U.S. business communications market

to exceed $100 billion by 1985 hold. For this cannot but have international implications.(12)

Canada has a sound technological background for approaching these fast moving events. But both its government and industry are deeply, and probably rightly, concerned that this potential economic and technological revolution will sweep over its country, with innovations introduced by foreign branches, or through imports, thereby deepening its dependence on foreign sources, most especially the United States.

The computer communications area in Canada is a classic instance in which an insufficiently large market, too low an investment in R & D, and prohibitive tariffs and other domestic limitations prevent business from being entirely competitive under free market conditions. Not that the Canadian infrastructure in the computer communications area is not strong. It is. It is just not quite strong enough. And unless it can shore up its position, it could indeed fall backwards rapidly at a time when U.S. and other nations' industries are predicting large gains.

Open, friendly discussions are being held on this subject between the U.S. and Canadian governments, and privately. U.S. and Canadian officials have worked closely in the OECD, where draft guidelines on the transborder transmission of personal data have been drawn up.(13)

(2) The Publishing Industry

The Canadian government perceives Canada as being inundated by American media content, which it feels robs the country of its national identity. As a result, the government has taken steps, which have assumed several forms, to protect Canadian content. These have included the protection of Canadian book authors, measures which some of the best Canadian writers feel protect the mediocre among them.(1)

By far the most important of these protective steps has been the commonly called Bill C-58, a bill which became effective in 1976, making it impractical for Canadian advertisers to buy space in U.S.-owned publications. Canadian advertisers had sought out these American publications, reasoning that since this is what most Canadians read, it would be the place where their advertising would be most effective. C-58 was said by the Canadian government to be necessary to divert advertising revenues to Canadian publications, most notable from Time and Reader's Digest(2) to MacLean's news magazine. This would, in turn, it was said, aid Canadians in developing their own cultural content, thereby lessening undesirable influence from the U.S.

Despite Canadian government denials, this has been interpreted by Americans as an apparent attempt to force Time magazine and Reader's Digest out of Canada. Reader's Digest conformed to Canadian demands by boosting its Canadian content and by forming a new company which was 75 percent owned by a specially-created Canadian foundation. But, while MacLean's, which was published monthly increased to weekly in September 1978, the effort to remove Time from the scene has so far not worked, according to

an article in the August 9, 1979, Wall Street Journal which describes the situation as follows:

> Time had enjoyed a virtually unchallenged monopoly in Canada. With a staff of about 70 manning several bureaus across the country, its north-of-the-border edition included a Canadian news section and an occasional Canadian cover. It had weekly circulation of over 500,000 and annual advertising of some $10 million (Canadian).
>
> Then came Bill C-58....
>
> The magazine (Time) closed its Canadian bureaus and laid off most of its employees, dropped its Canadian section, reduced its print run in Canada by almost 50%, increased its price -- and cut advertising rates by 60%. The company also stopped promoting the magazine in Canada and didn't go after subscription renewals, in order to keep circulation, and therefore its base for advertising rates, down....
>
> The strategy worked. According to a statement filed with the Canadian government in June, Time Canada earned a record $2.4 million last year, almost double its profits in 1975, the last year before Bill C-58 went into effect, on revenues of $15.6 million. Net subscription and newsstand revenues were up 138% from 1975, although circulation was about 37% lower, while advertising revenues climbed back to over half the 1975 level.

Canadian publishers, says this article, are now concerned that other U.S. publications, such as Newsweek, Playboy, Penthouse, and Family Circle, might follow Time's lead. Playboy has a current Canadian circulation of 350,000, Penthouse 500,000, and Family Circle 540,000, according to the article.

MacLean's magazine, which will reportedly lose $1 million in 1979 is said to be following the situation closely, and to be in "....fairly constant dialogue...." with the Canadian government about doing something more airtight about U.S. publications than Bill C-58.

Aside from the failure of C-58 to be effective as a deterrent to inflow of U.S. cultural content, in the case of Time, it is doubtful whether this maneuver has done much good economically for Canada. In the

effort to force Canadian companies to use Canadian magazines to advertise to Canadians, the importation of American magazines with more than a certain percentage of Canadian advertising was prohibited by Canada. According to U.S. publishing sources, the unintended result has been that American trade journals are reluctant to accept Canadian advertising if it will deter the circulation of their journals in Canada. Canadian companies seeking to export goods to the U.S. have thereby lost a show-window, some American publishers say, and cannot possibly profit by this.(4)

The problems engendered by C-58, which American business and government saw and still see as flagrant discrimination against U.S. business interests, have not ended with the print media. The greater importance of Bill C-58 at this time is that its restrictions are being applied in a current conflict which is raging between the U.S. and Canada over border station TV broadcasting. Some U.S. government officials contend that in both the publishing area and in broadcasting, this is simply an instance of cultural protectionism by Canada, with Bill C-58 the revenue device for implementation. The border broadcast issue is a complex one, and will be discussed in the next section of this paper.(5)

Some American government officials have remarked that the whole current Canadian cultural sovereignty argument began largely as a squabble over tenure for U.S. (and other foreign) professors in Canadian universities. Canada, it is said, had first induced foreign professors to come in and build up the quality of education in its universities, and then had discouraged these "guest workers" as they developed a sufficiently large home-grown crop. The controversy then spread into the book and magazine

publishing area, where business interests like MacLean's found its exploitation advantageous. And it now continues to spread into broadcasting. American officials expressed great surprise and some alarm that the magazine problem had spilled over into broadcasting to the extent that it has. They were particularly surprised since no real effort has been made to curb U.S. broadcasting into Canada per se, but only to limit Canadian advertising.(7)

Some American government officials feel that, in fact, high Canadian passions over cultural sovereignty -- for a brief period in the early Seventies widespread through Canada, when Canadian citizens disagreed basically with the U.S. over Vietnam -- have virtually receded. They feel that pockets of cultural sovereignty are kept alive only by certain business interest groups, mainly in Ontario, and certain interests within the government of Canada.(8)

A speaker at the Fourth Lester B. Pearson Conference on the Canada-U.S. Relationship in 1977 said, however:(9)

> Canadian cultural nationalism is as old as Canada. It is also, as (John Sloan) Dickey has written, "inescapably (and that is precisely the right word) a reaction to the American presence, past and current.

At the same conference, another speaker(10) defined the difference between cultural promotion and cultural protection as follows:

> ...Although they are interrelated, the distinction between the two (cultural promotion and cultural protection) is important, for the type of Canadian government policy directly affects the degree to which U.S. interests may potentially be affected. In the simplest sense, cultural promotion refers to those internal policies of the Canadian government designed to reinforce and encourage the expression of Canadian culture. Cultural promotion has occurred in the areas of general culture, books, and films. The second category, cultural protection, refers to those steps taken by the Canadian government which

> have the effect of regulating or reducing the U.S. cultural presence in Canada. Cultural protectionism has occurred in the areas of periodicals, broadcasting, books, and professional sports. Cultural promotion policies are relatively benign as far as U.S. interests are concerned, while cultural protection policies have major implications...

Beyond the above dispute, there is a more central question between the U.S. and Canada in the publications field. According to U.S. business and government sources, Canada is one of the few major countries of the world which have not ratified the Florence Convention on the free flow of educational and cultural materials, and has been imposing a 10 percent import duty on books. Some years ago, U.S. and Canadian publishing and printing industries agreed that the U.S. industries would attempt to get Canada removed from the effects of the U.S. "manufacturing clause" in its copyright law, which limits copyrights on works by American authors printed abroad. If this were successful, it was agreed that the Canadian industries would, in turn, push for Canada to adhere to the Florence Convention.

The U.S. industries and government came through with their part of the bargain in 1976, but the Canadian industries and the Canadian government have been reluctant to fulfill theirs. While compromise has been reached on a trial period for a zero import duty on books, no commitment has been made by Canada for permanent adherence to the Florence Convention.[11]

In another problem in the publishing area, Canada's Foreign Investment Review Board has denied all future American investment (including transfers of ownership not involving new investment) in the Canadian publishing industry. The divestiture of several pre-

viously American-owned Canadian publishing operations has thereby been forced as American publishers have merged or changed ownership.(12)

Many Canadians, among them the best Canadian authors, recognize that the availability of a large American audience and market has given Canadian writers professional exposure and financial success which they could never otherwise have achieved. Those who espouse this position also contend that exposure to a common cultural market has been an enormous boon for all Canadians. It is said by this group that Canadians have riches not available to any other country in the world by virtue of effortless access to current American publications. This easy access, coupled with their own arrangements with United Kingdom and French publishers, gives Canada, for minimal cost, a command of thousands of pieces of the latest technological information, research reports, and reports of cultural achievements that they could not possibly develop for themselves. One Canadian source, in the context of transborder data flow, expressed great alarm at the prospect of losing access to the New York Times Information Bank.

In a sense, it is said, Canadians are reaping through this access the same benefits which Americans in the nineteenth century reaped through the inflow of British books. Incidentally, American publishers raised a howl over the inflow of British books at that time, which might indicate that single-minded interests are not overmuch given to considering a broader view.(13)

In a cultural context, it is interesting that at the Lester B. Pearson Conference it was also noted that English-speaking Canadians had chided the Quebecois for not speaking with "a North American voice."(14) This

North American voice is said by Europeans and others to be an instantly recognizable factor when dealing with Americans or Canadians. It is apparently to them something which sets both the U.S. and Canada apart from the rest of the world. They feel that Americans and Canadians resemble each other more in culture and attitude, and the way they will react, than they resemble any other peoples of the world.(15)

U.S. government stakes in the publishing area are, of course, high in protecting the access of its own publishing industry to markets. But they are higher still in the concern for the free flow of information. Any impediment to freedom within the print media has been historically viewed with great suspicion in the U.S., as indeed it has in Canada.(16) In any case, American officials and businessmen are wary of Canada's cultural sovereignty argument, and the "poor little me" stance they take towards the "giant to the South". American officials and businessmen take this with a grain of salt, and feel it is a bit dramatized. Canadian businessmen, and Canadians generally, they say, are bright, capable, well-trained people who are altogether able to take up for themselves. Not a little of the Canadian concentration on "sovereignty" as a problem is a simple device, they say, for the protection of Canada's own economic interests.

Despite all of these arguments, U.S. government officials, businessmen, and private individuals recognize that Canada indeed does have some legitimate concerns across the communications and information spectrum, and that part of these are due to its extreme proximity to a country with a population 10 times its size. But whether the measures Canada has in the past taken to ease these problems are desirable or effective, Americans doubt.

(3) Broadcasting and the United States TV Border Stations Issue

Canadians are greatly concerned with what they perceive as too much U.S. content on Canadian television. Selling TV programming to Canada is excellent business for the U.S., and its receipt is demanded by the Canadian people. The Canadian government is attempting to increase the level of Canadian content on CBC to offset American content.(1) But they have found that the home-grown production of TV programming especially of the type that English-speaking Canadians want, is too expensive to make more than a dent in these aims. As one American official has said:(2)

> It is important to note....that essentially all of the programming that Canada produces is used. If you cut off access to non-Canadian programming, you would be able to fill about 5 or 6 hours a day with two channels and that would assume you had at least 2 or 3 major sporting events in the week to take some load off of the produced drama or news programs.

There is a considerable ill feeling, however, within the Canadian government engendered by its inability to control what Canadians are watching. Four out of every five hours watched by English-speaking Canadian children, for instance, is programming from American sources. By licensing cable TV, with essentially unlimited American programming, the Canadian government has more or less acceded that there is little it can do to keep Canadian TV Canadian. It is probably this frustration which has lent most fuel to the noisiest and most confusing broadcasting issue between the U.S. and Canada, the problem of advertising by Canadians on U.S. border television station programs.(3)

This TV border braodcasting issue is the only issue in the communications and information area which has, in recent years, been brought

to the attention of political leaders in both the U.S. and Canada. This controversial issue was discussed at the 1978 meeting between the Secretary of State and the Canadian Minister of External Affairs.(4)

In relation to the overall trade between the U.S. and Canada, the amounts of money involved are relatively small. This is generally thought to amount to about $9.7 million annually in lost revenues to the U.S. border stations. In the overall context of a total annual U.S. TV advertising revenue of $6.8 billion, a total annual Canadian TV advertising revenue of $376 million, and a total annual U.S.-Canadian trade of $65 billion, that is not much, but the border station owners see this as significant part of their revenue.(5)

The pertinent section of the (to American government officials and businessmen) infamous Canadian tax law, C-58, originally read:(6)

> In computing income, no deductions shall be made in respect of an otherwise deductible outlay or expense of the taxpayer for advertising space in an issue of non-Canadian newspaper or periodical dated after December 31, 1975, for an advertisement directed primarily to a market in Canada.

and was then further amended to cover broadcasting by reading:(7)

> Subject to subsection 2, in computing income, no deduction shall be made in respect of an otherwise deductible outlay or expense of a taxpayer made or incurred after this section comes into force for an advertisement directed primarily to a market in Canada and broadcast by a foreign broadcasting undertaking.

As in the publishing area, Bill C-58 has been the instrument through which advertising by Canadians on American border broadcasting stations has been made more expensive, and ostensibly for the same aims: to divert advertising money to build up Canadian content, to provide jobs for Canadian artists, and to reduce the level of U.S.

content to which Canadians are exposed.

Repeated efforts over several years have been made to persuade the Canadian government to negotiate on this problem, but the Canadian government has taken the view that Bill C-58 is a purely internal matter, affecting only the actions of Canadian companies. Economic considerations aside, it says, the Canadian government sees the issue as one bearing on Canadian sovereignty and as such, not negotiable.(8)

In 1977, members of the U.S. Senate and House of Representatives, in an effort to protect their local constituencies (the U.S. border broadcasters) linked the willingness of Canada to enter into serious negotiations aimed at resolving the C-58 issues to any relief for Canada from Section 602 of the U.S. Tax Reform Act of 1976. This American legislation limits the income tax deductibility of expenses incurred when attending conventions in foreign countries by American businessmen. This linkage has been more recently reiterated by the House Ways and Means Committee.(9) Since Canada does a large business in entertaining American conventions, this was intended to, and has been, economically felt. Losses to Canada are estimated to be $100 million annually, according to the president of the Tourism Industry Association of Canada.(10)

The ill will created by this issue has extended to the point where the Canadian Ambassador to the U.S. toured U.S. areas which attract a heavy inflow of Canadian tourists last year, making speeches to the effect that, well, well, isn't it terribly regrettable that these Canadian tourists are spending good Canadian money in your communities

and thereby contributing heavily to a Canadian deficit in its Balance of Payments.(11)

According to 1977 figures, Canadian tourists and conventioneers spent $2.3 billion in the U.S., while American tourists and conventioneers spent $1.5 billion in Canada, leaving Canada with a deficit in its bilateral travel account of approximately $800 million, or about a fifth of its current account deficit with the United States.(12)

While carefully abstaining from mentioning the possibility of retaliatory actions by Canada, the Ambassador nevertheless has suggested that the Canadian C-58 issue, the U.S. denial of an exception for Canada to the Conventions Tax Bill, and the whole border broadcasting question, should be looked at together. And he urged his audiences, the U.S. tourist industry, to let their Congressmen know how they felt about it, so that Congress would, in effect, "get the picture".(13) Historically, an unfortunate aspect of U.S.-Canadian relations has been that when the U.S. Congress involves itself, it is almost invariably over a problem of a local nature, where steps are taken which are often out of proportion to the overall bilateral relationships between the two countries.(14)

Meanwhile, on August 29, 1978, the U.S. border broadcasting stations filed a complaint based on Section 301 of the U.S. Foreign Trade Act of 1974, in which they sought either to get redress for what they consider the unfairness of Bill C-58, or to suggest further retaliatory linkage.(15)

The American complaint, heard in oral arguments in Washington, D.C. on November 29, 1978, alleges, among other things, that Bill C-58

is discriminatory, unreasonable, unjustifiable, and injurious to U.S. commerce. It was said to be illogical, and therefore unreasonable because it imposes a confiscatory duty of 100 percent on cross-border advertising; the amounts affected are inadequate to establish a Canadian programming industry; it results in an increased U.S. cultural presence in the form of U.S. produced and oriented advertisements, whereas the alleged purpose of the measure was to counter U.S. cultural imperialism; and it places U.S. television stations who are "forced" to provide the service to Canada, and who must pay higher prices for programming due to the presence of Canadian audiences, in an untenable commercial position.

As a remedy, the U.S. stations suggest the repeal of Section 3 of Bill C-58. This can, however, only be accomplished by the Canadian Parliament.

The U.S. stations have offered to negotiate, even suggesting:(16)

> ...the establishment by U.S. border stations of a taxable presence in Canada pursuant to which Canadian revenues would be subjected to tax by the Canadian government. All Canadian advertisements placed on U.S. border stations with a taxable presence in Canada would be tax deductible as a business expense. Section 19-1-4 of the Income Tax Act and pertinent regulations could be amended to provide for such a deductibility.

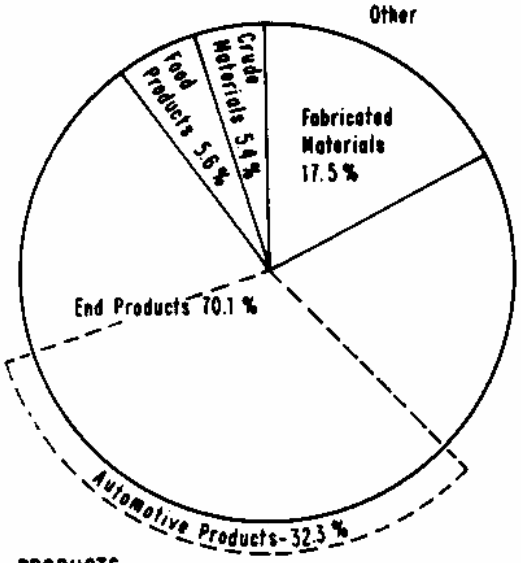
As a variation of the above proposal, the U.S. border stations suggest:

> ...the establishment of a Canadian taxable presence in conjunction with investment in a fund that would finance measures designed to stimulate the Canadian program production industry (for instance a Canadian motion picture and television promotion fund).

Should these efforts at negotiation fail, however, the U.S. border broadcasting stations are prepared to ask the U.S. government to wheel out its big guns. They suggest that the U.S. retaliate under the provisions of Section 301 of the U.S. Foreign Trade Act. This is in itself a precedential suggestion, since broadcast advertising, to now, has not been considered an exportable product. And among the retaliatory possibilities they propose is no less than the abrogation of the U.S. Autopact with Canada.(17) A look at the size of the Automotive Products section of the following charts I and II which comprises 32.3% of overall Canadian imports from the U.S., and 27.1% of all U.S. exports to Canada -- will indicate the audacity of this suggestion.

Figure 2

Canadian Imports from the U.S. by Category, 1971-77 *



FABRICATED MATERIALS

Forest Products	2.0%
Fabric and Textile Materials	1.4%
Chemicals	5.2%
Petroleum and Coal Products	0.6%
Nonferrous Metals and Alloys	1.4%
Other	6.7%

END PRODUCTS

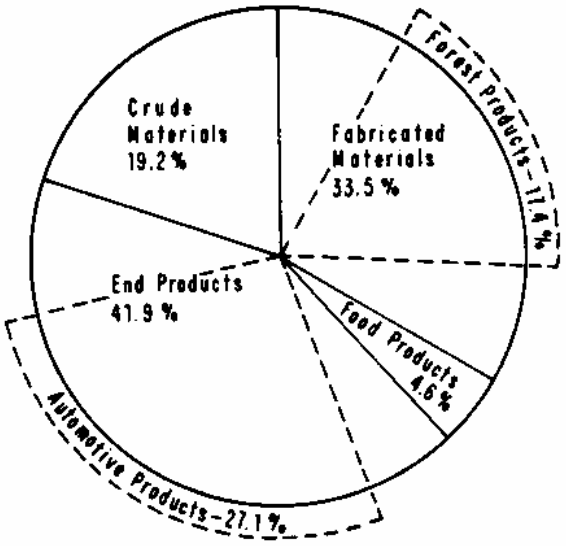
Industrial Machinery	10.0%
Farm Machinery and Tractors	3.9%
Automobiles and Parts	32.3%
Communications and Related Equipment	2.5%
Aircraft and Parts	2.1%
Electronic Computers	1.5%
Other	17.4%

* As percentage of total Canadian imports to U.S., average over period 1971-77. (Percentages for the segments in the main circle do not add to 100 because special transactions are excluded. This category includes items such as private donations of goods, settlers' effects, and imports for diplomats.)

Source: "Canada-United States Relations," Vol. II, Canadian Standing Senate Committee on Foreign Affairs, June 1978.

Figure 3

Canadian Exports to the U.S. by Category, 1971-77*



FABRICATED MATERIALS

Forest Products	17.4 %
Chemicals	3.4 %
Coal and Petroleum Products	2.0 %
Iron and Steel Products	2.1 %
Nonferrous Metals and Alloys	4.6 %
Other	3.7 %

END PRODUCTS

Automobiles and Parts	27.1 %
Industrial Machinery	2.2 %
Aircraft and Parts	1.4 %
Farm Machinery and Tractors	1.7 %
Communications and Related Equipment	0.9 %
Other	8.3 %

* As percentages of total Canadian exports to U.S., average over period 1971-77. (Percentages for the segments in the main circle do not add to 100 because special transactions are excluded. This category includes items such as private donations of goods, settlers' effects, and imports for diplomats.)

Source: "Canada-United States Relations," Vol. II, Canadian Standing Senate Committee on Foreign Affairs, June 1978.

The reasoning of the border broadcasting stations goes as follows:

By enacting Bill C-58, they say, Canada has violated a historic understanding with the U.S. involving linkage between the U.S.-Canadian automobile agreement and the tax deductibility to Canadians of advertising placed by Canadians on U.S. media. In 1965, they allege, President Lyndon B. Johnson forcefully pointed out to Prime Minister Lester Pearson that the U.S. would not pass the implementing legislation for the Autopact if Canada insisted on eliminating the deductibility for Canadian advertising in U.S. print media. President Johnson, they say, explicitly linked integration in the automotive market with cooperation in the area of advertising on U.S. media, and as a result, Time and Reader's Digest were specifically excluded from 1965 Canadian legislation on this subject. However, in 1976, they say, Canada eliminated deductibility for all Canadian advertising in all U.S. print and broadcasting media, and this, they allege, violated a Canadian commitment to treat U.S. media interests fairly, and calls for re-establishment of the linkage between the Autopact and Canadian advertising deductibility, i.e., the abrogation of the Autopact.(18)

American officials questioned on this score deny knowledge of any such conversation or "gentlemen's agreement". Beyond this, there is the question of whether today's government could be held to unwritten arrangements made 14 years ago and several administrations past.

The Canadian brief, for its part, marshals a series of legal arguments attempting to show that the Trade Act of 1974 was not meant to deal with "cultural affairs" of any contracting parties to GATT,*

* General Agreement on Trade and Tariff

but rather to expand international trade. They further point out that Bill C-58 was a deduction from income tax given to provide an incentive for Canadian advertisers to advertise in Canadian media. They state that therefore C-58 was not meant as a restraint or discrimination against the U.S. and that it is neither unjustified or unreasonable. Nor, in fact, they say, does it place an undue burden on U.S. commerce. The purpose of the Bill, the Canadians say, is to facilitate the creation of jobs in the culturally vital sector that is Canadian broadcasting. And so on.(19)

The Canadian brief further points out that in 1972 the United States in entering into a broadcasting exchange with Mexico, stated that:(20)

> ...FM stations will be assigned and operated for the basic purpose of providing an effective service to its nationals within its frontiers.

Thus, say the Canadians, the U.S. in the U.S.-Mexican agreement gave effect to its own regulatory practices and procedures in a situation which parallels that of the U.S. and Canada. That practice, it says, dictates that for each local licensee to be able to provide effective service to its local community, it must have its revenue base protected.

The Canadians further cite a 1977 Supreme Court of Canada decision which states that a broadcasting outlet in the U.S. is licensed only to serve a U.S. market, as specified by the FCC, and that there is no private ownership attached to airwaves themselves.

The Clyne Committee[21] considered the border broadcast issue and recommended that the Canadian government seek to negotiate the matter with the U.S. The Committee felt that Canada must maintain the ability to exercise control over the direction of cultural change, but also stated that in some ways the U.S. border stations were not getting a fair deal. The Committee, however, "did not feel moved" to recommend any changes in C-58. It felt that the actual revenue losses to the U.S. border stations were overstated, and of little consequence when compared to total U.S. and Canadian TV advertising revenues.

Canada has a bit of a bad conscience in other areas of broadcasting, because of the frequent habit of Canadian TV stations, and especially small entrepreneurs, of picking up U.S. programming without any cost and, in some instances, simply deleting the U.S. advertising before using.

The Clyne Report said of this:

> There is something repugnant to us in the notion that whatever the legal niceties, it is permissible to pick up someone else's property off the air and tamper with it for profit. In this regard, we think the U.S. border stations have cause to believe they are being unfairly treated. By saying this, we do not mean to support the case they are making for remedial action. What has happened is that they have been deprived in one way or another of part of the commercial value of what they regard as their property.

The Clyne Committee also treated the question of random deletion of commercials and simultaneous substitution. In this regard, the Committee recommended that the copyright act be appropriately amended to provide a solution to the problem of protecting foreign distribution

rights. It is estimated that the Canadian broadcasting industry now buys distribution rights for U.S. programs to the tune of $50 million a year, a sum that represents about 20 percent of all U.S. producers' foreign sales.

The U.S. complaint is still before the 301 Committee[22] and it is difficult to predict how that administrative tribunal will rule. Possibly the weakest link in the Canadian argument is the fact that the CRTC, by licensing Canadian cable TV to broadcast U.S. shows in effect gives legitimacy to American broadcasting into Canada. In the cable TV area, the CRTC and the Canadian government hold the key to the solution of the problem of U.S. broadcasting in Canada. They can either deny all cable TV channels to U.S. broadcasts, or reduce the number of channels so licensed. The question, then is: Why does Canada ask the U.S. for a solution if it can act on its own? The answer must be that domestic Canadian politics make such action impractical.

The underlying issues presented by the border broadcasting fight concern nothing less than how much right is vested in individual countries to control what passes over their border. When what passes is not a commodity but a whole cultural framework, controlling it somewhat resembles punching a feather pillow. And so countries, even good friends like the U.S. and Canada, seek more concrete means of redress. The concrete means found in this instance has been economic, and raises the spector of linkage to linkage to linkage until a peaceful or not so peaceful solution has been found. It is not a terribly constructive way to solve the problems created by the complex new communications and information technology related to broadcasting,

or even that of the old print media world.

It would appear extremely important to both sides to avoid further linkage of communications and information problems with other matters. This is always a game where two -- or three or four or five -- can play. In any case, there would appear to be some serious flaws in the arguments on both sides of this question. Since confrontations like this one can only be expected to increase and become more complex as the world moves into an era of direct broadcasting satellite activity, the reasonable thing for countries to do would appear to be to talk about it.

Canadian officials, in refusing to negotiate, appear to be holding out for the consideration of a broad number of communications and information issues as a package. U.S. officials contend that these issues are best resolved one by one. Both sides may be underestimating the complexity of the problem, and the amount of time they have to spend on its resolution. Considering the speed with which changes are taking place in communications and information technology, linkages could be resorted to and precedents set within or even beyond the U.S.-Canadian relations framework which would be extremely hard to undo once put in place.

A new trade issue in the television area is now shaping up, concerning cable TV. Canadian cable TV companies are now free to enter the U.S. market, and the Canadians have invested a quarter of a billion dollars in U.S. cable systems. Canadians also control the franchises for cable TV in Minneapolis, Minn., Atlanta, Ga., Fresno, Calif.,

Syracuse, N.Y., and Fort Lauderdale, Fla. In addition, Maclean-Hunter, a Canadian company, owns 41 franchises in Northern New Jersey and nine in the suburbs of Detroit, according to an article in TV Guide. Meanwhile, the Canadian government has passed legislation limiting the foreign ownership of Canadian cablesystems to 20 percent. And Canadian firms are denied the tax breaks on the advertising money they pay to U.S. owned media, under the by now familiar C-58 tax bill.

Thus Canadian companies are free to operate in the United States, while they are simultaneously protected from American competition in Canada. American companies who have complained about this have received no help from their government. The FCC has left the way open to foreign cable systems, maintaining what it calls "a watchful attitude." One American cable company filed a petition with the FCC in November, which would limit foreign ownership of any U.S. Cable TV system to 25 percent. No FCC decision is expected for several months, and Canadian companies may continue to obtain franchises until a decision is reached.(23)

A provision of the new Senate minority draft communications bill (S.622) would place restrictions on foreign ownership of cable TV systems. Thus, Canada's restrictive laws, although allegedly drafted for cultural reasons, may harm its world trade if other nations take reciprocal action.

(4) Use of Land Mobile Radio in the 460 to 512 and 806 to 947 MHz Bands Along the U.S.-Canadian Border

Internationally, in the Western Hemisphere, the UHF spectrum is allocated exclusively for TV broadcasting. The growth of U.S. land mobile radio services for a variety of emergency and commercial purposes induced the U.S. Federal Communications Commission (FCC) to propose in 1968, that the U.S. be permitted to use part of this spectrum for these broadcasts. Since this use might interfere with Canada's needs, the FCC entered into negotiations with the Canadian Department of Communications, and these discussions are still going on.(1)

Canada has shown two basic concerns in this regard: It is afraid of possible interference by land mobile users with existing or future over-air television broadcasts, and its feels it needs to reserve all available UHF frequencies for television, especially in the Quebec City-Windsor corridor.(2)

Canada predicts a population increase of 42 percent over the 25-year period from 1971 to the year 2001 -- from 21.5 million to 30.5 million. Along with this, Canada says, will come a change in the character of the labor force which will directly increase the demand for television services. As incomes rise and demands for durable goods are more fully met, the Canadian government says, it expects its people to increasingly convert their added productivity into leisure time rather than into leisure goods -- a type of activity which depends on age, education, occupation, and income. Real Canadian GNP is expected to grow at at least four percent annually

from 1977 to 2001, although there are some predictions for an increase nearer five percent. It is not unreasonable to assume, they say, that broadcasting will maintain at least its present share of national resources, so revenues for broadcasting services can be expected to grow along with GNP. This indicates a future dire need, they say, for additional TV stations and thus of a greater number of frequencies. The pressures for French language stations requiring additional frequencies can also be expected to further aggravate this problem, they say.(3)

The problem for the governments of the two countries has been how to negotiate solutions to accommodate Canada's need for more frequencies for TV broadcasting, and U.S. needs for part of the spectrum for mobile land use. Talks have been generally conducted at technical levels, and have progressed slowly but well.

In 1976, an interim arrangement was made for licensing U.S. land mobile radio stations within 250 miles of the Canadian border. It was agreed that as the U.S. land mobile source drew nearer the border, its power would be decreased by decreasing maximum antenna heights and wattage.

The U.S. considered the agreed-to restrictions more severe than technically necessary, but accepted the arrangement as better than none at all. Meanwhile, Canada agreed to use public hearings and other procedures in rulemaking common to the CRTC to arrive at a more permanent decision.

In 1979, with the World Administrative Radio Conference approaching, it became imperative that a firmer agreement on this matter be

reached, since neither side wanted this bilateral issue discussed in that or any other international forum. It now appears that a new but still tentative agreement has been made. This became possible partly because Canada is also under increasing pressures for mobile radio services for its citizens.(4)

Pending final technical discussions, the two sides have agreed to share this frequency band between the two services. The upper part of the band will be used for land mobile services, and the lower part for UHF and for television broadcasting. By using improved technologies in television receivers and achieving greater efficiency, it is believed that it may be possible to accommodate all the Canadian TV requirements in this slightly reduced spectrum. While a great number of technical questions remain to be resolved, the principal points of agreement are in place, and it appears that an important area of potential disagreement between the two countries has been eliminated for now. Since there are limited numbers of frequencies, further adjustments will undoubtedly be necessary. But the way this issue had been handled illustrates a constructive give and take approach by agencies of both governments.

(5) United States - Canadian Issues in the Area of Satellite Communications

Table 2 on the following page shows present and projected North American Communications satellite systems.(1) This is an area where the U.S. has considerable present and projected stakes which can be expected to become increasingly important for its international

business and other interests within the next decade. Internationally, problems surrounding the use of communications satellites are already hot political issues, and threatening to become more so.

TABLE 2

North American Communications Satellite Systems

	Telesat "Anik"	Western Union	RCA	COMSAT General (AT&T/ GTE)	Satellite Business Systems
Operational date	Jan 1973	July 1974	Feb 1976	June 1976	Planned early 1981
Number of satellites planned in orbit	3	2	3	3	2
Channels per satellite	12	12	24	24	10
Channel bandwidth (MHz)	36	36	34	34	43
Channel capacity when used for: one-way voice channels	960	1,200	1,000	1,200	1,250[a]
data (megabits per second)	45	45	45	45	43
television channels	1	1	1	1	--
Frequency (GHz)	4/6	4/6	4/6	4/6	12/14
Earth station size (meters)	4.7-30	15.5	4.5-10	30	5-7

Note: (a) Using 32 Kbps per voice channel

Source: Walter S. Baer, Telecommunications Technology

So far, the United States and Canada have had a very satisfactory cooperative relationship in the area of satellites, with each gaining from the other. A number of problems are present, however, and as

this area expands, these can be anticipated to increase.

Satellite communications are extremely important to Canada, and it has deep political commitments to equalize communications services to all of its citizens, and especially to its native populations.(2) Its huge Northern land mass and other somewhat isolated areas make it difficult for Canada to provide communications, including those involving medical care and educational needs, to some 40,000 widely scattered people. Although Canada is very advanced in microwave relay facilities, these are presently inadequate or uneconomical to serve over long distances in the presence of difficult terrain. It is estimated that there are some 250,000 Canadians who cannot receive television at all by conventional transmission, and about the same number again who cannot receive alternative service. These "other Canadians" are not all resident in the North, or in remote communities. As late as 1977, there were areas in Prince Edward Island where no off-air television could be received.(3)

Canada committed itself early and heavily to the use of domestic communications satellites, which was far-sighted, risky, and quite expensive. Their system (ANIK) became operational two years ahead of any U.S. domestic communications satellite, although it was made by U.S. prime contractors Hughes Aircraft and RCA AstroElectronics and launched by NASA. For two years, before the U.S. put its own communications satellite system in place, RCA Global Communications and RCA American Communications used surplus channels of the ANIK satellite to carry live TV programming to and between points in the lower 48 states and Alaska. This was done under the terms of a special

U.S.-Canadian intergovernmental agreement.(4)

Canada has several urgent reasons for wanting to stay in the forefront of communications satellite developments, beyond those of serving its Northern and remote communities. It has a keen recognition of the importance of the advanced technologies which have come out of and might continue to come out of the space industries, and wants to keep its industries in the middle of these developments. Canada wants to be sure that it secures and maintains a position in the same geosynchronous orbit which is also optimal for the United States. And it is interested in occupying certain frequencies which are allocated for all of North America, and which the U.S. and Canada must divide. In short, Canada is interested in maintaining a place, not only for its present but for its potential future technological and communications satellite activities.(5)

United States business, for its part, anticipates enormous communications satellite activity to commence by the early Eighties. SBS, a consortium of IBM, Aetna, and Comsat, expects to invest over $500 million in a communications system which will be operational by that time. Xerox with its X-Ten is also banking on the importance of these upcoming events.

According to SBS, the U.S. domestic data terminal market will exceed $2 billion annually by 1985, with 5,700,000 terminals installed.

By 1980, the dollar value for data communications equipment and services being shipped domestically will exceed that for data processing revenues. The total domestic U.S. business communications market, which grew from $14 billion in 1965 to $31 billion in 1974,

is predicted by SBS to reach $61 billion in 1980 and to exceed $100 billion by 1985.(6) AT&T statistics show data communications revenues, including those for circuits and terminals, growing from $1.5 billion in the mid 60's to $4 billion in 1973, $5.5 billion in 1975, and $22 billion in 1985.(7)

There are five fairly well-defined issues in the area of communications satellites between the U.S. and Canada which will be discussed in this section:

(1) There is a cultural conflict for Canada in its desire for domestic direct broadcasting satellite transmissions, since this raises the specter of the importation of even more U.S. content.

(2) There is a matter of who will get the profits -- the U.S. or Canada -- and under what conditions, from the types of communications which have until now been handled in a mutually satisfactory way between the Canadian telephone systems (Bell Canada-TCTS) and U.S. Bell, but which in the future may either go to or be affected by satellites.

(3) Canada, having launched the third of its Anik series of communications satellites, all made by U.S. prime contractors, is now turning to Canadian prime contractors. But economically, it cannot afford to plan beyond a fourth Anik series, and even for Anik D, cannot divorce itself entirely from U.S. technological help.

(4) Canada, having successfully experimented with the U.S. on the Hermes (CTS) satellite, now wishes to move to an

operational direct broadcasting system for its nation. This, however, requires U.S.-Canadian and ITU agreement on a frequency for which the U.S. and Canada have conflicting needs.

(5) The last issue is one which involves the role Canadians play in DBS negotiations worldwide, a role which could be detrimental to U.S. interests.

Canada's first communications satellite, Anik A-1, launched in November 1972, became the world's first operating domestic system using synchronous satellites. It became fully operational by April, 1973, with an East-West toll message service, two Northern message services, and three CBC national video distribution channels for both French and English TV.(8)

The Canadian communications satellites are run by Telesat, created by the Telesat Canada Act of June 1969. The total capital investment of this company as of December 1978 was $232 million, split between $158 million in the space segment and $74 million in ground facilities. Telesat is owned 50-50 by the Canadian government and the Canadian telecommunications industry. The public was to have owned one-third, but this has not yet come to pass.(9)

Since the first communications satellite was launched, each successive generation has had greater communications capacity and higher radiative power. More satellite power means that smaller earth stations can be used, and this trend may result in direct roof-top to satellite to roof-top communications in the 1980's.

In early 1979, the Canadian Federal Department of Communications announced that it had ordered small receiving dishes to be used in experimental direct satellite-to-home broadcasting tests in preparation for an eventual domestic operational DBS system.(10) However, cultural difficulties are already anticipated, since such receiving dishes can be trained on a foreign satellite just as easily as on a Canadian one. Any prohibition of such a practice would be fruitless, since it would be almost impossible to enforce. This problem already exists in remote Northern areas where Canadian signals are not yet available. Here, technically illegal operators train their receiving dishes on U.S. satellites and distribute the received signals to the local community. Signals from an independent station in Atlanta, Georgia, are especially picked up, and made available to Northern Canadian homes. The Canadian government has thus far refrained from interfering with these operations, but the subject is one of controversy in Canada.(11)

In another area of concern, Bell Canada and the other Canadian telephone companies are greatly alarmed about the possibility of excess capacity on U.S. communications satellites by the early Eighties. The projected new U.S. satellite carriers, they say, could possibly sell lower-cost surplus capacity service into Canada, thereby undercutting the already small Canadian market for long distance satellite communications that now exists in Canada. To effectively serve its remote and far Northern regions, Canada must depend on the traffic generated from business services in the rest of the country to support

the substantial capital investment, says Bell Canada. There is a great fear that U.S. satellite carriers will skim the cream of Canadian business traffic.(12)

Bell Canada is concerned that both international and intra-Canadian traffic could be routed via private earth stations and American satellites. For instance, they say, American-based multi-national firms could route all their traffic, both Canada-to-Canada and Canada-to-U.S., via SBS's satellites, thereby bypassing Canadian networks completely. There is an application from the RCA Corporation now before the CRTC for licensing of ground stations for CATV purposes. Thus, say the Canadians, this is not idle speculation. The concern is real.(13)

Up to this time, Canadian and U.S. telephone companies have cooperated closely and well together. Both countries consider their U.S.-Canada telephone traffic in domestic terms, rather than using international tariff structures. The separation and settlement arrangements between the U.S. Bell system and Canadian telephone companies has worked extraordinarily well. They follow the "shortest distance" philosophy, as opposed to the "maximum for your own country" notion. Telephone traffic between the U.S. and Canada is worth about half a billion dollars a year.(14)

This satisfactory arrangement is potentially threatened by the upcoming satellite situation. Both countries have so far depended primarily on private enterprise accommodations in their telephone systems. This situation has grown up under a philosophy of absolute minimum regulation and minimum government intervention. But,

according to a Bell Canada spokesman, there is:

> ...every indication it may change, and I am not exactly sure as how it will change for the better.

A clash here which can be anticipated in the near future in the U.S., in Canada, and worldwide is in the merging of computer and communications technologies. The philosophy from the computer industry, which essentially works with proprietary standards in order to enhance each participant's position in the marketplace, must be merged with the telecommunications industry philosophy, which essentially works with non-proprietary and published international standards.(16)

The Canadian telephone systems have reason for concern, since Canadian businesses are already indicating dissatisfaction with Telesat. The Canadian Association of Broadcasters points out that Telesat satellites are under-used and overpriced. Representatives of this organization say that transponders cost twice as much on Anik as on RCA's Satcom-1. The latter is sold out while Anik operates at half capacity. Transmission is said to cost two and one-half times more on Anik than on terrestrial lines. The Association alleges that rental of earth stations and related costs are too high, and that Telesat's inflexible and ineffective marketing policies make the use of satellite transmission impractical. This, it says, is why broadcasters, except the government-supported CBC, do not use satellite transmission. Unless Telesat's potential can be optimized, the Association says, it is in danger of becoming

> ...another tax-guzzling institution offering very little in return to those who are paying the bills.

The Association feels that some of these problems could be alleviated by competition between Telesat and the common carriers.(17)

The Clyne Report takes note of this controversy, which apparently was laid out in a number of briefs before that Committee. The Committee agreed that Telesat has a great deal of unused capacity, which if put to work, would make it possible to reduce the rates charged to everyone.(18)

Telesat claims that since it offers only "guaranteed" service -- that is, it maintains extensive redundancy to handle unanticipated loads and malfunctions -- it actually has very little spare capacity. It says that its services are not actually much more expensive than those of the U.S. since, it says, U.S. services are not "guaranteed." In a recent speech, the president of Telesat, taking note of this matter, said:(19)

> General comparisons are frequently made of the rapid development of the use of satellites in broadcasting and cable television in the U.S., against the comparable growth in Canada. These comparisons, like most generalizations, fail to take account of specific differences in the environments in Canada and the U.S. Among these differences are the current, almost cut-throat, pricing and marketing approaches of U.S. satellite carriers as they scramble to sign up customers before the expiry of the FCC embargo on AT&T's entry into the private line market. The bottom dollar prices being quoted for services to potential customers are made possible in part by the fact for both RCA and Western Union, the satellite carrier operations are but small parts of the companies' total corporate business.

One important goal of Canada's space satellite communications program has been geopolitical, in the sense of a perceived need for occupancy of the frequency bands allocated by the ITU. Since these

bands were allocated for all of North America, Canadian planners were afraid that if Canada did not act quickly, the U.S. would become an early exploiter of these frequency bands and that U.S. mass media penetration into Canada would therefore be even further enhanced. A Canadian government White Paper has stated:[20]

> The development of communications satellites is proceeding rapidly in Europe and the United States, and these will soon be laying down signals over parts of Southern and Eastern Canada. Furthermore, there will be early occupation of that synchronous orbit parking space which is of interest to Canada. Unless an early start is made on the Canadian domestic system, it may well be overtaken by events.

It should be noted here that Canada has not only been quick to occupy synchronous orbits but has continuously attempted to use higher frequency bands for television broadcasting. The joint U.S.-Canadian cooperation on the Hermes (CTS), made Canada and the U.S. the first nations to experiment with 14/12 GHz frequency bands, for example. With NASA's launching of the Anik B satellite for Telesat, Canada became the first nation in the world to use the higher 14/12 GHz frequency band for commercial purposes.[21]

Canada's concern here is mirrored in developing country desires to have frequencies allocated now for their future use, and to have equatorial parking spaces assigned now for their future satellite needs. This is a conflict being faced in WARC '79.[22]

The future for Canada's communications satellite technology is somewhat uncertain for economic reasons. The Anik C series of satellites are under construction and the first one is scheduled for launch on the second commercial flight of the U.S. space shuttle

in late 1981. This year, Telesat has contracted for the Anik D satellite series for operation in the 6/4 GHz frequency range, which will be launched by NASA in late 1982, with SPAR Aerospace Ltd. as prime construction contractor, and U.S. companies as crucial sub-contractors.(23) The problem is that once the Anik D satellites have been ordered, Telesat anticipates no new major procurements of spacecraft until the mid-1980's for delivery in the late 1980's or early 1990's. Because of low demand for futher satellites, SPAR is entering a field in which it has no long-term expectations to be able to compete. Whereas there is a large demand for satellites for military purposes in some countries, Canada says that this is not yet the case for their country. And for all other requirements, Telesat estimates that government funding will be essential. And what priority Canadian governments will assign in the future is difficult to predict. Telesat has a campaign underway to try to convince the government departments, in their normal use of telecommunications, to take satellite communications into account.(24)

With military programs in the international area generally closed to bidding, the main hope for a viable Canadian satellite communications technology industry seems to be through opportunities for subsystem and consortium bids. Some Canadian business observers feel that that is definitely the area that they should be concentrating on.(25)

A final problem between the U.S. and Canada in the communications satellite area deals with direct broadcasting satellites (DBS). The issues revolve around two different questions.

The first question deals with Canada's desire to go operational in the next few years on a domestic DBS system. Since the assignment of frequencies for DBS is regulated through ITU, and is considered an international matter, Canada cannot proceed with such an operational domestic DBS system without the concurrence of the U.S. and the ITU, which will meet in Region 2 in 1983.(26)

The second question is that of the Canadian role in DBS discussions in the broad international context. Briefly, some nations feel that direct television broadcasting by satellite from one country to another without the prior consent of the receiving state is a violation of national sovereignty, and this has been the subject of protracted negotiations in the U.N. Committee on the Peaceful Uses of Outer Space. During the 1969 annual session of this Committee, the positions of the major actors in the DBS debates began to be made manifest. The Soviets took the stand that countries should be legally bound to obtain "prior consent" from receiving governments before broadcasting from space by satellite, while the U.S. opposed this notion as contrary to Article 19 of the Universal Declaration of Human Rights, and as a threat to the free flow of information.(27)

As a result of a joint Swedish-Canadian initiative, an ad hoc group on DBS was formed in 1969 to consider the technical, legal and political aspects involved. No consensus, however, was reached by this working group for establishing legal instruments to govern DBS.

In 1972, the U.S.S.R. introduced a proposal in the U.N. General Assembly for a binding convention of principles for television transmission from satellites. The U.S. strongly opposed this initiative,

saying that any outside regulations whatsoever would constitute a threat to the cherished tradition of unrestricted flow of information. By a vote of 102 to 1, with the U.S. the lone "nay" vote, the U.N. General Assembly called on its Committee for Peaceful Uses of Outer Space(28)

> ...to elaborate principles governing the use by states of artificial earth satellites for direct television broadcasting with a view towards concluding an international agreement or agreements.

Behind this astoundingly lopsided vote on what was essentially a conflict between two principles, the free flow of information and national sovereignty, was the fear, widely expressed by a large number of states, that the U.S. would use its tremendous technological advantage for political, cultural, or commercial purposes which might not be in their interests.

While the Canadians are working within this Committee to find a compromise,(29) they cannot but be influenced by the cultural and technological effects on their own country of the one "nay" voter. Informally the Canadians have stated in U.N. debates:(30)

> Look what has happened to us when unfettered free flow of information is permitted. If you want to know what DBS means, just look at us.

They say this notwithstanding that Canada is one of the strongest democratic nations in the world, with firm commitments to the principles of free flow of information. As one senior official in Canada has said:(31)

> Free flow of information sounds wonderful when you are talking in the East-West context. When you are talking about the importance of the Voice of America, or of Radio Free Europe, and things like that.... During the long years of negotiations, leading to the Helsinki

> accords in the Conference on Security and Cooperation in Europe -- the CSCE -- Canada "talked as good a game" as anyone on the free flow of information.... But, when you look at it in terms of the United States and Canada, the matter looks....different...

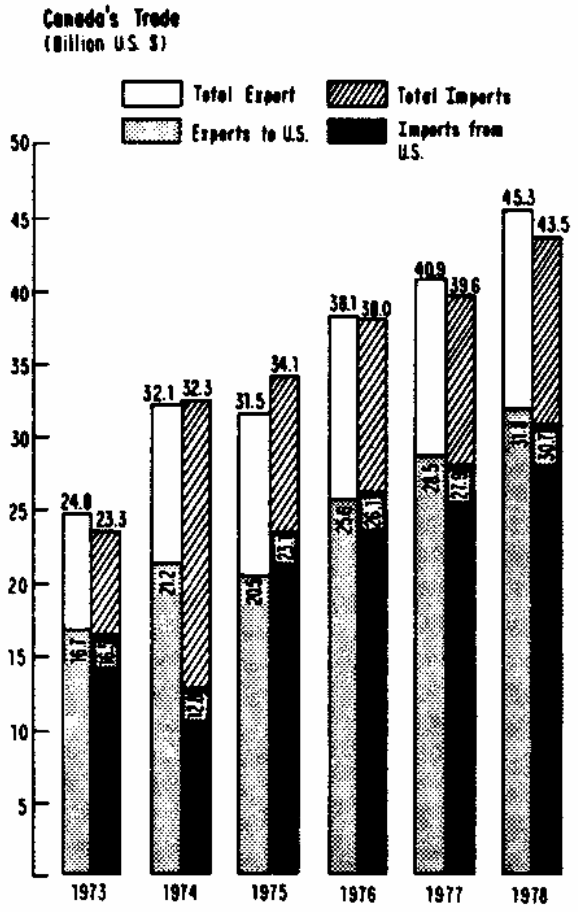
(6) The Role of Canada's Economy in U.S. - Canadian Communications and Information Relationships

According to the former Canadian Minister of External Affairs:(1)

> ...not only is the U.S. our neighbor in a geographic sense...it is also the major customer of our products and (I don't think there is any question about this) the most important country in terms of whether our economy will move forward or not. I believe, and indeed the government believes that the maintenance and enhancement of our relations with the U.S. must take a primary priority and is therefore the centerpiece, as it were, of our foreign policy.

June 1979 trade figures released by Statistics Canada would attest to the importance of this economic relationship for both sides. In that month, the U.S. took 70.9 percent of Canada's exports and supplied 76.1 percent of Canada's import needs.(2)

Figure 4

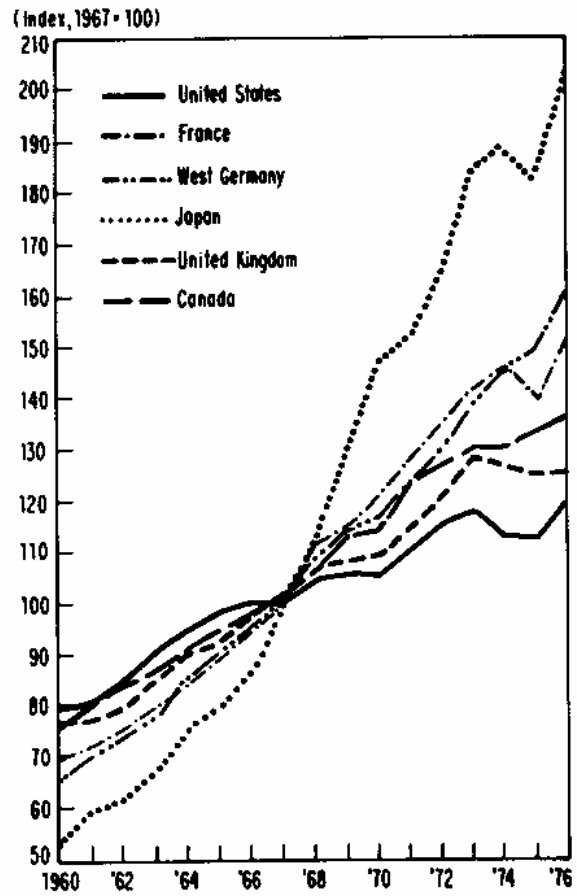


Source: Enders, Thomas O. Department of State Bulletin, Vol. 79, June 1979, p. 1.

Despite a less than desirable economic situation in Canada, the Canadian economy is in no worse shape than that of most OECD countries, and its real Gross Domestic Product, as well as its relative productivity in the manufacturing industries, are highly competitive with the other OECD countries. (see Figures 5 & 6)

Figure 5

Real Gross Domestic Product per employed civilian, for selected countries compared with the United States, 1960-76[1]



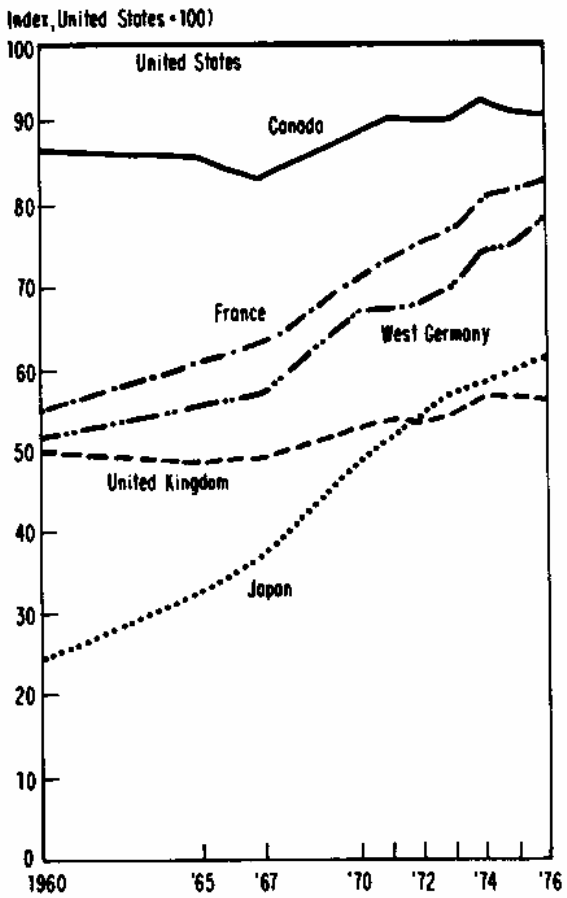
[1]Output based on international price weights to enable comparable cross-country comparisons.

NOTE: Estimates are shown for 1976.

Source: Science Indicators 1976. National Science Board, 1977, p. 34.

Figure 6

Relative productivity[1] in manufacturing industries by selected countries, 1960-76



[1]Output per man-hour.

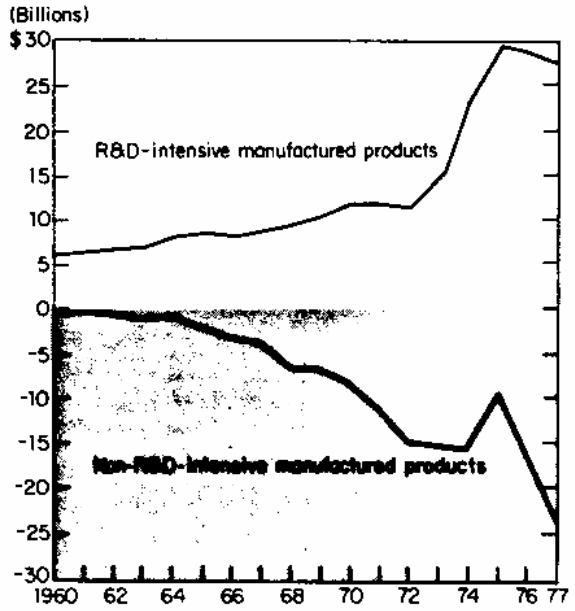
NOTE: Estimates are shown for 1976.

Source: Science Indicators, p. 35.

Its trade balance for R & D intensive manufactured products with the U.S. was much closer to equilibrium than that of Western Europe or the developing nations.* (see Figure 7)

Figure 7

U.S. trade balance[1] in R&D-intensive and non-R&D-intensive manufactured product groups, 1960-77



[1]Exports less imports.

Source: Science Indicators, 1978, p. 31.

More specifically, the Balance of Trade between the U.S. and Canada in two SIC categories, SIC 3661, Telephone and Telegraph, and SIC 3574, Electronic Computers and Parts, is shown in the next table.

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* For this purpose, R & D intensive manufactured products included non-electrical machinery, aircraft and parts, chemicals, electrical machinery, and professional and scientific instruments.

TABLE 3

U.S. Trade with Canada in
Telephone & Telegraph, and Electronic Computers & Parts
1977 and 1978[3]
(in $ million)

	1977		1978	
	Exports	Imports	Exports	Imports
Telephone & Telegraph SIC 3661	68	53	67*	70*
Electronic Computers & Parts SIC 3574	475	n.a.	525	156

* based on projections of 10 months

n.a. - not available

The Canadian electronics manufacturing industry comprises 712 firms employing nearly 90,000 people and had total shipments in 1975 worth $2.59 billion. The average size of these firms is very small by world standards, and only 29 had sales in excess of $25 million a year. The largest, Northern Telecom, employing 19,000 people and having annual sales of nearly $1 billion, is exceeded in size by at least 30 electronics manufacturing firms in other countries.[4]

Except for Northern Telecom, which is owned and managed by Canadians, the Canadian electronics manufacturing industry is dominated by foreign interests. Of the 100 largest firms, 72 are foreign-

owned. Altogether, there are more than 140 foreign-owned firms, accounting for total sales of about $1.4 billion.(5)

The electronics manufacturing industry is the largest industrial employer of technical and scientific manpower in Canada. It is also responsible for about 25 percent of all Canadian industrial spending on R & D. Expenditures on R & D in the electronics industry average between four and five percent of sales, as compared to about one percent for other Canadian industries. Bell Northern Research has the largest industrial research establishment in Canada, employing more than 1,400 scientific and technical staff members, and spending more than $80 million a year.(6)

Canada's negative trade balance in this sector as a whole had increased to $1.267 billion by 1977, and was believed to be approaching $2 billion in 1978. The breakdown by subsectors was:(7)

Computers and office equipment	-$405 million
Consumer products (TV and radio sets, hi fi equipment, etc.)	-$353 million
Components (components for all other sectors)	-$289 million
Control and instrumentation	-$216 million
Telecommunications	-$ 6 million
Other communications	+$ 3 million

It is widely believed in Canada that the manufacture of many kinds of electronic equipment is an impossible task because of foreign competition. But while the manufacture, for instance, of

large computers perhaps cannot be supported, that of minicomputers is well within Canada's capabilities.(8) There are other peripheral areas within the computer hardware subsectors which are being successfully exploited by Canadian firms. It is believed that there are opportunities for improvement as well in the subsectors of control and instrumentation, telecommunications, and the category called Other Communications.(9)

In the software field, on the other hand, the Canadian performance, already successful in some areas, has an excellent potential. And there is a good domestic market. It is thought that the software market in Alberta alone could be $10 to $20 million per year, and that the total potential market in Canada will be well over $100 million by 1980.(10)

Several software firms believe, however, that exports are the key for a "booming" software industry, for to be cost effective in Canada, Canadian designed packages must be successfully marketed abroad as well as at home. This requires capital investment, and many members of the software industry are critical of the Canadian government's apparent lack of interest in or knowledge of the industry. One such industry spokesman says:(11)

> Government inability to understand what software is, has resulted in an eagerness on the part of the various lending and granting agencies to sink money into any hardware venture, and a total reluctance to support software ventures.

This is quite ironic in the face of massive Canadian government rhetoric on the importance of communications and information resources!

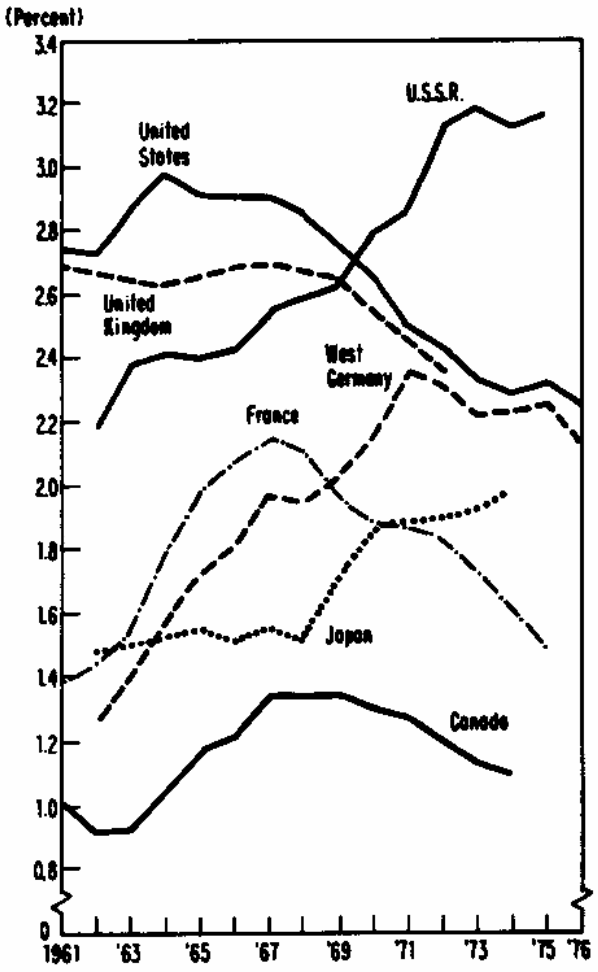
Another Canadian software spokesman believes that Canadians are in a prime position[12]

> ...with a wealth of good talent and favorable exchange rate for exporting software South... If the potential for exporting software is realized, the usage of Canadian-developed packages outside Canada could well exceed the use of software packages in Canada.

In the previous paper on Canada,[13] a significant deficiency in the R & D by the industrial sector of that country, both as a source of funds and as an R & D performer was found. Canadian industry provides only about one-third of R & D expenditures and performs only about 40 percent of R & D, as compared to 40 to 50 percent and 50 to 65 percent respectively in other industrialized nations. The relative expenditures by Canada for R & D as a percentage of the Gross National Product, and the number of scientists and engineers it engages in R & D per 100,000 population, as compared to other OECD countries, are illustrated on the following charts.

Figure 8

National Expenditures for performance of R&D[1] as a percent of Gross National Product (GNP) by country, 1961-76



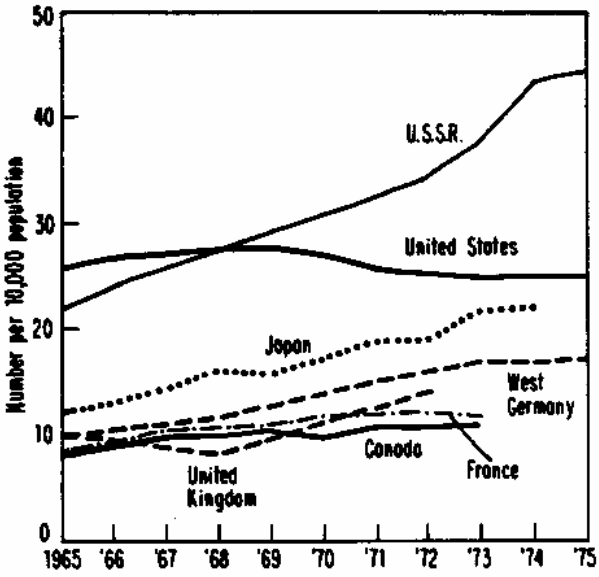
[1]Gross expenditures for performance of R&D including associated capital expenditures (except for the United States and the U.S.S.R. where total capital expenditures are not available).

NOTE: Estimates are shown for 1974, 1975 and 1976. United Kingdom figures for 1968-69 are shown as 1968, 1969-70 as 1969, and 1972-73 as 1972.

Source: Science Indicators, p. 5.

Figure 9

Scientists and engineers[1] engaged in R&D per 10,000 population by country, 1965-75



[1]Includes all scientists and engineers on a full-time equivalent basis (except Japan whose data include persons primarily employed in R&D and the United Kingdom whose data include only the government and industry sectors).

NOTE: Estimates are shown for 1974 and 1975.

Source: Science Indicators, p. 7.

The Canadian government realizes that it needs to support R & D for its high technology industry. On April 17, 1979, the Federal Minister of Supply Services and also the Minister of Communications announced the formation of a product development fund of $115 million over a three-year period which would assist companies to make products not currently manufactured in Canada. In addition, a national development policy for the electronics industry was outlined in which $50 million would be made available to help firms carry out large projects and to encourage the development of microelectronics technology. Yet another $20 million would be spent to strengthen Canada's communications satellite industry.(14)

The $50 million in assistance to the electronics firms would be used first to expand the Department of Industry and Trade and Commerce's Enterprise Development Program, to help electronics firms increase production and to increase R & D, and to assist projects which would otherwise not be undertaken in Canada. And secondly, it would be used to encourage increased use and production of microelectronic devices (integrated circuits) in Canada.(15)

It has also been found that the Canadian government is trying to "persuade" U.S. businesses operating in Canada to do more R & D in Canada rather than in the U.S. home-based industry. The Canadians use the Autopact as an example, saying that in 1978, the big four auto companies had R & D expenditures of $3.5 billion in the U.S. and only $350 million in Canada.(16) U.S. business often feels that it can accomplish its R & D more economically or more efficiently

at home. Business feels that the burden should be on the Canadian government to alter its business climate to make doing R & D in Canada sufficiently attractive both to its domestic and to the foreign-owned businesses. The U.S. government takes the view that it owes no other nation U.S. R & D.(17)

Besides unhappiness over the level of R & D performed by U.S. subsidiaries in Canada, Canadian government officials and some nationalists are disturbed about the heavy foreign (U.S.) ownership within the electronic industry.(18) It might, therefore, be useful to briefly review Canada's economic history as it pertains to its "branch" economy.

First of all, is foreign investment in Canada especially high? The following relative per capita figures tend to say no.

Switzerland, in 1971, for instance, had over $1000 foreign direct investment per capita, more by far than any other country at that time. Sweden was then second with $425, slightly ahead of the United Kingdom with $422 and the U.S. with $415. Canada, the Netherlands, and Belgium each had around $300, then France had $186, Germany $119, and Italy and Japan around $50 each.(19)

In 1977, the net book value of U.S. direct investment in Canada was approximately $38 billion (Canadian), a 12 percent increase over the 1976 level. This represented about 25 percent of total U.S. direct investment abroad, and over one-third of U.S. direct investments in OECD industrialized countries. This investment in Canada is more than the U.S. had invested in any other single country. Canada is, in turn, the second largest direct investor in the U.S. ranking only

after the U.K.[20]

American business investment strategy in Canada has been historically based on the fact that the Canadian tariff policy encouraged investment:[21]

> There can be no question that in planning its tariff policy, Canada has, throughout at least the past 35 years, been perfectly aware of a relation between a branch plant movement and tariffs.... In 1931, the Financial Post could without exaggeration print an article headlined, "Claim Tariff Brings Canada Ninety New Plants; Government Points with Pride to Long List." Whatever may be the effects of tariffs on branch plant development, recent Canadian governments have been convinced both that the relation is close and direct, and that the more branch plants, the better.

Thus, American investment in Canadian industry, far from being an unintended side effect of Canadian tariff policy, has developed out of a conscious and deliberate Canadian objective, with supporters of this high tariff policy including not just the Canadian government, anxious to promote employment of Canadian workers, but established American subsidiaries as well.[22]

This branch economy problem is the problem of the multinational corporation in a generic sense. This branch economy status, however, brings not only problems to Canada, but also the benefits of invisible technology inflows from the United States which are estimated at $600 to $700 million annually. In 1976, this amounted to $87.5 million in the electronics products field alone, more than matching Canada's $85 million devoted to research in that area.[23]

The Canadian government reacts to this by saying the equivalent of, well, yes, there are some benefits, but that often they do not

relate to an exportable product for Canada, that this leaves Canada vulnerable to foreign decision making, and that it limits Canada's ability to offer adequate employment opportunities to its highly qualified scientists and engineers, technicians and technologists. Most of all, it does not give Canada a chance to stay on top of the very latest discoveries and processes. And that is where Canadian industry is hurting most.(24)

The Science Council of Canada, always concerned with Canada's technological sovereignty, innovation, and industrial health, sums up the business climate in Canada as follows:(25)

> The elements of this climate seem to include too much government control, regulation and interference in private enterprise in general; profit controls imposed by the Anti-Inflation Board; high taxes; uncertainty about the strength of nationalist sentiments and its possible policy implications with fears aroused by the actions of the Saskatchewan government relative to the potash mining industry, by the Federal government with its Foreign Investment Review Act, a legislation directed at foreign magazines, etc.; the increasing costs and lagging productivity of labor, and possible escalating demands on the part of organized Canadian labor; the election of the Partie Quebecois in Quebec....
>
> Together, these elements, and especially the business community's interpretation of them, are creating a significant investment hesitancy, a condition that exacerbates an already serious situation.

Many Canadian and U.S. observers would agree with this assessment. Except for the details, the assessment is equally applicable to the U.S., where productivity in the private business sector, according to a just-released Congressional Joint Economic Committee report (August 1979), has decreased by an annual rate of 3.3 percent in 1979 as extrapolated from the first half year performance. (In

the second quarter, productivity fell at an annual rate of 5.7 percent, the largest quarterly decline ever recorded in this series of statistics, started in 1947.)[26]

While Canada experiences bouts of pessimism and frustration, and examines its competitive, economic, R & D, and innovative strengths and weaknesses, it forges ahead in the crucial high technology communications and information field. It experiments with large scale demonstration projects in optical fiber communications, two-way TV (Telidon), and domestic DBS. It is in the forefront of commercial digital switching systems, and Northern Telecom Ltd. is becoming a formidable competitor to Western Electric and others in the United States. As Douglas Parkhill, Assistant Deputy Minister of the Department of Communications, sees it:[27]

> The core of DOC's interest is the movement of Canada and the world into an information society. Our responsibility is to develop programs and policies to ensure that Canada derives maximum benefit from this movement.

And he goes on:

> What Canada needs is a national program to establish goals and coordinate policies so that the private sector, the federal and provincial governments work together for the common good. Other countries -- Japan, France, Sweden, Germany -- have been functioning that way for years.

PART III

POSSIBILITIES FOR U.S. POLICY OPTIONS

In this paper, and the previous one,[1] it has been demonstrated that Canada perceives communications and information resources as an integrated whole and as an integral part of its domestic policy. It has been pointed out that the U.S., unlike Canada and the rest of the industrialized world, has tended to see these communications and information resources problems as being of an isolated technical nature, rather than as political events.

While there are a number of presently outstanding difficulties in the communications and information area between the U.S. and Canada, the overall relationship between the two countries is intertwined and of an excellent quality. Thus the shocks of these difficulties can be quite well absorbed.

This paper has been an interim step between an investigation of the communications and information problems of Canada specifically and those of the world as a whole. An examination of some separate areas of U.S.-Canadian communications and information relationships has shown that while they may differ in specifics, none is in any way unique to the relationships between these two countries alone. Even the seemingly exceptional situation of the imposition of too much U.S. content on Canada's society through the print media, films, and broadcasting, has its worldwide counterpart. It mirrors the fears, if not yet the actualities, of other countries concerning

what they perceive as cultural damage from outside influences. These fears are largely fears of the unknown -- fears of the results of technological change, and especially of the rapid dissemination of information.

An interesting point for the U.S. in the consideration of future policy is that the sentiments voiced by Canadian forces are not confined to Canada. The polite complaints by Canada regarding cultural content, transborder data flow, broadcasting, space allocation, branch economy problems, and so on, are increasingly being voiced in shriller terms by more and more nations around the world. This is easily witnessed in the context of the UNESCO Mass Media Resolution, in the debates on the New International Information Order, on direct broadcasting TV and other issues.

Because of its unique relationship in general with Canada, the U.S. has the option of continuing to look at such problems on a piecemeal basis, and this has certain advantages. Individual problems can be kept at a low level, and respectability need not be given to what many Americans perceive to be restrictive trade questions.

But whether the U.S. retains the option to continue to do this on a worldwide basis is less than clear. Technically, it is becoming more and more difficult to separate out single issues as their contexts become increasingly complicated. Canada certainly looks at these issues in an integrated fashion, and other nations are more and more following this trend.

Might it not, then, be in the U.S. interest to give U.S. recognition to the broader political problems which have been raised and which threaten to be raised by progress in the area of communications and information resources? Might it not be in the U.S. interest to openly acknowledge the perceived threats felt by other countries of detrimental U.S. dominance in these areas and to set about seeing what to do about them?

Such a recognition within the U.S.-Canadian relationship could present an opportunity to test the waters with a major friendly power of how these issues can best be handled. It could just give the U.S. the opportunity to devise a workable international Information Policy before this strategic situation is pre-empted. For, as President Carter's national security advisor Zbigniew Brzezinski has said in a recent statement:(2)

> "...The world is becoming even more closely linked by international communications. We must devote greater attention to opportunities, strains -- and even conflicts -- which inevitably will arise in the information aspect of our relations.
>
> Clearly, too, they assume a political dimension. In short, we must elevate the importance of information issues in each of our foreign policy agendas; we must recognize that like trade, agriculture, energy, and other major international issues, information should be recognized as a paramount component of national and international ties." (emphasis added)

- *NOTES* -

Introduction

(1) U.S. Congress. Senate, Committee on Foreign Relations, Subcommittee on International Operations, Hearings on International Communications and Information, June 8, 9, and 10, 1977.

(2) Ganley, Oswald H. The Role of Communications and Information Resources in Canada, Program on Information Resources Policy, Harvard University, Publication P-79-1, June 1979.

(3) Ibid.

(4) Ganley, Oswald H. "Current Problems of Science & Technology Affecting U.S.-European Relations," Current Foreign Affairs, Washington, D.C., Spring 1968; Servan-Schreiber, J.J. The American Challenge, Atheneum, N.Y., 1968.

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(1) U.S. Congress. Senate, Committee on Foreign Relations and Committee on Foreign Affairs. Reports submitted to Congress Pursuant to the Foreign Relations Authorization Act, Fiscal Year 1969 (PL 95-426), Section 601-International communications policy, July 1979, pp. 79-95.

(2) Farnsworth, Clyde H. "Lag in Productivity Called Major Peril to Living Standard," The New York Times, August 13, 1979.

(3) Farnsworth, Clyde H. "U.S. Deficit in Trade Widened," The New York Times, June 28, 1979; and "U.S. Trade Deficit Narrows," The New York Times, December 29, 1979.

(4) Lecht, Charles P. The Waves of Change, Advanced Computer Techniques Corp., N.Y., 1977.

(5) Distributed Processing Newsletter, "Satellite Business Systems," January 1978.

(6) As quoted in: Pool, Ithiel de Sola and Solomon, Richard J. Transborder Data Flows: Requirements for International Co-operation, Research Program on Communications Policy, Massachusetts Institute of Technology, Cambridge, MA, July 1978, Figure 4, p. 19.

The Canadian View of Communications and Information Resources

(1) Ganley. The Role of Communications and Information Resources in Canada.

United States Stakes in Canada

(1) Enders, Thomas O. "The United States and Canada: Comparisons and Interrelations," Department of State Bulletin, Washington, D.C., June 1979, p. 1.

(2) Ganley. The Role of Communications and Information Resources in Canada.

(3) AT & T. Personal communication.

(4) Canada, Consultative Committee on the Implications of Telecommunications for Canadian Sovereignty. Telecommunications and Canada (Clyne Report), Ottawa, March 1979.

In November 1978, in an apparent effort to strengthen the hand of the Department of Communications and the Federal cabinet over the Canadian Radio Television and Telecommunications Commission (CRTC) prior to the inevitable Spring 1979 elections, and to lay the base for future policy debate in the field of telecommunications and information, the then Canadian Minister of Communications, Madame Jeanne Sauve, established an independent study group called the Consultative Committee on the Implications of Telecommunications for Canadian Sovereignty. This group, headed by the Honorable J.S. Clyne, reported its findings (the so-called Clyne Report) in April 1979.

There were mixed reactions to the Report, regarded by some as no more than a last-ditch act by a losing Administration, and by others, including many Americans, as a serious attempt to find real answers to real questions. One of the least sympathetic comments came in a Toronto Globe and Mail editorial before the elections:

> What we need is a political party that will promise as its first official act to put the Clyne Committee Report through a shredder.

What the new Canadian incumbents will actually do with the Clyne Report remains to be seen. But the kinds of issues raised by this Committee have an importance far beyond the U.S.-Canadian context.

The Clyne Committee examined the whole range of issues--mainly but not exclusively as they bear on Canada--which have been brought

about by new communications and information techniques and technologies worldwide. The new porosity of borders, the handling of information in free democratic societies, the changed conditions for employment, the shifts in the general economic pattern, the need for and difficulties in communications to remote places, and the problems and possibilities for independent cultural development were pondered and solutions -- including some solutions with which the investigator would disagree--proposed.

So, while the Clyne Report reflects one aspect of one nation's struggle with these issues, and will be considered in this narrow way from time to time as individual U.S.-Canadian problems are discussed in this paper, it is at the same time the best statement yet available of the problems which actually face or will face each world nation in the near future. Even proposed solutions with which one may disagree make informative reading, since similar unwise recommendations are cropping up all over (not least within the United States) as nations strive to cope with lightening fast changes largely within the framework of old institutions and ideas.

(5) American Embassy, Ottawa. "Clyne Report on Telecommunications," Airgram, A-81, April 25, 1979.

(6) Canada. Clyne Report, p. 73.

(7) Nora, Simon and Minc, Alain. Report on the Computerization of Society, French Government Printing Office, Paris, France, 1978.

(8) The Organization for Economic Cooperation and Development Guidelines on Transborder Data Flow (TBDF) are expected to be approved by OECD ministers in the Spring of 1980. The Guidelines are a voluntary statement of principles to govern the flow of personal data to safeguard the privacy of individuals. (OECD DSTI/ICCP/79.40 2nd Revision, Paris 12th December, 1979.)

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(1) Smith, Richard J. The Canadian Connection - Our Most Important Foreign Affair, an address to the Association for Canadian Studies in the U.S., September 29, 1979; Keohane, Robert E., and Nye, Joseph S. Power and Interdependence, Little Brown & Co., Boston, MA, 1977.

(2) Ibid.

(3) Malcolm, Andrew H. "Along Canadian Border, Almost a Third Country," The New York Times, May 17, 1979.

(4) Canada, Ministry of External Affairs. "Current Issues in Canadian Foreign Policy," Statements and Speeches 79/5, Statement by the Secretary of State for External Affairs, Ottawa, March 8, 1979.

(5) Malcolm, A.H. "Along Canadian Border, "The New York Times, May 17, 1979.

(6) Vance, Cyrus. State Dinner, Ottawa, November 21, 1978; U.S. Department of State Telegram, November 22, 1978.

Computer Communications (Compunications) and the Problem of Transborder Data Flow

(1) Ganley. The Role of Communications.

(2) Adaption from: Canada, Computer/Communications Secretariat, The Growth of Computer/Communications in Canada (Revised draft), Ottawa, March 1978. These figures include purchased computing service (15%), in-house personnel (45%), in-house c/c equipment (21.5%), other costs (14.5%), and data transmission (4%). The percentages are for 1975.

(3) Ganley. The Role of Communications; Longhurst, Patrick W. "Canadian dp Salaries Rate of Increase is Higher Than U.S.," Computer Data, October 1979, p. 47.

(4) Doyle, Stephen. Personal communication.

(5) Ganley. The Role of Communications.

(6) TDF News, Vol, 2, No. 5, May 1979, pp. 1-4.

(7) Canada. Clyne Report, p. 65.

(8) Ganley. The Role of Communications.

(9) Ibid.

(10) Personal communications from U.S. business and government. See also Computer Data, October 1979, p. 57.

(11) Eger, John M. "Emerging Restrictions on Transnational Data Flows: Privacy Protection or Non Tariff Trade Barriers," Georgetown Journal of Law and Policy in International Business, Vol. 10, 1979, p. 1055; Ganley. Transborder Data Flow--Some Problems of Privacy vs. Freedom of Information and Economic Issues, Remarks to CBEMA, March 20, 1978.

(12) Distributed Processing Newsletter, January 1978.

(13) TDF News, Vol. 2, No. 8, August 1979.

The Publishing Industry

(1) Ganley. The Role of Communications.

(2) Ibid.

(3) Peagam, Norman. "Small is Beautiful: How Time Magazine Gets by in Canada," The Wall Street Journal, August 9, 1979.

(4) Personal communications.

(5) Ibid.

(6) Ibid.

(7) Ibid.

(8) Ibid.

(9) Murray, Janice L. (ed.) Canadian Cultural Nationalism, New York University Press, New York, 1977, p. 10.

(10) Ibid., p. 58.

(11) Frase, Robert W. Personal communications; "Rash of Acquisitions May Hit Book Publishers with Expiration of Copyright Law Provision," The Wall Street Journal, August 8, 1979.

(12) Compaine, Benjamin. Personal communication; e.g. Simon & Schuster's Canadian subsidiary had to be sold off to General Publishing when Simon & Schuster was acquired by Gulf & Western in 1975.

(13) A synthesis of views from U.S. and Canadian publishing and literary sources.

(14) The Canadian Institute of International Affairs and the Council on Foreign Relations; The Fourth Lester B. Pearson Conference on the Canada-U.S. Relationship, 1977.

(15) Austin, Jack. Address to the Bicentennial Conference on Revolution and Evolution, Duke University Program on Canadian Studies, Chapel Hill, North Carolina, October 1976.

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(17) English, Edward H. (ed.) "Perspectives on the Canada-United States Relationship," Journal of the Academy of Political Science, Vol. 32, 1976, pp. 1-177.

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(1) Ganley. The Role of Communications.

(2) Doyle, Stephen. Personal communication.

(3) Ganley. The Role of Communications; Malcolm, Andrew H. "U.S. and Canada Collide on Tax Issues," The New York Times, September 25, 1979.

(4) Personal communications, U.S. and Canadian officials.

(5) Canada. Clyne Report, p. 42.

(6) Canada. The House of Commons, Bill C-58 An Act to Amend the Income Tax Act, 1975.

(7) Ibid.

(8) Ganley. The Role of Communications. Although the issue is called non-negotiable by Canadian government officials a meeting on this subject did take place between U.S. and Canadian government officials on August 15, 1979.

(9) U.S. Office of the Special Representative for Trade Negotiations, Docket No. 301-15, Complaint under Section 301 of the Trade Act of 1974, KVOS Television Corp., et al., Nov. 22, 1978, Appendix V, pp. 1, 3, and Appendix VI, p. 1.

(10) Towe, Peter M. Aspects of Interdependence in Current Canada/U.S. Relations, address, Tallahassee, Florida, January 30, 1979.

(11) Ibid.

(12) Ibid.

(13) Ibid.; Towe, Peter M. The Canadian Cultural Identity, address to the Birmingham Committee on Foreign Relations, Birmingham, Alabama, April 6, 1979.

(14) Austin, Jack. Revolution & Evolution, 1976.

(15) U.S. Office of the Special Representative for Trade Negotiations. Complaint.

(16) Ibid. U.S. Office of the Special Representative for Trade Negotiations. Statement by Bart S. Fisher, November 29, 1978.

(17) Ibid. Automotive Products Trade Act of 1965. Authorized U.S. participation in the U.S.-Canada auto agreement. (PL 89-283, October 21, 1965) The agreement provides for "limited" free trade between the U.S. and Canada in automotive vehicles and original equipment

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(18) Ibid.

(19) U.S. Office of the Special Representative for Trade Negotiations, Statement by Jerry S. Grafstein, In reply to a Complaint, November 24, 1978; Bart Fisher. Personal communication; STR has written the Canadian government in the summer of 1979 that it has decided to proceed with the case on its merits, in other words it has assumed jurisdiction.

(20) Ibid.

(21) Canada. Clyne Report, p. 37 ff.

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(23) Banker, Stephen. "For Cable TV, It's a One-way Border," TV Guide, Jan. 12, 1980, p. 31.

Use of Land Mobile Radio in the 470 to 512 and 806 to 947 MHZ Bands Along the U.S. - Canadian Border

(1) This section is based on interviews with a number of FCC and Canadian officials.

(2) Canada, Radio-television and Telecommunications Commission. UHF Broadcasting Spectrum Requirements for Canada: A Long-Range Forecast, Ottawa, Canada, 1977.

(3) Ibid.

(4) Personal communications.

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(1) Baer, Walter S. "Telecommunications Technology in the 1980s," Communications for Tomorrow, Glen O. Robinson (ed.), Praeger Publishers, New York, 1978, pp. 61-123.

(2) Ganley. The Role of Communications.

(3) Canada. Clyne Report, p. 34.

(4) Ganley. The Role of Communications.

(5) Singh, Indu B. and McDaniel, Drew O. "The Politics of Canadian Space Programs," Canadian Journal of Communications, 1978, p. 20.

(6) Distributed Processing Newsletter.

(7) Ibid.

(8) Golden, D.A. Canada in Space - What Now?, Telesat paper 106-(79), 1979.

(9) Ibid. Smart, F.H. Telesat Canada, A Technical Overview, Presented at Micro-Sat TVRO Seminar, Toronto, May 1, 1979.

(10) Canada Weekly, Vol. 7, No. 1, January 3, 1979; Malcolm, Andrew H. "Canada Tests Direct TV Service by a Satellite to Remote Regions," The New York Times, October 1, 1979.

(11) Ganley. The Role of Communications.

(12) McMahon, A.M. Personal communication. AT & T officials expressed similar concerns.

(13) Ibid.

(14) Ibid.

(15) Ibid.

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(17) Canadian Communications Reports, 1979.

(18) Canada. Clyne Report.

(19) Golden.

(20) Singh.

(21) Ibid.

(22) World Administrative Radio Conference, U.S. Department of State Special Report No. 57, Washington, D.C., 1979; U.S. Congress, Reports submitted pursuant to 1979 State Department Authorization Act, July 1979, p. 79.

(23) Canada Weekly, Vol. 7:3, June 13, 1979.

(24) Golden.

(25) Ibid.

(26) There are also strong differences of view regarding the U.S. proposal to split in Region 2 the 12.5-13.25 GHz band between fixed satellite and broadcast satellite services, contrasted with the current allocation wherein this band is shared by fixed and broadcast services. Canada opposes the U.S. plan because of a planned broadband long terrestial digital system above 12.2 GHz. Severe sharing problems could result. John Clippinger, Personal communication; Telecommunications Report 45:28, 1979.

(27) Bond, Stephen R. Statement as U.S. Representative to the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space, Press Release USUN-27-(79), March 14, 1979; UN General Assembly A/AC 105-240, April 10, 1979, p. 6.

(28) UN General Assembly Resolution 2916 (XXVII, 1972).

(28)a Pool, Ithiel de Sola. "Direct Broadcast Satellites and the Integrity of National Cultures," Kaarle Noordenstreng and Herbert I. Schiller (eds.), National Sovereignty and International Communications, Ablex Publishing Co., Norwood, New Jersey, 1979; U.S. Congress. Reports to the Congress pursuant to State Department Authorization Act, July 1979, p. 89.

(29) United Nations. Canada and Sweden: working paper, A/AC·105/C·2/L117 of February 1979.

The key paragraphs of the Canadian/Swedish compromise are:

1. A direct television broadcasting service by means of artificial earth satellites specifically directed at a foreign state, which shall be established only when it is not inconsistent with the provisions of the relevant instruments of the International Telecommunication Union, shall be based on appropriate agreements and/or arrangements between the broadcasting and receiving States or the broadcasting entities duly authorized by the respective States, in order to facilitate the freer and wider dissemination of information of all kinds and to encourage co-operation in the field of information and the exchange of information with other countries.

2. For that purpose a State which proposes to establish or authorize the establishment of a direct television broadcasting service by means of artificial earth satellites specifically directed at a foreign State shall without delay notify that State of such intention and shall promptly enter into consultations with that State if the latter so requests.

3. No such agreements and/or arrangements shall be required with respect to the overspill of radiation of the satellite signal within the limits established under the relevant instruments of the International Telecommunication Union.

The U.S. response is quoted below:

United States of America: working paper
(A/AC·105/C·2/L·118 of 22 March 1979)

Replace the present paragraphs 1 and 2 of the principle now entitled "Consultation and agreements between States" with the following:

"A State which proposes to establish or authorize the establishment of an international direct television broadcasting service by means of artificial earth satellites specifically aimed at a foreign State should, without delay, notify that State of such intention and should promptly enter into consultations with that State if the latter so requests. The State which proposes to establish or authorize such a service should take into account and give due regard to the proposed service, as set forth in such consultations. Any such consultations should also be premised upon facilitating a free flow and a wider dissemination of information of all kinds and encouraging co-operation in the field of information and the exchange of information with other countries."

In other words, the U.S. is willing to "consult;" the Canadian/Swedish resolution calls for "appropriate agreements and/or arrangements" between the broadcasting and receiving states.

Elaboration of Draft Principles Governing the Use by States of Artificial Earth Satellites for Direct Television Broadcasting Canada/Sweden: working paper (A/AC·105/C·2·L·117 of 15 February 1979).

(30) Personal communication. This statement is a composite of several opinions expressed by Canadians, made up by the author.

(31) Personal communication.

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(1) Canada, Ministry of External Affairs. Speech by the Secretary of External Affairs, March 2, 1978.

(2) The Wall Street Journal, August 7, 1979.

(3) Solomon, William. Personal communication.

(4) Canada. Clyne Report, p. 67.

(5) Ibid.

(6) Ibid.

(7) Ibid.

(8) Ibid.; Computer Data, Vol. 4, No. 10, "Revenues of Industry Leaders Pass the $2 Billion Mark," September 1979, p. 33.

(9) Ibid.

(10) LaPrairie, Jean. "Industry Looks to the 1980s as the Golden Age of Software," Computer Data, March 1979, p. 29.

(11) Ibid.

(12) Ibid.; Fierheller, George A. "Vigorous Decade Forecast for Canadian Computer Services," Computer Data, May 1979, p. 29.

(13) Ganley. The Role of Communications; Canada, Ministry of State for Science and Technology. Federal Science Activities 1979-80, Ottawa, Ontario, 1979.

(14) Ibid.; Giniger, Henry. "Canada Plans Subsidies to Spur Technology," The New York Times, April 18, 1979; Computer World, "Canada Warned on Need to Spend More on R&D," September 24, 1979.

(15) Ibid.

(16) Canada, The Standing Senate Committee on Foreign Affairs. Canada - United States Relations: Volume II, Canada's Trade Relations with the United States, Ottawa, Ontario, 1978.

(17) Composite view of executives of several firms and government officials in both countries.

(18) Ganley. The Role of Communications.

(19) Bergsten, Fred C., Horst, Thomas and Moran, Theodore H. American Multinationals and American Interests, The Brookings Institution, Washington, D.C., 1978, p. 33.

(20) Ganley. The Role of Communications.

(21) Bergsten, p. 49.

(22) Ibid.

(23) Ganley. The Role of Communications.

(24) Ibid.

(25) Science Council of Canada. Annual Report 1976-77, Ottawa, Ontario, 1977, p. 31.

(26) Farnsworth, Clyde H. "Lag in Productivity Called Major Peril to Living Standard," The New York Times, August 13, 1979.

(27) Parkhill, Douglas F. "Canadian Research Wins International Recognition," Computer Data, July 1979, p. 18; Schuyten, Peter J. "Technology, Turning TV Sets Into a Computer," The New York Times, June 28, 1979.

Possibilities for U.S. Policy Options

(1) Ganley. The Role of Communications.

(2) Brezezinski, Zbigniew. A Statement for French Conference on Informatique et Societé, Sept. 18, 1979; see also Reinhardt, John E. The Free Flow of Information: Problems and Prospects, address at Harvard University, April 2, 1979; Reinhardt, John E. Towards an Acceptable Concept of the New World Information Order, address to U.S.-Japan Symposium, Fletcher School of Law & Diplomacy, October 11, 1979.

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