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TRANSBORDER DATA FLOW: AN OVERVIEW AND CRITIQUE OF RECENT CONCERNS

by I. TROTTER HARDY, JR.*

"Transborder data flow" ("TDF") is a recently coined term that refers to the transmission of data or information over national boundaries.¹ Transmission can be effected in a variety of ways, including the telephone and the mails, but recent concerns over TDF center on the newer, and typically public, media of radio, television, and computerized information. The broadcast media are of increasing concern because technological and economic developments now permit direct home reception of satellite transmissions. Although private homes equipped with dish-shaped antennas able to pick up international signals are much the exception today, the growth of such home antennas could easily pose serious problems for nations desiring to control the "importation" of foreign radio and television programs.²

The focus of this paper, however, is not on the broadcast media but rather is on the transmission of computerized information over international computer networks. The paper will present an overview of the technology involved, will indicate the type of information currently being transmitted internationally and will summarize and critique a number of concerns arising from this international trade in information.

THE TECHNOLOGY

Although lay persons often have no clear idea of the nature of "the transmission of computerized information,"³ the basis of that transmission is actually quite simple. Samuel F.B. Morse laid the foundation for the conversion of letters and digits into a pattern of dots and

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1. See generally McGuire, *The Information Age: An Introduction to Transborder Data Flow*, JURIMETRICS J., Fall 1979 at 1. "International information flow" is another term with the same meaning.

2. This possibility has provoked considerable international attention already. See Poulantzas, *Direct Satellite Telecommunications: State Sovereignty v. Freedom of Information*, 23 CHITTY'S L. J. 87 (1975).

3. The transmission of such information is frequently termed "digital" or "data" transmission as well; the latter term developed in connection with computer communication over telephone lines and is often contrasted with "voice communication," or ordinary human use of the telephone system.

dashes in 1838.⁴ Morse assigned a unique pattern to each letter of the alphabet, and transmitted messages by making a buzzing or clicking sound over a set of wires in accordance with the appropriate dot-dash pattern.⁵ Modern computers no longer use the Morse code, but they do use other codes that work in a directly analogous fashion: they rely on a unique pattern of electrical pulses, each one called a "bit," to encode each letter, digit and punctuation mark needed for transmission.

Because almost any type of information can be encoded as a pattern of bits and stored on a computer, computers are used to transmit every imaginable type of information, from federal reserve system bank balances and supermarket inventories to scientific abstracts and Supreme Court cases. These transmissions are carried over a variety of media: many go over the telephone network; others, and particularly transoceanic communications, go over satellite transmission facilities; and many go over both cable and satellite.⁶

BUSINESS-RELATED INFORMATION FLOW

A number of companies offer computer service over networks⁷ that extend across national boundaries. Among them are the General Electric Corporation, Computer Sciences Corporation, Control Data Corporation, and the Tymshare Corporation.⁸ These and other corporations often offer as a service their networks alone—the customer has his own computer and merely buys the communications service to connect to it.⁹ A great many multinational corporations routinely keep their headquarters apprised of foreign subsidiaries' activities by means of computer communications.

4. 12 *ENCYCLOPAEDIA BRITANNICA* 458 (1983) (entry for "Morse, Samuel F. B.").

5. For example, the message "hello" could be sent with the pattern: dot-dot-dot-dot [H], dot [E], dot-dash-dot-dot [L], dot-dash-dot-dot [L], dash-dash-dash [O].

6. Mead Data Central's LEXIS service, e.g., is sold in England over an undersea cable with a satellite link as a backup in case the cable communication fails. Personal conversation with Mr. Steve Bartron, Salesman, Mead Data Central Corp., Washington, D.C., (October 23, 1980) [hereinafter cited as "Bartron conversation"].

7. A computer network is typically just a collection of cables leased more-or-less permanently from a telephone company, perhaps coupled with bandwidth leased from a satellite-operating company.

8. See any recent major city "yellow pages" telephone directory under "Data Processing Services."

9. General Telephone and Electronics, Inc. (GTE) operates a subsidiary called Telenet, for example, that sells a network service to computer service bureaus and other computer users.

The Eaton Corporation, for example, uses a European network that ties England, Germany, Italy, France, and Monaco together. European information is funneled to England, where an overseas connection with a similar United States-wide network enables corporate data to flow to the States and back again.¹⁰ A vice president of the Continental Illinois National Bank and Trust Company of Chicago, Robert E.L. Walker, has stated that his bank's European branches daily transmit records of banking transactions to a company communications center in Brussels, Belgium. Once the information is verified for accuracy in Brussels, it is transmitted over a telephone cable to a computer center in Chicago, where the bank's records are processed and stored. Daily reports are in turn transmitted back over the same communications system to the European offices.¹¹

INFORMATION AS A COMMODITY

These crucial business transmissions are just one type of international information exchange; more and more, information *as a commodity* is being sold around the world, constituting an increasingly important component of world trade in its own right. A good example of information as a commodity is Mead Data Central's LEXIS/NEXIS service.

LEXIS is the legal research system that allows subscribers selectively to retrieve a variety of legal materials—principally cases and statutes—from a computer located in Miamisburg, Ohio.¹² Until recently, LEXIS was almost exclusively sold in the United States and therefore had little to do with international trade. In mid-1980, however, LEXIS made available to its customers a number of British legal materials, including case law, statutes, and certain tax materials.¹³ These libraries are available to American lawyers, but are marketed principally in England; lawyers there use the same computer in Ohio that other LEXIS users use.¹⁴ A form of LEXIS con-

10. Statement of Earl Kendle, Vice-President of Information Systems, Eaton Corporation, in 3 TRANSNATIONAL DATA REPORT, May 1980, at 14.

11. Statement of Robert E.L. Walker in 3 TRANSNATIONAL DATA REPORT, May 1980, at 15, 16.

12. Barton conversation, *supra* note 6.

13. LEXIS Brief/4, January 1980 at 1 ("Brief" is a newsletter put out by Mead Data Central for its LEXIS subscribers).

14. Barton conversation, *supra* note 6.

taining French law is also currently being sold to subscribers in France.¹⁵ These sales to England and France constitute a true international trade in information as a commodity.

Mead Data Central also offers a service called "NEXIS," which consists of a variety of news articles and general information stored with LEXIS on the same Ohio computer. Among other sources, the NEXIS system contains—in computerized form—the *Washington Post*, *Newsweek* magazine, the news stories from the Associated Press wire service,¹⁶ the British Broadcasting Corporation's *Summary of World Broadcasts*,¹⁷ much of the Japanese Kyodo English-Language News Service, and the Japanese Jiji Press English-language economics and general news publications.¹⁸ These foreign materials are updated daily; their sale over LEXIS/NEXIS terminals illustrates a purchase of "raw materials" (news service stories) in the international market, transportation of these materials over telecommunications lines to the United States for processing (loading into a computer), and their eventual resale in both the American and British markets.

Similar international trade in information is carried on by other companies. The Systems Development Corporation, for example, offers a computerized information service called "Orbit." Orbit contains abstracts of articles from a variety of scientific and other disciplines. The information is purchased from suppliers in the United States, Canada, and England and is sold over communications lines in London, Sydney, Tokyo, Paris, and a host of other cities in Canada, South America, and, of course, the United States.¹⁹

PROBLEMS IN THE INTERNATIONAL INFORMATION MARKET

The growing trade in information as a commodity, as well as the sharply increasing use of computerized information as a necessary by-product of multinational business and trade in tangible commodities and money, has not been free of problems. At least three concerns over the international information business have arisen since the early 1970s, at first chiefly in Europe, Canada, and Japan, but

15. *Id.*

16. LEXIS Brief/4, January 1980, at 1, Col. 2.

17. LEXIS Brief/5, May 1980, at 4, Col. 2.

18. LEXIS Brief/6, October 1980, at 3, Col. 2.

19. Interview with Ms. Chris Revelle, Systems Analyst with the Systems Development Corporation, in Washington, D.C. (Oct. 23, 1980).

lately in the less-developed countries as well: the erosion of national sovereignty, the loss of individuals' privacy, and the stifling of local information industries under the dominance of the United States. As we shall see, all three of these concerns have frequently given rise to nontariff barriers to information flow, barriers that reflect the inexhaustible ability of nations to devise protectionist measures when free trade appears to threaten national interests.

Loss of National Sovereignty. A fear that the export of information will result in an "erosion of . . . sovereignty and [will exacerbate] the already serious imbalance in the distribution of economic control" in Canada has been expressed by several Canadian government and academic leaders.²⁰ Examples of the perceived problem include the use of a computer in Atlanta, Georgia, to maintain accounts on oil company credit card holders nominally billed from offices in Montreal and Toronto.²¹

As a result, Canada and the Canadian provinces have enacted some one hundred statutes that prohibit the export of certain types of information, such as credit histories.²² Canadian worries over essential information being stored outside national borders have been forcefully expressed: extra-territorial storage "can result in a national self-perception of impotence, an inability to effect one's vital choices, and the effective erosion of one's political sovereignty."²³

A major Canadian study of Canadian information processing and telecommunications, typically referred to as the Clyne Report, defines national sovereignty as "the ability of Canadians . . . to exercise control over the direction of economic, social, cultural, and political change."²⁴ In an effort to regain the control "lost" to the

20. Gotlieb, Dalfen & Katz, *The Transborder Transfer of Information by Communications and Computer Systems: Issues and Approaches to Guiding Principles*, 68 AM. J. INT'L L. 227, 247 (1974). Messrs. Gotlieb and Katz, associated with the Canadian Office of Manpower and Immigration, and the Department of Communications, respectively, wrote in their personal capacities. Mr. Dalfen was associated with the University of Toronto law faculty.

21. *Id.* at 246.

22. Eger, *Emerging Restrictions on Transnational Data Flows: Privacy Protection or Non-Tariff Trade Barriers?*, 10 LAW & POL. INT'L BUS. 1055, 1079 (1978).

23. Gotlieb, *supra* note 20, at 247.

24. Consultative committee on the implications of telecommunications for Canadian Sovereignty, Canadian Dep't of Communications, Telecommunications and Canada (CLYNE REPORT)(1979) at 1, *quoted in* Eger, *The Global Phenomenon of Teleinformatics: An Introduction*, 14 CORNELL INT'L L. J. 203, 224 & n.111 (1981).

United States, Canada recently enacted statutes requiring that all data produced by Canadian banks be processed in Canada, unless special exemptions are obtained.²⁵ In practical terms, this requirement means that the banks must rely on computers located in Canada, not in the United States. It is not a requirement with trifling consequences: on the average, data processing in Canada is from twenty to twenty-five percent more expensive than it is in the United States.²⁶

The United States, of course, is still the repository of much of the world's computerized information simply because its computer technology is more advanced than the rest of the world's.²⁷ Loss of national sovereignty is therefore not a concern for Americans, but is it truly a realistic concern even for other industrialized nations like Canada?²⁸

Surely the Canadians are correct in fearing that inundation by American radio, television, news magazines, films and so on will likely cause a dilution and erosion of Canadian culture and perhaps national sovereignty, but one finds it hard to understand how sovereignty can be eroded by the *exportation* of information.²⁹ Unlike most raw materials, information is not an exhaustible commodity—it can be mined again and again from original sources, and it can even more readily be duplicated as needed. If it is true that “[t]he transfer of Canadian data to American data banks means that . . . Americans will have the means to make decisions about Canadi-

25. Banks and Banking Law Revision Act, 1980, Can. Stat. Ch. 40, §§ 157 (4), (5), and (6).

26. *Telecommunications and Information Products and Services in International Trade: Hearings Before the Subcomm. on Telecommunications, Consumer Protection, and Finance of the House Comm. on Energy and Commerce, 97th Cong., 1st Sess. 11 (1981)* (statement of Dr. Oswald H. Genley, Cambridge, Mass.) [hereinafter cited as *House Hearings*].

27. For example, the United States presently supplies over 70% of the world's computers, Ramsey, *Europe Responds to the Challenge of the New Information Technologies*, 14 CORNELL INT'L L. J. 237, 239 (1981), and features a telecommunications market of some \$18 to 20 billion per year (1980), nearly twice that of its nearest competitor, the combined nations of Europe, see *House Hearings, supra* note 26, at 104 (statement of John Sodolski, Vice-President, Electronic Industries Ass'n).

28. A justifiable pride in the sophistication of its communications industry makes this question particularly appropriate for Canada. See Gotlieb, *Some Social and Legal Implications of New Technology: The Impact of Communications and Computers*, 51 CAN. B. REV. 246, 246-47 (1973). For an example of just how sophisticated the Canadian communications industry is, see Madden, *Videotex in Canada*, 3 COMPUTER COMMUNICATIONS 58 (1980) (describing some advanced information services being readied for public sale).

29. See note 32 *infra*.

ans,"³⁰ then it would seem equally true that the United States' export of information to Canada—by radio, television, magazines, etc.—would give Canadians "the means to make decisions about" Americans. If it is also true that "to the extent [they] lack data about themselves . . . [Canadians] will be unable to make important decisions affecting their future,"³¹ then that truth is no more than a simple observation that has *always* held since long before the advent of computers and modern communications. If a nation's information for decision making is being sent abroad for use by foreign companies, it can hardly be deemed vital, or else it would already have been collected and used by the nation itself. Laws banning the outflow of information from a democratic country like Canada make less sense from the standpoint of the Canadian government's capacity for decision making than laws authorizing the government to collect its own data or to buy it from companies that do.³²

Nations less industrialized than Canada are also concerned about a loss of national sovereignty caused by a loss of control over information. For the third-world nations, national sovereignty is defined by one commentator as "a country's desire to control its own information resources and the advantages flowing therefrom."³³ Again, the concern is that "critical information . . . is being stored [abroad] especially in the United States."³⁴ Part of the concern is that information stored abroad may be vulnerable to technical malfunctions or even sabotage.³⁵ But part of the concern is also over loss of control over economic, social, and political decisions.³⁶

Loss of control over decisions seems, as in the case of Canada, an empty fear. How is it that a foreign country can make decisions about another country, except to the extent that one country, such as

30. Gotlieb, *supra* note 20, at 247.

31. *Id.*

32. Canadians do, to be sure, have genuine concerns over the "Americanization" of Canada, see, e.g., Cohen, *Canada and the United States—Possibilities for the Future*, 12 COLUM J. TRANSNATIONAL L. 196, 198-200 (1973), but this paper argues that an *outflow* of information is not properly a part of these concerns.

33. Bortnick, *International Information Flow: The Developing World Perspective*, 14 CORNELL INT'L L. J. 333, 338 (1981).

34. Hurtado, *Tug of War Over Computers, South: The Third World Magazine*, January 1982, at 28.

35. Bortnick, *supra* note 33, at 339. Though the concern is doubtless genuine, one wonders why computers in the United States should be thought to be more vulnerable than computers in a third-world nation.

36. Hurtado, *supra* note 34, at 28.

Brazil, is a debtor to foreign banks or other nations?³⁷ How would more control over its information resources have helped Brazil avoid the leverage over its internal affairs possessed by foreign creditors?

Indeed, Brazil is one of the less developed nations that has aggressively sought—and to a large extent achieved—a tight control over its information resources. In 1972 it centralized control over the purchase of computers by the national government.³⁸ Later, it extended control to computer purchases by private industry, and established a national information policy.³⁹ Today, Brazilians may not lawfully use computers located outside of Brazil if local Brazilian computers can accomplish the necessary processing.⁴⁰ To ensure that Brazilian computers are available, the country has been buying computer equipment at a prodigious rate, estimated as far back as 1975 to have been \$275 million a year.⁴¹

One of the things that the less developed countries may be unable to do with the computers and software they currently possess is process information about their own natural resources when that information is in the form of satellite photographs. These countries would like to have free access to this information, collected by other nations including the United States, insofar as it relates to them.⁴²

Though the problems of satellite data collection and transmission are outside the scope of this article, two reflections are worth noting quickly. First, the nation lacking access to information about its own natural resources may well be put in an inferior bargaining position in relation to, for example, United States companies who want to negotiate mining contracts.⁴³ Second, to the extent that an unequal bargaining position, caused by the parties' being unequally knowledgeable, reflects a "wrong" or remediable state of affairs, the natural resources problem seems to be the only identifiable problem to

37. See Bennett, *IMF Plans Pressure on Banks to Help Brazil*, N.Y. Times, Dec. 15, 1982, at D1, col. 1; *Who Will Pay for Brazil's Devaluation*, Bus. Wk., March 7, 1983, at 27-28. See also Diehl, *Internal Pressure Builds in Brazil For Large-Scale Debt Renegotiation*, Wash. Post, June 2, 1983, at D1, col. 1.

38. Bortnick, *supra* note 33, at 340-41.

39. *Id.*

40. *Id.*; Hurtado, *supra* note 34, at 29.

41. Bortnick, *supra* note 33, at 340. Brazil is not alone. In 1980, Korea contracted for electronic equipment in amounts that "may reach close to \$2 billion by the late 1980's." *House Hearings*, *supra* note 26, at 24 (statement of Jane Bortnick, Analyst in Information Science and Technology, Congressional Research Service, Library of Congress).

42. See Eger, *supra* note 24, at 232 & n.177.

43. See Bortnick, *supra* note 33, at 338 n.27.

have arisen to' date. No other concrete example of a loss of national sovereignty caused by a loss of control over information appears in the literature. One questions whether the natural resources example itself truly illustrates a problem either of national sovereignty or of a "loss of control" over anything once "in control."⁴⁴

Loss of Individual Control and Privacy. Another concern over transnational information flow is that individuals will lack the means of correcting erroneous information about themselves, if that information resides outside of their nation's jurisdiction.⁴⁵ Two simple remedies suggest themselves. First, a nation could easily require that information not be collected from its citizens without an express contractual agreement that the provider of the information have convenient access to, and an ability to correct, that information. Second, foreign entities collecting such information could be required to form local subsidiaries or affiliates, or to have local agents, that would be susceptible to the nation's jurisdiction. If necessary, bond could be posted. These types of remedies would be more sensible than, for example, the apparent pressure exerted on United States companies to keep data in Canada.⁴⁶

In fact, the Scandinavian countries have moved to ensure the protection of their citizens' privacy by more than mere pressure. Before anyone can send personal information out of Sweden, for example, he must first receive the approval of the Swedish Data Inspectorate.⁴⁷ Approval is not automatic. On one occasion the Inspectorate refused to allow the German firm, Siemens, to transmit personnel records from one of its Swedish subsidiaries to a computer in Germany.⁴⁸ Twice, the Inspectorate has also refused to permit

44. One commentator on the concerns of the less developed countries adds that those countries complain of a lack of access to technical information generally, not just to natural resources information. See Bortnick, *supra* note 33, at 335.

Yet, technical information is available from a number of sources, principally technical publications, patents, and "know-how" licenses. Publications and patents are freely available from most nations for a modest price; know-how licenses, though more costly, are widely available also. Indeed, one of the United States' biggest exports is know-how. See *House Hearings, supra* note 26, at 150 (testimony of David Birch, Director, Program on Neighborhood and Regional Change, Massachusetts Institute of Technology).

45. E.g., Gotlieb et al., *supra* note 20, at 247.

46. At one time, a U.S. insurance company was pressured to set up a Toronto office to maintain its Canadian business data in Canada. Pantages & Pipe, *A New Headache for International DP, Datamation*, June 1977, at 118.

47. Eger, *supra* note 22, at 1067 & nn.49-50.

48. Bing, *Transnational Data Flows and the Scandinavian Data Protection Legislation*, 1980 SCAND. STUDIES IN LAW 65, 78.

personal information about Swedish citizens to be processed in the United Kingdom.⁴⁹

In the latter instance, the Inspectorate was evidently concerned that the United Kingdom had no laws to protect the privacy of the information.⁵⁰ Indeed, a sort of rule of thumb may become increasingly common: personal information cannot be transmitted abroad to a nation with weaker privacy protection laws than the sending nation.⁵¹

Norway, Denmark, and Austria also require prior approval by a governmental body on a case by case basis before information can be sent across their borders. Though the Norwegian statute allows exceptions from the clearance procedure, as of 1982 none had been granted.⁵² In Denmark, data cannot even be *gathered* for export without a license from the Data Surveillance Authority,⁵³ though the Danish law exempts from the licensing requirement flows to countries meeting enumerated standards of privacy protection.⁵⁴ Austria's statute, like its Danish counterpart, requires case by case approval of transborder data flows and sets out substantive privacy standards, exempting from individual scrutiny only countries complying with these standards.⁵⁵ In addition, the statute exempts intracorporate transmissions of data,⁵⁶ which is an enormous benefit to multinational corporations.

France requires international transmitters of personal data to register with the National Data Processing and Liberties Commission.⁵⁷ Transmissions are generally not examined individually, unlike the practice in Denmark, Austria, and Norway, but the French statute confers discretionary authority to subject selected activities to prior approval.⁵⁸

Similar to the French statute, the West German Privacy Law does not require advance transborder data flow approval.⁵⁹ Transmitters are required to report their activities and meet detailed privacy

49. *Id.* at 73.

50. *Id.*

51. *See id.*

52. Feldman and Garcia, *National Regulation of Transborder Data Flows*, 7 N.C.J. INT'L & COM. REC. 1, 17 (1982).

53. *Id.*

54. *Id.* at 17-18.

55. *Id.* at 18-19.

56. *Id.* at 19.

57. *Id.* at 15-16.

58. *Id.* at 16.

59. *Id.* at 15.

standards; the German regulatory authority may prevent transmissions that are noncompliant.⁶⁰

Several other European countries are just now beginning to regulate data flows, including the United Kingdom, Luxembourg, Italy, and Belgium.⁶¹

The Organization for Economic Cooperation and Development ("OECD") has drafted guidelines concerning transnational data communications and privacy protection and has attempted to reconcile the conflicting interests of privacy and free flow of information.⁶² The OECD report defines eight principles whose goal is to restrict data assimilation to that required for specific, necessary tasks, to insulate data compilations from unauthorized access, and to see that data collected are accurate.⁶³ The report encourages transnational data flow between countries observing the guidelines.⁶⁴

Limitations based on a genuine concern for personal privacy make some sense. They give rise, unfortunately, to a host of choice-of-law problems. Suppose, for example, the privacy laws of a foreign nation storing personal information are violated and the privacy of a domestic nation's citizen is compromised. What law is applied: the foreign nation's? the domestic nation's? the nation from within whose borders the accessing terminal is located? More variations are possible and have already been foreseen,⁶⁵ although none seems a wholly satisfactory answer. Perhaps a contractual choice-of-law provision will emerge as the best compromise,⁶⁶ though efforts to encourage that development so far have had little effect.⁶⁷

Loss of privacy because of the growth of computerized record keeping, as distinct from a loss of control over the correctness of those records, is a legitimate concern, not only for Canada, Europe, and Japan, but for the United States as well.⁶⁸ It is not, however, a

60. *Id.*

61. *Id.* at 20-21.

62. Recommendations of the Council Governing the Protection of Privacy and Transborder Flows of Personal Data, OECD Doc. C(80)58 (Oct. 1, 1980), discussed in Note, *Transborder Data Flows: Personal Data*, 22 HARV. INT'L L.J. 241 (1981).

63. *Id.* at 241-44.

64. *Id.* at 245.

65. See Bing, *supra* note 48, at 90-94.

66. See, e.g., Note, *Contracts for Transnational Information Services: Securing Equivalency of Data Protection*, 22 HARV. INT'L L.J. 157, 171-75 (1981).

67. The Council of Europe and the U.N. Organization for Economic Cooperation and Development have designed choice-of-law clauses for incorporation in national laws or treaties. No one appears to be using them. Bing, *supra* note 48, at 88.

68. See, e.g., Privacy Act of 1974, Pub. L. No. 93-579, 88 Stat. 1896 codified at 5 U.S.C. § 552a (1976), amended at 5 U.S.C.A. § 552a (1983), cited in Eger, *supra* note 22, at 1078 n.129.

concern unique to, or even especially exacerbated by, the extra-territorial storage of information. Certainly a requirement for keeping personal records on computers located within national boundaries would not alleviate the problem of too many personal records being kept on computers.

Protectionism and the Information Industry. The need for national sovereignty and individual privacy does not explain all the steps taken by nations to curtail the transmission of information for extra-territorial computer storage; further explanations lie elsewhere. These steps look very much like another form of non-tariff barrier imposed by nations to protect their own information industries.⁶⁹ Some of the moves, such as those taken by Canada,⁷⁰ respond subtly to the United States' pressing leadership in the information processing field; others respond less subtly. Germany, for example, recently enacted a provision requiring that any company bringing a leased communications line into the country agree to perform "substantial data processing" inside of Germany on any information received over the line before that information can be retransmitted.⁷¹

Japan has similarly shown a solicitous regard for its own rapidly developing information and communications industry. The Control Data Corporation, for example, found itself faced with a protectionist reaction as early as 1974 when it attempted to establish a United States-to-Japan network link. After extensive delays in approving the computer company's lease of an essential communications cable, the Kokusai Denshin Denwa Company, Ltd. (the Japanese equivalent of Western Union) imposed such severe restrictions on the lease provisions that Control Data frankly accused the Japanese of "[c]urtailing Control Data's ability to compete [so as to give] a competitive advantage to the Japanese domestic telephone company. . . ."⁷²

Eventually, the KDD did allow Control Data to sell remote computer services in Japan, but only services from a single computer location in the United States.⁷³ This restriction prevented Control Data from offering different services in different Japanese markets

69. See generally Eger, *supra* note 22.

70. See *supra* text accompanying notes 20-26.

71. Statement of Philip C. Onstad, Director of Telecommunications Policies, Control Data Corporation, in 3 TRANSNATIONAL DATA REPORT, May 1980, at 17.

72. *Id.* at 18.

73. *Opening the Doors for Data Transmission*, BUS. WK., Dec. 15, 1980 at 40.

and even from providing back-up computer service should the primary computer malfunction.⁷⁴ Under pressure from the United States Trade Representative, the Japanese government agreed to tell the KDD to drop the restriction.⁷⁵

The adverse economic impact of information processing done outside one's own country has been decried by several national government representatives. The French Finance Ministry noted in 1978 that France's economic balance turned on the resolution of the transborder information flow issue.⁷⁶ Canada has expressed fears that by 1985 United States processing of Canadian information could result in "a loss of some 23,000 directly related jobs from the Canadian economy" and that a build-up of a Canadian information processing industry is necessary "for the future economic well being of the nation."⁷⁷

Protection of domestic computer service and computer manufacturing companies is not all that is going on today. Many European telephone and telegraph monopolies, called "PTTs" (postal, telephone, and telegraph) are beginning to try to raise their revenues as carriers of transborder data flows. They are doing it by refusing to lease complete telephone lines to private users the way lines have been leased in the past.

Until recently, a company with a high volume of either telephone or computer traffic could ask a PTT to set aside a particular long distance line for the company's exclusive use. The PTT would charge a flat monthly fee for leasing the line; the company could transmit whatever it wanted to, whenever it wanted to, and the monthly fee remained constant.

To take advantage of the flexibility that flat-rate pricing offered, financial institutions set up the Society of Worldwide Interbank Financial Telecommunications ("SWIFT") in 1973.⁷⁸ SWIFT was to lease a large number of lines throughout Europe and use them as a network for transmitting financial information between banks.⁷⁹

74. *Id.*

75. Markoski, *Telecommunications Regulations as Barriers to the Transborder Flow of Information*, 14 CORNELL INT'L L.J. 287, 315-17 (1981).

76. Bigelow, *Transborder Data Flow Barriers*, JURIMETRICS J., Fall, 1979 at 8, 13 & n.33.

77. *Id.* at 13, quoting from P. Robinson, *Strategic Issues Related to Transborder Data Flow*, in *Transnational Data Regulation: The Realities 22-2, 22-6* (QED Info Services, Inc. and Online Conferences, Ltd., Wellesley, Mass., 1979).

78. Markoski, *supra* note 75, at 298-99.

79. *Id.*

The plan ran aground when the PTTs decided to lease lines only for a combination of a flat basic monthly charge, plus a charge for each message sent.⁸⁰ Under the PTT-proposed pricing scheme, SWIFT's projected costs for the network would have increased by 200 to 400 percent for European transmissions and by 1000 percent for Europe-to-North-America transmissions.⁸¹

At the same time, the PTTs are providing computer networks of their own for the public's use. These networks—collections of telephone cables set aside for the purpose—offer control of and accounting for each computer message sent. In addition, a subscriber can direct an assortment of messages to go to different receiving computers. In short, the PTTs are beginning to offer more than just copper cables for the public's use, but are building exactly the kinds of computer networks that private organizations like SWIFT have been doing or trying to do in the past.

The result will almost certainly be the diminished availability of flat-rate leasing and an increased reliance on "volume sensitive" pricing.⁸² Many commentators decry this shift, and some even see it as "a barrier to the free flow of information."⁸³

Multi-national corporations, especially in the banking and insurance industries, no doubt resent the shift in PTT attitudes. These users have an enormous volume of computer messages to transmit daily,⁸⁴ and would be happier to control their own networks than to rely on a PTT network and its likely higher costs. Yet complaints about the PTTs really resolve into an accusation that they are no longer doing business the way they used to, that they no longer see themselves in the business of providing copper cables, but now see

80. *Id.*

81. *Id.*

82. Eger, *supra* note 24, at 217-19; *House Hearings, supra* note 26, at 157 (statement of B.C. Burgess, Director, Telecommunications Regulatory Policy, Bank of America National Trust & Savings Ass'n).

83. See, e.g., Markoski, *supra* note 75, at 300. Markoski even notes that Italian PTT efforts to discourage flat-rate leasing of communications lines have "[t]he unabashed purpose . . . to 'safeguard' PTT revenues." *Id.* at 303, citing CCITT Study Group III, Rates for Private Leased Circuits, Doc. COM III-No.6-E (Feb. 1977) (Italian Administration).

84. The Motorola Corporation, for example, maintains two communications networks that tie together 200 Motorola locations around the world. One network handles messages to and from people, taking the place of telephone or telegraph communications. This network handles about 165,000 messages per month.

themselves in the business of information transmission, or telecommunications, or something else.

Unless it violates national or international law, what is wrong with that? First, all successful companies evolve with the times, and nowhere is the pace of evolution more rapid than in the computer and communications fields. Those who want multi-national corporations to be able to develop increasingly sophisticated communications networks, but would deny to the PTTs that same right, are asking too much.

Second, if there continues to be a profitable market for flat-rate leased lines, one would expect them to be offered. If substantially more profits are available by withdrawing those lines from the market and offering them with a different pricing structure, one cannot reasonably expect the PTTs to give up those profits to other companies.⁸⁵

Third, complaints that the cost of acquiring or using a network will go up by some large percentage overlook the possibility of offsetting cost advantages. For example, if a PTT puts the sophistication of automatic message delivery into a network, then presumably the user of the network saves the cost of providing that facility himself. The costs may or may not balance out, but in either event the increased PTT price over a simple leased line is not likely to be pure excess.

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Undoubtedly an indigenous information industry is becoming increasingly significant to national economies in what is frequently

The second network handles computerized information such as inventory data, payroll and accounting data, and sales data. This network relies on twenty-six leased communications cables and on satellite channels, connects 102 high speed computer printers and over 4,000 remote computer terminals to two geographically separate computer centers, and transmits—daily—about 1.5 billion individual letters and digits around the world. *See House Hearings, supra* note 26, at 159-62 (statement of Gaige Paulsen, Corporate Director of Telecommunications, Motorola, Inc.).

85. The PTTs are state-sanctioned monopolies, and do not necessarily operate on the basis of profitability. If they choose to rely on "public service" or "customer desires" instead, then perhaps they will continue to lease lines for a flat rate. The point, however, is that no one should be surprised or offended if the PTTs operate to maximize revenues or profits—regardless of what that means for the availability of flat-rate pricing.

Some of the PTTs are even considering a deregulation of the communications industry, and are watching the current deregulation in the United States with much

termed "the Information Age."⁸⁶ But manufacturing, agriculture, fishing, and other industries are well established in importance already—despite that nations diverge sharply in their capacities in each of those areas. The question for the world's information industry, then, is not whether that industry is increasingly important—it is—but rather to what extent nations may lawfully inhibit or control the international commerce in information to effect a build-up of their own local industries.

This is precisely the sort of question, of course, that arises frequently under the General Agreement on Tariffs and Trade ("GATT"). Article III requires "that internal . . . laws, regulations and requirements affecting the internal sale, . . . purchase, transportation, distribution or use of products" be uniformly applied to domestic and imported products so as not to favor a nation's domestic industry. This requirement is subject to certain general exceptions listed in Article XX, but the examples of the German requirements for local computer processing⁸⁷ and the Japanese foot dragging on approval of a communications cable for an American company⁸⁸ seem not to fit any reasonable construction of GATT exceptions.

One possible loophole to even a rigorous enforcement of Article III, however, is the question whether information is a "product." To date, most discussions of international computer processing have assumed that that processing constitutes a "service" and hence is outside the scope of the GATT. Indeed, efforts in the fall of 1982 to bring services under the GATT umbrella failed.⁸⁹

Not everything transmitted internationally needs to be considered a service, however. Indeed, information itself is classifiable in several ways. One method is to divide it into "ideational" information, like news dispatches, personal messages, TV programs, etc., and information as a "commodity,"⁹⁰ like the LEXIS case law reports

interest. See *House Hearings*, *supra* note 26, at 158, (statement of B.C. Burgess, Director, Telecommunications Regulatory Policy, Bank of America National Trust & Savings Ass'n). A free market in communications would presumably bring to the fore whatever services make the most overall economic sense, whether that maximized using companies' profits, the offering PTT's profits, or neither.

86. Eger, *supra* note 22, at 1061.

87. See text accompanying note 71 *supra*.

88. See text accompanying note 72 *supra*.

89. Farnsworth, *Trade Talk Topics Are Determined; Focus Will Be On Investment And Services*, N.Y. Times, Jan. 18, 1982, at D1, col. 6; Pine, *GATT Talks Face Problems as Negotiators Fail to Agree on Any Big Issue on Agenda*, Wall St. J., Oct. 25, 1982, at 5E, col. 1; Farnsworth, *A Reporter's Notebook: Behind the Scenes at the GATT Trade Talks in Geneva*, N.Y. Times, Dec. 5, 1982, at F8, col. 3.

90. See Eger, *supra* note 24, at 233.

discussed earlier.⁹¹ Another proposed classification divides information into three sets: "final consumption," like news dispatches; "semi-finished goods," like raw sales figures that will be "refined" into computerized summaries and graphs; and "capital goods," like computer programs being transmitted elsewhere for resale or use.⁹² Still another possibility is to distinguish information sought by the recipient for personal use from that sought for business use or information sought for the sake of knowledge, such as a computerized encyclopedia entry, from that sent to the recipient to direct his actions, such as "sell 20 shares of IBM."

All these classifications suggest, if nothing else, that information communicated over international networks is not obviously just a service, but may well be a product. The question of just what information is a product and what is a service has come up outside the GATT in a number of United States tax cases. Typically, the taxing authority's interest centers on two things: compilations of information, such as a computerized telephone book or computerized bibliography, and computer programs (the "capital goods" referred to earlier). The question most frequently asked is whether either form of information is tangible property and hence subject to the personal property tax.⁹³

In practice, courts in the United States have reached different answers to the question,⁹⁴ but the lesson for GATT members is that at least some forms of internationally communicated information can reasonably be classified as products. At least these forms, such as

91. See text accompanying notes 12-15, *supra*.

92. Eger, *supra* note 24, at 223 n.106, citing a proposal by Alain Madec, chairman of the French Commission on Transborder Data Flows.

93. Note that the "tangible-intangible" distinction is not necessarily the same as the "goods-services" distinction. See, e.g., *Triangle Underwriters, Inc. v. Honeywell, Inc.*, 457 F. Supp. 765, 769 (E.D.N.Y. 1978), *aff'd in part, rev'd in part on other grounds*, 604 F.2d 737 (2d Cir. 1979), where the district court applied New York State law to find that "[a]lthough the ideas or concepts involved [in the computer programs] remained Honeywell's intellectual property, Triangle was purchasing the product of those concepts. . . . [T]hough intangible, [that product] is more readily characterized as 'goods' than 'services.'"

94. See, e.g., *District of Columbia v. Universal Computer Associates*, 465 F.2d 516 (D.C. Cir. 1972); *First National Bank of Springfield v. Dept. of Revenue*, 85 Ill.2d 84, 421 N.E.2d 175 (1981); *Fingerhut Products Co. v. Comm'r of Revenue*, 258 N.W.2d 606 (Minn. 1977) (mailing lists intangible except as labels to be affixed to envelopes); *Spencer Gifts, Inc. v. Taxation Div. Director*, 182 N.J. Super. 179, 440 A.2d 104 (1981) (cards encoded with program analogous to paper in attorney's provision of a will, part of a service); *Commerce Union Bank v. Tidewell*, 538 S.W.2d 405 (1976) (sale of programs is service).

computerized encyclopedias, stock market reports, scientific abstracts, and case law reports, ought to be the subject of existing GATT agreements without need of further discussion on the GATT and services.

CONCLUSION

As information sales around the world expand prodigiously, nations are rushing to protect and foster their own domestic computer and information industries. Existing international agreements like the GATT may well be applicable to these sales, but to date these agreements do not seem to be invoked to lessen protectionist measures. Yet information is an extraordinary product: with satellite communications now available to much of the world, information can be "shipped" readily from almost anywhere to almost anywhere else. The structure and function of a global market where the time to deliver goods is virtually zero are as yet taking shape;⁹⁵ perhaps the old agreements—even if adhered to—will not suffice to sustain and nurture this new trade. But agreements or not, the trade appears likely to mushroom in volume and economic importance in the near future. The problems it gives rise to deserve more thoughtful attention than they have been getting.

See also Heinzman, *Computer Software: Should it be Treated as Tangible Property for Ad Valorem Tax?*, 37 J. TAX 184 (1972) (arguing for intangibility); Comment, *Software Taxation: A Critical Reevaluation of the Notion of Intangibility*, 1980 B.Y.U.L.Rev. 859 (1980).

95. See generally, Eger, *The Brussels Mandate: An Alliance for the Future of World Communications and Information Policy*, 3 COMPUTER NETWORKS 79 (1979) (printing a speech by transborder data flow consultant John Eger given at a conference in Brussels, Belgium in February 1978). Mr. Eger, formerly head of the White House Office of Telecommunications Policy, has often decried the United States' lack of a coherent policy addressing the new problems and opportunities of the information industry. See Eger, *Competition and Changing Order: The Need for a National Information Policy*, 16 COMMUNICATIONS NEWS 22 (1979). The less developed countries have begun to call for their own novel policies in this area in the form of a "new world information order." See, e.g., *The Global First Amendment War*, TIME, October 6, 1980, at 62 (an essay).