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PERSPECTIVES

Economic and Trade Related Aspects of Transborder Data Flow: Elements of a Code for Transnational Commerce

*Ronald Wellington Brown, Esq.**

INTRODUCTION

Transborder Data Flow ("TBDF") is international communication. The term international information transfer is preferable,[1] though TBDF

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[1] Some of the reasons for this preference are presented in Appendix I. Other commentators are also recognizing a need to consign the phrase "transborder data flow" to history. *See, e.g.*, Statement by the Business and Industry Advisory Council of OECD, Transborder Data Flows In The International Firm, presented at the Second OECD Symposium on Transborder Data Flows, in London, England (Dec. 1983) [hereinafter cited as BIAC Statement]:

> Another thing that many international business executives agree upon is that the coining of the phase Transborder Data Flows can, with hindsight, be seen as having been, in some respects, unfortunate and its subsequent misuse as having led to unintended results. The time has surely come for it to be dropped altogether or at least for it to be used much more precisely. Unfortunate because there are many different issues requiring different approaches although repeated use of the term has focused attention on a single form of international communication, i.e., data traffic, giving the false impression that data is the dominant form of information transfer and that unlike the telephone or ordinary mail it is a source of many problems. It is this false focus, rather than the presence of significant problems, that has attracted so much attention to data transmission.

Id. at 1.

> Now all too frequently one hears in the corridors the feeling expressed that we are caught up in debates that are unreal and even to a degree contrived, that some of the so-called issues that

is the more widely used term. In this Perspective, the terms TBDF and international information transfer will be used interchangeably. Either term can be defined, somewhat elaborately, as the electronic transmission of personal or non-personal information across political boundaries for processing, or storing in computer files.[2] More simply, TBDF is international movement of information over transnational computer-communication systems. Transfer of information over transnational computer systems is the underlying concept.[3] Proposed or actual restrictions on such transfers are the underlying problem.[4] Interests advanced or restrained by policies applicable to such transfers are the underlying importance.[5]

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have fallen under [the] heading [of Transborder Data Flow] are non events . . . . If there is a connection, it is that all these concerns are symptomatic of the need for society to adapt its institutions and procedures to the development of information technology. In so far as any omnibus heading is needed, many would indeed prefer "Information Technology. . . .

Id. at 2.

Another phrase gaining currency is "international information flows" which seems at least to capture the wider context missed by Transborder Data Flow, and to underscore the complementary and interchangeable nature of the communications media.

Id. at 3. *See also* P. Robinson, TBDF: The International Environment, a presentation to the Workshop on Microelectronics, Information Technology and Canadian Society, Queens University, Kingston (May 5-7, 1982) [hereinafter cited as Robinson, Environment]:

"Transborder Data Flow" (TBDF) is a string of words that is becoming more widely bandied about internationally and here in Canada. It is a label used to represent a range of often complex and sensitive public policy issues. Many of these issues are concerned with what happens to the data and information *before* and *after* they flow, rather than directly with the *flow per se.*

Without the flow, the issues would not, of course, arise but the label is misleading because it tends to put *all* emphasis on flow.

Id. at 1. *See also* P. Robinson, Transborder Data Flow: International Dimensions, a Presentation to the XV National Conference on Informatics, in Rio de Janeiro, Brazil (Oct. 1982) [hereinafter cited as Robinson, Dimensions]:

Transborder Data Flow is an expression that causes eyes to glaze over, and minds to switch off and turn on to other things. I have seen it many times with friends and colleagues. It is unfortunate that we cannot think of a better label—one that would indicate more clearly the range of issues covered, and one that would highlight their growing importance to all countries.

Id. at 1.

[2] *See* Fishman, *Introduction to Transborder Data Flows*, 16 STAN. J. INT'L L. 1 (1980).

[3] *See* Rutkowski, *Role of Direct Broadcasting Satellites In The Integrated Communications Environment*, VI TRANSNAT'L DATA REP. 41 (1983):

A number of rapidly evolving advances in telecommunication technology, combined with increasing demands within our society for the rapid and efficient collection, processing and dissemination of all forms of information, is producing entirely new kinds of telecommunication and information networks. The capabilities now exist to convert at increasingly lower cost all speech, music, television pictures and textual information to a common digital representation. In such a converted form, the information can be handled by computers which can process, store or disseminate it through transmission systems under their control. Indeed, the term "information transport" is increasingly replacing the word telecommunication to more appropriately describe the movement of information in this new integrated environment.

[4] *See, e.g.*, Markowski, *Telecommunications Regulations as Barriers to the Transborder Flow of Information*, 14 CORNELL INT'L L.J. 287 (1981).

[5] *See* Novotny, *Transborder Data Flows and International Law: A Framework for Policy-Oriented Inquiry*, 16 STAN. J. INT'L L. 141 (1980).

Though definitions are fairly simple, the issues raised by TBDF are not. For example, in establishing national or international policy on such information flows, should the general rule be free flow of information or restricted flow of information?[6] When is information "speech"? What ideological assumptions, social and legal norms should be reflected in policy?[7] Should the information be treated differently depending on whether it is technical, journalistic, economic, financial, commercial, cultural, or personal? Should the volume or kind of information be considered in determining whether to license[8] or tax its movement?[9] Should we attempt to classify information for TBDF purposes apart from other uses to which the information may be put?[10] Should it make any difference whether the medium of information flow is a private leased line, public network, a signal through the air between earth stations and a satellite, or an envelope through the mails? Is "broadcasting" part of TBDF?[11] These are difficult questions without easy answers. They demonstrate

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6 *Id.* at 173.

7 *Id.* at 159.

8 *See infra* text accompanying notes 162-166.

9 *See* ARTHUR D. LITTLE DECISION RESOURCES, IMPACT REPORT ON THE REGULATION OF TRANSNATIONAL DATA FLOW, (Mar. 1981) [hereinafter cited as A.D.L. IMPACT REPORT]:

> While most of the activities of national governments have focused on issues of data protection, sovereignty, vulnerability, and U.S. dominance, it is important to recognize a number of economic factors that lend strong support to these activities. For example, the export of original data for processing, followed by later re-import in processed form, has local employment impacts in a high-technology industry sector that most developed nations are seeking to stimulate. There is increasing support for the view that the original (unprocessed) data represent national resources, which should be exported only under the same conditions that apply to the export of other national resources. Meanwhile, in the larger economic context in which these issues are being raised, the evolution of the more developed countries into service-based economies, already well advanced in OECD nations, has called into question the appropriateness and effectiveness of existing tax structures, which were developed for primarily manufacturing economies.
>
> Under these conditions, it is not surprising that the idea has arisen that data and information might be made subject to taxation. This possibility first arose in connection with the export of raw textual data for transcription onto magnetic tapes for computer input. This practice is now quite common, with Far Eastern countries, including Korea and Singapore, the most popular locations for such transcriptions. The transcribed magnetic tapes, when returned to their owners, clearly have had value added out of all proportion to any customs charges that might be calculated on the value of blank tapes. With the steady increase in the availability of data and information in computer-compatible form (either when originally prepared or when transcribed from raw form), and with the development of high-speed telecommunications data links, this issue of added value has become increasingly significant. As a result, the concept of taxing telecommunications export of data and/or imposing a customs or value-added tax on telecommunications import of processed data, is now receiving considerable attention, especially for data having high economic value.
>
> Techniques for imposing such taxes are just beginning to be suggested. A suitable mechanism is likely to be difficult both to develop (since it will depend on careful characterization of data related to its economic value) and to implement. A taxation approach could have very significant impact on business operations, particularly if applied to intracompany data flows.

Id. at10.

10 *See infra* note 40.

11 *See infra* note 30.

that TBDF policy choices touch several legal areas: privacy,[12] intellectual property,[13] national security,[14] international trade,[15] and economic development.[16]

The merger of telecommunication and computers is producing new information products and services. An emerging information industry, offering these products and services, and based on applied information technology, is receiving increased global attention because of the industry's significance for economic growth and international trade. Existing policies, practices, and arrangements covering telecommunications, computers, communication, and trade will have to be reviewed in the light of these developments.

This Perspective presents such a review. Part I discusses technological change and the information industry. Part II presents concepts of information flow and national sovereignty. Part III discusses trade and content aspects of international information transfers. Part IV examines a model code for transnational commerce, as an approach to facilitating international information transfers and presents twenty principles for such a code. Part V examines existing legal concepts and their possible application to international information transfers. Finally, the Perspective concludes with a prediction that in the area of international information transfers, our limited experience will soon catch up with our vast expectations.

I. TECHNOLOGICAL CHANGE

Typically, and inaccurately, the merger of telecommunications and computer technology is referred to as the second information revolution. The first information revolution, again inaccurately, is typically marked

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12 *See, e.g.*, Coombe & Kirk, *Privacy, Data Protection, and Transborder Data Flow*, 39 BUS. LAW. 33 (1983). *See also* Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data, Jan. 28, 1981, Europ. T.S. No. 108 [hereinafter cited as C.O.E. Convention], *reprinted in* 20 INT'L LEG. MAT. 317 (Mar. 1981).

13 *See infra* notes 20 and 38.

14 *See* Novotny, *supra* note 5, at 160-65.

15 *See, e.g.*, Robinson, Environment, *supra* note 1, at 3.

Another important area affected by TBDF is trade, and some discussion is now beginning to focus on trade in telecommunications, data processing and information services. Some countries are concerned that policies which might evolve to deal with other issues could lead to increased barriers to trade in these services. And, because TBDF (in one form or another) is essential to trade in other areas, there is a growing concern that traditional trade may be adversely affected by new policies to deal with TBDF.

16 *See, e.g.*, A.D.L. IMPACT REPORT, *supra* note 9, for a useful TBDF summary of technological and economic developments, interested parties, major issues, and implications for data users and suppliers.

by Johann Gutenberg's invention of movable printing press type[17] replacing the medieval information monopoly of monastic copyists. In both these revolutions, the results of changes in the technology of communication—movable type in the so-called first information revolution and binary digit transmissions in the so-called second information revolution—are likely to be similar: a broader access to, distribution of, and perhaps democratization of information;[18] the growth of new businesses,[19] products, and services; political, economic, social, and linguistic change; and perhaps most significantly—at least for lawyers—the modification or development of a legal framework, sometimes by looking to the past and making analogies[20] after the revolution is well underway.[21]

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17 *See, e.g.*, Sony Corp. v. Universal City Studios, Inc., 104 S. Ct. 714 (1984).

> From its beginning, the law of copyright has developed in response to significant changes in technology. Indeed, it was the invention of a new form of copying equipment—the printing press—that gave rise to the original need for copyright protection. Repeatedly, as new developments have occurred in this country, it has been the Congress that has fashioned the new rules that new technology made necessary . . . .
>
> . . . Sound policy, as well as history, supports our consistent deference to Congress when major technological innovations alter the market for copyrighted materials. Congress has the constitutional authority and the institutional ability to accommodate fully the varied permutations of competing interests that are inevitably implicated by such new technology.

104 S. Ct. at 782-83.

18 The widest dissemination of ideas in the marketplace is a fundamental tenet of democracy.

19 *See, e.g.*, INTERNATIONAL CHAMBER OF COMMERCE DOC. NO. 373-22/4, INFORMATION FLOWS—AN INTERNATIONAL BUSINESS PERSPECTIVE 1 (Rev. 5 1983) [hereinafter cited as ICC PERSPECTIVE]:

> During the past century there has been a close and synergistic relationship between the development of world trade and communications. As the letter post, telegraph, telephone and telex were successively introduced, they stimulated productivity and service levels in existing businesses and enabled new sorts of enterprises to become established. These developments in turn created user demands for quicker, more reliable, more convenient, cheaper and widely available services and equipment which led to further innovation. Recently the convergence of the rapidly developing technologies of computing and communications has resulted in the introduction of yet another generation of communications media. Starting with data transmission, there has been a continually growing list of new services like facsimile, electronic mail, videotex and video conferencing. The rate of technological innovation is accelerating and the only limits to the services that can be provided seem to be the imagination of the providers and economic constraints. Like their predecessors, these new services are both supplementing and replacing existing media. This development of information technology has already had effects on the interchange of business information both within and across national boundaries, resulting in economic and social benefits.

20 *See* ITHIEL DE SOLA POOL, TECHNOLOGIES OF FREEDOM 4 (1983): "Judges and Legislators have tried to fit technological innovations under conventional legal concepts. The errors of understanding by these scientific laymen, though honest, have been mammoth. They have sought to guide toward good purposes technologies they did not comprehend."

> The courts and regulatory agencies in the American system (or other authorities elsewhere) enter as arbiters of the conflicts among enterpreneurs, interest groups and political organizations battling for control of the new technology. The arbiters, applying familiar analogies from the past to their lay image of the new technology, create a partly old, partly new structure of rights and obligations. The telegraph was analogized to railroads, the telephone to the telegraph, and cable television to broadcasting. The legal system thus invented for each new technology may in some instances, like the First Amendment, be a *tour de force* of political creativity, but in other instances it may be less worthy. The system created can turn out to be

In part, as presented in *Figure 1*, an information revolution is suggested by some of the telecommunications products and services that

Figure 1 [22]

Development of Services in Communications

1850	1920	1950	1970	1980	1990
					Telegraph
					Telephone
					Radio/Stereo
				Telegraph	Text-Comm. (Telex)
				Telephone	Picture-Comm.
				Radio/Stereo	TV/Color
				Text-Comm. (Telex)	TV/Satellite
			Telegraph	Picture-Comm.	Wireless Telephone
			Telephone	TV/Color	Data-Comm. (Datex)
		Telegraph	Radio/Stereo	TV/Satellite	Broadband-Comm.
		Telephone	Text-Comm. (Telex)	Wireless Telephone	Two-way Radio
	Telegraph	Radio/Stereo	Picture-Comm.	Data-Comm. (Datex)	Conf.-Telephone
Telegraph	Telephone	Text-Comm. (Telex)	TV/Color	Broadband-Comm.	Teletext
	Radio	Picture-Comm.	Wireless Telephone	Two-way Radio	Videotext
		Television	Data-Comm. (Datex)	Conf.-Telephone	Cable-TV
		Wireless Telephone	Broadband-Comm.	Teletext	Office-Teletype
			Two-way Radio	Videotext	Conference-TV
			Conf.-Telephone	Cable-TV	Telecheck
				Office-Teletype	Tele-Copy/Color
				Conference-TV	Electronic Mail
				Telecheck	Cable Text
				Tele-Copying	Telenews
					Backchannel TV
					Online Pers. Comp.
					Picture-Telephone

inappropriate to more habile forms of the technology which gradually emerge as the technology progresses. This is when problems arise, as they are arising so acutely today.

Id. at 7.

American telegraph law might seem to have been modeled on postal regulations, but postal law was at most the grandfather of telegraph law rather than the father; postal law's impact was indirect. Telegraph law was modeled rather on the law that had grown up in the nineteenth century to regulate the new railroads. Railroad law got some of its concepts from the practices regarding post roads, so indirectly the postal influence is there, but the immediate model for telegraphy came from the evolving concept of a railroad common carrier.

As a consequence, the First Amendment is almost undetectable in cases concerning telegraphy. It might seem odd that when a new technology of communication came into existence, the courts did not perceive it as an extension of the printed word, sharing the same significance, the same infirmities, and the same need for protection as the press whose liberties the courts had so sedulously guarded. The reason for this dim perception of telegraphy was that the early telegraph carried so few words at such a high cost that people thought of it not as a medium of expression but rather as a business machine. The computer suffered the same misperception a century later.

Id. at 91.

[21] *See, e.g.*, POOL, *supra* note 20, at 249:

A workable copyright system is never enacted by law alone. Rather it evolves as a social system, which may be bolstered by law. The book and music royalty systems that now exist are very different from each other, reflecting the different structures of the industries. What the law does is to put sanctions behind what the parties already consider right. So too with electronic publishing on computer networks, a normative system must grow out of actual patterns of work. The law may then lend support to those norms.

[22] INTERNATIONAL TELEPHONE AND TELEGRAPH CORP., INTEGRATED VOICE AND DATA AP-

have developed since the telegraph in 1850 and which are projected through the threshold of the 21st century. We are beginning to see increased international communication competition in, and international regulation of, information products and services. Developments in technology have been,[23] and will be, accompanied by significant changes in economics, culture, law, and trade. New technologies[24] that involve some form of information transmission, storage, or processing in an international transaction, will have to take account of TBDF legal regulations and requirements. To date, however, the growth rate of international legal principles applicable to international information activities has not matched the growth rate of information products.[25]

Mr. Harvey L. Poppel, a Senior Vice President and Director of Booz Allen & Hamilton, who has written extensively on the emerging information society, defines the information industries upon which such society is based as including those firms which not only produce information, but those which also produce the facilities to process, store and distribute it. As of June 1982, AT&T, IBM, GTE, Eastman Kodak, Phillips, Matsushita, ITT, Xerox, Bell Canada, and RCA were identified by the Booz Allen research as the top ten firms in the information industry. These firms generate annual information revenues of more than $145 billion. That amount is just under one-fourth of the global total for revenues of the information industry.

PLICATIONS 1 (1980), reprinted with permisson. *Figure 1* can be read as a time chart beginning with the telegraph in 1885 and moving toward the 21st century.

23 *See* A. Norman, Making An International Business of Information, a paper presented at the Second OECD Symposium on Transborder Data Flows, in London, England (Dec. 1, 1983) (Mr. Norman was advisor to the United Kingdom delegation) [hereinafter cited as Norman, International Business]:

> What started with government sponsored market research and development led by Vasco da Gama and Christopher Columbus grew into the private ventures of enterprising merchants and great companies. Legal and constitutional innovations—that is changes in the regulatory environment—followed in technology's wake: mutual insurance, joint stock and chartered companies, fractional deposit banking, bills of exchange and stock exchanges. . . .
>
> We face a similar position today. The users of communications technology have upset our regulatory arrangements as profoundly as the users of sea routes. . . .

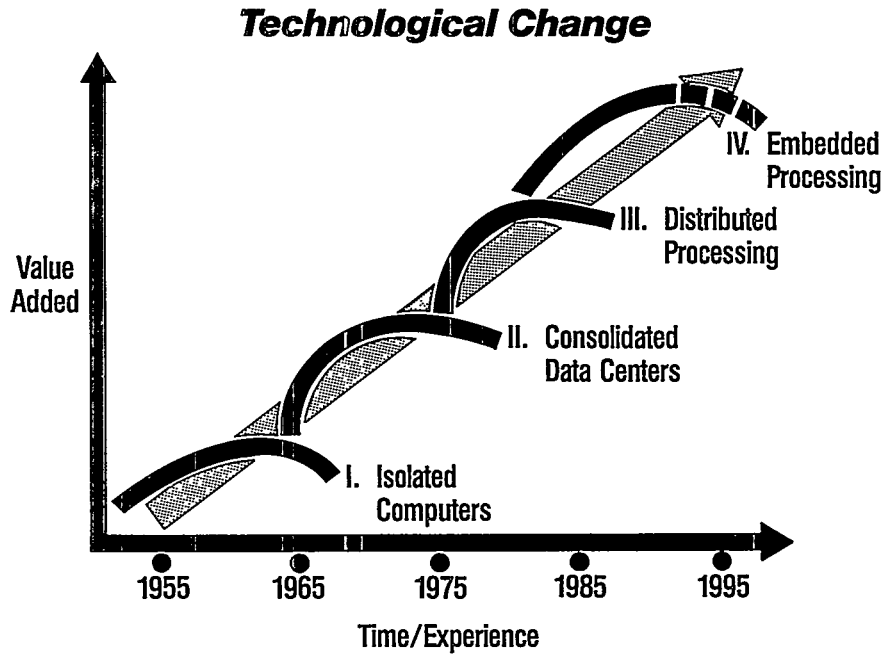
24 *See Figs. 2, 3,* and *4.*

25 *See* Robinson, Environment, *surpa* note 1, at 5-6:

> That current legislation is inadequate to deal with misuse of data is amply demonstrated by a case in Alberta, where an individual was accused and convicted, of illegal use of telecommunications facilities, when in fact he had used a terminal to gain unauthorized access to a university computer. On appeal to the Supreme Court of Canada, the conviction was squashed, because the Court decided unanimously that the university computer system was a data facility, not a telecommunication facility.

This lag between technological growth and emerging legal principles seems typical rather than extraordinary. *See infra* text accompanying notes 27-46.

Figure 2[26]



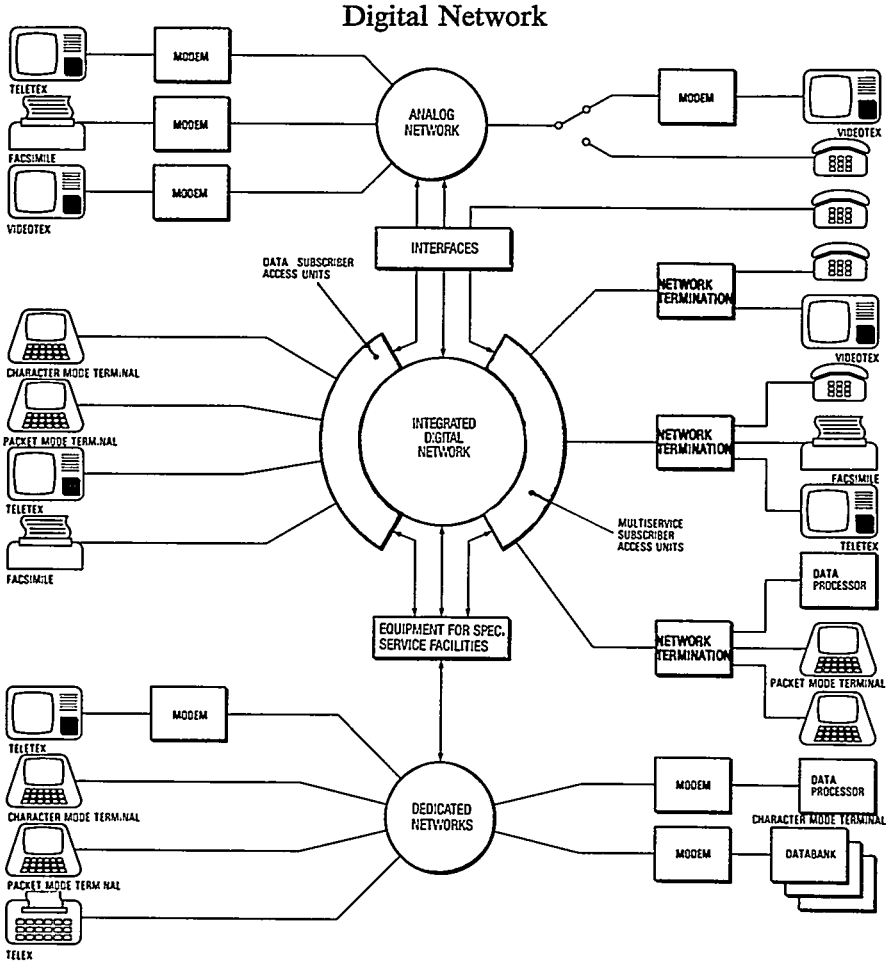
A technology called embedded processing, presented in *Figure 2*, binds the industry together. The Office of the Future, involving linked voice, data and text communication operating in an Integrated Services Digital Network ("ISDN") environment, presented in *Figure 3*, is one example of the use of embedded processing. An automated banking machine is another example.

In its simplest form, this technology combines science, technology, and engineering with management techniques used in information handling and processing to produce information products and services. The last stage of embedded processing will, according to Poppel, enable a person who works in such an electronic environment to exchange information through computerized information systems and have access to electronically stored information regardless of such person's geographic location. Thus, embedded processing in an ISDN environment may provide the technological equivalent of Article 19 of the Universal Declaration of Human Rights, whose text is as follows: "Everyone has the right to freedom of opinion and expression; this right includes the freedom to

[26] BOOZ ALLEN & HAMILTON, INC., 1 INFORMATION INDUSTRY INSIGHT 2 (1982), reprinted with permission.

Figure 3[27]

Information Delivery in an Integrated Services Digital Network



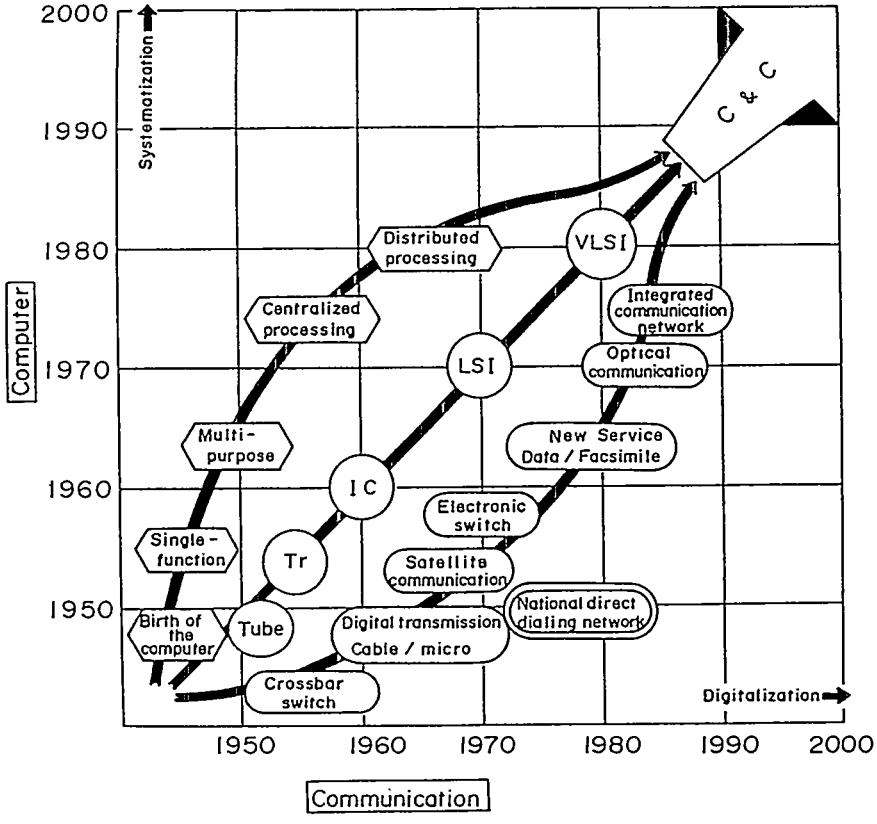
hold opinions without interference and to seek, receive, and impart information and ideas through any media and regardless of frontiers."[28] As *Figure 4* illustrates, communication, computers, and microelectronics form the three foundations of the information technology underlying the growth of the information industry. These foundations make up much of the environment in which transborder data flow issues involving commu-

27 INTERNATIONAL TELEPHONE AND TELEGRAPH CORP., 56 ELECTRICAL COMMUNICATION No. 1, at 10 (1981), reprinted with permission.

28 Universal Declaration of Human Rights, art. 19, G.A. Res. 217 A III, U.N. Doc. A/810, at 71 (1948).

nications content, computer software, and microelectronics trade are emerging.

Figure 4[29]



Historically, transitions in the technology or media of communication also have been accompanied by cultural change.[30] Contemporary concerns range from what will happen to print publishing,[31] and the defi-

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29 Advertisement from Financial Times, June 1, 1982, at 9, col. 1.

30 *See, e.g.*, Innis, *Minerva's Owl*, in THE BIAS OF COMMUNICATION 31-32 (1951).

31 *See* Starr, *The Electronic Reader*, DAEDALUS, Winter, 1983, at 143.

In the last several decades, new technology has greatly altered the production of the printed word without much affecting how it is distributed or read. Computerized composition, phototypesetting, and word processors have changed the editorial rooms of newspapers and the printing systems of nearly all publishers, but readers can scarcely tell the difference. The development of electronics promises to change this pattern, to alter reading as well as publishing. *Id.* "Print . . . is not about to disappear. . . . Books can be conveniently carried to the beach, to the bathroom, and to bed. The printed page neither blinks nor malfunctions; and almost alone among man-made objects, it has never even been accused of causing cancer". *Id.* at 144. *See also* Lacy, *Reading in an Audiovisual and Electronic Era*, DAEDALUS, Winter, 1983, at 117. "Enthusi-

nition of literacy[32] (Which computer languages do you read and write?) to concerns with preserving common values which uniquely establish a national identity.[33]

I do not believe there is any way to accommodate our own First Amendment values with a trade view of information on content. There

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asts for the new information technology believe that it will replace or diminish the role of a whole series of industries and institutions: the newspaper, the journal, the book, the library."

Id. at 120.

> It is well for our society that the audiovisual and electronic revolutions have complemented print, not replaced it, and that reading vigorously survives as the means of establishing a bridge of meaning, both human and thoughtful, between ourselves and the totality beyond us: a bridge between our culture and other cultures, between ourselves and the infinitely vast and infinitely microscopic world of science, and between our present and the past and the future. Without reading, meaning and comprehension could dissolve into "feeling" or splinter into data, the awareness and integrity of individual identity and purpose could be but ill sustained, and Bruke's sense of society as an all-embracing compact of the living with the dead and those yet unborn could not be achieved.

Id. at 127.

[32] *See* Compaine, *The New Literacy*, DAEDALUS, Winter, 1983, at 129, 137.

> Historically, the development of a literacy has gone through identifiable stages. Literacy starts with specialists, and then begins to have a wider impact on institutions. . . . Finally, it becomes so pervasive that even the masses are considered to be handicapped without it. Today, we are perhaps at the threshold of an era where the computer is becoming so simple to use and inexpensive that the masses can use it without having to understand how it works. They can thus participate in computer literacy without necessarily being computer-literate.

Id. at 138.

> It is likely that we are on the verge of yet another step in the evolution of literacy. Yet we can feel confident that whatever comes about will not replace existing skills, but supplement them. Neither the printing press nor the typewriter replaced either speech or handwriting. The electronic hand calculator has not replaced the need to understand mathematics, though it may reduce the need to memorize multiplication tables.

Id. at 140-41.

> . . . Marshall McCluhan was off base. The medium, by and large, is *not* the message. The message is the content, and the medium is the way it is conveyed and displayed. *Content*—the ideas, knowledge, story, information, and so on—is the work of an author, a producer, a photographer. Technology, history, and even politics play a role in how this content is processed and the format in which it is ultimately displayed. *Process* incorporates the gathering, handling, storage and transmission of the content; it may involve typewriters, computers, file cabinets; telephone lines, broadcasting towers, printing presses; and trucks and retail stores. *Format* is the manner of display—such as ink on paper, sound from a vibrating speaker cone, images on a cathode ray tube, light projected through a film, and so on. Thus the content may be quite independent of the medium.

Id. at 32.

[33] *See* Television Advertising Between Friends, Notes for an Address by The Honorable Jeanne Sauve to a Joint Meeting of the Canadian Association of Broadcasters and the National Association of Broadcasters in Toronto, Canada 7-8 (June 29, 1978).

> Exposure to essentially American experiences and values has its effect on Canadian society. A survey of thirteen-year old students in British Columbia shows what I mean. When asked by their teacher to name famous Canadians, they listed Jimmy Carter, Daniel Boone, Evel Knievel and Gerald Ford. Examples like this make us aware just how fragile our culture is.
>
> Our cultural concerns have led us to declare in our Broadcasting Act of 1968 that "the Canadian broadcasting system should be effectively owned and controlled by Canadians so as to safeguard, enrich and strengthen the cultural, political, social and economic fabric of Canada." Although the U.S. Communications Act of 1934 requires majority American ownership of the airwaves, the Act itself does not impose similar requirements on U.S. broadcasters.

Id. at 6.

must be, in my view, at least a "safe harbor" for such information as news in the stream of communication regardless of the technology by which it is transferred, and the information which might be caught in the net of a proposal like that presented by a French Minister for customs valuation of software in the stream of commerce.[34]

Expanding technology usually challenges the capacity of law and lawyers to keep up with it.[35] This is nothing new. Technology may be like the fabled hare, but law seems to have the fabled tortoise's capacity to catch up. As Professor William W. Bishop, University of Michigan Professor of Law, has noted:

> In many areas new international law has been developed to deal with new problems caused by expanding technology. I mention the growth of international aviation law, the development of space law, of the international law of telecommunications, and the slow growth of international law dealing with transnational pollution, especially of the sea. All this has been chiefly by treaty. One might also speak of the international law of trade, commerce, and finance, thinking particularly of the General Agreement on Tariffs and Trade, the World Bank, and the International Monetary Fund, commodity agreements. . . .[36]

Any of the three foundations of information technology may create concern for a special field of TBDF law to deal with those problems.[37]

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34 On January 20, 1983, the GATT Committee on Customs Valuation released a proposed decision on computer software under Article VII of GATT in response to a United States proposal. The Parties to GATT under the Decision, interpreting the Article, would agree that:

> In determining the Customs Value of imported carrier media bearing data or instructions, only the cost of [sic] value of the carrier medium itself shall be taken into account. The Customs Value shall not, therefore, include the cost or value of th data or instructions, provided that this is distinguished from the cost or the value of the carrier medium.
>
> For the purpose of this decision, the expression "carrier medium" shall not be taken to include integrated circuits, semiconductors and similar devices or articles incorporating such circuits or devices; the expression "data or instructions" shall not be taken to include, sound, cinematic, or video recordings.

The Decision would attempt to insure uniformity of treatment in valuation of "imported carrier media bearing data or instructions for use in automatic data-processing equipment" by excluding the "value of data and instructions" from dutiable value of carrier medium.

35 *See* POOL, *supra* note 20.

36 Bishop, *International Law 1906-1981*, PROCEEDINGS OF THE SEVENTY-FIFTH ANNUAL MEETING OF THE AMERICAN SOCIETY OF INTERNATIONAL LAW 1, 7 (1983) [hereinafter cited as PROCEEDINGS].

37 *See* BIAC Statement, *supra* note 1, at 5:

> From time to time suggestions are made that the advent of Information Technology demands the development of some new and separate framework of "computer law". BIAC believes such an approach to be misconceived . . . . It would in any case seem inappropriate and ill advised to place diverse applications such as electronic funds management, computer crime, broadcasting and software protectors within the same instruments simply because they use related technology. Do we have or need "electric motor law"?

See generally Comment, *Transborder Data Flow: Problems with the Council of Europe Convention, or Protecting States from Protectionism*, 4 NW. J. INT'L L. & BUS. 601 (1982) [hereinafter cited as Comment, *TBDF Problems*]. "Data protection has been recognized as a new branch of law formulated especially for handling the issue of invasion of privacy in regard to computerized data. At the

Obviously some of the laws identified by Professor Bishop will be applicable when TBDF technology involves telecommunications[38] or space.[39] However, even at the basic terrestrial level of a semiconductor chip, one of the foundations of information technology,[40] national courts and policy makers today are wrestling with fundamental legal questions.

Is a semiconductor chip a writing?[41] Is a *sui generis* statute[42] required to protect such a chip? Should information, like tangible goods, be subject to customs inspection,[43] or if the information is contained on

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base of the controversy lies the question of whether the law can ever keep pace with a rapidly changing science." *Id.* at 602 n.8.

> The United States has a special interest in maintaining the free flow of information. Information flow is likely to control almost all trade, either because trade consists directly of information exchanges, or because the conduct of trade is totally dependent on information exchange systems. Since the United States is currently the world leader in information technology and trade, international restrictions on the information industry most likely will affect United States business interests more than those of any other country. There could be a severe reduction in the currently massive amounts of United States revenue from the international information industry if burdensome regulations decrease the utility of information exchange systems.

Id. at 604-05 (footnotes omitted).

38 *See supra* note 4.

39 *See infra* note 224.

40 *See Fig. 4.*

41 In Apple Computer, Inc. v. Franklin Computer Corp., 545 F. Supp. 812 (E.D. Pa. 1982), the U.S. District Court for the Eastern District of Pennsylvania denied Apple's motion for a preliminary injunction against Franklin's using, copying, selling, or infringing Apple's copyrights in computer programs stored in read only memory ("ROM") semiconductor chips, in part because the District Court had doubts about the copyrightability of these ROM stored programs. On appeal, the U.S. Court of Appeals for the Third Circuit reversed and remanded. Apple Computer Inc. v. Franklin Computer Corp., 714 F.2d 1240 (3d Cir. 1983). The Circuit Court read the district court opinion as raising four issues, of which three were (1) whether copyright can exist in a computer program expressed in object code, (2) whether copyright can exist in a computer program embodied in a ROM, and (3) whether copyright can exist in a computer's operating system program. *Id.* at 1246. Relying in part on its earlier decision in Williams Electronics v. Artic Int'l, Inc., 685 F.2d 870 (3d Cir. 1982), that "the copyrightability of computer programs is firmly established after the 1980 amendment to the Copyright Act," *id.* at 875, and that a copyrightable work does not have to "be intelligible to human beings and . . . be intended as a medium of communication to human beings," *id.* at 876-77, the Circuit Court held: (1) a computer program, whether in object code or source code is a "literary work" under the Copyright statute, and is protected from unauthorized copying, whether from its object or source code version; (2) a computer program embedded in a ROM chip is an appropriate subject of copyright since it satisfies the copyright rquirement of fixation; (3) copyright can exist in an operating system since such a system is within the statutory definition of a computer program. *Id.* at 1249-52. *See also* Apple Computer, Inc. v. Formula Int'l, Inc., 725 F.2d 521 (9th Cir. 1984), which also held that microprocessor computer chips are copyrightable. For a discussion of some of the terms used in this case see Davidson, *Protecting Computer Software: A Comprehensive Analysis*, 23 JURIMETRICS J. 339, 341 (1983); Note, *Copyright Protection of Computer Program Object Code*, 96 HARV. L. REV. 1723 (1983). For a discussion of software in the United Kingdom, see Bishop, *Legal Protection of Computer Programs in the United Kingdom*, 5 NW. J. INT'L L. & BUS. 269 (1983).

42 The Semiconductor Protection Act of 1984 created *sui generis* protection for the mask works or topography of semiconductor chip design.

43 *See* Norman, International Business, *supra* note 23, at 3:

computer software, be valued for purposes of customs duties?[44] Does the use of computers raise new questions concerning protection,[45] authorship,[46] or compensation for use of copyrightable material?[47] At the same

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When tangible goods cross our borders, they pass through customs inspections. Can information imports be checked for the equivalent of narcotics or rabbies carriers? We would not want to import pornography or "video nasties," nor provide secret communications channels for technology transfer between terrorists. Yet any conceivable control which might be effective would throttle the free trade in information we are seeking . . . [R]egulations that depend on an ability to draw distinctions between indistinguishable data flows are unworkable. Yet we want to distinguish between information of commercial value and of none in order to protect intellectual property and to earn revenue from the information trade.

[44] Carriers who do not know the content of what they are carrying can not set tariffs dependent on content. Nor can the carrier provide the censor with the means of censorship. So content will have to be regulated at source or destination, not in transit. Our fear is that others may try to regulate the effects of data flow by regulating the flows itself [sic] installing the equivalent of customs barriers at which data packages must be opened for inspection.

Id. at 4.

In 1982, the United States proposed to the GATT Committee on Customs Valuation that charges relating to the information component of computer software be excluded from dutiable value. In November 1983, the European Communities offered a compromise which stated that although "transaction value" was the primary basis for valuation, it would be consistent with the spirit and objectives of the Agreement for those countries in a position to do so to treat the information component of computer software as non-dutiable. The European Communities compromise was adopted at the October 1984 meeting of the committee. OECD countries with ad valorem tariffs for software are expected to use this alternate method of valuation, producing lower tariffs on software.

[45] For a fuller discussion of some legal problems in protecting semiconductor chip designs, see 1983 Committee Reports, Section of Patent, Trademark and Copyright Law, presented at the American Bar Association's Annual Meeting in Atlanta, Georgia. *See also* POOL, *supra* note 20, at 215:

A computer program may operate on raw numerical data and from that data generate a readable report on trends, averages, and correlations. Another program may operate on articles and, without human intervention, generate abstracts of them. Certainly, the computer program that does is itself a text and is copyrightable under present law. But what of the text that the program generates? Who is the author of the computer-written report or abstract? The computer? The idea that a machine is capable of intellectual labor is beyond the scope of the copyright statutes. Can a computer infringe copyright?

[46] At the Second OECD Symposium on Transborder Data Flows, in London, England (Dec. 1983), Erik Tersmedens, Legal Adviser, Ministry of Justice, Sweden, presented a paper entitled A Harmonized Approach in Settling the Copyright Problems arising from the Use of Computers for Access to Protected Works [hereinafter cited as the Swedish Proposal]. The Swedish proposal recommended OECD member countries follow suggestions made by copyright experts from the United Nations Economic, Social and Cultural Organization, as well as the World Intellectual Property Organization that "states should consider the desireability of express recognition under their national laws of the exclusive right of the author to make his work available to the public by means of computer systems from which a perceivable version of the work may be obtained." *Id.* at 9. Endorsing the UNESCO/WIPO view that "copyright problems arising from the use of computers and data networks for access to works could be solved within the framework of the existing Berne Convention and Universal Copyright Convention," *id.* at 4, the Swedish Proposal went on to suggest possible amendment of legislation in all states "so that all kinds of output from computerized information systems fall within the exclusive rights of the author." *Id.* at 8.

[47] *See* POOL, *supra* note 20, at 249:

[C]opyright enforcement must be adapted to the technology. This exceptional control on communication is specifically allowed by the Constitution as a means of aiding dissemination, not restricting it. Copyright is temporary and requires publication. It was designed for the specific technology of the printing press. It is in its present form ill adapted to the new technol-

level, experts are trying to determine whether copyright is an adequate form of legal protection for software,[48] and video games are providing

ogies. The objective of copyright is beyond dispute. Intellectual effort needs compensation. Without it, effort will wither. But to apply a print scheme of compensation to the fluid dialogue of interactive electronic publishing will not succeed. Given modern technologies, there is no conceivable way that individual copies can be effectively protected from reproduction when they are already either on a sheet of paper or in a computer's memory. The task is to design new forms of market organization that will provide compensation and at the same time reflect the character of the new technology.

[48] A Committee of Experts on the Legal Protection of Computer Software, the World Intellectual Property Organization ("WIPO") held its second session June 13-17, 1983, in Geneva, Switzerland. Thirty countries, five intergovernmental organizations, sixteen international nongovernmental organizations, and four associations were in attendance. Among other matters, the meeting considered a draft Treaty for the Protection of Computer Software and the extent to which protection for computer software already exists and is sufficient under national or international law. The Report adopted by the Committee of Experts, LPCS/II/6, Annex I (June 17, 1983) [hereinafter cited as "WIPO Report"] presented the following positions:

Federal Republic of Germany	Software is a work under copyright law of the F.R.G., and therefore copyright protection is available to computer software.
Id. at 2.	
United States of America	Recent amendment to the United States Copyright Act (17 USC §§ 106, 117 as amended by Pub. L. 96-517, dated December 12, 1980, 94 STAT. 3028-29), made it clear that computer programs are protected by copyright law. A *sui generis* treaty would be required only it "present reliance on copyright and patent protection were found to be inadequate."
Id. at 3.	
Japan	It is "not yet possible to state Japan's uniform position with respect to the protection of computer software."
Id.	
Netherlands	Reliance should as much as possible be placed on "existing conventions in order to secure protection of computer software", and a *sui generis* approach "could only be appropriate if copyright was not sufficient.
Id.	
Denmark	Copyright law applies to protection of computer software.
Id.	
France	Copyright law applies to protection of computer software, but one has to examine "whether all the acts against which protection was desired were covered by the copyright law." Same position as Netherlands on *sui generis* statute.
Id.	
Hungary	Copyright applies to computer software. If an additional treaty is needed, conclude the treaty under Article 20 of the Berne Convention.
Id. at 4.	
Italy	Existing conventions do not clearly cover protection of computer software.
Id.	

almost as much legal discussion and litigation[49] as entertainment.

II. Sovereignty and Free Flow

In Europe, prior to the International Telegraph Convention of 1865,[50] territorial concepts of sovereignty resulted in international messages being telegraphed to the last territorial outpost of one state, transcribed, and physically carried to the adjoining state, to be retransmitted telegraphically.[51] This literal gateway approach to international information flow, may have a modern counterpart. For example, Arthur D. Little, Inc. has observed: "The free flow of information across international borders, requires that senders and receivers, either conform to agreed upon standards, or translate between standards at gateways, or interfaces between systems with different internal standards."[52] The literal gateway is also an early example of the competing principles of sovereignty and free flow of information.[53]

Other aspects of competition between sovereignty and free flow of information exist in the areas of economics and trade, as well as privacy, data protection, and fair information practices.[54] Competing considerations of sovereignty and free transfer are also reflected in policy choices in three areas of international information transfer: economics and trade; privacy and fair information policies; and science and technology. Should data protection laws encourage or inhibit exports of information through taxes or tariffs? Should individuals have no, limited, or broad access to computer records containing personal information? How narrow or broad should the scope of liability be if those records are inaccurate, or used for purposes beyond those for which they were originally compiled? Should technical and scientific data be subject to broad re-

Union of Industries of the European Community	Major software producers and users do not need a new treaty.

Id. at 5.

Computer Law Association and Association of Data Processing Service Organizations	For now, copyright "appeared to be sufficient for protection of computer software."

Id. at 6.

49 For a partial listing of recent videogame litigation, see Apple Computer, Inc. v. Franklin Computer Corp., 545 F. Supp. 812, 818 n.8 (N.D. Pa. 1982).

50 *See* Fishman, *supra* note 2, at 16.

51 *See* A.D.L. Impact Report, *supra* note 9.

52 *Id.* at 9.

53 *See* Novotny, *supra* note 5, at 173.

54 *See* 16 Stan. J. Int'l L. (1980); 14 Cornell Int'l L.J. (1981), covering these areas of transborder data flow.

strictions on transfer or to limited restrictions based on such considerations as national security, alternative availability, scarcity, etc.? How should conflicts of jurdisdiction or issues of extraterritoriality be considered in the area of international information transfers? If State "A" makes a different policy choice than State "B", will it be possible for an international information transfer to occur between these two states? Can the interests of the two states be accommodated? Does the U.K. Data Protection Act reflect voluntary principled answers to these questions or involuntary pragmatic answers to prevent data transfer proscriptions by Council of Europe members?

The most recent version of the International Telecommunication Convention[55] continues to reflect this competition at the gateway, in affirming both the public's rights in communication, and the state's rights, to stop covered communication "which may appear dangerous to the security of the state, or contrary to law, public order or decency."[56] The validated license treatment of unpublished technical data in the current United States Export Administration Control Regulations,[57] is another example of the competing principles of sovereignty or perhaps national security and free flow of information.

In addition to the International Telecommunication Union, other bodies and groups have begun in the last decade, to focus on other aspects of international information transfer. For example, the Council of Europe's 1980 TBDF Convention[58] emerged from a 1970s study of the need for international control mechanisms for transfers of individual medical data. The Organization for Economic Cooperation and Development ("OECD"),[59] the European Economic Community,[60]

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55 *See* International Telecommunications Convention, Oct. 25, 1973, 28 U.S.T. 2497, T.I.A.S. No. 8572. *See also* Fishman, *supra* note 2, at 5.

56 *See* A.D.L. IMPACT REPORT, *supra* note 9, at 25.

57 22 C.F.R. § 125.01-.24 (1984).

58 C.O.E. Convention, *supra* note 12.

The Convention will come into force three months after instruments of ratification are filed with the Council by five member states. On May 23, 1984, the Portuguese Parliament approved ratification, thus making Portugal the fifth ratifying state after France, Norway, Spain, and Sweden.

59 *See, e.g.*, text accompanying notes 65, 66, and 79.

60 Overcoming barriers to trade in information products and services may prove difficult even within such an institution as the European Common Market, despite provisions in Articles 48, 52, 59 and 67 of the Treaty of Rome [Treaty Establishing the European Economic Community, Mar. 25, 1957, 298 U.N.T.S. 11 (*entered into force* Jan. 1, 1958)] calling for the free movement of goods, persons, *services* and capital. The Commission of the European Communities Country Report, Some Views on Transborder Data Flows and Information Market Policy presented by C. Jansen Van Rosendaal, at the Second OECD Symposium on Transborder Data Flows, at 4-5, contains the following assessment of the European information market:

- The Information Market is fragmented and does not make optimal use of the economies of scale that the size of the Community Market offers.

UNESCO,[61] the Intergovernmental Bureau for Informatics,[62] and the UN Center on Transnational Corporations,[63] have focused on, or are now focusing on, personal privacy, economics, trade, and national development aspects of TBDF. Information transfer policies of the United States of America, Brazil, and the EEC illustrate some contemporary concerns.

- O A balanced development of the market in all Member States needs to make use of the full potential of the economies of scale of the European market. The economies of information networks and services are such that the more widely accessible they are, the greater is their viability. Imbalances between Member States, such as major differences in the timing of the introduction of essential infrastructures (such as networks) and services jeopardize development and widens rather than narrows the gap between them.
- O There is a risk that instead of the necessary convergence between national policies towards a common Community goal, the need to adapt to the fast changing information environment will generate growing incompatibilities between national structures. This will place serious constraints on the evolution of the information society. Two areas, for instance, where rules and regulations will shape the Community information market in the next decades are the value-added service end of the telecommunications spectrum and the status of new types of information services based on sophisticated technologies (where traditional distinctions, such as that between specialized and mass-media services, are becoming blurred).
- O In the information market for new services, lack of clarification of the respective roles of the public and private sectors creates uncertainty and unclear competitive situations which can become disincentives for private investment in the industry and the healthy development of the market.

Mr. Van Rosendaal concludes that:

> Greater efforts are now needed in the Community to create a European Information Market Policy framework which will ensure the proper market conditions for the information-related industry to flourish and enable the Community to play its role on the world information scene. The absence of such a policy framework has the potential to generate (and in many cases is already generating) market distortions and non-technical barriers to trade, the full impact of which is not yet entirely felt. Such distortions must be avoided by stimulating a sound and balanced evolution of our information society. To achieve this a coherent set of internationally accepted 'rules of the game' needs to be formulated in order to serve as a common basis for national information policies in the European Community.

Id. at 8-9.

[61] *See* Fishman, *supra* note 2, at 16. *See also* Report of the Director-General of the United Nations Educational, Scientific and Cultural Organization on the Second Intergovernmental Conference on Strategies and Policies for Informatics E/1982/89/Add. 1 (June 7, 1982).

[62] *Id.*

[63] The United Nations Centre on Transnational Corporations has produced many papers on TBDF. *See, e.g.*, Transnational Corporations and Transborder Data Flows: An Overview, E/C.10/87 and Corr. 1 (July 6, 1981); Transnational Corporations and Transborder Data Flows: A Technical Paper, U.N. Sales No. E.82.II.A.4 (1982); Transnational Corporations and Transborder Data Flows: Programme of Work and Progress Report, E/C.10/1982/12 (June 18, 1982); Secretary-General's Note Verbale on Transnational Corporations and Transborder Data Flows, E/C.10/1982/CRP.1 (Sept. 2, 1982); Preliminary Investigation of Transborder Data Flows in Japan, E/C.10/1982/CRP.2 (Sept. 7, 1982); Programme of Work on Transnational Corporations and Transborder Data Flows, The CTC Reporter 11, 12-13 (Spring 1982), U.N. Sales No. E.82.II.A.15 (1982); Transborder Data Flows: Access to the International On-line Data-base Market, U.N. Sales No. E.83.II.A.1 (1983); Transborder Data Flows and Brazil:: Brazilian Case Study, U.N. Sales No. E.83.II.A.3 (1983); Transnational Corporations and Transborder Data Flows: Progress Report, E/C.10/1983/12 (Apr. 28, 1983); and Transborder Data Flows and Poland: Progress Report on the Polish Case Study, E/C.10/IX/WP.2 (Apr. 25, 1983).

A. United States Policy on International Communications

Four years ago, an official statement of United States policy on international communications was prepared by the Department of State and submitted to Congress. That statement, contained in Senate Report No. 95842, referred to an Interagency Task Force on TBDF Research and Policy Coordination, chaired by the Department of State and the National Telecommunications and Information Agency ("NTIA"). The task force has been operating according to nine broad objectives:

1. To assure U.S. multinationals and others, of non-discriminatory access to low cost, efficient information systems.
2. To assure non-discriminatory commercial opportunity for U.S. firms, that are marketing international data processing and data bank services.
3. To participate in developing, international computer, data processing, software, and encryption standards.
4. To protect the privacy of personal data of U.S. nationals.
5. To support general access to scientific and technical data bases.
6. To respond to international concern about U.S. domination of international computer and data processing, and the reliability of access to U.S. bases.
7. To encourage U.S. access to foreign advances in hardware, and software technologies.
8. To encourage foreign governments to restrict their privacy laws to coverage of natural persons.
9. To provide a functional system for government-to-government exchange of data, with due regard to national security, and personal privacy.[64]

Since the 1979 report, there have been several developments. Among the developments are preparation of a paper by NTIA on the Foundations of United States Information Policy (presented at the OECD's High Level Conference on Information, Computers and Communications Policy held in Paris);[65] several bills introduced in Congress, such as H.R. 1957 (The International Communications Reorganization Act of 1981), and S. 821 (providing for the creation of an International Telecommunications and Information Task Force);[66] the appointment of Ambassador Diana Lady Dougan as Coordinator for International Communications and Information Policy, in the United States State Depart-

64 SEN. COMM. ON COMMERCE, SCIENCE, AND TRANSPORTATION, 98TH CONG., 1ST SESS., LONG-RANGE GOALS IN INTERNATIONAL TELECOMMUNICATIONS AND INFORMATION: AN OUTLINE FOR UNITED STATES POLICY (Comm. Print 1983).

65 NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION, U.S. DEP'T OF COMMERCE, THE FOUNDATIONS OF UNITED STATES INFORMATION POLICY, NTIA-SP-80-8 (1980).

66 SEN. COMM. ON COMMERCE, SCIENCE AND TRANSPORTATION, 97TH CONG., 1ST SESS. FEDERAL COMMUNICATIONS COMMISSION AUTHORIZATIONS ACT OF 1981, at 2. (May 15, 1981).

ment; the appointment of Walter Wriston as consultant on International Communication and Information Technology Policy to Secretary of State George Schultz; and creation by the Cable Communications Policy Act of 1984 of a Telecommunications Policy Study Commission. A proposed United States country study for submission to the UN Centre on Transnational Corporations also continues to receive attention.[67]

In December 1983, United States Ambassador Diana Lady Dougan presented a keynote address at the OECD Second Symposium on Transborder Data Flows. In that address, Ambassador Dougan supplemented prior statements of United States policy with several points on current United States policy. She stated:

1. The views of the United States on what we should do in the international community on Trade in Telecommunications Services are well known. We support discussion of these matters in GATT and are participating in the OECD consideration of trade in services and high technology. Last year we introduced in the ICCP [Information, Computers, and Communications Policy Committee] a draft declaration on data which has been an ongoing topic in the deliberations of the Working Group on Transborder Flows. We hope that these efforts will culminate in a consensus on a Declaration of Principles for an open system of international information flows.
2. [W]e are deeply concerned that human rights not be lost in the hum and whir of the computer age. The right to privacy, the right to know, and the right to free expression must be protected.
3. We recognize that "freedom of information" is subject to widely varying definitions, and that such freedom is not absolute. At the same time, my government will always insist the burden of proof is on those who claim a restriction is necessary. If the purpose of such restrictions is the protection of the public order, or the rights of property, or the denial of military technology to potential adversaries, those concerns should be stated candidly and clearly.
4. We cannot accept such broad generalizations as the "protection of cultural integrity" to be a sufficient justification for information control, particularly as these are too often only a guise for economic protectionism or censorship of the press.
5. We recognize, at the same time, that those who transmit information, and who seek themselves protection of such rights, must respect the rights of others as well.
6. We consider the free flow of international information as an extension of our domestic democratic traditions. Our laws and regulations are designed to encourage maximum access to information and minimize its abuse.
7. We applaud the leadership which the OECD Committee for Informa-

[67] *See* The Role of Transnational Corporations In Transborder Data Flows, Report to the Ninth Session of the United Nations Commission On Transnational Corporations 32, E/C.10/1984/14 (Dec. 27, 1983).

tion, Computer and Communications Policy has provided in working toward an international response to computer crime, and we will remain an enthusiastic partner in that effort. Nowhere is an imaginative international response more essential than in the trade in telecommunications services.

8. It is not enough for our governments to work with each other for political consensus on the issues of international telecommunications. We must also explore with our private industries the practical consequences of political decision.[68]

In addition to these positions, the United States also presented a country paper indicating four specific areas in which the OECD could play a role in assessing the broad implications of telecommunications policy in coming years: (1) promote cooperation among OECD members as these member countries define national telecommunications policies; (2) assist in establishing compatible policies governing the availability and provision of telecommunications and information services; (3) serve as a forum for discussion of specific issues identified by member countries; (4) incorporate telecommunications policies into formulation of national priorities in the areas of international trade and direct investment. Some of these suggestions on the possible OECD role in transborder data flows were also echoed in the remarks of the Honorable Justice M.D. Kirby, Chairman of the Australian Law Reform Commission, on the last day of the Symposium.[69]

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[68] Keynote Address by Ambassador Diana Lady Dougan, OECD Second Symposium on TBDF, in London, England 11-13 (Dec. 1983). The author was one of four private sector representatives in the 16 member U.S. delegation to the symposium.

[69] On December 2, 1983, The Honorable Justice M.D. Kirby presented a paper ("Legal Issues—An Overview") at the Second OECD Symposium on Transborder Data Flows in London, England. In a subsection of that paper, "Ten Questions—Towards A Role For OECD," Justice Kirby raised the following issues:

1. [I]s there an overall viable concept of "*information law*" into which . . . [these] issues . . . can be collected? . . . [C]an we simply draft new laws to meet specific problems in a piecemeal way in all of our countries—uncoordinated and in ignorance of developments elsewhere?
2. If it is premature to articulate a concept of TBDF law, as such, is there nonetheless a "*shopping list*" of immediately available practical problems which can be identified and which OECD is a useful forum or *the* useful forum in which to tackle them?
3. If we have such a "shopping list"—whether it is copyright for the protection of property rights, extension of privacy rights, insurance against liability, computer crime, freedom of information interaction, vulnerability or whatever—what should be the *priorities* on that agenda?
4. What are the *underlying values* which should determine both the identification of OECD legal tasks and the way in which those tasks are to be tackled?
5. What approach should be taken to *cost benefit analysis* in the legal regulation of TBDF? Are there some identified wrongs or problems which, in the nature of TBDF technology, are just too difficult or expensive to regulate? . . .
6. How should OECD relate to the many *other international organisations*, public and private, that have now entered the TBDF field? . . . [D]oes OECD have a role to *monitor legal developments*, co-ordinate Member countries' responses or offer informed consideration from the perspective of the main data countries?

B. National Information Management Policies: The Brazilian Case Study

Brazilian information resources are managed through the Special Secretariat of Informatics ("SEI"). The SEI formulates Brazil's national informatics plan, controls foreign information imports through a permit system, and advises the President of Brazil as part of Brazil's National Security Council on the impact of the permit system in such a critical area as balance of payments.

The SEI continues the expanded responsibilities of its predecessor, Coordinating Commission for Electronic Data Processing Activities ("CAPRE"), to supervise governmental and private sector computer acquisition activities and for controlling the import of computer parts. Imports of computer resources continue to be difficult if the computer tasks can be obtained in country. For example, imparting a foreign made high speed data processing computer would be difficult if locally made slower speed computers could perform the tasks. In many ways, computer and information resources are managed like foreign investment applications in many developing countries.

Critics of Brazil's information policies point to localization effects which may produce higher information processing costs through duplication of facilities or local content equipment that is less than optimal and therefore less efficient for operations of companies. They point out, for example, that Varig, the Brazilian airline, is reported to have been required to stop using a foreign based computer for airline reservations control, and to have been required to set up an alternative airline reservations system in Brazil. Similarly, the British news operator, Reuters, was requested to establish a local, alternative databank service.

Critics of Brazil's information policies say such increased governmental involvement in information flows like these obviously will mean

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7. If OECD is to enter the legal field what *institutional* methodology will be needed? . . .
8. Does the *methodology of OECD* need to be changed if it is to tackle legal questions having an ethical or expert content? . . .
9. There have been some who say—just leave it to the common law to develop responses *ad hoc* to perceived problems. But they are generally the very people who complain about uncertainty in the legal positions and who may be most harmed by that uncertainty. Is there a role for the OECD to pre-empt incompatible national lawmaking by entering the field of data law and *formulating broad principles* for the guidance of home governments—if only on the "rules of the road"?
10. Finally, should we be thinking of lower level legal regulation: guidelines and *persuasive rules of conduct* rather than coersive legal rules? At the least would this be an appropriate start in the long haul to a coherent body of law on TBDF? (Emphasis supplied).

These questions, and their answers, obviously have a broader institutional application than the OECD, e.g., in the Intergovernmental Bureau for Informatics, United Nations Economic, Social and Cultural Organization etc., and should also be considered in the context of principles for a Model Code for Transnational Commerce, presented in Part IV of this Perspective.

increased regulation. Distortion of marketplace competition, unnecessary and perhaps harmful disclosure of confidential data will be risks. Creation of non-tariff barriers to trade resulting in possible foreclosure of foreign access to Brazilian markets are also possible results. Critics maintain these policies reflect an incorrect view of information as a natural resource requiring governmental protection and preservation.

Proponents of Brazil's information policy argue that it is a reasonable solution to managing balance of payments flows, to developing internal market capability, and is a legitimate exercise of sovereignty over information resources. Since compliance with local laws is usually a necessary condition for conducting international business, there is nothing special in Brazil's regulation of information business through its information processing laws.

Regardless of which of these views is more persuasive, it is clear that Brazil's information management policies will be watched closely for emulation or rejection by other countries developing their own national information management policies.

C. Privacy As A Continuing Concern in Europe: The Sieglerschmidt Report and the U.K. Data Protection Bill

On October 12, 1981, the Legal Affairs Committee completed a Second Report ("Sieglerschmidt Report") on the Protection of the Rights of the Individual in the Face of Technical Developments in Data Processing and submitted it to the European Parliament. The Sieglerschmidt Report updated the First, or Bayerl Report.

In the Sieglerschmidt Report, the Legal Affairs Committee submitted a motion and resolution[70] to have the European Parliament consider "that data transmission in general should be placed on a legal footing and not be determined merely by technical reasons"[71] and give thought "to investigating the possibility and desirability of expressly incorporating the right to the protection of personal data as a human right or fundamental freedom in the text of the European Convention for the Protection of Human Rights and Fundamental Freedoms in the form of a sixth protocol."[72]

The Sieglerschmidt Report focused on Article 100 of the EEC Treaty and on the question of whether "harmonization of national provisions in the field of data protection [was] necessary for the proper func-

70 Second Report on the Protection of the Rights of the Individual in the Face of Technical Developments in Data Processing, 1981-1982 EUR. PARL. DOC. (No. 1-548)(1981).

71 *Id.* at 7.

72 *Id.*

tioning of the Common Market in the field of data storage, processing, and transmission."[73] Believing that different legal provisions could directly affect the establishment or functioning of a Common Market, the Sieglerschmidt Report stated: "Since, with the Council of Europe Convention and the OECD Guidelines, concrete steps have been taken . . . toward the adoption and harmonization of data protection law, it is necessary to ask whether Community provisions are still needed."[74]An affirmative answer was given for these six reasons:

1. [T]he OECD decisions have no binding force, although they may eventually be brought into force in most countries with a highly developed data-processing industry; . . .
2. [A]ccession to the international convention of the Council of Europe by the 21 member countries is optional; furthermore, ratification is likely, on past evidence, to be a lengthy process; . . .
3. [T]he Council of Europe Convention represents, admittedly, the most far-reaching arrangement at [the] international level for instituting or harmonizing data-protection law in the signatory states, but it falls short of the European Parliament's ideas to date on the Community provisions required; . . .
4. [M]any of the provisions of the European Convention for strengthening data protections are only optional and permit restrictions by individual states; . . .
5. [C]ommunity rules are needed to regulate transborder data flow between the Member States of the Community and its institutions and organs, on the one hand, and the rest of the signatories of the European Convention on the other; . . .
6. [C]ommunity provisions will ensure a higher level of harmonization.[75]

Computer processing of information on individuals also continues to receive attention at the State level. The detail of legislation in this area is quite complex. For example, as of March 15, 1983, a Data Protection Bill was being considered in the House of Lords in the United Kingdom. From the House of Lords, the Bill was expected to go to the House of Commons, where with the Tories' full backing, it was expected to pass easily. Civil libertarians opposed the Bill and argued that since manual files were excluded, the Bill did not go far enough. No action was taken on the Bill until after Mrs. Thatcher's reelection, when the Bill was reintroduced in substantially the same form as it existed in March, 1983.

Two points are worth noting about the text of the Bill. First, under Part II, the Data Protection Registrar can prohibit transfer of personal data to a country which is not a signatory to the Council of Europe Convention or to a country which is a signatory if the Registrar is satisfied

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73 *Id.* at 31.
74 *Id.*
75 *Id.* at 31-32.

there is an intention to transfer such data to a third country that was not a party to the Convention. Second, under Part II, the Bill provides for personal liability of any "director, manager or secretary or similar officer of the body corporate" where an offense under the Bill was committed by a body corporate "and is proved to have been committed with the consent or connivance of or to be attributable to any neglect" by such individual.

The U.K. Data Protection Act took effect on July 12, 1984, but full implementation and required compliance will take place in phases through 1987. Phase I will begin after the Home Secretary gives notice that computer record holders who store or process personal information on computers have six months within which to register data on individuals with Eric Howe, Data Protection Registrar. Notice of the registration period has not yet been given. Home computers used solely for non-business use, as well as payroll and accounting data, are exempted from registration. Specific files will not have to be registered, just the type of file, the purposes for which the file is maintained, and who holds the data. After expiration of the six month registration period it will be illegal to hold unregistered data, and Phase II will begin. Phase II will extend for eighteen months. Individuals who now have a statutory right to access information in databanks, will then have the right to have that information corrected if it is erroneous. The Data Registrar will be able to compel correction if the database collector refuses an individual's request to make such correction. General guidelines on the Act are expected to be issued by the end of February 1985.

The effect of technology is an underlying concern of these related developments. There are also other concerns. A principal concern of the U.K. Data Protection Act was to enable the United Kingdom to ratify the Council of Europe Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data. Without a Data Protection Act, the transfer of information to the United Kingdom could have been restricted or prohibited by other European countries who ratify the Convention.

D. International Information Transfers and Postal Telephone and Telegraph Authorities

International information transfer may have an impact on Postal Telephone and Telegraph ("PTT") revenues because such transfer frequently involves telecommunications and computer communications.

Increasing tension between policies of cooperation and competition[76] (or in FCC Chairman Mark Fowler's words "cooperative competition")[77] can be expected. It is problematic to speculate on how or if information technology and economics should influence regulation of national and international information transfers. However, two matters are clear. First, growth in new information products and services will benefit from investment in telecommunications.[78] Second, there will be increasing scrutiny of the structure of the telecommunications industry through which information transfers may occur,[79] particularly if proposals are

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[76] *See* Remarks of Mark S. Fowler, Chairman, Federal Communications Commission, before the OECD Committee for Information, Computer and Communications Policy, in Paris, France, at 11 (Dec. 13, 1982) [hereinafter cited as Fowler Remarks]: "Competition and the free flow of knowledge and ideas, regardless of their popularity, are cornerstones of the industrialized nations of the free world." *Id.* "To some extent all civilization has been built upon the transfer of information from one person to another from one generation to the next. We must guard against the inclination to erect artificial barriers to information flows." *Id.* at 3.

[77] *Id.* at 12.

[78] *See* Monopoly and Competition In The Provision of Telecommunications Services: A Survey of the Issues ¶¶ 2-5 OECD, ICCP (DSTT/ICCP/82.32):

2. In effect, the growth of the telecommunications industry over the next two decades will lead to the rapid diffusion of important new technologies: digital switching, optical fibres, satellites, videotex systems and so on. These technologies will progressively integrate with technologies derived from the computer and electronics industries, providing a unified infrastructure for information processing and transmission.
3. This will require major investments in the telecommunications network—absorbing nearly one per cent of the GNP in the OECD area annually—directly stimulating investment, output growth and innovation in the industries producing telecommunications equipment, and in the electronics industries more generally. By improving the quality and reducing the cost of telecommunications, these investments will also have substantial indirect impacts throughout the economy.
4. Thus, continued improvement of the telecommunications infrastructure will encourage rapid development of activities heavily reliant on information systems: these include high technology manufacturing industries and services such as finance, computer services and the mass media. Expansion in these areas will contribute to the OECD economies' shift towards sectors with high value-added and considerable growth potential.
5. Further, the availability of new telecommunications technologies may affect the geographical pattern of economic activity. With distance less of a constraint on the effective transfer of information, it should become easier to obtain a balanced regional distribution of industry. Equally, improved international telecommunications will accelerate the integration of the world economy, and further the growth of international trade and investment, particularly in the service industries.

[79] *See* OECD Secretariat, Monopoly and Competition in the Provision of telecommunications Services: A Survey of the Issues, OECD, ICCP (DSTT/ICCP/82.32) n.26 (Nov. 18, 1982).

Ultimately, decisions with regard to market structures in telecommunications services will depend on the judgments made with respect to a number of underlying issues:

—whether "universal service at a uniform price" is in keeping with goals of equity and social welfare, or is an economically inefficient way of achieving haphazard income redistributions;
—whether monopoly or (imperfectly competitive) markets provide the greatest stimulus to innovation and service diversification;
—whether the telecommunications requirements of national security can be met outside the monopoly context;
—and, if competition is decided to be desirable, on whether means can be found of reducing the costs of a transition to more competitive markets.

In part, these judgments will depend on predictions with respect to future developments in technol-

made to change that structure.[80]

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ogy. Inevitably, given the uncertain nature of future technologies, these predictions differ. Thus, for some analysts, the evolution towards Integrated Services Digital Networks ("ISDN") will reinforce the natural monopoly character of telecommunications, particularly by increasing the economies arising from centralized planning of the network's growth. For other analysts, the ISDN will have an exactly opposite effect, expanding even further the scope for service diversification and for overlapping private networks—and hence increasing the benefits of a shift towards competition.

However, these judgments will in the final analysis depend on the characteristics of each national market—its size, structure and diversity; the technical strength and innovativeness of its firms; the nature and development of its regulatory and political process. Thus, it may be easier, less costly, and more beneficial, to introduce competition in a large sophisticated and relatively homogenous national market which already has an institutional framework for dealing with multiple carriers, than in smaller countries with a strong tradition of uniformly available, state provided, public service.

Given this multiplicity of factors, it is likely that the decisions made by the governments of OECD Member countries with respect to the basic issuse of telecommunications policy will increasingly differ.

[80] Competitive concerns are presented clearly in the following material, quoted at length, at 10-11 in Monopoly and Competition in the Provision of Telecommunication Services: A Survey of the Issues, a Note by the Secretariat (Nov. 18, 1982) [hereinafter cited as "Secretariat Note"] for discussion at the OECD, ICCP Special Session, held on Dec. 13-15, 1982:

> It is important to note that allowing competition in the provision of telecommunications services would require a number of substantial—and probably costly—changes in regulatory structure.
>
> To begin with, if competitive entry is to be allowed only on a selective basis—that is, in certain markets but not in others, and/or by firms with certain qualifications but not by others—procedures need to be established for defining and implementing the boundaries between competitive and monopoly markets, for licensing entry applications, and subsequently for monitoring the performance of licensees.
>
> At the same time, safeguards of the fairness of competition would have to be set up. In effect, any move towards liberalized provision of telecommunications services will occur in a market largely occupied by a dominant firm—the established service provider. Furthermore, under most liberalization proposals, this supplier will retain a monopoly position in certain parts of the market, including local distribution. Thanks to this inherited position of dominance, combined with continued access to monopoly revenues, the established supplier could gain an unfair competitive advantage by:
>
> —cross-subsidizing operations in competitive markets with revenues raised in monopoly markets;
>
> —denying or unfairly restricting access by competitors to local distribution;
>
> —preventing the use of facilities by firms wishing to provide either pure resale or enhanced services.
>
> While safeguards against such anti-competitive behavior can be designed, they may involve substantial costs. Thus, excluding the suppliers of monopoly services from competitive markets will be costly: both in terms of the expenses incurred in disposing of the established supplier's assets in the markets being opened to competition; and in efficiency terms, since there may be important cost and technology complementarities between the monopoly services and those provided competitively.
>
> Equally, if the providers of monopoly services are allowed to participate in competitive markets—either directly or through arm's length subsidiaries regulatory supervision will be needed to ensure financial transparency in the relations between these two markets and to prevent unfair competition. Given the complexity of cost structures in telecommunications, it may, despite this supervision, prove extremely difficult to assess whether the established service provider's prices in competitive markets are "fair".
>
> Finally, competition, even if not distorted by restrictive practices, will only be efficient if the

Views on telecommunications structure are diverse[81] and, in many areas, will probably remain so. A universal structure is unlikely. For example, on April 26, 1982, Gabriel Warren presented this view:[82] "I'm not saying that Canada should get on the 'unregulation,' 'free market forces' bandwagon which is sweeping the U.S.A.—the Canadian Communications sector can not afford the same degree of competition nor the lack of regulation, as is feasible in the U.S.A."

J. Mueller, a consultant, at the OECD, ICCP Special Session On International Implications of Changing Market Structures In Telecommunications Services, provides another example, worth quoting at length, in "Regulating International Carriers: Some Atlantic Issues", presented on December 3, 1982. Initially, Mr. Mueller, contrasts the telecommunications environment in the United States with that in Europe:

> Because it takes at least two national partners to make an international telecommunications link, it is not enough for one country to move towards a pro-competitive attitude without an equivalent response from the other side. At the moment, most PTTs with a direct link to the United States are empowered with full monopoly rights for that particular country, its entering and departing traffic. As such, these PTTs have a degree of monopsony and monopoly power that has no parallel within the United States framework. How the PTTs use that power depends very much on their own interest and their political environment. As a consequence, the available spectrum for certain services, facility and service standards, and related engineering questions may be viewed in different ways than is expected by a new entering United States carrier.
>
> Furthermore, we must note the PTTs seem quite happy to deal with their sole source suppliers, with which they already have an established relationship. They are just not used to dealing with multiple interconnect customers, and many of them see this as an additional administrative burden which does not lead, in their eyes, to an improved level of service. As a matter of fact, one PTT mentioned specifically that it thought the costs of doing business per given volume would go up with each additional carrier

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competing firms are subject to equal handicaps. In a number of OECD countries, the established service providers are bound by constraints of their:

—pricing policies.
—grade of service and reliability.
—geographical pattern of activity.
—equipment depreciation policy.
—and access to capital markets.

Under these conditions the established service providers may lose market shares to higher-cost competitors who "cream-skim", provide a lower grade of service, do not operate in costly low density markets, or have easier access to finance. Far from promoting an efficient allocation of resources, competition under these constraints would increase the cost to society of providing telecommunications service.

81 *E.g.*, whether monopoly or competition is the best structure for telecommunications.

82 Remarks by Gabriel Warren, Towards a Canadian Perspective on International Communications Issues, before the Canadian Commission for UNESCO Roundtable, at 3 (Apr. 26, 1982).

with which it would have to negotiate.[83]

Mr. Mueller concluded:

> The PTTs are much more concerned with the entry of value added networks (VANs) and the resale networks than with the additional entry of IRC (International Record Carriers), since it is these services that are perceived as a threat to the currently practiced telecommunications monopoly because of their cream-skimming policy (i.e. a concentration on the most profitable links) which would result in direct losses of revenue to the PTT. To some extent, these fears can be traded to the earlier authorizations of such VANs as Graphnet and Telenet. (Both are United States domestic value added carriers, which were permitted by the FCC to provide international services without first having obtained an operation agreement from foreign PTTs.) The same worry seems to apply to the case of CCI (Consortium Communications International) and Unitel performing international carriage, for which the FCC has also not required an operational agreement with PTTs before granting a common carrier license.
>
> To some extent, such VANs may also perform the function of resellers. This may entail a retail function, for example with respect to bulk offerings of international transmission capacity, but also an arbitrage function, if there exists price discrimination between service and user classes, while the services are the same in every respect.
>
> Pure resale is essentially an arbitrage function. If it works correctly, it would start with cream-skimming, thereby putting pressure on rates which are too high, and withdrawing surpluses from rates which are too low, and can then no longer be subsidized. A classic case is bulk discounts, where the discount is larger than the bulk cost saving. In this case the reseller buys at the low bulk rate and resells at rates which are below the prevailing rates for small volumes.[84]

These quotes indicate that an emerging international consensus on the rules for cooperative competition in this area is unlikely to arise at any time in the near future.

E. Industry Perspectives

1. National Association of Manufacturers

In the United States, the National Association of Manufacturers (NAM) has identified three areas which it believes will affect United States companies attempting to conduct business in the new Information Age. NAM believes that:

1. There is a general community of interest between U.S. companies that are suppliers and users of telecommunications equipment and international information services. This community of interest encourages

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[83] J. Mueller, Regulating International Carriers: Some Atlantic Issues, presented at the OECD ICCP Special Session on International Implications of Changing Structures In Telecommunications Services 2 (Dec. 3, 1982).

[84] *Id.* at 3.

support for the freest possible trade in information products and services, while also allowing for relevant national security consideration.

2. Trade in telecommunications equipment is a critical part of the U.S. effort to maintain its international competitiveness in advanced technology, but there is much evidence that our competitive position in this area has seriously worsened.
3. Many foreign governments—in both industrial and developing countries—are using restrictive measures related to international information flows as *de facto* trade barriers. They are, thereby, creating the national basis for internationally competitive advanced technology industries.[85]

NAM's director of International Investment, Stephen Cooney, concludes:

> The development of the world's international information network is at a crossroads. Specific policy choices must be made to ensure that international transmission of information be kept as free as possible, to maximize world economic growth and trade. Nationalistic policies openly or indirectly designed to protect local providers of equipment or services will be tempting because of short-term economic payoffs, but may be counterproductive in two ways: reduced efficiency in the domestic economy and increased pressure for retaliatory action by trading partners. Such policies can negate or reduce the cost savings or improved service that companies may gain from accelerating advances in information technology.[86]

Recent surveys also reflect concerns of businesses in the United States,[87] which also are expressed by groups such as the International

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[85] *National Association of Manufacturers*, ENTERPRISE, Mar. 23, 1983, at 24.

[86] *Id.* at 26.

[87] In December 1983, Price Waterhouse published BUSINESS VIEWS ON INTERNATIONAL TRADE IN SERVICES: THE RESULTS OF A SURVEY OF FORTUNE'S DIRECTORY OF SERVICE COMPANIES. Questionnaires were sent to the chief executive officers of 220 Fortune service companies, defined as those obtaining more than 50% of revenues from sales of services. Responses were received from 76 firms. Forty-nine percent of the responses were from banks, twenty-five percent of the responses were from diversified service companies, with the remaining responses from companies involved in retailing, transportation, utilities, life insurance and diversified financial services. Foreign service revenues of responding firms ranged from $25 million to over $5 billion. Though the Survey's responses were admittedly limited, 64% of the responses indicated foreign barriers to trade in services were an increasing problem, while 85% of respondents expected future services trade to increase only moderately. *Id.* at 3. *See, e.g.*, the full page advertisement by International Business Machines United Kingdom Limited, THE TIMES, Dec. 1, 1983, at p.5: "We are now one of the leaders in Britain's information technology revolution . . . Information technology is of course an international business." *See also* Transborder Data Flows In International Enterprises: Based On Results Of A Joint BIAC/OECD Survey and Interviews with Firms, OECD DSTI/ICCP/83.23 distributed at the Second OECD Symposium on Transborder Data Flows, in London, England (Dec. 1, 1983), for an analysis of TBDF experiences of 128 firms in 10 countries. The BIAC/OECD Survey presents in paragraph 158, at 38, and paragraph 167, at 40, an excellent summary of the interplay between TBDF in an international firm and telecommunications, worth quoting at length:

> In sum, a firm's decision to adopt TBDF depends in part on the telecommunications equipment and services which are available to it. Current technology and prices may prevent some firms from using TBDF at all, for others an acceptable TBDF system can be found, but may not

Chamber of Commerce.[88] Though these concerns are legitimate, they may be perceived as secondary and self-serving to a primary strategy of creating captive markets for the information goods and services of United States companies.[89]

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be considered optimal. Furthermore, once a system is in place, the firm is vulnerable to changes in tariffs and policies which may undermine the reasons for having initiated TBDF use. Given the importance of telecommunications policy in determining whether or not a TBDF application is viable, it is not surprising that a great number of complaints and suggestions are voiced toward telecommunications authorities in this survey. Setting standards, approving equipment, providing carriage and establishing prices are all prerogative of the telecommunications authorities which have considerable impact on the international firm—an impact which is increasing as more corporate functions are aided by TBDF. International tensions can develop when firms from one country face sudden changes imposed by the telecommunications authorities of another. The potential for conflict underlines the importance of strengthening *communication* with users in the telecommunications policy process.

As firms become more dependent on TBDF they also become more sensitive to changes in the conditions and price of telecommunications services. On the one hand, having based their new information strategies on certain configurations of price, quality, and permitted uses, some firms may see the advantages of TBDF applications diminish or disappear if those configurations change. On the other hand, change could also make TBDF newly advantageous to a different set of firms. What is clear is that telecommunications policy is going to have an increasing impact on the behavior of international firms and, therefore, on the development of world trade and foreign investment. The increasing importance of information flows, and their growing value to international firms also implies a need for serious attention to questions of responsibility for TBDF. The potential harm to be caused by inaccurate, late or misleading information grows larger with each new application.

[88] *See* I.C.C. PERSPECTIVE, *supra* note 19, at 2:

In today's increasingly complex business environment, information is a key resource in national and international trade, commerce and industry, essential to the growth and development of individual nations and an important element in the stimulation of the world economy. In an interdependent community of nations, information can play that role only if it flows freely and can be accessed and exchanged on a worldwide basis. Because of its pervasive nature, information technology has inevitably raised a wide range of new social, economic and juridical issues. Questions have arisen as to how the national interest can be maintained in a world in which information technology is increasingly creating international interdependence—questions relating to the protection of personal privacy, economic sovereignty, the vulnerability of a computerised society, the migration of employment and decision taking.

Within the international business community . . . there are serious fears that the application of new information technologies may be inhibited by the introduction of unwarranted or untimely laws or restrictions. Before any form of additional legislation or regulation is contemplated, the ICC urges that certain criteria should be applied:

That it be evident that established law or regulatory mechanisms are inadequate or inappropriate.

That significant harm be clearly demonstrable, not merely a technical possibility. Regulations should focus on abuse of the information itself and not on the media of transmission.

That only specific problems be addressed and interference with other parts of the information sector be minimised. An example of the latter has been the inappropriate inclusion of legal persons in the data protection laws of several European countries.

That cost/benefit analysis of administration procedures demonstrate that neither unreasonable direct or indirect cost nor delays will be incurred by business.

That in view of the dynamic state of information technology and the limited experience in this field, preference be given to voluntary approaches or other means of avoiding the inherent inflexibility of legal processes.

That regulatory measures be adopted only within an internationally harmonised framework. Due to the transnational character and importance of information flows, it is vital to reach an international consensus on their role.

Id. at 3.

[89] *See* G. Anderla & J. Petrie, The International Data Market Revisited OECD II DSTI/ICCP/

2. Canadian Business Equipment Manufacturers Association

The Canadian Business Equipment Manufacturers Association ("CBEMA"), expressed its views in a "White Paper"[90] that:

1. A flexible policy should be maintained in dealing with international information flows.
2. International cooperation between developing and developed countries should be encouraged for technological growth and free information flow.
3. The United States should develop a more coordinated position on information policy and make its views known in the OECD, GATT, and IBI.
4. Information resources should not be treated as a natural resource. The equation of hardware independence with national sovereignty by some countries encourages false reliance on vertical integration and an unbalanced use of capital.
5. No viable set of precedents on which a reasonably sound legal structure for controlling information flows can be based exists and no structure of agencies, lawyers or courts exists to manage such a system.[91]

In a related paper, entitled "Transborder Data Flow: An Industry Perspective on the Implications for Canadian Public Policy," CBEMA stated that:

83.25, 27-28 (Dec. 1, 1983), a paper presented at the Second OECD Symposium on Transborder Data Flows, in London, England:

> In reality what we are witnessing is the emergence, under the leadership of the U.S. information industry, of powerful integrated service firms, consortia or closely-knit groups of companies, combining computing power of their own without precedent, unrestricted access to countless data bases, assured usage of worldwide networks, an expertise unparalleled in variety and depth, together with unique marketing and managerial abilities.
>
> This new organisational configuration has—so far—no equivalent in either Europe or Japan. It may well turn out to be superior, in power terms, to the old-fashioned monopolies and oligopolies.
>
> And if this happens, then the notion and practice of 'captive market' is almost certain to spill over from the hardware and telecommunications industries, to the information industry, as well. (footnotes omitted).

See Address by Sir Donald Maitland, Second OECD Symposium on Transborder Data Flows, in London, England (Nov. 30, 1983).

> This flow of information [into and out of computers along telecommunications links] is likely to become [a] major element in economic activity generally and will have special significance for the information industry itself. It is equally clear that the full benefits of this flow can be realized only if data can circulate not just within countries but also across international borders. On the face of it, this would seem to call for a properly developed and internationally accepted framework within which the information can flow.

Id. at 2.

90 CANADIAN BUSINESS EQUIPMENT MANUFACTURER'S ASSOCIATION, INTERNATIONAL INFORMATION FLOWS: THE NEED FOR FLEXIBILITY (June 1982).

91 *Id.* at 13-14.

1. Free flow of information across national boundaries—constrained only by requirements to insure individual privacy and national security—is essential to the health and growth of the Canadian economy. Free data flows will become increasingly critical for technology transfer.
2. Unrestricted transborder data flows will not lead to a reduction in the growth of information processing activity in Canada.
3. There is no proof that Canadian sovereignty is being diminished by large quantities of information being moved and stored outside Canada.[92]

It is important that industry perspectives, such as those of NAM and CBEMA, continue to be presented, so that they may be taken into account by policymakers.[93] Unless these industry perspectives are considered by policy makers, businesses will not make the kind of capital expenditures and investment in research and development required to produce the new information products and services presented in *Figure 1*. Such perspectives are also vital in analyzing the costs and benefits of following or rejecting the Brazilian information policies discussed in Part II B of this Perspective.

III. INTERNATIONAL INFORMATION TRANSFERS

A. A Trade Issue?

Is international information transfer a trade issue? The answer depends on what kind of information is involved, and to whom the question is posed. In some instances, the answer is clearly "yes;" in other instances, the answer is clearly "no." In still other instances, it is not possible for anyone to answer the question honestly, unequivocally, and convincingly. It is clear, however, that at least the Commission of the

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92 CANADIAN BUSINESS EQUIPMENT MANUFACTURER'S ASSOCIATION, TRANSBORDER DATA FLOW: AN INDUSTRY PERSPECTIVE ON THE IMPLICATIONS FOR CANADIAN POLICY, at 3 (June 1982).

93 *See* Robinson, Environment *supra* note 1, at 2:

> To what extent have international corporations reduced their local data processing activities [including programming and systems development] and transferred them to another country? If this transfer has occurred, does the trend appear to be continuing or increasing? Or has the more recent growing awareness of concerns led to a slow down, or even, perhaps, to some repatriation of these activities, has there been a parallel transfer of some other corporate functions?

See also Robinson, Legal Questions and Transborder Data Flow, a Presentation to the Swedish and Norwegian Societies for Computers and Law (Jan. 1982) [hereinafter cited as Robinson, Legal Questions]:

> In short, if state territorial boundaries are *technologically* irrelevant to the use and storage of data, how can national laws further national objectives and still avoid the effect of regulating "electronic" transaction within the territories of other states? It may well be that persons who "own," process, store, transmit, and *use* data in international commercial transactions will increasingly be subject to different and perhaps contradictory national laws.

European Communities has discussed the technology of information transfer in terms of trade.

On May 25, 1982, the Commission of the European Communities submitted a document entitled "Towards a European Strategic Programme for Research and Development in Information Technologies" to the Council. This document notes that the "information technology industry is at present dominated by the U.S.A.;"[94] that in the information technology sector "technology is the key to competitiveness;"[95] and, that "the overall balance of trade for Europe in the information technology sector is negative."[96]

As part of its introduction, the Commission makes four points:

1. Concurrently, with the present economic crisis, Europe is suffering from declining competitiveness in its industry. This has resulted in an increasing loss of markets and in a consequent rise in unemployment. Increasing competition from Europe's major industrial competitors is being experienced even more in the high technology industries which are key to Europe's future growth.
2. It is urgent to reverse this unfavorable trend. The Commission has given priority . . . to adapting the whole range of Community policies to respond to the present situation and to contribute to solutions.
3. Information technologies effect the entire fabric of the economy. Their rapid application offers the key to increased competitiveness in virtually all main sectors both in manufacturing industry and in the service sectors.
4. Not only is information technology a key to competitiveness, but it is also a major growth sector. The world market for information technology products is growing at 10% annually—even in the present recession. Annual world sales are perhaps 100 billion ECU and 30% of this market is within Europe.[97]

The Commission responded to this situation by proposing that a long-term strategy to enable "the European industry to attain eventually a world market share comparable to the relative size of the European information technology market itself, e.g. 30% of the world market,"[98] be created. The strategy would rest on a cooperative level, called "ESPRIT," for European Strategic Research Programme in Information Technology. These following areas were identified for study: (1) Advanced Microelectronics; (2) Advanced Information Processing; (3) Software Technology; (4) Office Automation; and (5) Computer Inte-

94 Towards a European Strategic Programme for Research and Development in Information Technologies 2 COM(82)287 Final (May 25, 1982).

95 *Id.* at 1.

96 *Id.* at 3.

97 *Id.* at 1.

98 *Id.* at 4.

grated Flexible Manufacturing.[99]

The Commission put the ESPRIT program in a larger context:

> In the U.S.A. 15.7% of the national 1981 R&D budget of $68.6 billion ($10.8) was for electronics and related technologies. Of this figure some 47% was to be provided by industry and 49% by government. Two examples of joint U.S. government/industry programmes are the VHSIC programme—$210 million over 6 years, with an industrial contribution of at least that amount—and the ICAM programme—to which the U.S. government is contributing $100 million over 5 years.[100]

The ESPRIT document provides details in many areas.[101] The Commission also indicated that the ESPRIT programme "must at least match comparable efforts in the U.S.A. and Japan."[102]

According to a recent article, the ESPRIT pilot program is "a $1 billion catch up and confront program for information technology modeled on [Japan's Ministry of International Trade and Industry's ("MITI")] successful plans that helped Japanese industry overhaul American manufacturers of microchips and main frame computers."[103]

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99 *Id.* at 6.

100 *Id.* at 11 (footnotes omitted).

101 *Id.* Paragraph 42.1 in the Commission ESPRIT Document illustrates this detail for advance microelectronics in the area of advanced interconnect for very large scale integration:

> A silicon integrated circuit is made from a wafer of pure silicon onto which has been fabricated by a series of deposition, diffusion and lithographic processes a very large number of microscopic electronic components. These are grouped together by metal interconnections to form circuits or cells performing specific electrical functions. Within the next five years, it will be possible to pack one hundred thousand cells or more on a fifty square millimetre VLSI chip (about the size of a small finger nail), in mass production. In order to achieve this density of integration the size of any feature of the microcomponents must not be greater than 1 micron (millionth of a metre) as compared to 3-5 microns in commercial use today. There is at present no mass production technique that is compatible with one micron feature technology, either for connecting together the components that constitute a cell or for interconnecting the densely packed cells. The millions of connections required must be isolated from each other and yet be as short as possible in order to avoid reducing the speed at which the circuits can operate. In order to solve this problem it is proposed to develop a technology whereby four very thin insulated layers of metal interconnection patterns with a minimum feature size of 1 micron can be included in the fabrication process. An additional and vital benefit of this interconnect technology is that it will allow the design of interconnections patterns and hence the layout design of the whole circuit chip to be automated by a computer aided design system. Development of such a CAD system is the object of another pilot project entitled "High Level CAD for Interactive Layout and Design."

102 *Id.*

103 *Invented in Europe, Patented in America and Made in Japan?*, THE ECONOMIST, Apr. 2, 1983, at 94.

Another proposed billion dollar program is the Special Programme for Informatics Development ("SPINDE") sponsored by the Intergovernmental Bureau for Informatics. *See, e.g.*, Thomas Ennison, Legal Aspects of TDF In developing Countries—Sovereignty Considerations, a paper presented at the International Law Symposium on Transborder Data Flow by The Section on Business Law's Committee on Computers and Electronic Devices, the International Bar Association, in Toronto, Canada, at 17 (Oct. 6-7, 1983) [hereinafter cited as Ennison, Sovereignty]:

> The programme brings together the suppliers of informatics equipment (defined as the Companies and their Countries) and financial institutions, on the one hand, and the beneficiary Coun-

The article indicates that Viscount Étienne Davignon, a Vice President of the Commission of the European Communities, favors such an MITI model. It should be noted, however, that at their February 28, 1984 meeting, the EEC's Council of Research Ministers approved the ESPRIT program, to be funded at 750 million ECUs for the next five years, to be matched by an equal sum from industry. One ECU equals approximately $.86.

Furthermore, another article on ESPRIT indicates that ESPRIT also is being considered as a first step toward a "full-blown European industrial policy,"[104] which might include joint product development and marketing if EEC competition rules are modified.[105] Agreements between European telecommunications authorities reportedly have been reached in the area of technical standards for information products and services "for teletex terminals, which are due to replace telex machines, and for videotex systems, low-cost computerized information networks which can carry services like home banking and electronic shopping."[106]

B. Carriage, Content and Trade

Gabriel I. Warren, Director General of International Telecommunications for Canada's Department of Communications, has stated:

> I realize that in a democracy, governments are supposed to deal with "carriage" issues and keep their noses out of "content." But it would be naive to believe that the essential core of Canadian "content" will be able to flourish if the government does not create the financial and cultural conditions for it to flourish.[107]

Often, it is difficult to separate content, carriage, and trade issues, particularly in the area of services. In the area he describes as transborder data flow and high technology, Mr. Warren presents a trade perspective:

> The Canadian government will have to come up with positive measures to stimulate the processing of data in Canada rather than place the emphasis

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tries, on the other hand, into a negotiating process to determine the most appropriate means of establishing the projects needed. Various financing methods are being discussed, among them Equipment Leasing. This will entail, among other things, an investigation into the Leasing laws, the general Contract law and tax laws of developing Countries with a view to facilitating the operation of Leasing Companies.

104 Fin. Times, Mar. 21, 1983, Sec. II, at 2, col. 6. In mid 1984, the European Commission selected ninety projects and committed 200 million ECU's for funding the initial phase of ESPRIT. A related EEC program, Research in Advanced Communications in Europe ("RACE") has also been proposed for approval, to promote research and development between firms in different member states, with half of the 500 million ECU funding (approximately $400 million) to be provided by the Community.

105 *Id.*

106 *Id.* at col. 8.

107 Warren Remarks, *supra* note 78, at 2.

> on cutting off the flows access borders. Similarly, the government isn't going to build up [the] Canadian communications high tech industry by erecting tariff or non-tariff barriers but by providing incentives for it to grow and specialize *and*, very importantly, by aggressively assisting Canadian industry to win foreign contracts.[108]

It is unfortunate but true that incentives such as those suggested by Mr. Warren may be perceived as non-tariff barriers or impediments to foreign competition. A case brought under Section 301 of the United States Trade Act by American Broadcasters (after enactment of a Canadian tax law amendment denying, to Canadian business, a deduction for the expenses of an advertisement directed primarily to a market in Canada and broadcast by a foreign broadcaster) illustrates this point.[109]

Finally, Mr. Warren states: "I have learned to beware of slogans such as the type that abound in the international communications field, ones such as the 'free flow of information,' 'first-come, first-served,' or an 'open skies' satellite policy. There's usually a gut economic interest lurking beneath the political and even philosophical trappings."[110] In fact, Mr. Warren may not have stated the issue strongly enough. In the area of communications technology, gut economic interests are emerging in Europe under ESPRIT.

The content of information transfer is not a trade issue. "Truly democratic governments have a legitimate regulatory role to play in deciding what means of carriage or transmission are used and at what rates. But it is a cardinal principle of western democracies that government must not control the content of what is transmitted."[111]

As stated earlier, it is impossible to accommodate the United States' First Amendment values with a trade view of information on content. A "safe harbor" for such information as news in the stream of communication must exist regardless of the technology by which it is transferred.[112]

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108 *Id.*

109 *See infra* text accompanying notes 127-131.

110 Warren Remarks, *supra* note 78, at 3.

111 F. Fox, Communications: Cornerstone of International Relations, address at the Opening Session of the XIVth Annual Conference of the International Relations Club, University of Montreal 5 (Mar. 16, 1981) (Fox is Canadian Minister of Communications).

112 *See* THE MEDIA INSTITUTE, ISSUES IN INTERNATIONAL INFORMATION: A WORKSHOP ON THE NEW WORLD INFORMATION ORDER AND OTHER KEY ISSUES (1981). *See also* Kirby, The Morning Star of Informatics Law And The Need For A Greater Sense of Urgency, paper presented at the Intergovernmental Bureau For Informatics, in Rome, Italy (June 26-29, 1984).

> The chief proponents of "free flows" tend to be in the United States of America. Nurtured in the philosophy of the First Amendment of the United States Constitution, which guarantees free speech and a free press, Americans tend to be in the vanguard of those urging as little interference as possible in the free flow of data across borders. It is no disrespect to say that this doubtless sincere philosophical conviction also happens, providentially, to accord with the eco-

C. Treaties and Their Application to Trade in Services

Treaties of Friendship, Commerce and Navigation ("FCN") may be applicable to trade in information services.[113] At a program co-sponsored by the Section of Science and Technology and the Section of International Law and Practice, presented at the American Bar Association's 1982 Annual Meeting, Mark B. Feldman presented the following analysis:

> [T]he FCN treaties entered into by the United States with such states as France, Germany and Japan generally provide rights of establishment, national treatment and most-favored nation treatment for most economic activities. They also recognize the right to gather information for dissemination abroad, by the print and electronic media, and they further provide that nationals of either party shall be permitted within the territory of the other party "to communicate freely with other persons inside and outside such territories by mail, telegraph and other means open to general public use."
>
> If nationals of a treaty party have the right to participate in trade and commerce on a non-discriminatory basis, and if they have a flat right to use the means available to the public for domestic and international communications, there is a clearly implied right to offer computer-based information and data processing services from inside and outside the host country.
>
> This right to communicate is not to be confused, however, with a right to operate communications facilities. The U.S. FCN treaties generally include an exception from national treatment for certain sensitive sectors, particularly domestic communications. Ironically, an effective right to communicate under these treaties, that would embrace transborder data flows, depends on the exclusion of data processing and information services from the definition of "comunications" even though we are trying to define "a right to communicate" under international law.
>
> The same distinction, between data processing and telecommunications, will be necessary to maintain an open international market for computer services outside the scope of the state monopolies that operate communications services in most foreign countries. Fortunately, this distinction has been recognized, thus far, by the Federal Communications Commission, in the consultative bodies of the International Telecommunications Union, and, to a lesser extent, and perhaps in a tenuous way, by

nomic interests of the United States. Happy is the country whose social philosophy and economic interests so neatly coincide.

113 Services are covered, in a limited way, under GATT, in connection with government procurement. *See infra* text accompanying note 187. *See also infra* the text accompanying note 113, at 92 (another service sector covered by GATT is cinematograph films). "This is the only service sector explicitly dealt with in the General Agreement. As provided in Article IV and Article III(10), any internal quantitative restrictions controlling the use of cinematograph film shall take the form of screen time quotas (i.e., which require cinemas to show a certain percentage of nationally produced films."

Japanese and European regulatory authorities.[114]

Nevertheless, some commentators have argued that services are not covered by FCN treaties:[115]

> With respect to industrialized nations, FCN treaties generally include both a national treatment clause and a most favored nation (MFN) clause. Under these provisions, host countries (a) may not discriminate against nationals and companies of other contracting nations and (b) are obliged to accord treaty partners MFN status in certain areas.
>
> Although many of these treaties make specific mention of financial services and insurance, they do not purport to cover services in general. Furthermore, they have often proven ineffective in preventing barriers to service trade.[116]

The United States National Study on Trade In Services ("SOTIS"), a submission by the United States Government to the General Agreement on Tariffs and Trade, issued in December 1983, and prepared under the direction of the Office of the United States Trade Representative,[117] also reviews FCN treaties. According to the SOTIS, the United States is a party to FCN treaties with 43 nations. More than half of these treaties were executed since World War II. These bilateral, functional or horizontal agreements differ from post-war FCN treaties. They place "greater emphasis on the right of establishment and the promotion of private foreign investment than on trade and shipping."[118] In all the FCN treaties, however, "service industries are treated on the same basis as other businesses except where more specific provisions are provided."[119]

SOTIS provides a more thorough analysis of these treaties. It notes:

1. The right of establishment differs from treaty to treaty depending on when the treaty was signed and the economic development level of a treaty party.
2. FCN treaties executed in the 19th Century do not deal specifically with investment because foreign investment by U.S. firms at that time was small.

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114 M. Feldman, Remarks at the American Bar Association Annual Meeting in San Francisco, California 34 (Aug. 10, 1982), *reprinted in* VI TRANSNAT'L DATA REP. 51, 52 (1983).

115 Fisher & Steinhardt, *Section 301 of the Trade Act of 1974: Protection for U.S. Exporters of Goods, Services, and Capital*, 14 L. & POL'Y INT'L BUS. 569 (1982).

116 *Id.* at 640 n.371 (citing R. SHELP, BEYOND INDUSTRIALIZATION: ASCENDENCY OF THE GLOBAL SERVICE ECONOMY 155-57 (1981)).

117 U.S. National Study On Trade In Services: A Submission by the United States Government To The General Agreement on Tariffs and Trade, Dec. 1983, Prepared Under the Direction of the Office of the United States Trade Representative [hereinafter cited as SOTIS]. Canada and the United Kingdom have also submitted trade in services studies to GATT. Reports from France and the European Communities are also expected to be submitted.

118 *Id.* at 75.

119 *Id.*

3. Most favored nation treatment in commercial matters is found in 13 treaties signed before 1905, while 15 treaties executed after World War I cover most favored nation treatment in establishing and operating a business.
4. National treatment with respect to establishing and operating a business is covered in 11 post-1953 FCN treaties.
5. Exempt from national treatment in all the FCN treaties are activities involving communications.
6. Some FCN treaties provide special requirements for practicing professionals (e.g., law, accounting) or [for providing] insurance.[120]

Thus, SOTIS suggests, there is no universal answer to the question of whether trade in information services is covered by FCN treaties. The nature of such service, as well as the specific treaty, would have to be considered and examined before such a determination is made.

SOTIS also indicates that after execution of the last FCN treaties in the 1960s, the United States government initiated a new program to conclude Bilateral Investment Treaties ("BITS").[121] BIT negotiations have occurred with eleven countries, and BITS have been executed with Panama, Egypt, and Senegal. The model BIT covers "national and most favored national treatment for investors; standards for compensation in the event of expropriation; provisions for the transfer of profits and other funds associated with investments; and procedures for settlement of disputes."[122] Although BITS include service industries, "each BIT contains an annex in which each party may specify sectors, in which there exist exceptions from national treatment."[123]

On November 3, 1983, Roland Frazee, Chairman of the Royal Bank of Canada, gave Canadian Prime Minister Trudeau a proposal for discussions with the United States on trade in computer services. This proposal related to on-going discussions between the Canadian Ministry of External Affairs and the Office of the United States Trade Representative for limited sectorial free trade arrangements with the United States. These sectorial arrangements might be embodied in BITS.

A 1983 publication[124] by Rodney De C. Grey discusses the proposal for trade in computer services. The Royal Bank of Canada commissioned preparation of this work by Mr. Grey, Canada's former Ambassador to the Multilateral Trade Negotiations. The Traded Computer

120 *Id.* at 76.
121 *Id.*
122 *Id.*
123 *Id.*
124 GREY, CLARK, SHIH AND ASSOCIATES, LIMITED TRADED COMPUTER SERVICES: AN ANALYSIS OF A PROPOSAL FOR CANADA/U.S.A. AGREEMENT (1983) [hereinafter cited as TRADED COMPUTER SERVICES].

Services report examines the proposal "that an agreement between Canada and the United States setting out rules on access to and for computerized data bank and data processing facilities would be of great value to users of computer facilities."[125]

Utilizing examples similar to those found in the SOTIS report to distinguish trade and investment, the Traded Computer Services report proposes a "Right of Presence" in the computer services sector:

> In this sector (as in insurance) it may be much more relevant to try to formulate what could be called a "right of presence" or, perhaps better, to formulate a parcel of rights which, taken together, would provide assured access for a data processing firm and a user in one country in regard to the market or services available in the other. For a computer services company or a transnational firm (insurance of financial services company) such a right would involve a "right to deliver" a service and a "right to connect" with a customer, broker, branch or subsidiary. For certain firms in one country—those that buy data processing, it would be a "right to receive" a service from a data processing firm in the other. These balanced rights to send and receive would, of course, be subject to exceptions which would have to be either negotiated and stated in explicit terms in the agreement or made subject to a consultation and amending process.
>
> These rights could also be subject to adherence to standards regarding access by computer installations to carriers through interconnection facilities and to standards regarding interface characteristics. . . .
>
> To be fully effective, these various "rights" would have to be safeguarded by requirements regarding "most-favoured-nation" and "national" treatment. This particular parcel of rights, when taken in the context of national treatment, is clearly the substantive core of a Canada/U.S. bilateral agreement for traded computer services. It should be kept in mind . . . that their rights would be vitiated by any requirement that service companies be locally incorporated; this would bring into play the issue of right of establishment.[126]

In January 1984, the Office of the United States Trade Representa-

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125 *Id.* at 1. *See* J. Grant, New Financial Services and Transborder Data Flows, Paper presented at the Second OECD Symposium on Transborder Data, in London, England 11 (Dec. 1, 1983) "We believe that an open-ended bilateral arrangement between the two North American neighbors is a realistic stepping stone towards multilateral consensus—a start towards writing 'rules of the road' which allow us to maintain the flow of information across borders, without endangering legitimate national interests."

126 TRADED COMPUTER SERVICES, *supra* note 120, at 10. The report presents the view that right of establishment "cannot profitably be addressed in any general negotiation about traded services." *Id.* at 9. Narrowly defining right of establishment as "a right incorporated in an international agreement for corporations in one country to incorporate a subsidiary in the other," the report finds "no such provision in the GATT nor in the various OECD codes. The GATT deals with the treatment of goods, and the OECD, in this context, addresses only the issue of 'national treatment' for entities once they are established." For regulated industries such as banking, insurance, and telecommunications, the report finds the concept of right of establishment conditioned or restricted, with any extension of a broader right of establishment "bound to be controversial." *Id.*

tive sent a letter to private industry explaining these proposals, presenting a background paper on U.S.-Canadian trade in telecommunications, and posing eight questions for telecommunications equipment industries and six questions for service industry on potential bilateral negotiations with Canada.

If implemented, these proposals would result in special trade agreements involving specific industry, product, and service sectors. This would continue the deemphasis on FCN treaties. It is increasingly likely that sectorial BITS will be proposed involving both telecommunications equipment and computers. These proposals will raise difficult issues. As the Traded Computer Services report states:

> [P]erhaps the only acceptable form, of a Canada/U.S. bilateral would be an open-ended arrangement, in order that other countries can join on similar terms. It will be necessary to examine the extent to which U.S. and Canadian obligations under our existing agreements, which frequently use unconditional most favoured nation clauses, would raise difficulties. This could occur if the U.S. were to agree, for example, to treat Canadian computer service transactions in a manner which it is not prepared to treat such transactions with some other country unless that country signed a similar undertaking, if it then appeared that there is some general M.F.N. clause which could be held to be operative. It will be necessary to look at the International Telecommunications Union agreements, the OECD Code on Invisible Transactions and at a number of FCN treaties, to see what may be involved.[127]

D. Policy Issues: A Delicate Balance

If there is one outstanding, sphinx-like question in the area of international information transfer, it is this: How do you balance issues involving information transfer, computers, communications, technology, economics, trade, and industrial policy? The answer: very delicately, and not in a Code. There are no natural fits, nationally or globally, only emerging perceptions as to the form these complex and related issues may take when combined.

Even these perceptions will differ depending on: (1) how close one's eye is to one of the issues while attempting to keep the others at least within peripheral view; (2) the time frame used; (3) the country one is in; and (4) the political and economic value system one embraces.

An examination of trade issues in relation to GATT and Section 301 of the United States Trade Act of 1974 illustrates this point. GATT does not yet apply to services generally,[128] or to information services categori-

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127 *Id.* at 12.

128 *Cf. supra* note 109; *infra* note 187 and accompanying text.

cally. The revision of Section 301 of the Trade Act, however, "includes but is not limited to services associated with international trade, whether or not such services are related to specific products."[129]

As the Senate Report on the 1979 Amendments to Section 301 states: "[The Section] is practically speaking, the only avenue of relief open to American service industries in our emerging information economy which encounter foreign government actions that discriminate against or otherwise import [sic] their international interests."[130]

An excellent article by Bart S. Fisher and Ralph G. Steinhardt III,[131] discusses the application of Section 301 to services. While stating that Section 301 "is the legal armor for U.S. citizens seeking to do battle in the world marketplace,"[132] the authors nevertheless state it would be inappropriate "to convert Section 301 into a protectionist statute to assure substantially equivalent competitive opportunities for U.S. Commerce in foreign markets."[133] The article covers Section 301 in detail and discusses the *Border Broadcasters* case.[134] A brief summary of that coverage illustrates some of the issues that would have to be considered in a TBDF Model Code for Transnational Commerce.

In September 1976, Canadian Section 3 of Bill C-58 was enacted. For both commercial and cultural reasons, the bill denied a deduction to Canadian taxpayers for expenses of advertising carried on a United States border broadcast station but directed at a Canadian audience. About ten percent of Canadian television advertising expenses or $20 million allegedly were being spent on such cross border advertising. United States broadcasters argued in their Brief that Section 3 of Bill C-58 was unreasonable because it resulted in a confiscatory duty and because it did not reciprocate United States treatment of Canadian broadcasters.

Canadian broadcasters argued the Bill imposed a cultural tax that fell outside the United States Trade Act, and that broadcasting, as a regulated industry, fell outside Section 301. President Carter, after receiving the recommendations of the Section 301 Committee and USTR Ambassador Askew in July 1980, asked for "mirror legislation" to be enacted in Congress to reflect Section 3 of Bill C-58. Congress did not act, however,

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129 19 U.S.C. § 2411(d)(1) (1982).

130 S. REP. NO. 249, 96th Cong., 1st Sess. (1979), *reprinted in* 1979 U.S. CODE CONG & AD. NEWS 381, 391.

131 Fisher & Steinhardt, *supra* note 115.

132 *Id.* at 571.

133 *Id.* at 572-73.

134 *Id.*

because it was recessed. The Fisher-Steinhardt article draws six conclusions from the *Border Broadcasters* case. Two conclusions are:

1. [T]he . . . case demonstrated the limitations of the Section 301 process for service-related petitioners. The Executive branch, under both Republican and Democratic administrations, refused to push for a tough, goods-related remedy. Fearing that Canada might have taken the United States to GATT under an Article XXIII nullification and impairment theory, President Carter refused to impose limitations on the imports of Canada's film, record, and television industries. The case demonstrated that restraints on foreign *goods* will have to be considered as an adjunct to restraints to U.S. services which will frequently have little impact on the offending country. . . .
2. [T]he case vividly demonstrated the limitations of remedies keyed to legislative action. When the designated remedy is passage of legislation, the matter effectively passes from the executive branch to Congress. At that point, the petitioners must start again to develop a constituency in support of legislation. "Tax, cultural, trade and communication perspectives can all be found in the *Border Broadcasters* case. Matters giving rise to the dispute remain unresolved, and the kind of remedy, if any, which may be appropriate remains illusive."[135]

This discussion of Section 3 of Bill C-58 illustrates the problems that may arise from only one piece of legislation, in one country, in the area of tax deductibility of business advertising expenditures. The effects of Section 3 were considered to be unreasonable because they created a barrier to United States trade in broadcast advertising services.

The Computer Group within the Office of the United States Trade Representative has compiled a 228 page printout, however, listing eleven categories of selected impediments to trade in services in 140 countries, regions, communities, or continents. Service categories included are: insurance, banking, building construction and engineering, hotel and motel, motion pictures, accounting, advertising, franchising, transportation, leasing, telecommunications, data processing, and information services.

This list of categories raises three questions: (1) Can the concept of balance apply across so wide a range of activities? (2) How do the lessons of the *Border Broadcasters* case, involving both Section 301 and GATT concerns, apply to these other service categories? (3) If "free flow" does not extend to commercials, should a TBDF Model Code for Transnational Commerce exclude "broadcasting"?

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135 *Id.* at 650.

IV. A Model Code for Transnational Commerce

A. Need or Basis?

There is no current need[136] or basis[137] in the area of transborder data flow for a Model Code for Transnational Commerce. Such a code is likely to be proposed[138] and developed in the future. It will have to confront a forbidding array of difficult issues. This code may be referred to as the "MCTC."

The MCTC will raise many of the same issues that drafting any code

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136 There is no current need for a MCTC because code alternatives being explored, such as the bilateral arrangements suggested in the Traded Computer Services proposal, *supra* note 120, or multilateral arrangements such as reviewed in the SOTIS report, *supra* note 113, have not yet had time to succeed or fail. These alternatives may prove better than a code approach to the trade and economic issues addressed in this Perspective.

137 In a letter, Professor Louis B. Sohn of the University of Georgia School of Law offered the author the following observations on the MCTC twenty principles:

> You are making a good case for devising a code on the subject, or at least for getting ready for one when there should be more clamor for it. It is a lawyer's duty to anticipate problems rather than merely react to them. Consequently, the kind of thinking your paper represents is important. Of course, this is just the first step. The next one would be, I suppose, to explore the options, the various ways of approaching the problems and the alternative solutions that are available. It is always better to have your partners in the negotiation to think with you through the various steps than to present them with conclusions. However excellent they may be, the other negotiators are likely to look at them very suspiciously and will be worried that the proposals are biased in your favor. But if you present them with several options, in most cases, after thorough discussion of advantages and disadvantages of each of them, they are likely to choose the one that you would have preferred if the choice were left to you. Regardless of national and educational biases, lawyers think alike and are going to find some solutions more reasonable or more feasible than others.
>
> I hope, therefore, that after this excellent beginning you will explore the principles for the code or the guidelines with an open mind, presenting several alternative solutions for each issue rather than trying to arrive at this early stage at the ideal or final solution.

Letter from Louis B. Sohn to Ronald Wellington Brown (Oct. 3, 1983) (available at Northwestern Journal of International Law & Business).

Alternative solutions to the MCTC principles would include, among other solutions, no code, as well as bilateral or multilateral arrangements covering specific sectors, e.g., computers, telecommunications, communication services, or all sectors. Though a detailed discussion of these alternatives or the multiplicity of alternatives for each of the twenty principles is beyond the scope of this Perspective, some alternatives are covered in the SOTIS report, *supra* note 113.

See also Robinson, Legal Questions, *supra* note 89, at 1:

> [I]t is perhaps too early to think in terms of a cohesive legal framework for dealing with the issues. Instead, it may be more productive to identify, and then to define as clearly as possible, a few specific legal questions of interest to a number of OECD member countries. In addition, it may be necessary, if there are close links to ideology, to aovid some of the more sensitive issues, such as national sovereignty at this stage.

138 *See infra* text accompany note 155. The same trends are present in the area of international information transfers. *See also* Clariana, The Legal Framework of Internatonal Data Flows Intergovernmental Bureau for Informatics, TDF 206, 1984, at 40 (". . . [A] declaration of principles would be more appropriate than a code, because it provides greater flexibility and adaptability to technological change; wheras a Code of Conduct would offer the advantage of making it possible to envisage disciplining the conduct of commercial agents, including transnationals. Perhaps this problem can be solved by imagining a hybrid solution: a declaration of principles on a code of conduct for international data flows.").

of conduct entails. The questions raised include: (1) Should the MCTC be voluntary or binding?; (2) Should it extend to all TBF activities regardless of the nature of the enterprise which engages in those activities?; (3) How, if at all, should choice of law, choice of forum, and dispute resolution be addressed?

Each of these questions is complex and has a wide range of possible answers. A few of the possible answers for dispute resolution are outlined in the article "Techniques for Settlement of Transactional Disputes Involving Transfer of Technology." They include:

1. international arbitration;
2. settlement by negotiation among the primary parties with the assistance of third parties through such techniques as mediation, conciliation, consultation or advisory arbitration;
3. creation of an administrative, quasi-judicial or judicial organization with supranational competence to enforce the international agreement;
4. establishment of an international organization to serve in a rulemaking and advisory capacity with national implementation and enforcement, and
5. where appropriate, resort to existing institutions and regional organizations . . . which provide forums, facilities and procedures for dispute settlement.[139]

Although adoption of the fifth suggestion would be preferable, other choices might be reasonable.

In addition to dispute resolution, a MCTC would have to address other issues. What role, if any, should notice, and consultation play? Should the MCTC attempt to state general principles or provide detailed regulations and rules? Should it attempt to be comprehensive, covering matters as diverse as privacy and commercial activity, or should it be limited? Many of these issues are common to all codes of conduct. Therefore, it would be appropriate to make a few further comments on such codes.

B. A Closer Look at Specific Codes and Codes in General

Neither national nor international law provides a definition for "code of conduct." A code, of course, may propose new laws, compile old laws, state general principles, or elaborately present rules and regulations.

Codes abound. American lawyers are familiar with the Uniform Commercial Code, with its variations, as adopted by all states except Louisiana, and with the Code of Federal Regulations,[140] the proposed

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139 14 TEXAS INT'L L.J. 264, 269 (1979).

140 1 C.F.R. § 1.1 (1984). The Code of Federal Regulations is a codification of the general and

Federal Securities Code,[141] and the Code of Professional Responsibility.[142] Lawyers from a civil law tradition are familiar with codes ranging from the Code Civil[143] and the Code of Obligations[144] to such regional arrangements as the Andean Investment Code.[145] Other codes of note include the OECD Guidelines for Multinational Enterprises (which though voluntary have code-like expectations),[146] the proposed Code of Conduct on the Transfer of Technology,[147] and the Code of Conduct for Transnational Corporations.[148] A diminution over time in the number of codes with which lawyers, and their business clients, must be familiar is not likely.

The history of one of these codes, the United International Code on the Transfer of Technology, illustrates how difficult it may be for a MCTC to obtain consensus support. In "The UNCTAD International Code on the Transfer of Technology: Current Status,"[149] Sigmund Timberg recognizes the "overriding political, social, and economic pressures inevitable in the case of negotiators who represent national viewpoints"[150] which underly some disagreements between the industrial countries (OECD Group), developing countries (Group of 77), and socialist countries in Technology Transfer Code negotiations. Mr. Timberg concludes that the gap between the OECD and Group of 77 views as to choice of law and forum is as a practical matter unbridgeable and presents the following summary of positions:

> The Group of 77 has taken the position that the law of the country acquiring the technology should apply to all matters relating to public pol-

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permanent rules published in the Federal Register by the Executive department and agencies of the federal government.

141 A.L.I., FEDERAL SECURITIES CODE (1980).

142 *See, e.g.*, CODE OF PROFESSIONAL RESPONSIBILITY BY STATE (1980).

143 The French Civil Code is one example. *See* DE VRIES AND DAVID, THE FRENCH LEGAL SYSTEM (1958).

144 The Swiss Code of Obligations is one example. *See* C. SZLADITS, GUIDE TO FOREIGN LEGAL MATERIALS (1959).

145 Andean Common Market Foreign Investment Code, Decision 24: Common Regime of Treatment of Foreign Capital and of Trademarks, Patents, Licenses, and Royalties (as amended), Dec. 31, 1970, *reprinted in* 11 INT'L LEG. MAT. 126 (1972) (translation by U.S. State Department).

146 OECD Declaration on International Investment and Multinational Enterprises, discussed in OECD, INTERNATIONAL INVESTMENT AND MULTINATIONAL ENTERPRISES: REVIEW OF THE 1976 DECLARATION AND DECISIONS (1979).

147 U.N. Conference on an International Code of Conduct on the Transfer of Technology (Nov. 16, 1979), U.N. Doc. TD/CODE TOT/20 (1979).

148 United Nations Commission on Transnational Corporations: Draft U.N. Code of Conduct on Transnational Corporations, U.N. Doc. E/C.10/1982/6 Annex (June 5, 1982).

149 Timberg, *The UNCTAD International Code on the Transfer of Technology: Current Status*, 11 INT'L BUS. LAW. 61 (1983).

150 *Id.* at 61.

> icy (order public) and national sovereignty. Also, they propose that the courts and other tribunals of the technology-acquiring country should have jurisdiction over such matters, as well as over conflicts on how to characterize the dispute. Otherwise, the parties to the dispute are free to choose the forum or resort to arbitration, unless the acquiring country has rules to the contrary and provided the chosen forum has a direct, effective and permanent relationship with the contract.[151]
>
> On the other hand, the basic view of the OECD countries is that the parties should be free to choose the applicable law, provided it has a substantial relationship to the parties or the transaction or there is another reasonable basis for the parties' choice. They should also be free to choose the forum before which disputes will be tried, unless there is no reasonable basis for the choice made or the choice places an onerous burden on one of the parties. Also, the OECD Group is strongly in favor of arbitration procedures.[152]

A MCTC would likely face the same kind of difficult disagreements.

Even if a MCTC were to be voluntary, it could have a significant impact on states and the development of customary international law, both public and private. Joel Davidow, writing on "The UNCITAL Restrictive Business Practice Code," provides an example of how this might occur:

> It seems clear that the proposed UN transfer of technology code of conduct, for instance, would, if promulgated, have certain model law implications, that is, it is likely that countries with no law on the subject might well enact legislation based on the code or insist, administratively that technology transfers to their country be in accordance with the structures of the code.[153]

A voluntary MCTC might follow this pattern. Thus, even if a MCTC was proposed only as a guideline for the future, it should concern international lawyers.

In his Remarks in the *Proceedings*,[154] Professor Louis Sohn attempted to apply the views of Judge Sorensen (European Court of Human Rights) that "we have three types of international lawyers, those looking at the past, those interested in the present, and those thinking about the future."[155] Professor Sohn noted that "The Universal Declaration of Human Rights was first adopted as a guideline for the future, but quickly was changed into law generally accepted by states."[156] Professor

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151 *Id.* at 63.

152 *Id.*

153 13 INT'L LAW. 587 (1979). For a recent review of codes, see Wallace, *International Codes and Guidelines for Multinational Enterprises: Update and Selected Issues*, 17 INT'L LAW. 435 (1983).

154 PROCEEDINGS, *supra* note 33.

155 *Id.* at 195.

156 *Id.* at 193.

Sohn then observed:

> In the Universal Declaration of Human Rights we went through two stages. First, it was said that this will be the law of the future, and we don't know how soon the future might come, but it will be the law someday. But then very quickly, the United States itself . . . applied the Declaration to the case of Russian wives and a few months later the Soviet Union was willing to apply the Declaration to South Africa. Of course, you may say it is always easier to apply it to somebody else, but still once you agree that this document is supposed to be binding on somebody else, you implicitly admit it should be binding on you, too. Everybody knows a basic rule of international law is that it is a two-way street. It is reciprocal. What binds one binds also the other.[157]

This past experience indicates how quickly a guideline for the future may be changed into law generally accepted by states.

If a MCTC were to be binding rather than voluntary, its principles might be incorporated into a convention requiring signatory states to conform national laws to those principles. If the content of information is considered in such principles, this would make it impossible for democratic governments with first amendment type values to become signatories to the convention.

Perhaps the most penetrating analysis of codes of conduct can be found in Raymond J. Waldmann's book *Regulating International Business Through Codes of Conduct.*[158] He found that the following four trends have had the greatest effect on the development of codes of conduct:

1. the increasingly important role of governments in economic affairs;
2. the increasing politicization of governmental economic policies;
3. the increasing concern for the impact of international economic policies on development in the less developed countries; and
4. the increasing awareness of the concern for secondary effects of international economic policies and activities.[159]

Waldmann examines the Andean Investment Code, the OECD Code for Multinational Enterprises, the Code of Conduct for Liner Conferences, the Code of Conduct on the Transfer of Technology, and the Code of Conduct for Transnational Corporations before offering several tentative conclusions about codes of conduct. Two of those conclusions merit reflection.

First, he concludes, "codes of conduct will be increasingly used in the international community to deal with problems which countries are

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157 *Id.*

158 Waldmann, *Regulating International Business Through Codes of Conduct*, AMERICAN ENTER. INST. FOR PUBLIC POLICY RESEARCH (1980).

159 *Id.* at 11.

unable to solve on a national level."[160] Second, he states, these codes "will not be applied consistently, uniformly or vigorously even if they are negotiated successfully, and we may see the development of parallel systems of law, with international codes serving as rhetorical and moral standards, but with national laws and regulations continuing to reflect the realities of money and power."[161] If problems created by transborder data flow by definition or in practice cannot be solved at the national level, Waldmann's first conclusion suggests a code of conduct may be used to deal with such problems. The OECD Guidelines on TBDF may be the genesis of such a code should the guidelines fail to achieve their objectives. The proposed Council of Europe Convention must also be considered. Economic aspects of TBDF may lead to the kind of bifurcation suggested by Waldmann's second conclusion. Together these two conclusions suggest direction and movement for TBDF, but not necessarily progress or change.

C. Information Flows and Business: Considerations for a MCTC

> Classical economists told us that three things are important to run a company: money, materials, and manpower. Later technology and information were added to the list. . . .[162]

Information has been moving across borders for centuries, with bards, caravans and explorers, by word of mouth, and by manuscript. Technological advances have made such movement more rapid and more important in business transactions.

Eric J. Novotny, in his article "Transborder Data Flow Regulation: Technical Issues of Legal Concern"[163] has classified several types of modern business information flows presented in *Figure 5*. Novotny describes a Type 1 consolidation flow as a simple subsidiary-parent reporting relationship. A Type 2 distribution flow describes subsidiaries receiving data from a centralized entity. Type 3 transnational network flow involves transnational processing, for example, by a service bureau. Type 4 multinational network flow describes multiple user and host computer interactions where information and processing are centralized,

160 *Id.* at 85.

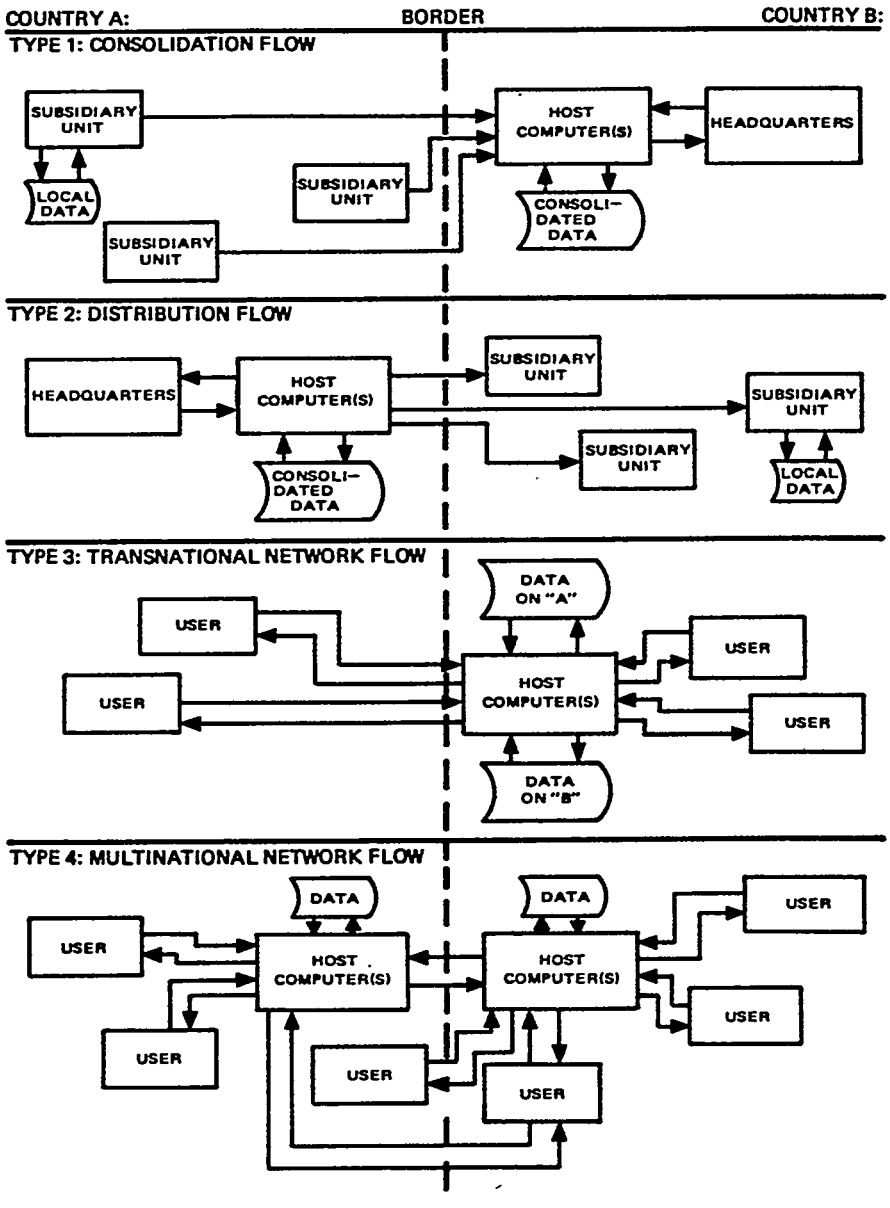
161 *Id.* at 86.

162 Hiroaki Kosaka, Director of Overseas Training Center Matsushita Electric Industrial Company, HARV. BUS. SCH. BULL. 75 (Feb. 1983).

163 3 COMP. L.J. 105 (1982).

Figure 5 [164]

TRANSBORDER DATA FLOWS CAN BE GROUPED INTO FOUR TYPES



164 Novotny, *Transborder Data Flow Regulation: Technical Issues of Legal Concern*, 3 COMPUTER L.J. 105, 111 (1982), reprinted with permission.

distributed, or both.[165] The national laws of country A and country B may regulate the compilation, storage, transmissions and processing of data differently and entail different compliance requirements. Novotny observes that in general "regulatory conditions, and hence technical concerns are influenced greatly by the direction of transmission, the geographic location of computation and storage functions, and most importantly the location of the user."[166]

Novotny's analysis of types of transborder data flows is useful in considering several important problems with which a MCTC would be faced. First, uniform legal compliance with a MCTC may not be possible given the different types of data flows to be considered. Different types of flows may require different legal treatment. Second, the type of flow may be difficult to identify when transmissions are digitized and consist of voice, data, and record transmissions in the same channel contemplated as part of the Integrated Services Digital Network. "Tagging" transmissions by type, even if technically possible, may entail unacceptable "passport", "information license" or "transmission surveillance" procedures. Third, entities sending or receiving data or providing the equipment (and perhaps the software) needed to do so may have substantially different interests and needs. A MCTC attempting to cover and apply to everyone may be satisfactory to no one.

As central processor to central processor computing increases, it will become increasingly impossible to identify a single geographic location, i.e., State "A" or State "B," as the sites of the computer; the computer itself will span geographic boundaries. This technological development will make it harder to accommodate policy choices of sovereign restrictions or free transfer in different states in which the computing function is occurring. Conflicts of jurisdication or concurrent jurisdiction are likely to exist for information transfers in such a multistate computer.

The present *Restatement (Second) of the Foreign Relations Law of the United States* declares in Section 39 that a state with jurisdiction is not precluded from exercising it *solely* because that exercise would require a person to violate the laws of a different state having concurrent

165 *Id.* at 112.

166 *Id.* It may become increasingly difficult, if not impossible to identify computer functions geographically. *See* e.g., Butler, *Data Transmission and Content Responsibilities Must be Separated*, VII TRANSNAT'L DATA REP. 269 (1984). When we have high data-flow rate, central processor-to-central processor communications, it will no longer be possible to consider the physical installations at a given geographical location as the computer. We will have moved from computer-to-computer communications to a situation where the whole, including the telecommunication facilities, will make up the device that is doing the work.

jurisdiction. The *Restatement* suggests, in Section 40, five factors which *should* be considered in balancing the interests of conflicting jurisdiction. Where concurrent jurisdiction exists, that Section states "each state is required by international law to consider in good faith, moderating the exercise of its jurisdiction" in the light of (1) the states vital national interest; (2) extent and nature of hardship that would be imposed by inconsistent enforcement; (3) extent to which required conduct takes place in the territory of the other state; (4) nationality; and (5) extent to which enforcement by action of either state can reasonably be expected to achieve compliance with the rule prescribed by the state.

This balancing of interests approach to conflicts of jurisdiction should be used when different legal rules apply to international information transfers, such as those which might occur between a Council of Europe member state like the United Kingdom and a non-member state like the United States. It should also be used in multi-state transfers such as those represented in *Figure 5*. A balancing of interests approach can accommodate legitimate state interests while giving an appropriate flexibility essential for adapting to ever continuing changes in computer technology. Such flexibility also would be in accord with business interests, such as those identified by CBEMA in Part II E 2 of this Perspective. However, whether other countries would view the *Restatement (Second) of Foreign Relations Law of the United States* as useful or an acceptable approach for international law governing conflicts of jurisdiction and international information transfers is by no means certain.

D. MCTC: What Norms and What Role For International Lawyers

In discussing elements of a MCTC, which may be a binding code in the form of a convention, we should be aware that we are engaging in a codification process which in itself may create norms. Judge Sorenson, in his paper, "Theory and Reality In International Law"[167] notes that in theory "international law is a system of binding norms, but in reality effective compliance with the law is low, at any rate in matters affecting important national interests, and the substantive content of many norms is controversial."[168] Continuing, he asks and, in part, comments on two difficult questions:

> How do we distinguish law from other social norms? Law as a system of norms does not hold a monopoly on regulation, either in national societies or in the international field. There are other norms, whatever names we apply to them—moral precepts, comity, codes of good behavior, profes-

167 PROCEEDINGS, *supra* note 33.
168 *Id.* at 141.

> sional standards of conduct, rules of the game, etc.—which influence human action, and one of the perennial problems of jurisprudence and legal philosophy is precisely to determine the dividing line between legal and nonlegal norms. In whichever capacity we approach legal problems—be it as observers, actors or reformers—the question inevitably arises: by what criteria do we recognize a social norm as legal, that is as having the particular qualities which warrant its classification as a legal norm?[169]

Thus, we are faced with the question of what kind of norms should a MCTC incorporate?

In discussing a MCTC, we also may be starting the process of engaging in the legislative role of international lawyers. Professor Schachter, in his article "The Invisible College or International Lawyers"[170] makes this memorable observation:

> [I]nternational lawyers, both individually and as a group, play a role in the process of creating new law and in extending existing law to meet emerging needs. This legislative role is carried out principally through multilateral treaties, but it may also be accomplished through the evolution of customary law, the use of general principles and the formative effect of resolutions of international bodies. . . .[171]
>
> A threshold issue is whether international lawyers as a group have the professional competence to consider the need for a new or revised law on matters which are of a non-legal character—political, economic, technological and so on. It is in fact widely believed that questions of that kind are more appropriately within the competence of other social sciences. . . . Plausible as this point may seem, it suffers from a major defect—the social scientists do not, as a rule, address themselves in any detail to the need for new law or to the kind of analysis that is relevant to the legislative need. . . . [I]n fields such as outer space, the sea-bed and the environment, the international lawyers, far more than any other disciplinary group, played a central role in constructing normative and regulatory schemes where little had existed previously.[172]

We are just beginning to fulfill a legislative function in the area of international information transfers.

It is clear that international lawyers have just as important a legislative role to play in international information transfers as they have played in the areas of outer space and the sea. Each area has initially been viewed as a frontier, requiring careful consideration of old norms, policies and laws before recommending those which could serve a useful function in developing the new area. Identifying normative and regulatory schemes will be equally as complex and challenging for international information transfers. Against that backdrop, and before accepting the

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169 *Id.* at 142.

170 72 NW. U.L. REV. 217 (1977).

171 *Id.* at 223.

172 *Id.* at 224.

challenge, we might reflect on the words of Professor Myres S. McDougal in the *Proceedings*:[173]

> I think in recent decades we have seen an almost complete disintegration of the law of the sea. There was worked out, by a few simple rules, a way of enjoying a great shareable resource where everybody who had the technologies, the initiative, the skills could contribute to the greater productivity and wider distribution of goods and services. Under the guise of the common heritage of mankind, which has been made a complete mockery, there has been an enormous increase in the monopolization of the oceans of the world. It somehow defies the imagination how this slogan has been used to extend coastal state control until the shareable resource is almost gone.
>
> We did establish a very good law of outer space on the model of the old law of the sea, the law of the sea that prevailed for some 200 years. I am beginning to hear murmurs of the common heritage of mankind in the law of outer space. I suspect that we will go through the same struggle on these immense new resources as on the law of the sea.
>
> The proposed new international economic order deals with much more than economics. It is really a challenge to the whole inherited global constitutive process. It is an attempt to resurrect domestic jurisdiction and to put many decisions under national control that for a long time have been under international control. If the interdependences of the globe continue to accelerate the way they have during the last few decades, this new enterprise is a hopeless enterprise. Its proponents are just sticking their fingers in the dike while the water is pouring over the top.
>
> The new international information order is cut from the same cloth. It is an effort to put under the control of the officials of nation-states the flow of information across nation-state lines. If knowledge, skill, and understanding are in fact becoming more important bases of power in the contemporary world, as people begin to enjoy their new realism, I think this second effort to promote domestic jurisdiction is also utopian. Its proponents won't get very far, but they will cause many of us a lot of work to demonstrate their irrationality. There is no way in which states can unilaterally control the contemporary technology for gathering, processing, and disseminating information.[174]

E. MCTC and the OECD TBDF Guidelines

A MCTC might address many of the topics covered in the OECD TBDF Guidelines, but might take a markedly different approach with respect to economic aspects of data flows.[175] The eight principles of national application in Part Two of the Guidelines, the "equivalent protection"[176] language of legitimate restrictions in the Basic Principles of

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173 *Supra* note 33.

174 *Id.* at 200.

175 *See infra* App. II for a basic summary of the Guidelines.

176 *Id.*

International Application, and the recognition in the Explanatory Memorandum of "the rights of Member countries to regulate transborder flows . . . in areas relating to free trade, tariffs, employment, and related economic conditions. . . ."[177] all might serve as foundations for a restrictive approach to a MCTC.

F. MCTC: Twenty Principles

In the preceding portions of this Perspective, I have attempted to present some considerations and describe some difficult issues applicable to a MCTC. For purposes of preliminary discussion and thought, this section presents twenty principles for a MCTC. These twenty principles should be viewed as suggested fundamental principles to be used at the beginning of the legislative role described by Professor Schacter rather than as ultimate principles in which such a process may culminate.

The first five principles deal with non-duplication, specificity, norms, intent, and diversity. A MCTC should:

1. Take account of existing laws, regulations, rules, Guidelines, Conventions, and Proposals (e.g., Vredeling, OECD Declaration on International Investment and Multinational Enterprises, etc.), and neither duplicate nor compound requirements pertaining to information transfers.
2. Deal with specific problems not already addressed (e.g., by the ITU, WIPO etc.).
3. Recite the norms on which it is based and restrict its application to realization of those norms, in fora, and through means and procedures currently used or recognized in international law.
4. Include an Unofficial Commentary or Guide to assist in understanding the drafters' intent.
5. Reflect recognition that there are many different kinds of information flows, that there are different data flow interests and needs of States, legal and natural persons, and that harmonization of all may be impractical.

The next eight principles have been taken from the so-called Bing Report. Jon Bing, Peter Forsberg, and Eric Nygaard prepared a draft report in 1981 entitled "Legal Issues Related to Transborder Data Flows."[178] Appendix II of that Report is entitled "Tenative Outline of Principles for the Free Transnational Flow of Non-Personal Data" and contains, for discussion only, the following eight principles:

6. *Free flow of data principle*—Member countries should take all reason-

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177 *See also* Comment, *Transborder Data Flow: Problems with the Council of Europe Convention, or Protecting States from Protectionism*, 4 NW. J. INT'L L. & BUS. 601 (1982).

178 OECD Directorate for Science, Technology and Industry, Working Party on Information, Computer and Communications Policy, DSTI/ICCP/81.9.

able and appropriate steps to ensure that transborder flows of non-personal data are not made subject to obstacles exceeding the requirements of national policy.

7. *Best term principle*—Providers of computer services in member countries should not be made subject to unjustified discrimination. National authorities should grant a provider of such services equal terms with those granted that foreign provider benefiting from the most favorable terms for the equal type of computer services. Exceptions may be made when the most favorable terms are integrated in a bi- and multilateral agreement on trade cooperation.
8. *Expedient transit principle*—If transnational data flows must be communicated across the territory of a third country, national authorities in the transit country should undertake to facilitate this flow. The flow should not be delayed for non-communication reasons and should be given priority in respect to network capacity or other technical reasons. If breakdown or malfunction in the telecommunication facility in the transit country or in the subsequent segments of the network make intermediary storage necessary, this storage should not bring the data under the law of the transit country. Exceptions to the obligations in this article may be made in respect to transnational data flows in conflict with national sovereignty, national security and public order (ordre public).
9. *Tax and custom free transit principle*— Transnational data flows should not be subject to taxes or customs in the transit country.
10. *Access to services principle*—Persons or organizations of one country should be free to use computer services offered by the providers in other member countries. Restrictions should be limited to those based on interests recognized by international law.
11. *Confidentiality of communication principle*— National authorities should not routinely sample or supervise the contents of transnational data flows.
12. *Technical quality principle*—National authorities should maintain the necessary technical quality in the telecommunication network to secure efficient access to international computer services.
13. *Technical harmonization principle*—Member countries should work towards achieving compatible technical standards in their telecommunication networks to facilitate the efficient access to international computer services.[179]

Six more principles may be added to the thirteen principles listed above. Mark B. Feldman, in his paper "Commercial Speech, TDF and the Right to Communicate Under International Law,"[180] mentions these six principles as interests which "need to be accommodated in any meaningful international regime for transborder data flows."[181] They include:

14. The right to establish and to operate data processing, information and

179 *Id.* at 88-9.
180 VI TRANSNAT'L DATA REP. 51 (1983).
181 *Id.*

other computer services within states and across international boundaries;

15. The right of access to foreign data bases and data processing facilities, and to international communications links at reasonable rates and without discrimination;
16. The diffusion of new technologies on reasonable commercial terms;
17. The recognition of proprietary interests in new forms of intellectual property and technology such as computer software and satellite signals;
18. The protection of personal privacy; and
19. The interests of all states in national security, economic development and the public health and safety.[182]

Feldman indicates that to be broadly acceptable, these interests would "have to reflect a balance of rights and responsibilities," would "have to allow sovereign states a measure of discretion in the implementation of the regime" and "must represent a broad mutuality of economic interests."[183] These goals cannot be easily achieved.

The twentieth principle for a MCTC comes from a statement by Professor Myres S. McDougal in the *Proceedings*. A MCTC should recognize that:

20. [T]he most important law in any community is not constitution-making, not in legislation. It is customary law. Customary law is created by the flow of agreements, and the International Court of Justice decisions, but it is also created by all kinds of communications, even from individual human beings who have no explicit authoritative role. It is this total flow of communication that creates the expectations about authority and control that transcend the boundaries of national states. . . .[184]

Professor McDougal also states that a MCTC should recognize that:

> [T]he genuine sanction of any law must be in peoples' perception of their common interest, in their perception that they have more to gain and less to lose by following policies of peaceful cooperation and of shared enjoyment of the great shareable resources of the globe and earth/space community.[185]

V. TBDF AND LEGAL PRINCIPLES: A SQUARE PEG AND ROUND HOLES FOR A MCTC

This section of the Perspective will briefly cover and comment on several existing or new legal principles and areas as well as their possible application to transborder data flows. A broad overview is intended

182 *Id.*

183 *Id.* at 52.

184 PROCEEDINGS, *supra* note 33, at 199.

185 *Id.* at 201.

rather than a substantive detailed analysis. (In particular, this caveat should be kept in mind for the discussion on the Common Heritage of Mankind; a complex and difficult concept to apply as a legal principle.) None of these principles may be accurately applied to TBDF.

A. Incoterms for Information?

It may be that some TBDF problems may be resolved through creation of and use of "Incoterms for Information." Professor Bing has suggested Incoterms may be an approach to TBDF legal principles; a kind of "Incoterms for Information Transfers."[186] Incoterms 1953, and their revision in 1980, represented an attempt by The International Chamber of Commerce to overcome the problems of conflicting national laws, and interpretations, by establishing a standard set of trade terms and definitions, which offered neutral rules and practices. Though the present list of Incoterms is limited to fourteen, that list has received increased international use in commercial contracts. Incoterms were drawn from the most common practice in international trade so that they could be adopted by the greatest possible number of traders. The present absence of common practices in international information transfers may be the most significant barrier to development of Incoterms for information. The OECD Guidelines,[187] Council of Europe Convention,[188] and existing national laws in Europe,[189] however, may prove to be a useful start in overcoming this obstacle.

B. GATT: Should Information Be A "Product" or "Service"?

The question of whether information should be a "product" or "service" for purposes of GATT is receiving increased attention by government policy makers and business executives. William Brock, United States Trade Representative, takes the view that we need international rules to govern information exchanges:

> When the first international trade organization was suggested, it was supposed to include all exchanges. They couldn't bite that political bullet in those years, so they limited it to just the exchange of goods. Two-thirds of the American people work in services today. It used to be that most people worked in farming. Then those people worked in manufacturing. Now most people work in services. It's that kind of a world. It's got to be that kind of a world. But there is no international regime, none at all, to govern the exchange of services. . . . There are no rules governing the

186 *See supra* note 173, at 68.
187 *See infra* App. II.
188 *See supra* note 172.
189 *See* Hondius, *Data Law In Europe*, 16 STAN. J. INT'L L. 87 (1980).

exchange of investment, to control the distortion, again created by governments intervening in investment decisions.

One of the greatest problems I see coming is in the area of the exchange of ideas. We're beginning to hear now of governments which are seriously discussing taxing the exchange of information, and even beginning to say, "We're going to tax the transmission of bytes up to satellites and back down to another country." How do we value that information? It's an interesting legal question and an interesting ethical question, too.

We simply do not have any rules internationally to govern the conduct by which we communicate, relate, and exchange with one another, things outside of the realm of things that you can see, taste, and touch. That has to change. . . .[190]

The problem remains how to develop these rules and implement these changes.

Harry Freeman, a Senior Vice President of American Express believes the solution to the problem is to bring international information products and services into GATT.

[T]he international flow of commercial data is moving rapidly from being a communications issue to becoming a trade issue. As such, it should be subject to international trade negotiations and a system of internationally agreed trade rules. Let me hasten to add, before there can be any negotiation, there must be much preparatory work both at the national and international levels. But the work should begin now. And that work should begin with the GATT.[191]

At present there is no forum in which to raise and resolve problems encountered by international providers of information services. In Freeman's view GATT is an existing forum with well-known rules and procedures that could implement the change he and William Brock think is necessary. *A* forum is better than no forum. But, is GATT the place to go with these problems?

The General Agreement on Tariffs and Trade (GATT) is a code containing tariff concessions, rules on international trade and resolutions of disputes. It was originally signed at Geneva in 1947 by the United

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190 Brock, *Global Competition—What Impact on U.S. Industry?*, 52 ANTITRUST L.J. 147, 153 (1983).

191 Freeman, *Impeding the Flow of Information Damages the National Interest*, VI TRANSNAT'L DATA REP. 19 (1983). Joan Edelman Spero, Sr. Vice Pres., International Corporate Affairs, American Express, expressed the following views regarding establishment of a TBDF in a letter to the author dated Oct. 18, 1983:

In my view, one can set about building a TBDF regime in two main ways: by establishing principles which will, as you point out, be difficult to enforce, or by grafting some elements of a regime onto existing regimes such as the trade regime. Both approaches have serious problems. Agreeing on principles such as the twenty you suggest is quite difficult. . . .

GATT can't enforce all trade rules but it does serve as a set of rules and guidelines which can be enforced albeit ineffectively and which, perhaps more importantly, serve as a check on protectionist pressures within states. As for your argument that if you include TBDF you should include all services I would respond: But of course!

States and twenty-two other countries. Since January 1, 1981, the Government Procurement Code negotiated during the 1979 Tokyo Round of GATT negotiations, has applied to international government procurement by countries which are parties to the Code, or which file instruments of accession to it. A procurement for services *per se* is not subject to the Government Procurement Code of the 1979 Tokyo Round of Multilateral Trade Negotiations. If services are incidental to a supply contract for products and have a value of less than the supplied products, however, then the Code will apply to the service procurement. "At an early stage," the "possibilities of expanding the coverage of the Agreement to include service contracts," e.g., insurance, are to be explored.[192] Do governments procure information products or services? Should "information" be a "product" or "service" for GATT purposes? Is Harry Freeman correct?[193]

Several problems would be created if GATT were expanded to include information products and services. First, Art Dunkle, GATT's Director General, has stated GATT "cannot be a world trade court. Conciliation is our priority; it's not our job to determine who's right and wrong."[194] Expanding GATT to include information product or service disputes may inappropriately stretch existing resources and be a step toward, rather than away, from such a world court type role.[195] Second, and perhaps contradictorily, less than one-fourth of world trade is covered by GATT. According to an April 13, 1982 article "The First Trade Lesson,"[196] approximately one-fourth of all trade in goods is conducted by barter, one-fourth involves internal transactions of multinational enterprises, and another fourth is subject to quotas of orderly marketing arrangements. Do we know enough about trade in information goods and services to decide if inclusion in GATT is better than exclusion? Third, if information trade is an invisible, like insurance, tourism, shipping, and capital transactions, why should GATT be given an influential role over information invisibles but not other invisibles?

The 308 page SOTIS prepared under the direction of the Office of the United States Trade Representative, discusses GATT and services.

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192 Agreement on Government Procurement, Apr. 11, 1979, MTN/NTM/W/211/Rev. 1, *reprinted in* AGREEMENTS REACHED IN THE TOKYO ROUND OF THE MULTILATERAL TRADE NEGOTIATIONS, H.R. DOC. NO. 153, 96th Cong., 1st Sess., Part IX, ¶ 6(b) (1983). *See also* Brown, *The New International Government Procurement Code Under GATT*, 53 N.Y. ST. B.J. 198 (1981).

193 VI TRANSNAT'L DATA REP. 19 (1983).

194 THE ECONOMIST, Apr. 24, 1983, at 93.

195 Though the SOTIS report, *supra* note 113, argues for such an extension, it does not suggest a court role for GATT.

196 THE ECONOMIST, Apr. 13, 1982, at 16.

The SOTIS is divided into five sections: (1) services in the world economy; (2) services in the United States economy; (3) conceptual issues related to trade in services; (4) existing international services; understandings; and (5) possible approaches for establishing a services regime. The last three sections develop an early SOTIS theme that "a simple blanket extension of the GATT to services is not possible."[197]

Section 3 of the SOTIS covers, among other generic issues, distinctions between trade in services and investment in services and posits the utility of continuing the traditional separation of investment and trade issues, in the area of services. For example, the SOTIS characterizes the provision by a foreign computer center of data processing services through long distance communications links as trade but characterizes locally provided data processing services by a foreign owned computer processing facility as investment. In addition, SOTIS characterizes access to a distribution system as a trade issue but ownership of that system as an investment issue[198] and concludes that in such a case, a national treatment principle under GATT could be applied to trade in services by including the "right of a foreign supplier of services to negotiate a contract with local business to provide distribution or servicing facilities."[199] The foreign supplier of service might be a foreign insurance carrier contracting with "local insurance brokers or claims adjusters to sell their products and to handle claims."[200] SOTIS states:

> [I]f the national treatment principle were adopted for trade in services, a domestic regulation requiring legal establishment for insurance companies should be treated in the same way as any other domestic regulation. In other words, foreign insurance companies granted access to the local market under trade rules, would have a right to establish themselves legally under the national treatment principal.[201]

Finally, in the area of professional services, e.g., engineering practice, the SOTIS characterizes the sale of such services "produced outside the importing country" as a trade issue, but does not characterize the sale of such services "to be provided locally"[202] the same way. The distinction between trade and investment needs to be carefully examined in each context in which it has been raised and applied. It is not clear, in the area of professional services, how trade and investment differ. In the practice of law, for example, the conceptual distinction may make no

197 *See* SOTIS report, *supra* note 113, at 5.

198 *Id.* at 71.

199 *Id.*

200 *Id.*

201 *Id.* at 72.

202 *Id.*

sense or have no real application given different national conceptions of "practice" and "lawyer."[203]

While observing that extending GATT to services "makes very little practical sense,"[204] the SOTIS report concludes that "many of the principles (and procedures) embodied in the GATT could be relevant to services."[205] Among these principles are national treatment,[206] least restrictive regulation,[207] nondiscrimination,[208] transparency,[209] and dispute settlement.[210] Some of these principles are found in the model code principles presented in Part IV F of this Perspective.

An expansion of GATT to include information products and services would not result in the quick resolution of disputes[211] involving such products and services. Dispute resolution under Article XXII of GATT merely requires consultation between contracting parties. Because states are the contracting parties under GATT, a provider of information products and services would have to first convince its governmental representatives to raise the matter in GATT, even before consultation would begin. It is likely that only major disputes, involving significant information industries, would surmount this initial obstacle. Further, under GATT dispute resolution procedures, consultation between contracting states and parties is followed by third party state conciliation efforts. If these efforts are unsuccessful, a panel will review the dispute and make recommendations to the GATT council. These are slow procedures, fre-

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203 *See* Note, *Providing Legal Services in Foreign Countries: Making Room for the American Attorney*, 83 COLUM. L. REV. 1767 (1983).

204 *See* SOTIS report, *supra* note 113, at 89.

205 *Id.*

206 *Id.* at 90.

207 *Id.* at 104.

208 *Id.* at 105.

209 *Id.* at 106.

210 *Id.* at 107.

211 *See* Farnsworth, *William Brock: Our Men for Trade*, N.Y. Times Magazine, Nov. 13, 1983, at 131, col. 1:

> World trade negotiations move with the speed of a frozen snail. All trade negotiations are conducted through the General Agreement on Tariffs and Trade (GATT), the 36-year-old world-trading charter that now has 89 member nations. But there is no majority voting in this organization. It operates by consensus, meaning that any nation can block negotiations. Years elapse between the start and conclusion of negotiations because governments first have to balance competing domestic interests before they can even attempt to work out a balance of mutual advantages with other governments. Another reason for the long delays is that bureaucracies in all capitals move slowly. The Kennedy Round began in 1963, ended in 1967. The Tokyo Round was conceived as the Kennedy Round ended, but it was another half-dozen years before it got formally underway. It wasn't concluded until 1979.

For a discussion of GATT dispute resolution procedures before and after the Tokyo Round of Multilateral Trade Negotiations, and time limits created for such resolutions see de Kieffer, *GATT Dispute Settlements: A New Beginning in International and U.S. Trade Law*, 2 NW. J. INT'L L. & BUS. 317 (1980).

quently involving important economic issues, whose resolution may have significant political dimensions.[212] A thorough review of the speed, process, and result of GATT procedures is a prerequisite to considering whether expanding GATT to include information products and services will significantly enhance the ability of providers of information products and services to overcome barriers to this form of trade. Some examples of problems encountered by one firm are presented in Appendix III for consideration in this context.

C. Uniform Commercial Code: Information "Goods"?

> People have bought and sold information for centuries. But assigning a price to it is no easy task. Unlike oil, baseball bats and widgets, there is a limitless supply of information, and copies are cheap. . . . Information that is worth a lot today, like a tip about which horse will win the third race at Aqueduct, is valueless tomorrow.[213]

Information is a commodity for some purposes,[214] because people trade in it, and not for others. If information is classified as a commodity and if commodities are "goods," one might think that Article 2 of the Uniform Commercial Code ("UCC") might contain some principles applicable to TBDF.[215] Why? First, because that article applies to "transactions in goods;"[216] second, because Section 2-105 defines goods, in part, as "all things which are movable at the time of identification of the contract. . .;"[217] and third, because of Section 1-105. Section 1-105 of the UCC, states "when a transaction bears a reasonable relation"[218] to a state enacting the Code and also to another state or nation, parties may agree to apply the Code, or the law of such other state or nation to govern their rights and duties. "Failing such agreement," the Code "applies

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212 *See U.S. Faulted by GATT On Nicaraguan Sugar*, N.Y. Times, Mar. 14, 1984, at D1, col. 1: "[T]he United State's representative . . . indicated to the [GATT] council that a settlement of the sugar issue would have to wait on an improvement in the political relations between the two countries."

213 Sanger, *Waging A Trade War Over Data*, N.Y. Times, Mar. 13, 1983, § 3, at 26F.

214 *See* A.D.L. IMPACT REPORT, *supra* note 9, at 7: "For some Western countries, information may soon be the only commodity they can produce with a advantage in international trade; it will be the foundation of their information economies"; MAKING A BUSINESS OF INFORMATION: A SURVEY OF NEW OPPORTUNITIES, a 1983 Report by the Information Technology Advisory Panel, to Prime Minister Margaret Thatcher. "Both private and public sectors in the United Kingdom need to pay much more attention to information as a commercial commodity. . . ." *Id.* at 8. "We look to a further shift to an awareness of information as a commercial commodity in the next few years as we truly enter the Information Age." *Id.* at 47. "Copyright legislation is fundamental to the commercial viability of the tradeable information sector." *Id.* at 8.

215 U.C.C. § 2 (1978).

216 *Id.* § 2-102.

217 *Id.* § 2-105.

218 *Id.* § 1-105.

to transactions bearing an appropriate relation"[219] to the state enacting the Code.

It would be inappropriate to attempt to extract TBDF legal principles from the UCC. Section 1-102 of the Code states the underlying purposes and policies of the Code are to: (1) simplify, clarify, and modernize the law governing commercial transactions; (2) to permit the continued expansion of commercial practices through custom, usage and agreement of the parties; (3) to make uniform the law among the various jurisdictions. These purposes and policies do not fit the current state of TBDF developments. In addition, too many non-commercial aspects of TBDF would fall outside a UCC model for TBDF legal principles.[220]

D. Bills of Lading for Information?

If information is a commodity and commodities are goods, then in addition to the UCC's provisions covering bills of lading (a document evidencing receipt of goods for shipment), we would probably also have to examine the Federal Bills of Lading Act,[221] the Carriage of Goods by Sea Act,[222] to name a few applicable laws. However, a bill of lading is: (1) a receipt; (2) a contract of shipment; and (3) a document of title. Thus, it is not clear a bill of lading will serve TBDF legal principle needs. Could an information bill of lading be accepted as a substitute for information itself?

E. Innocent Transit?

The principle of innocent transit in GATT[223] and the Universal Postal Convention, may not survive being transplanted into TBDF. There is an underlying, but frequently inarticulated premise in TBDF regulation: that some information (as recognized by the ITU Convention[224]) is not "innocent."

F. Is Information the Common Heritage of Mankind?

"The Common Heritage of Mankind" ("CHM") is a concept that can be found in the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies[225] (the "Moon Treaty"), in the

219 *Id.*
220 *See supra* text accompanying notes 17-92.
221 49 U.S.C. §§ 20(11)-(12), (81)-(124) (1982).
222 46 U.S.C. §§ 190-96 (1982).
223 *See* SOTIS report, *supra* note 113.
224 *See supra* note 4 and accompanying text.
225 *See infra* note 224.

United Nations Convention on the Law of the Sea[226] and elsewhere.[227] Broadly, the CHM concept, in part, reflects a belief that all nations should share in an identified resource, even if, in the case of the moon, some nations lack the technological means to access and exploit that resource. At some point a studied attempt probably will be made to apply the CHM concept to information, broadly defined, as a natural resource.[228]

In an excellent article, "The Common Heritage of Mankind Provision in the 1979 Agreement Governing the Activities of States on the

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226 *See infra* note 230.

227 *See infra* note 228. *See also* Clariana, Framework, *supra* note 134, at 29.

> It should not be forgotten that whereas spare activities carried out by persons subject to the jurisdiction of a State are themselves subject to the law of that State, States as such are subject to International Space Law which makes them responsible for insuring that space is used for the benefit of mankind and for peaceful purposes, inter alia. This applies to data flows as to any other activity.

228 *See, e.g., Declaration of Buenos Aires on Transborder Data Flow*, VII TRANSNAT'L DATA REP. 265 (1984). Several Latin American countries and members of the Intergovernmental Bureau for Informatics agreed "to encourage all international actions and policies on harmonization leading to consider informatics as Mankind's Heritage. . . ." *See* A.D.L. IMPACT REPORT, *supra* note 9, at 7. "These conflicting views of information as the common heritage of mankind, on the one hand, and as intellectual property or a produced commodity, on the other hand, give rise to very different perspectives on, and suggested very different regulations for, the international flow of information."

Though not raised in the context of Common Heritage of Mankind or extractive industries, the Commission of the European Communities' Country Report, "Some Views on Transborder Data Flows and Information Market Policy," presented by C. Jansen Van Rosendaal, at the Second OECD Symposium on Transborder Data Flow, contains language suggesting information is a resource. "In terms of the economies of Western Europe, information is *one* of its few renewable raw materials, with the information and information technology industries as one of its few sunrise sectors." *Id.* at 2. However, this Country Report also presents a larger perspective on transborder data flows. "The European Commission . . . recognizes the far-reaching implications of transborder data flows for all countries, and for the European Community in particular, bearing in mind that in order to achieve . . . benefits, the ultimate aim is to integrate these flows as far as possible into national and international contexts." *Id. See, e.g.*, INTERGOVERNMENTAL BUREAU OF INFORMATICS, ISSUES ON TRANSBORDER DATA FLOW POLICIES ¶ 2.2.3, at 7:

> Information and knowledge have become *products* of national economies which are in transition from industrial to information based, service economies. This is also the case in many developing countries which are moving from agricultural and industrializing economies into information economies. Therefore, information and knowledge are *resources*, having commercial *value* and may be looked upon in much the same way as tangible goods. There are important *property rights* and *ownership controls* which may be placed on information and knowledge, just as is done for physical materials.

See, e.g., INTERGOVERNMENTAL BUREAU FOR INFORMATICS, ISSUES ON TRANSBORDER DATA FLOW POLICIES ¶ 2.1, at 3:

> Data transmission networks serve a wide variety of governmental, economic and social functions and may be technically designed quite differently. However, the technologies involved are usually integrated with each other in term of *data capture* (input terminals, document readers, sensors), *data storage* (electromagnetic, filing cabinets, microfilm), *data processing* (computing installations, text processing systems, home computer attachments, microprocessors), *data transfer* (broadband communications, telephones, TV connections, space stations, optical fibers) and *data distribution* (printers, TV screens, accoustical telephone outlets). Combinations of these technologies are bringing videotelephones, teletext, TV-text and cabletext.

Moon and Other Celestial Bodies,"[229] Professor Carl Q. Christol summarizes five notable CHM characteristics. With slight modification, some of these characteristics, specifically the fourth and fifth, arguably could be extended, however inappropriately, to information as a natural resource. It is worth quoting Professor Christol at length:

> The CHM legal principle has its most immediate and prospective application in the area of the exploration and use, including exploitation, of natural resources. Intangible natural resources include the broadcast spectra, orbital positions, and scientific information. Tangible resources include moon rocks and other minerals and materials situated on the moon or other celestial bodies within the solar system, other than the earth.
>
> The CHM principle has notable characteristics. First, it is an enlargement of the traditional international legal principle of *res communis*; thereby rejecting the *res nullius* perspective. As such, it is just the opposite of the exclusive private property-public sovereignty principle respecting natural resources in their natural condition, e.g., prior to permissible capture, or use, and exploitation. Second, the principle seeks to benefit mankind generally by protecting the physical environment against unnecessary degradation. Third, it endeavors to conserve the world's resources for present and future generations. Fourth, it seeks through agreement to achieve the goal of equitable allocation of such resources and benefits with particular attention to the needs of the less-developed countries. This is the essence of the *res communis humanitatus* concept. Fifth, it contemplates the presence or formation of an international regime containing such rules as may be necessary to insure the realization of the previously identified objectives. If it were to become apparent that a formal governing structure were required to provide for a normal and structured utilization of the spatial area and its resources, including, for example, processes for the resolution of disputes, it may be anticipated that the legal regime would lead to the establishment of a suitable international intergovernmental governing body.
>
> It must be borne in mind that the CHM principle is the product of a world-wide awareness of the fact that natural resources are being rapidly depleted. When the natural distribution of resources was made by nature, not all states and peoples received an equal share of such resources. Thus, there are substantial political and economic forces at work in support of the distributive aspects of the CHM principle. Realism must also take into account the fact that scientific and technological competences are not equally shared among states, that military capabilities are very disparate, that there are wide ranges in the respective capacities of states to regulate their own affairs, and that the demands of some of the less-developed states for a larger sharing in the world's resources and benefits are abrasively strident.
>
> Further, it has been perceived that all human beings are members of the human race no matter whether they live in the "North" or the "South," whether their loyalties are given to technologically advanced or disadvantageous states, and whether their ideologies support the cause of freedom or statism. Many of the advanced states, for example, have cooperated to

229 14 THE INT'L LAW. 429 (1980).

ameliorate the pressing burdens of poverty in the LDC's, through what is known as development assistance. This has its foundations in moral concerns, since the history of mankind has been based on the proposition that the rich and powerful possess a moral obligation to aid those less favorably endowed. The sense of sharing has come to be considered as a precurser of a global fairness revolution. The CHM principle has been influenced by such considerations.[230]

Whatever else may be said for the CHM principle, the concept would be difficult to apply to information as a natural resource. It would be illogical and impracticable to attempt to extend a concept such as sovereignty, which has been applied to extraction of mineral resources, to information. Information is not a natural resource.

If "natural" means from nature, then obviously information literally is not natural. If natural means "prior to permissible capture, or use and exploitation," the concept becomes even more ephemeral or metaphysical when applied to information. In addition, information unlike a natural resource, is not capable of being "depleted;" rather, it grows through the merger of computers and telecommunications. Further, although there is a "north/south," "have/have not" dimension to the information industry,[231] the developing countries may have an interest in free flow of information[232] which transcends a possible interest in changing the dis-

230 *Id.* at 451-452.

231 *See* Ennison, Sovereignty, *supra* note 99, at 2:

At present, virtually all of the on-line market is limited to the developed market economies and their institutions, be it in terms of the production of on-line data bases, their operation, distribution or use. The vast majority of the developing countries have neither the financial nor the technological means to compete in this market. Hence, once again the developing Countries are cast in their familiar if not traditional role in the international economy of participating in this hi-tech market primarily as suppliers of data and consumers of the finished product of processed information as and when they can afford to purchase such information, which is not very often. The flow of data is therefore set in a constant stream, flowing from South to North, and this sets the stage for the various shades of attitudes and concerns of developing Countries regarding TDF.

See also Butler, *The ITU's Role In World Telecom Development and Information Transfer*, TELEPHONY, Aug. 22, 1983, at 80:

Individual governments and several international organizations have turned their attention to awesome adjustment problems posed by computer communication, and to the issue of transborder data flow. Of the 117 developing countries which represent 70% of the world's inhabitants, only 5% have access to computers. Yet, capacity to transfer information by appropriate means is vital to the national development of their countries. On the other hand, data communications sustains an unusually high growth rate that has converted it into a dynamic sector of the international economy. Despite the large annual growth rate of data transmission, data still represents only 3% of the public telecommunications traffic. In comparison, telephony accounts for about 95% of world telecommunications traffic.

232 *See* Ennison, Sovereignty, *supra* note 99, at 16, for presentation of views on why developing countries may have other strong interests in free flow of information:

In these circumstances, the developing Countries of Africa, after an honest assessment of the nature of modern information flows, and its trend towards exponential growth, responded to its challenges by coming to terms with the realities of a situation over which they could do very little, politically, and nothing, technologically. By their Abidjan Recommendation of November, 1979, therefore, they affirmed their commitment to the principles of free flows of informa-

tribution patterns of that industry through claims of information sovereignty.[233]

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tion, and in consonance with standard practice, linked this commitment to the furtherance of the New International Economic Order, but in full recognition of the fact that Permanent Sovereignty, the moving spirit of this Order has no place in Transborder Data and Information flows. Besides, they have a vested interest in making a reality of their active support for free flows of information in order to gain access to a number of items of information for various important decisions such as (a) application of attribution rules for the purposes of determining tax liability of foreign companies; (b) determination of prices of primary products; and (c) prevention of the harmful effects of transfer pricing. And above all, Africa needs information about her natural resources, especially her mineral wealth.

[233] *Id.* at 10:

> The question then arises as to what is the relationship between the concept of permanent sovereignty and the information relating to . . . material resources, within the context of the present conditions of data capture, processing and transmission, all of which are processes over which developing Countries especially have no control or means of control.

Explaining the concept of Permanent Sovereignty for extractive industries, Ennison asks if Permanent Sovereignty has any place in transborder data flows. "[T]he State's ownership attaches to the resource and is traced to the extracted minerals in the hands of the foreign corporation even after contract purporting to give exclusive rights of appropriation. Anything that derogates from this is an impairment of the permanent sovereignty of the State." *Id.* at 13. His analysis and answer, at 14-15, are worth quoting at length:

> A straight application of the Permanent Sovereignty concept to data and information flows would mean, for instance, that Sovereignty attaches to the data and information on the mineral wealth and other natural resources existing in data bases of foreign companies and located in foreign Countries. But the impossibility of exercising any effective power of supreme ownership in respect of information in these data bases shows that Permanent Sovereignty is effective only when there is physical possession, and thus can not treat information in the same manner as it treats the substantive natural resources such as the gold or oil over which the State has physical possession. Let us, for instance, consider the case of data which relates to mineral deposits which in developing countries are invariably owned by the State and over which the state exercises permanent sovereignty. Suppose then that, in the course of exploration operations for oil, cores of hydrocarbon bearing rocks are cut from boreholes and with other seismic data are sent to home-based computers for processing as is usually done by oil companies. Can permanent sovereignty be claimed over such information? Or should it be claimed? And if not, why not? And what about access to such information? Should it be granted as of right and free of charge? Attempts to answer these questions bring us into the arena of the on-going legal and political discussions in this field. In the first place, although there is no doubt as to the right of States over their natural resources, there is no indication, according to a UN Study of this subject, that this right provides legal justification for a claim to sovereignty of exclusive rights to knowledge or information or data about the resources. If the information were to be physically carried out of the [C]ountry, it could presumably be said that the [C]ompanies could be prevented from doing so by Customs Authorities. But the situation is already out of hand, for technological advancement in this field, especially in satellite communications, allows instantaneous transfer from the mining operations and real time processing by means of subsystems specially designed for this operation and carried by the satellite transponders. And then there is the supreme case of remote earth sensing by satellite located in outer space which is not subject to the exercise of any Sovereignty, permanent or otherwise. Thus, information technology in this case is racing far ahead of any Third World concept of ownership of Sovereignty. In other words, TDF has struck at the very roots of the permanent sovereignty or permanent ownership concept, and any effort at its exercise in these circumstances is meaningless, for modern flows of data aided by telematics know no limitations of time and State boundaries. Thus, the combined influence of communications and computer technology has transformed the traditional views about sovereignty which have hitherto been understood and expressed in geographic or spatial terms to a new kind of perception of sovereignty which for the time being is defined as Informational Sovereignty.

For a different but related concept of informational sovreignty, see P. Onstead, Presentation of the Association for Data Processing Service Organizations, at the Second OECD Symposium on Transborder Data Flows, in London, England 4 (Dec. 1, 1893). "Many nations, including the

In general, the CHM concept is difficult to apply absent some notion of the legal principles assumed to be implicit in the term. What legal rights or duties are covered? To whom do those rights and duties extend, and how broadly or narrowly should they be construed? Is the CHM concept fixed or flexible? Does it extend to the present and future physical environment of human beings or does it extend beyond the physical, e.g., air, water, earth, sun, etc., to the cultural environment represented by arts, artifacts, and historical sites? Specifically, if applied to information, broadly defined, would the CHM concept extend to information content (ideas and knowledge, etc.), information process (how content is gathered, stored, transmitted, etc.), or information format (display)? If information comes to be treated as CHM, what would be the effect on such areas of the law as copyright, trade secrets, and patent?

The application of CHM principles to information and transborder data flows is not just a speculative exercise. Growing references to an international regime for transborder data flows may have as an anachronistic source of reference the "international regime" language in Article 11, paragraph 5 of the Moon Treaty.[234] This use should be carefully monitored.[235]

G. Data Pledge and Data Passport: A Right to Travel for Things?

To date, efforts to gather support for a Data Pledge[236] have not been successful. A Data Pledge could ask states to refrain from imposing reg-

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United States, must analyze their laws and regulations to make certain that information from other nations stored within that nation is considered sovereign to the nation of origin and not subject to orders of disclosure without first obtaining agreement of the nation of origin."

234 *See supra* note 224 and accompanying text. Article 11, paragraph 5, provides State "parties to this Agreement hereby undertake to establish an international regime, including appropriate procedures, to govern the exploitation of the natural resource of the Moon. . . ."

235 Letter from Professor Louis B. Sohn of the University of Georgia School of Law to the author (Oct. 3, 1983) (available from Northwestern Journal of International Law & Business). Professor Sohn offered the following observation on the Common Heritage of Mankind in commenting on a draft of this Perspective:

> As far as the common heritage principle is concerned, as we have found in the law of the sea, it has no meaning by itself and its implications must be carefully defined *de novo* for each new area where its application is demanded. Its only real effect is that the fruits of new developments should not go only to those able directly to benefit from it, but the benefits should to some extent be shared with others. In our interdependent world, where many countries suffer if other countries pursue too selfishly their own interests, it has become obvious that there is a great need to follow the basic principle of international law that the rights of one state must be exercised with reasonable regard to the interests of other states. Any other approach will lead to anarchy.

236 Organization for Economic Co-Operation and Development, Expert Group on Transborder Data Flows, Data Declaration: Proposal by the United States Delegation, OECD Doc. ISTI/ICCP/82.17 (Mar. 5, 1982). On September 19, 1984, the OECD Secretariat issued a "Draft Proposal On Common Intent On Transborder Data Flows", OECD Doc. DSTI/ICCP/84.27, the most recent version of a Data Declaration. In paragraph 14, OECD member countries express their intention,

ulations on data flow, and might, through refining of drafts, attempt to articulate a general statement of data free flow. For international information transfers, a Data Passport might apply, drawing perhaps on analagous principles from General Licenses under United States export control laws. Under current United States export control laws, a General License does not require written application. It is a regulation which grants permission to make an export without a specially issued document authorizing it. However, a Shippers Export Declaration describing the commodity, certifying it as exportable, giving names and addresses of parties to the export, as well as country of ultimate destination required under a General License would obviously be inappropriate for a Data Passport. Further, existing United States Export Control Laws already regulate data flow,[237] exempting data in the public domain and granting a general license for other technical data.

There is, as yet, no generally recognized right to travel for things, and not for data if that term includes all information. However, Article 19 of the Universal Declaration of Human Rights declares: "Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to *seek, receive and impart information and ideas* through any media and regardless of frontiers."[238] A right to "seek, receive, and impart information and ideas" is something everyone is declared to have. If I have a right to "seek, receive, and impart," does this concept cover any right of ideas and information to move?

In his monumental work, *American Constitutional Law*,[239] Professor Laurence H. Tribe reviews, among many other topics, the constitutional cases dealing with interstate and international travel and finds that "the right . . . relates more to the importance of lifting all artificial barriers to personal mobility than to the virtues of an integrated national economy."[240] He also notes that restrictions on the right to travel may involve:

1. [r]ules that impermissibly seek to operate to lock people into a jurisdiction by restricting emigration either by directly or by making reentry inordinately difficult;[241]
2. [r]ules that restrict entry either by (a) discriminating against new residents with respect to various public services or benefits or (b) by impos-

among other matters to "develop comprehensive and mutually acceptable framework conditions for international data and information transfers".

237 15 C.F.R. § 379 (1984).

238 *See supra* note 26 (emphasis supplied).

239 The Foundation Press, 1978.

240 *Id.* at 953-54.

241 *Id.* at 955.

ing quantiative controls on immigration; both (a) and (b) are void unless compellingly justified;[242] [and]

3. [r]ules that neither lock people in nor fence them out, [which] might impermissibly inhibit travel either (a) by making movement itself unjustifiably difficult or hazardous; or (b) by attaching adverse consequences, without reasonable justification, to the fact of nonresidence.[243]

A right to travel founded on a principle of eliminating artificial barriers to personal mobility would be difficult to extend to data mobility. Nevertheless, it is interesting to note the parallels between types of rules restricting such personal mobility and similar rules restricting data flow mobility.[244]

V. CONCLUSION

This Perspective has attempted to identify the technological foundation of an emerging information industry, to discuss carriage, content and trade aspects of international information transfers, to propose principles for a model code which might facilitate information transfers, and to examine legal concepts which might seem applicable to such transfers. These areas and the answers to the questions raised in this Perspective's introduction are shaping our experience with international information transfers. In looking forward, it is appropriate to remember a perspective provided by Henry James in "The Art of Fiction:"

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242 *Id.*

243 *Id.*

244 For example, data protection laws (such as those in Germany, Austria, Denmark, France, Norway, and Sweden which use a data register system), the data protection equivalency exception in the OECD/TBDF Guidelines or the equivalency provisions in Article 12 of the proposed Council of Europe Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data (*opened for signature* Jan. 28, 1981, Europ. T.S. No. 108) could be perceived as being or recognizing the legitimacy of rules "locking" data into a jurisdiction by restricting its flow unless conditions for movement are met. Achieving a consensus of principles on what should or should not be permissible, or what is or is not justifiable in restricting data flows would likely be an illusive, difficult but necessary prerequisite to securing adherence to a Data Pledge or recognition of a Data Passport. Even under the proposed Council of Europe Convention, application of principles may produce less rather than more flow of data. *See supra* note 172, at 623 n.127:

> For example, one party may have extended the Convention's application to protect data pertaining to juristic persons . . . . If the potential recipient party has not made a similar extension, the first party may legitimately refuse the transfer of data to that country by claiming that the recipient's protection is not equivalent. Under the current language of the Convention, this situation could occur even where the prospective recipient has otherwise complied with the terms of the treaty. Moreover, the first party has almost total discretion, since under Article 12, section 3(a) it may refuse to transfer the data merely due to the nature of the data . . . .

Further, data protection laws which utilize a licensing procedure, mandatory security assurance, or bar transmission of encrypted data might be seen as impermissibly or unnecessarily, restricting or locking information into a jurisdiction or as making movement of such information unjustifiably difficult. Such laws are exceptions to the mobility concept found in the Universal Declaration of Human Rights (the right to "seek, receive and impart information and ideas through any media and regardless of frontiers").

> The power to guess the unseen from the seen, to trace the implications of things, to judge the whole piece by the pattern, the condition of feeling life in general so completely that you are well on your way to knowing any particular corner of it—this cluster of gifts may almost be said to constitute experience . . . . Therefore, if I should certainly say to a novice "Write from experience and experience only," I should feel that this was rather a tantalizing monition if I were not careful immediately to add, "Try to be one of the people on whom nothing is lost."[245]

I predict that in the area of international information transfers, our limited experience will soon catch up with our vast expectations, and if so, then it will be mankind on whom "nothing is lost".

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245 Cavell, *The Thought of Movies*, 72 THE YALE REV. 181, 184 (1983).

Appendix I

"International Information Transfer" Not "Transborder Data Flow"

For many years I have urged that some new phrase replace "transborder data flow" or "TBDF". This is not merely a matter of linguistic preference. Words should convey meaning; "transborder data flow" does not.

Transborder data flow is frequently linked with free flow of information. Confusion usually results. Is "data" the same thing as "information?" As one commentator noted: "People rarely distinguish between data, information, knowledge, and wisdom. Yet they are as different from one another—and as interlocking—as starch molecules, flour, bread, and the flavorful memory of a superb morning croissant."[1]

In the United States, "data" and "information" are concepts in our own regulations. For example, the Export Control Regulations include provisions on the export of technical "data."[2] The Freedom of Information Act covers the disclosure of information with specified exceptions.[3] But concepts of "data," usually associated with computers, may not fit readily into what we usually think is covered by "speech" in the First Amendment or the expression of ideas in the area of Copyright under Article I, Section 8 of the Constitution.

Interchanging "data" and "information" concepts becomes even more confusing when we move from a domestic to an international context. For example, concepts of a right to communicate, as expressed in Article 19 of the Universal Declaration on Human Rights[4], may not fit

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1 Branscomb, *Information: The Ultimate Frontier*, SCIENCE, Jan. 1979, at 143.

2 Export Administration Regulations, 15 C.F.R. § 379.8 (1984).

3 5 U.S.C. § 552 (1982).

4 Universal Declaration of Human Rights, G.A. Res. 217, U.N. Doc. A/810 (1948).

readily into concepts of international economic regulation and trade. Terms used in other languages, for example the French term "informatique" (covering data processing) or "telematique" (for the merger of data processing and telecommunications) may more easily accommodate meanings in "international information transfer" than in "transborder data flow."

Other sources of confusion exist in related questions. Does "free" mean "no charge" or the absence of governmental restraint? When a reporter electronically transmits a story, does the information in the story become data? Obviously, these are difficult questions whose answers will require a context and whose terms will require clarity before even tentative conclusions can be reached and understood.

In his testimony before the Subcommittee on Government Information and Individual Rights of the House Committee on Government Operations, Matthew Nimetz, former Under Secretary for Security Assistance, Science and Technology, Department of State, stated "International communication and information activities encompass a wide field. The common thread is that information is transmitted from one point to another. . . ."[5] This underlying concept of information transmission is more clearly expressed in "international information transfer" than in the phrase "transborder data flow."

Other examples show why international information transfer is a better term than transborder data flow. In a regulatory context, another example is provided by Henry Beck. In his article "Control Of and Access To, On-Line Computer Data Bases: Some First Amendment Issues in Videotex and Teletext,"[6] he states ". . . the important question of whether the 'electronic publication' of information is to be described as 'data processing' or as 'communication' remains open, although the former may not be subject to current government regulation while the latter most certainly is."[7] He also notes:

> In its initial attempt to grapple with the problem of distinguishing "communications" from "data processing", the FCC left unregulated "operations which exclude the function of storing, retrieving, sorting, merging and calculating data according to programmed instructions. . . ." The FCC originally held that operations in which computers were used in a message-switching capacity—to control the "transmission of messages, between two or more points, via communications facilities wherein the content of the

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5 *International Data Flow: Hearing Before the Subcomm. of the House Comm. on Government Operations*, 96th Cong., 2d Sess. (Mar. 27, 1980) (statement of Matthew Nimetz, Under Secretary for Security Assistance, Science and Technology, Dept. of State).

6 Beck, *Control of, and Access to, On-line Computer Data Bases: Some First Amendment Issues in Videotex and Teletext*, 5 COMM./ENT. L.J. 1 (1983).

7 *Id.* at 4.

> message remains unaltered", would be subject to government regulation. . . . However, this distinction has been abandoned in favor of one dividing the domain into "basic" and "enhanced" services.[8]

Similarly, it may be appropriate, outside the limited area of FCC inquiry into computer and communications service interdependence, to abandon "data flow" as a concept, and replace it with one which focuses more clearly on information.

Another example of this problem—confusing meanings of "data" and "information"—can be found in the "Brazilian Case Study" ("Transborder Data Flows and Brazil: The Role of Transnational Corporations, Impacts of Transborder Data Flows and Effects of National Policies"). The Brazilian Case Study, prepared in 1982 by the Special Secretariat of Informatics of the National Security Council of the Presidency of the Republic of Brazil, in cooperation with the Ministry of Communications of Brazil, states (emphasis in each case added):

> The resource defining *information* services is *data*. . . .[9]
>
> The possession and capacity to utilize *information* resources are increasingly becoming a form of national power. Structured *data*— like technology—are now valuable commodities that are traded through telecommunication networks. . . . In international trade, embodied technology tends to be substituted for non-embodied technology (software and data). . . .[10]
>
> Brazil has adopted and implemented a set of policies on transborder data flows and the underlying fields of telecommunications, informatics and telematics. . . . Brazil's policy in this area is based on the principle that a country has the right to regulate its transborder *data* flows because of the potential impact these flows have on socio-economic development. More specifically, the objectives of this policy are to maximize the amount of *information* resources—such as computers, software, *data* bases, technical and managerial skills—located in its territory; . . . to enable the Brazilian society to have universal access to *information* . . . .[11]
>
> The term "telematics" is used here interchangeably with "teleinformatics", "communications" and "computer-communications".[12]
>
> Telematics or transborder-data-flow networks result from the joint use of three main types of resources: computers (and their mass-storage capacities), telecommunications networks and data (emphasis added).[13]

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8 *Id.* n.9.

9 SPECIAL SECRETORIAT OF INFORMATICIS OF THE NATIONAL SECURITY COUNCIL OF THE PRESIDENT OF THE REPUBLIC OF BRAZIL, TRANSBORDER DATA FLOWS AND BRAZIL: THE ROLE OF TRANSNATIONAL CORPORATIONS, IMPACTS ON TRANSBORDER DATA FLOWS AND EFFECTS OF NATIONAL POLICY ¶ 22, at 7 (1983).

10 *Id.* ¶ 41, at 13.

11 *Id.* ¶ 7, at 2-3.

12 *Id.* ¶ 8, at 6.

13 *Id.* ¶ 21, at 7.

Understanding terms is, of course, an essential element of meaningful communications, and to identifying legal principles which may apply. This is particularly important where legal principles associated with international communications[14] and legal principles associated with inter-

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[14] *See* Freeman, *Direct Broadcast Developments and Directions: The National Sovereignty and Cultural Integrity Positions*, AMERICAN SOCIETY OF INTERNATIONAL LAW, PROCEEDINGS OF THE 74TH ANNUAL MEETING 306 (1980):

> If incoming communication is solely a matter of domestic jurisdiction, then the right of sovereign control must prevail [under Article 2(7) of the U.N. Charter]. The custom of nations to regulate their communication systems suggests that any broadcast is, in fact, a domestic matter. Yet the U.N. Charter really only raises important questions: is the right to receive information within the domestic jurisdiction of a state, or is it more a matter of inter-nation, and so truly international affairs? Moreover, Article 55 of the Charter requires all U.N. member states to promote and preserve human rights, of which the free flow of information may be one.

See also Rothblatt, *The Impact of International Satellite Communications Law upon Access to the Geostationary Orbit and the Electromagnetic Spectrum*, 16 TEX. INT'L L.J. 207 (1981), for an excellent discussion of communications theory, international satellite communications policy and applicable legal rules. Rothblatt examines four sources of international law, recognized by the International Court of Justice, for evidence of the current state of international satellite communications law. He concludes these four sources of positive international law support international legal principles which "appear to require the maximum dispersion of geostationary telecommunications channels along dimensions of depth [the message volume per unit of time a communication pathway can conduct], distribution [the mean distance between communicators], and directionality [the characteristic of a communication channel to convey messages in one direction, e.g., to send only like a radio broadcast service, or to convey messages in more than one direction, e.g., to send and receive like a telephone network].

> Channel directionality, the measure of balance of lateralness between message transmission and message reception, is promoted by decentralizing the means of making and sending messages. The general practice of nations has been to subordinate development of this dimension to the development of channel depth and channel distribution. This custom may be attributed to (1) political reluctance to democratize the power associated with message production and transmission and (2) substantial economic and technological barriers to the mass provision of two way communications channels. However, largely as a result of successful efforts to increase channel depth and distribution, the economic and technological barriers to greater directivity are beginning to crumble, and initial assaults are being launched against political impediments. The political assaults upon centralized message production and transmission seek recognition of a "right to communicate" and of a "New World Information Order". As a matter of international custom, these efforts to elevate channel directionality to the positions of prominence enjoyed by channel depth and distribution cannot yet be characterized as generally accepted practices of nations. For the present, international custom with regard to directivity requires only that some international telecommunications channels be capable of conveying messages in two directions. This lack of concern with the degree of lateral structure in the international flow of messages should be contrasted with the record of affirmative global efforts in maximizing the message volume and geographical distribution of satellite communications.

Id. at 227-28. *See also* TRANSNATIONAL COMMUNICATIONS CENTER, MEDIA INSTITUTE, COMMUNICATIONS IN A CHANGING WORLD 1 (1983). Leonard J. Theberge, President of the Media Institute and Chairman of the International Communications Committee, Section of International Law and Practice, American Bar Association, focuses on the interplay between technology and policy:

> The conversion of information into streams of electrons which can be instantly dispersed throughout the world blurs traditional distinctions among those who produce, process and use the information. A U.S. State Department cable; a news broadcast; an Olympic pole vaulter; the TV program "I Love Lucy;" a computer software program; inventory data from Sears Roebuck in Brazil to its Chicago, Illinois headquarters; and money transferred from Citibank, Manhattan to its Sao Paulo branch are all virtually indistinguishable when converted to electronic impulses. This conversion also makes it difficult to maintain distinctions among domestic and international communications policies and issues.

national commerce[15] are cited as justification for regulation or are recommended for application to new products and services.

Further, if the terms we use become associated with State activity that is more in the realm of communication than commerce, the result may be determinative, at least initially, of the position we take on that action: if communication and media are involved, the State's action should be one of exceptional restraint (under a First Amendment rationale) as opposed to a more accommodating acceptance of permissible State activity for purposes of economic regulation. Developing national information policies may need to balance concerns with communication, commerce and economic regulation. It may be easier to do so with clearer terms.

15 *See supra* text accompanying notes 50-93.

Appendix II

The OECD TBDF Guidelines: A Basic Summary

The OECD Guidelines Governing The Protection of Privacy and Transborder Flows of Personal Data[1] are an Annex to a Recommendation of the Council of the OECD. There is also an Appendix to the Recommendation and Annex which is an Explanatory Memorandum written by the Group of Experts that prepared the Guidelines. The Explanatory Memorandum is an "information document," "subordinate to the Guidelines" which "can not vary the meaning of the Guidelines." However, the Explanatory Memorandum can assist in the "interpretation and application" of the Guidelines.

There are four parts to the Recommendation of the Council of the OECD: (1) that Member countries "take into account in their domestic legislation" the Guidelines' principles concerning "protection of privacy and individual liberties;" (2) that these countries "endeavor to remove or avoid creating, in the name of privacy protection, unjustified obstacles" to transborder personal data flows; (3) that these countries cooperate in implementing the Guidelines; (4) that these countries "agree as soon as possible" on specific consultation and cooperation procedures for applying the Guidelines.

There are five parts to the Annex: (1) Part One defines the Guidelines scope and specifies the Guidelines are minimum standards; (2) Part Two consists of eight "Basic Principles of National Application: Free Flow and Legitimate Restrictions;" (3) Part Three consists of Basic Prin-

[1] *OECD Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data, reprinted in* SECOND REPORT ON THE PROTECTION OF THE RIGHTS OF THE INDIVIDUAL IN THE FACE OF TECHNICAL DEVELOPMENTS IN DATA PROCESSING, 1981-82 EUR. PARL. DOC. (No. 1-548)(1981).

ciples of International Application: Free Flow and Legitimate Restrictions;" (4) Part Four concerns implementation of the basic principles; (5) Part Five describes actions Member countries should take, e.g., exchange of information, insuring procedures for transborder personal data flow are compatible with those of other Member countries complying with the Guidelines, etc.

It should be noted that the Guidelines define a data controller as "a party who, according to domestic law, is competent to decide about the contents and use of personal data regardless of whether or not such data are collected, stored, processed or disseminated by that party or by an agent on its behalf." Again, one must look to national legislation for answers in this area, and to determine who might be an "agent." The Guidelines also apply to "personal data, whether in the public or private sectors" which "because of the manner in which they are processed, or because of their nature or the context in which they are used, pose a danger to privacy and individual liberties." The Guidelines are not to be "interpreted as preventing . . . the exclusion" in national legislation of personal data which "obviously do(es) not contain any risk to privacy and individual liberties." Further, Part Three of the Guidelines, "Basic Principles of International Application: Free Flow and Legitimate Restrictions," states:

> A Member country should refrain from restricting transborder flows of personal data between itself and another Member country *except where the latter does not yet substantially observe these Guidelines or where the re-export of such data would circumvent its domestic privacy legislation.* A Member country may also impose restrictions in respect of certain categories of personal data for which its domestic privacy legislation includes specific regulations in view of the nature of those data *and for which the other Member country provides no equivalent protection* (emphasis added).

Finally, another important basic principle of international application is that "Member countries should avoid developing laws, policies and practices for protecting privacy and individual liberties" which would create obstacles to transborder flows of personal data that would exceed requirements for such protection. The Explanatory Memorandum interprets this principle as not intended to limit the rights of Member countries to regulate transborder flows of personal data in areas relating to free trade, tariffs, employment, and related economic conditions for international data traffic.

In addition to technological developments and international organizations, there is an existing array of TBDF legislation in Europe, covering automatic and manual data processing, physical and legal persons,

penalties for non-compliance with the legislation, and license requirements.

The following eight principles in Part Two of the Guidelines clearly establish broad general standards against which to measure conformity of applicable national legislation:

1. *Collection Limitation Principle*—There should be limits to the collection of personal data; "where appropriate" the data should be obtained with the knowledge or consent of the data subject. The Explanatory Memorandum offers the following interpretation of "where appropriate": "There are situations where for practical or policy reasons the data subject's knowledge or consent cannot be considered necessary. Criminal investigation activities and the routine up-dating of mailing lists may be mentioned as examples."
2. *Data Quality Principle*—Personal data should be relevant for the purposes for which it is to be used and should be accurate, complete and kept up to date.
3. *Purpose Specification Principle*—The purposes for collecting personal data should be specified not later than when the data is collected and the data should be used to fulfill those purposes or others not imcompatible with them.
4. *Use Limitation Principle*—Except with consent of the data subject or by authority of law, personal data should not be disclosed, made available or used in deviation from the Purpose specification principle.
5. *Security Safeguards Principle*—Reasonable security safeguards should protect personal data from unauthorized access, destruction, use, modification or disclosure.
6. *Openness Principle*—There should exist a general policy of openness about personal data developments, practices and policies, as well as a means of establishing the existence, nature, and purposes for which personal data exist.
7. *Individual Participation Principle*—An individual should have the right to obtain information on whether a "data controller" has data relating to him; should have the right to challenge a denial of a request for the foregoing; and should have the right to challenge data relating to him, and if successful in the challenge, to have the data erased, rectified, completed or amended. However, the Explanatory Memorandum notes that "the right to access and challenge cannot be absolute. . . ."
8. *Accountability Principle*—Accountability for complying with measure implementing the principles should be on the "data controller."

Appendix III
Four Country Experiences of One Firm

On August 10, 1982, the Section of International Law and Practice, and the Section of Science and Technology presented a program "Legal and Business Implications of Restrictions On Transborder Data Flow" at the American Bar Association Annual Meeting in San Francisco. This appendix, prepared by Stephan O. Beach of Control Data Corporation and included in his remarks at that meeting, describes some problems of Control Data Corporation outside the United States in information processing using communications lines and networks. Though these examples are two years old, they are neveretheless useful in considering whether the results or time required to resolve the problems presented might have been different if GATT applied to information processing services. Results would probably have been more difficult to obtain and have taken longer given the resulting publicity and political consideration inherent in the GATT process.

A. Mexico

Control Data has attempted to obtain authorization to install private leased line services in Mexico for use in the marketing of remote access data processing services. The Mexican government refuses to allow the marketing of remote access data processing services in Mexico by foreign corporations and still prohibits the use of private line services for this purpose. There is no satisfactory solution to this problem in Mexico. A foreign corporation that wishes to market remote access data processing services in Mexico is free to make arrangements with a wholly-owned Mexican company to market and maintain the services within that country. The foreign corporation is allowed to install leased lines to deliver the service to the Mexican border and connect with a network of the Mexican company.

B. Germany

In 1980 the German telecommunications administration passed some regulations which would prohibit the installation of private lines running from another country into Germany unless such circuits were either "hardwired" to a single terminal device or were terminated in a computer system in Germany where actual computing took place before the processed data was passed into the German public telecommunications network. Control Data entered into direct negotiations with the German telecommunications authorities explaining that Control Data did process work for German customers on systems which were located outside of Germany. They were told that Control Data processed work at its Frankfurt processing center for customers who were located in other countries and that work was processed for German multinational companies needing access to files located outside of Germany. Finally, we suggested that the new regulations would force Control Data to move processing then being done in Frankfurt to other centers outside of Germany. The German authorities, after due consideration and a series of meetings, agreed to allow Control Data to carry on its then method of processing for a period of seven years. Their rationale was that the concentration equipment installed by Control Data in Germany had a remaining useful life of seven years. Today the German telecommunications authorities are taking a second look at their new regulations as they are encountering a number of other problems with them.

C. Japan

In 1976, Control Data attempted to install a private leased circuit between Tokyo, Japan and the United States for the purpose of marketing a variety of remote access data processing services in Japan. After a considerable period of time and protracted negotiations, a circuit was installed in the Fall of 1977. However, there was a condition on the installation that the circuit had to be terminated in the United States at a single computer mainframe located at Control Data's center in Cleveland, Ohio. Only services which were processed on this single system could be marketed in Japan. This restricted Control Data to utilization of only about 10% of its leased line capacity, and only about 10% of its total line of marketable services. Control Data sought the help of the Department of State, the Japanese American Trade Facilitation Committee of the Department of Commerce and the National Telecommunications and Information Administration of the Department of Commerce. Little practical help to resolve this problem resulted from those contacts.

Control Data then filed formal and informal petitions with the Office of the Special Trade Representative under the Trade Reorganization Act. Through its trade organization, ADAPSO, formal complaints were filed with the Federal Communications Commission. In addition, numerous negotiations were held between Control Data and authorities of the Ministry of Posts and Telecommunications of Japan and KDD, the international common carrier, of Japan. Many meetings were held in Tokyo, New York, Washington and at OCITT meetings in Geneva, Switzerland. The problem was considered for solution through legislation during hearings before the Committee on Government Operations of the United States House of Representatives. Finally, in May of 1981, after years of negotiations, the Ministry of Posts and Telecommunications of Japan modified its regulations to allow Control Data to use its private leased line to process data services applications for Japanese customers on systems located at Control Data processing centers within the United States other than that at Cleveland, Ohio including Rockville, Maryland; Sunnyvale, California, Arden Hills, Minnesota, Minneapolis, Minnesota, etc. This now permits Control Data to market its full line of remote access data processing services in Japan.

D. Spain

In 1978, Control Data attempted to arrange with the Spanish telecommunications authorities for the installation of leased private line service between Madrid, Spain and Brussels, Belgium. The purpose was to market a timesharing offering of Control Data known as CALL/370. The Spanish authorities advised that if Control Data wished to secure leased lines for the delivery of CALL/370 timesharing services, it would be necessary to install the circuits from Madrid directly to the location where the processing was to be done. In this case it was to be done in Cleveland, Ohio, and therefore they demanded that we install a circuit directly from Madrid, Spain to Cleveland, Ohio. There demand did not take into account that we had a switching point in Brussels, Belgium which would enable us to go from Madrid to Brussels and then to Cleveland, Ohio via our Control Data network.

Control Data determined that the potential volume of CALL/370 business in Spain did not justify the installation of a direct circuit to Cleveland and accordingly dropped plans for the marketing of the service in Spain. Later, various Control Data multinational customers began to take terminals into Spain and place long-distance calls to nearby French cities which were on the Control Data network, thereby allowing them to

access the system through Brussels. After two years of consideration, the Spanish telecommunications authorities realized that they would obtain more revenue through leased circuits from Madrid to Brussels and decided to allow Control Data to install such circuits.