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TOWARD A CANADIAN POSITION ON VIDEODISC

- A Discussion Paper Prepared for the Department of Communications/-

COMMUNICATIONS CANADA

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January 5th, 1981

Mr. Drew Cameron  
Research Analyst  
Arts and Culture Branch  
Secretary of State  
Ottawa, Ontario  
K1A 0M5

Dear Drew,

Attached please find Nordicity Group's promised orienting paper on development of a Canadian position on videodisc (as per our letter of September 25, 1980).

As you will see, we found it necessary to review international developments at some length. This is because the Canadian opportunity consists of identification and exploitation of export market niches that are consistent with domestic strengths and potential capabilities. The strategic orientation for developing Canadian policies in support of creating a videodisc industry here should, in our view, be a sharp focus on areas where there is an opportunity to be internationally competitive.

Your interdepartmental approach to the study of videodisc provides a base, we think, for development of policies that would realise an industrial strategy for home video. In this context, it will be important to involve, as soon as possible, the many private and public sector interests that bear on domestic development of videodisc. Hence, we suggest that the cooperative approach you have initiated within government should be replicated externally. Indeed, the Nordicity Group would be pleased to assist in the design of the organizational mechanism and the consultative process to do this.

We trust the attached report meets your requirements, and we look forward to future discussion of this important project.

Yours sincerely,



Laurie Edwards,  
Principal.

BLE:bf

Enclosure

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## TOWARD A CANADIAN POSITION ON VIDEODISC

### I. The Context

Videodisc technology is one element of an extraordinary revolution that is affecting most dimensions of the communications industry. This revolution, flowing from advances in microprocessor, satellite, optical fibre, digital electronics, interactive television, and other technologies, will alter profoundly the economics of the production, distribution and consumption of information and entertainment services and products in the last part of this century. In its wake will come a host of competitive challenges and new opportunities for existing participants in the communications sector. And it will create new markets and opportunities for people and companies that are not now involved in the communications industry. Most importantly, the communications revolution poses fundamental social and cultural questions bearing on its cumulative effect on the way people learn and entertain themselves, on the individual's right to privacy, and on the capacity of individual societies and whole countries to know themselves.

Communications has always been a principal preoccupation of Canadians. Initially, effective communications--in all its forms--was perceived to be critical to the task of nation building in a huge land mass with a sparse and scattered population. In contemporary terms, Canada's proximity to the financial and communications strengths of the United States has made this sector

a key concern of all those with an interest in the country's economic and cultural sovereignty. The advent of satellite communications, cable television, pay television, and home video at once dramatises Canada's vulnerability in this context and suggests the need for a concerted national effort to ensure the viability of indigenous production, programming, manufacturing, and other 'businesses' that bear on our aspirations for self-expression and economic well-being.

This brief paper, then, assumes recognition of the need for national communications strategies of which this particular technology is only one component. It is intended to suggest directions for detailed analysis in respect of a strategy for Canadian involvement in videodisc technology. Further, the paper concentrates on both perceived domestic strengths and apparent cultural and/or economic imperatives irrespective of existing capabilities relative to home video. Important strengths, weaknesses, imperatives, and promising avenues for development of effective policies in support of a Canadian involvement can be perceived through characterisation of key features of the emerging international industry and through review of relevant domestic initiatives, activities and potential. In short, the paper sets out to illustrate the kinds of issues that must be addressed if Canada is to seize some of the opportunities and avoid some of the dangers inherent in the development and mass commercialisation of videodisc technology.

## II. Videodisc...what it is...what it means

Despite the confusing array of competing claims being made by proponents of one or another videodisc format, the principles of the technology are relatively straightforward. A plastic disc turning at high speeds on a turntable is read by a mechanical or electronic stylus or a laser beam. The signal is conveyed to a television monitor and displayed. In sum, video product gives as much control and convenience to the specialised or general consumer as do audio recordings.

However, depending on the way that information is placed on the disc itself, depending on the sophistication of the system used to read and convey that information, and depending on the peripheral equipment a consumer uses in conjunction with a player, this technology permits an extraordinary range of applications. To begin with, it is possible to store a vast amount of information on the disc itself. According to a detailed examination of this technology in Business Week (July 7, 1980), North American Philips Corporation and RCA have developed laboratory discs in the optical format (digital signals encoded by a laser beam that 'pits' the disc) that could store 100 billion bits of information--roughly equal to the Encyclopaedia Britannica translated into digital form. The implications for videodisc's eventual application for archival and data storage purposes are self-evident. Moreover, digital encoding permits the storage and retrieval of high quality visual images, thus lending itself to widespread institutional and consumer use as a replacement for

film and videotape.

Both capacitance (mechanical) and optical (laser) formats deliver a video signal that is superior to what the ordinary television viewer enjoys on a conventional set<sup>1</sup>. Indeed, the video quality of the discs exceeds the capacity of existing television standards, and the ability to deliver high fidelity stereophonic sound (presently available with the optical systems, soon to be available with the capacitance versions)<sup>2</sup> suggests accelerated movement toward production of television sets with good sound quality and/or increased use of quality audio speakers in conjunction with the television set.

The user can also deploy the videodisc in a wide range of modes-- again, depending on the format and on the features of a particular player. Program branching, random access, fast forward/reverse, freeze frame, step frame, slow motion, remote control, linkage with small or large computer data banks, dual language tracks, and so on are some of the features offered by different manufacturers. Hence, educational, training, editing, games playing, and a host of other functions are made possible via a technology that will in the first instance be marketed on the basis of its capacity to give the consumer absolute control over his/her television programming.

1. Progress is being made toward development of television sets with higher picture resolution, however. For example, a report by a working group of the Society of Motion Picture and Television Engineers (SMPTE), described in the Society's trade publication (February, 1980), dealt with high definition television, where the scanning frequency used was about 1500.
2. RCA management settles on February, 1982 for delivery of a stereo version of its disc system (Los Angeles Times, 23 September, 1980).



## Videodisc Markets

In essence, videodisc's position at the leading edge of the much talked about communications revolution bears on its applicability to four markets. The first of these, and the one which will probably determine the rate at which this technology is taken up by users worldwide, is the market for video entertainment. Today, this market is characterised by a confusing mix wherein the consumer pays directly for entertainment product and indirectly. The serial drama and situation comedy he/she accesses via 'free' television are underwritten by the advertisers who buy time on the networks. If a household has cable, consumers pay more directly--though, of course, the money does not find its way back to program producers. Pay television services involve a more direct link between consumer and producer, but payment is rarely on a per program basis. The conventional cinema outlet does involve a direct payment, and feature film producers go on from there to access the other market windows--pay television and sales to the networks. Increasingly, too, the producer looks for a market window via videotape or cassette sales to the million+<sup>3</sup> (in the US) owners of video recording and playback equipment. And this area, like the emerging videodisc phenomenon, involves a direct link between producer and consumer.

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3. The U.S. Federal Communications Commission's (FCC) Television Network Inquiry notes that in 1979, videocassette recorders (VCR) were being used in 1.5 percent of U.S. homes (i.e. 1.2 million units). By 1984, VCR sales are expected to average 1 million per year; disc player sales are expected to surpass VCR sales within five years (News, 7 February 1980).

The key elements of the entertainment market, then, are the consumer's desire for high quality product that can be viewed at pleasure, at low cost, and without interruption and the producer's desire to maximise revenues for individual programs with a minimum of interference in the transaction between him and the consumer. Assuming high penetration of the equipment consumers need to be able to play the discs,<sup>4</sup> videodisc technology goes a long way toward meeting these two requirements. The discs themselves are expected to be relatively inexpensive (in the \$5 to \$20 range) by comparison with, say, purchase of tickets for a family to go to a feature film at the local cinema.<sup>5</sup> Certainly they are a lot cheaper than pre-recorded videocassettes (from \$25 to \$100).<sup>6</sup> The picture quality is very good, usually better than off air reception of network television or even cable-delivered pay television services. The discs can be used several times, and they can be traded or sold back to a retailer against the price of new discs.<sup>7</sup> They won't be interrupted by advertising, although they may have some commercial messages bunched at the beginning

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4. By October of this year, sales of videodisc players were beginning to heat up. Referring to industry estimates and spot field surveys in the U.S., Home Video Report projected sales of about 2000 units each month (20 October 1980).
  5. Videoplay Report (8 January 1979) estimated that the \$2.50 cost of a cinema ticket, gas, parking, and sundries would add up to considerably more, for a family of four, than the cost of a videodisc.
  6. CBS management believes a key advantage of videodisc is the cost of replication--i.e., it takes two hours to duplicate a two hour tape; it takes about thirty seconds to replicate a disc (Billboard, 29 March 1980). Still, companies with a large investment in tape plan aggressive competition. Media Home Entertainment, for example, has already cut prices on domestic tapes by \$10 (Home Video Report, 1 September 1980).
  7. One store in Dallas, for example, "will allow a customer who brings in a previously purchased videodisk in good condition to buy a new one at one-fifth the price of a new disk" (Billboard, 8 March 1980).

or end of a program.<sup>8</sup> For his part, the producer can be confident that a program sold is a program paid for; revenues will directly reflect consumer use. A new, probably front end window will have been added to the several markets through which he can release his product.<sup>9</sup> The high and growing cost of producing competitive entertainment programs (Jack Valenti, Motion Picture Association of America President, according to Videoplay Report, March 17, 1980, estimates average feature film costs to have risen from \$1.9 million in 1972 to \$8.5 million in 1980) will, in short, be ameliorated by a significant new source of revenues.

The second market that bears on videodisc's role in the transformation of home video is the special interest market. Until recently, cinematic and television product has adhered closely to the iron laws of lowest common denominator programming decision-making. To be successful, both feature films and television programs have had to appeal to very large proportions of

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8. Time-Life Video is involved in two projects to determine if advertising on home video is viable (Video News, 4 June 1980). SRI International (Research Report No. 621) estimates that home video does constitute an insidious threat to advertisers--especially in relation to marginally successful television programs that will lose segments of their audience to home video, and in relation to affluent television viewers who are more likely to have home video equipment.
  9. Already, the major studios have enjoyed outstanding sales in the tape and cassette markets. "Superman" and "10", for instance, have sold over 2 million copies each at wholesale (retail prices range between \$40 and \$75) (Home Video Report, 13 October 1980). This kind of performance has led to aggressive studio policies, such as Paramount's intention to release movie features for the home video market before any appearance on pay television (Home Video Report, 30 June 1980). And it bears directly on studios' need for windows through which to recover the high costs of marketing feature films: Alan Hirschfield of Twentieth Century Fox has estimated such costs at between \$6 million and \$12 million, which may be ameliorated by returns from home video of perhaps \$1 million per title in the near future (The Videoplay Report, 17 March 1980).

an undiscriminated viewing audience. The emergence of vertically programmed satellite-to-cable channels and the slow development of a market for pre-recorded videocassettes have gone some way toward characterisation of important segmented viewing markets with particular interests. Childrens television channels, all news cable services, programming for blacks, sports services and a host of other services have been developed and proven viable. Videodisc technology, because it is based on individual consumer decisions and because it involves relatively low production and replication costs, will make it practical for producers to develop programs for market segments of only a few thousand<sup>10</sup>--as in the audio recordings industry (eg., sales of 20 thousand units to amortize a recording investment of \$50 thousand).

The implications of videodisc as a means to access special interest markets are staggering. The obvious success of videocassettes as a vehicle to market pornography should not be taken amiss. The kinds of cultural programming until now available only via PBS in the United States can be translated to videodisc format and marketed to the tens of thousands of persons who love opera, symphonic performances, theatre, dance, and so on.<sup>11</sup> Similarly,

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10. SRI (Research Report No. 621) estimates production runs as low as 10,000 to be sufficient to generate a return to producers of special interest discs.

11. One of many examples that illustrate the industry conviction that "high culture" will sell in home video is RCA's intention to joint-venture videodisc versions of Beta-Taurus Film activities relative to operas and concerts. Billboard (21 June 1980) reports that RCA will add rights to more than 50 such productions (broadcast on PBS) for videodisc sales in Germany and the U.S.

whole new markets of sports aficionados, nature lovers, and travelogue addicts will be accessed by producers who know and understand the tastes of the millions of viewers who are badly or only occasionally served by conventional television services. Within reason, such consumers can be expected to pay more for programming tailored to their specific tastes, a fact which suggests that, even where long production runs are not possible relative to achieving desirable per unit costs, innovative and quality programming will be produced and marketed at higher prices.

Similar to the special interest market in some senses, but not in others, is the third important market area--education. This market can be characterised in two ways: institutional and home use. Institutional use of videotape and cassette recorders is, of course, already extensive; in 1977, according to a Knowledge Industry Publications study of publishing/programming opportunities in home video, this sector constituted a programming market of \$100 million. Schools, hospitals, companies, and many other institutions purchase and exhibit educational software, record off air educational services, and even produce curriculum and other kinds of programming. For the most part, videodisc technology can be expected to complement these sorts of activities and, in many instances, effect a much more extensive and successful deployment of the television set as an instructional aid. This because of the technology's inherent strengths relative to cost and interactive use. The cost factor is important, since a major constraint on

many educational institutions today is the price of both video-cassette recorders and tape/cassettes; videodiscs will be much cheaper, and their durability will ensure efficient returns on the purchase cost.

Probably more important than the cost consideration, though, is the interactive capability of the optical systems that have been developed by Philips, Pioneer, Magnavox, and other manufacturers. With the microprocessor attachment, these players permit students to go up and down logic trees, to stop and replay difficult portions of a 'lesson', to access the particular part of a program that they need to study, and so on.

In the home, too, videodisc technology will usher in a new world of instructional television. Though consumer models will not generally possess the sophisticated interactive capabilities of institutional versions, they will play the wide variety of programs that educational institutions and individual entrepreneurs will want to market in the videodisc format. Home maintenance, cooking lessons, health and nutrition, how to fix your car, correspondence courses, how to pay fewer taxes, and many other forms of educational video programming will find their way into this market. Indeed, it should not take very long before today's producers discover, as the book publishers did years ago, that Canadians and Americans are inveterate self-improvers; videodisc will make this discovery operative.

The fourth major market area for videodisc technology is the information/data storage business. Although minor problems pertaining to digital error rates persist, the sheer cost-effectiveness of storing digitally encoded information on inexpensive and space-efficient plastic discs argues for profound changes in the way companies and public sector institutions will maintain their data banks and archives in the future. Microfiche, microfilm, magnetic tapes and discs, and video tapes are all more expensive and less efficient than disc technology. In its April, 1980 review of a pilot videodisc project, Public Archives of Canada cited Jerome Drexler (President of Drexler Corporation of California, which recently introduced the first commercially available blank disc for laser recording and playback) as anticipating the production of two-sided 12 inch discs with a capacity of 2500 mega bytes on both sides; this product would result in information storage costs of 2¢ per mega byte, as opposed to average costs of \$3 per mega byte on a magnetic disc pack, 40¢ for a magnetic tape cartridge, and 7¢ for microfiche. Public Archives of Canada further noted that videodisc technology permits compression of about 37000 images onto one twelve inch storage medium, making it viable in principle for complicated archival material such as maps; it was concluded that the technology could be effectively deployed in archival work.

The emergence of this important market must await the development of players and processes with wide commercial acceptance. Interviews with Thompson-CSF suggest that this company is closer than

competitors RCA and Philips to such players and processes, but even Thompson-CSF does not anticipate a major market thrust in this area for two to three years. Still, just as optical fibres can be expected to replace, in the long run, copper wiring for common carrier and community antennae television services, so too does videodisc appear to be the data and archival storage medium of the future. Laser filing via videodisc, because of frame retrieval capacities, may be much closer than archive storage, if only because the latter implies a monstrous amount of work to encode information and images. But, as a Xerox executive quoted in Video Systems (January, 1980) notes, we are not far away from the time when the entire contents of the 18 million books in the US Library of Congress can be stored on 100 optical discs. The market will develop.

#### Videodisc...the Race to the Marketplace

At first blush, the competition among the many, mainly American and Japanese companies, institutions, and individual entrepreneurs to establish themselves in the emerging world of videodisc looks like nothing so much as an unholy tangle of arms and legs bearing no particular relationship to one another. Hardware manufacturers are in strange and complicated partnerships with movie producers; major producers have struck deals with distributors and other producers; alliances are being established among typically fierce competitors; and independent producers and distributors are seeking out opportunities left over after the 'majors' have concluded their arrangements. The ultimate beneficiaries of this frantic



activity, home and institutional video users, though their tastes, needs and financial resources are the true arbiters of the competition to be first and biggest with videodisc technology, await the arrival of the new information and entertainment vehicle in a state of confusion about format, price, and the availability of the only thing they are really interested in--programming.

In the first instance, the battle is for dominance of the videodisc player market. The major competitors for this market are RCA Corporation, Philips and Matsushita Electric Industrial Company... as well as the many other companies that have committed to the non-compatible formats developed by this troika. To date, according to Business Week (7 July 1980), industry has invested nearly \$1 billion<sup>12</sup> in videodisc technology. In the United States, at least, the probability of pay-off from this investment is determined by a complex mix of factors, of which technological sophistication is only one element. Most important is the marketing capacity of companies and alignments of companies; in this domain, in the United States, RCA's capacitance player version, Selectavision, has a big lead--according to Videoprint (22 September 1980), RCA, Zenith, Sears, and Sanyo, who will all be selling Selectavision, control better than half of the lucrative US television set market. Philips, IBM, MCA, Pioneer, and the other companies that have committed to the Dutch giant's optical laser format control much

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12. RCA alone has spent more than \$150 million, "more than on any other of its consumer products" (Globe and Mail, 9 August 1980).

less of the market, but they are counting on the advantages of superior technology and earlier market entry. Matsushita, which has announced its intentions only recently, is still lining up North American allies; but this company has great potential strength in that the standard for its player may well be given priority in the important Japanese market.

In the United States and worldwide, the potential videodisc market is probably large enough to permit the merchandising of three or more incompatible formats, particularly in view of the range of institutional applications possible with the more expensive optical laser format. But the commercialisation of any of the formats, let alone competition among them, is absolutely predicated on the availability of suitable software. To a considerable extent, therefore, the videodisc war has been characterised by software initiatives and alignments that will significantly affect the configuration of the information/entertainment industry in the future. Several examples are instructive.

- Pioneer has formed a subsidiary (Video Week, 31 March 1980); Pioneer Artists, to develop software that will be unique to disc format.
- RCA will release a series of videodiscs based on Survival Anglia's extensive wildlife video holdings (Variety, 15 October 1980).
- Pioneer, Philips, IBM, and communications conglomerate MCA engage in complicated joint ventures to produce and market entertainment discs manufactured by DiscoVision Associates (DVA).
- 3M begins negotiations with BBC Enterprises for rights to duplicate and distribute in disc format BBC's program inventory (Videodisc News, August, 1980).

Evidently, manufacturing concerns embrace actual disc replication as well as the huge player market, which cannot flourish in the absence of accessible, competitively priced software. In addition to MCA's bold initiatives in this context, as well as RCA's extensive plans for production of discs for the capacitance system, several other companies are getting into the fray. 3M is already producing optical discs for educational and industrial use--i.e., custom pressings with production runs of less than 5000--and the company will build a large scale factory to produce consumer discs in the MCA-Philips format in 1981 (Video News, 10 September 1980). According to Bob Paulson, writing in the May issue of Filmmakers Monthly, 1980 (Paulson is Chairman of the SMPTE study group on videodisc), Eastman Kodak is also giving serious consideration to videodisc as "a bridge which can transport their 100 years' worth of technological sophistication and manufacturing knowhow from the world of film into the world of video". Twentieth-Century Fox subsidiary, Magnetic Video, will probably be the one to watch in terms of disc manufacture in the short term, though. This company, which is already the world's largest distributor of pre-recorded home video fare, has included videodisc in its ambitious videotape expansion plans. According to Home Video Report (28 April 1980), Magnetic Video will soon begin construction of a disc replicating plant on a four and a half acre site adjacent to its tape duplication facilities. The new operation will produce discs in both optical laser and capacitance formats. Except for companies that have strong vested interests in one or another format, such as Philips or RCA, distributors and

other potential disc manufacturers are not tying themselves to a particular format. Their interest is in capturing significant portions of a disc market that RCA spokesmen have estimated at between 200 million (individual discs) and 250 million annually by 1990 (Video Scene, Fall, 1980).

Of central concern to everyone involved in this burgeoning industry, of course, is the development of effective means to get the technology into the homes of consumers. Clearly, retail outlets for television and audio equipment will do a good job for the players. But the marketing and distribution of the discs themselves pose several important challenges. Many discs sold to date have been marketed in conjunction with the players--that is, they are sold in shops frequented by what one industry spokesman calls "vidiots". As well, of course, discs are (or will soon be) distributed via the even more extensive marketing systems that have been established for pre-recorded videotape. But serious commercialisation will require the full range of distribution techniques, including record stores, video clubs, specialty stores, outlets through mass merchandisers,<sup>13</sup> even sales in cinemas.<sup>14</sup>

As noted above, the most aggressive home video distributor is Magnetic Video. This company deploys several thousand retail outlets

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13. One trend, already in evidence for tapes and cassettes, is the development of video cooperatives...buying cooperatives of small retailers (Video Retailing, August 1980).

14. Sales in cinemas have actually been tried already, for cassettes, by Magnetic Video. The trial project was launched in Los Angeles via two theatre chains, and results to March, 1980 were encouraging (Video News, 12 March 1980).

worldwide, and expects to see a marked shift toward the use of audio recording stores as a key point of sale. But Magnetic Video is also anticipating the sale of special (eg. sports programs) discs in stores which specialise in appropriate merchandise, and, of course, the parent company, Twentieth Century Fox, has already announced its intention to release software in home video format simultaneously with cinematic release. Already, Magnetic Video faces stiff competition from other distributors, some of which have excellent interrelationships with major program producers. Among these are such companies as Warner Brothers and Paramount Pictures, companies that, in videocassette format, are following Disney Productions' lead in experimenting with the extraordinary marketing strengths of Fotomat's thousands of retail outlets...which are providing home video material on a rental basis. Warner Brothers is also contemplating an experiment that would see this company deploying Independent News (400 wholesale operations; 100,000 retail outlets) as a distributor of home video. Already, too, videodisc library services are emerging; one such service, Service Sales of Seattle, provides an unlimited number of "videodisc entertainment and non-entertainment programs for one-at-a-time 7-day viewing periods to enrolled members" (The Videoplay Report, 12 May 1980). The potential of such clubs should not be underestimated. Time Life's video club (cassettes) has recently experimented with an advertising campaign that drew one order for every potential 1000 readers, generating a response three times as successful as similar campaigns for books or records (Television Digest, 22 October 1979).

Increasing worldwide penetration of videocassette and tape recorders<sup>15</sup> and the imminence of the videodisc marketing war have created a host of new opportunities for existing and potential distributors of video entertainment product. Magnetic Video's rapid expansion, the overnight emergence of Media Home Entertainment as a non-aligned international video distributor that is now selling up to 18000 tapes a month (Home Video Report, 8 September 1980), the birth of video clubs, Fotomat's excursions into the rental market, and the evident intention of major program producers to ensure a competitive position in worldwide video distribution systems are some of the many symptoms of the transformation that video technology is realising. But most of the frenetic activity referred to above pertains to the marketing of existing product. Tactics in the distributorship battle are concentrated in the area of rights acquisition; the new era of home communications will as importantly be shaped by new kinds of video product.

Development of such product has so far been tentative and cautious. The early betting is on use of home video as a market window for conventional fare. But there are important exceptions. In the entertainment field, most optimism concentrates on the application of videodisc technology to musical productions. Indeed, the Recording Industry Association of America (RIAA) has gone so far as

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15. Sales of VCRs are about equal in the U.S., Japan, and Europe with total shipments in 1980 expected to be about 3.1 million. Worldwide, the VCR population is estimated at about 7.9 million (Home Video Report, 20 October 1980).

to establish a new video division, and companies such as Capitol Records, which released its first home video product in the Spring of 1980 (a Knack concert), will soon be vying for the RIAA's gold and platinum awards (initially for tape sales). Already, enterprising companies, like California-based Pacific Arts Corporation, are developing new approaches to the marketing of popular music: Pacific Arts Corporation subsidiary, Pacific Arts Television is producing "Popclips", which Billboard (17 May 1980) notes is claimed to be "first Top 40-like audio-video television show". Concept originator Michael Nesmith believes that this format will be appropriate for videodisc, for marketing at the retail level. At the other end of the scale, some industry spokesmen are gearing up for sale of musical videodiscs specifically tailored for an older than average consumer population; Video Week (15 September 1980) reports that Polygram Record Operations (US) chairman Irwin Steinberg is bullish on the future of videodisc versions of middle of the road and adult contemporary music that will appeal to typical consumers of this technology. Overall, there is considerable optimism about musical videodiscs. Important considerations include the need of record retailers for a marketing boost, widespread conviction that record retailers will be the preferred outlet for videodisc, the fact that musical videotapes have experienced significant success on the international market (Media Home Entertainment foreign sales are 70 percent music, according to Ron Safinick, quoted in Billboard, 8 March 1980), and the perceived opportunity to undertake music specials co-productions with pay television operators (noted in a Los Angeles Times

interview with RCA vice-president Thomas Kuhn, 23 September 1980). These and other considerations suggest that music could actually be the force that drives the rapid development of the home video industry, leading eventually, according to Twentieth Century Fox spokesman Hirschfield, to the emergence of "four or five international record companies as the backbone of worldwide business by the '90s" (The Videoplay Report, 17 March 1980).

Preliminary production efforts are also being mounted in the areas of specialised, instructional, and interactive programming, however. Indeed, ABC Video Enterprises is now collaborating with the National Education Association to develop videodisc series for distribution to schools throughout the United States (Home Video, October, 1980). The Encyclopaedia Britannica Educational Foundation has already put several educational programs on disc, and the company is now developing new product, such as a pieced together version of the Undersea World of Jacques Cousteau. Evidently, too, the many special programs that have been produced for videocassette (eg., Home Theatre Visual Concepts Inc's sixty minute programs on "How to Golf") will not be long in finding their way onto videodisc. This because, as well as the anticipated much greater penetration of disc players, interactive capabilities with the disc permit such programming as Optical Programming Associates' planned disc on how to watch football. This program, according to Home Video Report (13 October 1980), will feature explanations of defensive plays on one track of a dual track disc, offensive plays on the other track. It will also make use of slow



motion features and invite use of random access capabilities to permit the viewer to seek out particular portions of the program. Not to be outdone, RCA recently purchased, from the Corporation for Entertainment and Learning, four hours of tennis programming entitled "Total Tennis from the Pros"; the programming will be released internationally in tape and Selectavision disc formats (Video Week, 15 September 1980).

While major entertainment and conventional programming corporations are re-packaging existing video fare and tentatively exploring new program concepts, there have been important advances made in the development of educational programming for videodisc by other groups. The most successful of these, at least when measured in terms of response to proposals for government funding of individual research projects, is the World Institute for Computer Assisted Teaching (WICAT). Videodisc News (March, 1980) reports that this group's engineers have completed a prototype of a second generation computer-controlled disc, which involves incorporation of a powerful microprocessor in a consumer version of the Magnavox player. This application actually permits the disc to ask the viewer questions, subsequently to route him through appropriate logic trees. Using this technology, WICAT programmers have developed remarkably alive renditions of college courses. WICAT is also developing programming for Ford (maintenance training), Smith, Kline & French (continuing medical education), and the US Army Research Institute (fire procedures, simulated military

situations, etc)--all predicated on interactive disc technology.

### III. Whither Canada?

#### The Situation Now

It seems apparent that home video is in the United States to stay. And the adoption of VCR technology by consumers in other industrialised countries suggests that there is a large and growing market for home video throughout the world. Debates over timing, whether videodisc will complement or compete with VCR technology, and trade-offs consumers will make among pay television services, direct broadcast satellite services, and home video notwithstanding,<sup>16</sup> there is little doubt that Canadians too will soon be incorporating videodisc equipment into their home information and entertainment centres. This probability raises a host of important questions relative to industrial and cultural policy.

To identify those questions in a systematic way, to posit answers to them that are couched in a strategic context bearing on the overall role of communications, and to suggest priorities for

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16. Knowledge Industry Publications, in a study of home video market indicators (October, 1980), show the following gains in various kinds of home video...illustrating that videodisc penetration in the U.S. is increasing rapidly.

- Pay cable subscribers increased from 5.7 million to 8.4 million between January and September, 1980 (a gain of 47.4 per cent).
- VCR unit sales increased from 1.1 million (cumulative) to 1.6 million (a gain of 45.5 per cent).
- videodisc units increased from 10000 to 18000 (a gain of 80.0 per cent).

government and industrial action in Canada, it is first necessary to appreciate the country's general situation in respect of economic and cultural sovereignty. Those dimensions of national sovereignty, after all, will be most directly affected by the commercialisation of communications technologies developed and marketed, for the most part, by foreign enterprises.

High technology, as the Science Council of Canada has opined with distressing regularity, is not Canada's strong suit. The fragmentation of domestic markets, the small size of the domestic market, high levels of foreign ownership in R&D intensive industries (with a consequent truncation of indigenous research activities and capabilities), and other factors have conspired to prevent the kind of investments in high technology products and services that is so dramatically illustrated by Japanese, Dutch, and American development of videodisc equipment. Hence, Canada contemplates the introduction of this technology, which will generate a market that RCA spokesmen estimate at \$7.5 billion in the United States alone by 1990, in the absence of a domestic base in consumer electronics. In 1979, according to the electrical and electronics branch of the Department of Industry, Trade and Commerce, 14 per cent of Canada's total bill for imported electrical products (\$3.8 billion) accrued to consumer products. Of the total electronic goods exported in that year (\$1.6 billion) only 6.5 per cent were in the consumer electronics category. In the absence of Canadian capability in the potentially enormous market for videodisc technology (or even, for that matter in the manufacturing of

television sets, an activity that is expected to get a shot in the arm from the commercialisation of videodisc technology), that imbalance in trade will not be likely to improve.

This country's present situation in respect of trade in video software is also appalling. Drawing from Broadcasting, TV World, industry interviews, MIP/NATP publications, and so on, for an internal CBC review, Currie Lehman Consulting Ltd. noted that Canada imported 14 per cent of the dollar value of all television programming 'traded' internationally in 1978 (i.e., more than \$40 million)<sup>17</sup> and exported about 2 per cent. By comparison, the United States exported more than \$200 million<sup>18</sup>, garnering 71 per cent of the world television export market; US imports accounted for only 11 per cent of the international market.

The picture for feature films, which will provide the bulk of software for videodiscs in the first few years, is as bleak. Although this industry has experienced significant domestic growth in the last few years, successes in the international marketplace are few and far between. Even in Canada, according to the

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17. Pierre Juneau, Deputy Minister of Communications, in a November, 1980 speech to a Harvard University workshop on the changing telecommunications environment, estimated that Canadians spent from \$70 million to \$80 million on imported U.S. television programs in 1979.

18. David Ellis, in a report on measures to stimulate Canada's domestic program production industry (for the Department of Communications, September, 1979), put the U.S. export figure at \$235 million.

Canadian Conference of the Arts in its proposals for a federal policy for the arts, "A Strategy for Culture", Canadian films accounted for only 3.4 per cent of domestic screenings and played no part in the generation of \$83.9 million (71 per cent of the total revenue from theatrical distribution) earned by foreign-controlled distributors in this country.

The social and cultural consequences of this situation are significant. Weak performance in important sectors of high technology, communications-oriented manufacturing has contributed to this country's worsening trade balance...with important implications in respect of servicing the national debt. Both blue collar and skilled jobs are being lost, and there is an evident inability for Canada to engage in important kinds of prototype technology development that would open up new markets for communications products.

Culturally, the situation is worse. Viewing of Canadian produced television programming has been severely attenuated since the advent of cable television and the proliferation of commercial broadcasting licenses. In 1979, selective samplings of CBC's research department suggested a viewing share for all Canadian content of about twenty-six per cent. And, as most people appreciate, the bulk of that viewing is devoted to news and public affairs; relatively small amounts of television drama are produced in Canada, and what there is tends to experience tough sledding against high production value American imports. The situation is

of course even worse for feature films, though the cultural implications are not as obvious, since Canadians spend significantly less time in cinemas than they do in front of the television set.

Evidently, Canada's problems in the communications area--culturally and economically--derive from both the enfeebled condition of our domestic industrial base and the force and competitiveness of relevant industries in countries with larger domestic markets and/or with intense, focussed commitments to development of internationally competitive positions in communications. Radio, television, cable and, latterly, satellite technologies have taught us just how inter-connected cultural performance and hardware can be. Home video technology is simply one more challenge to Canada's economic and cultural performance in the information/entertainment area. Responding to that challenge will require an understanding of and commitment to building on existing and potential strengths, wherever they may be found. It will also require an appreciation of weakness, a recognition of where it would be foolhardy to try to compete...in a word, selectivity. And it will require a commitment to development in certain areas, irrespective of existing capability, simply because of the cultural stakes implicit in those areas.

Canadian Strengths

Ironically, probably the greatest strength resident in Canada relative to the emergence of home video is production capability. In the CBC, Canada possesses one of the world's largest concentrations of experienced producers of audio-visual material. Each year, in fulfillment of its mandate, the CBC produces tens of thousands of hours of radio and television programs for local, regional, and network broadcast. The programs are produced in English and in French, and they are frequently competitive enough to outperform American fare aired at the same time. Further, in carrying out its mandate, the CBC regularly seeks out new Canadian talent and exposes it to national audiences. Technically, therefore, and in terms of being in touch with the creative communities found throughout the country, the CBC should be well positioned to move aggressively into the home video market--domestically and, where appropriate, for the export market.

Particular strengths are resident in the CBC relative to the production of arts and science programs and, in the French Services Division, childrens television, as well as the production, for both audio and visual purposes, of music programs. The long-running "Nature of Things", which has persistently enjoyed high domestic ratings and successful international sale, and musical variety productions on both radio and television are illustrative. As was evident in the earlier characterisation of U.S. developments--actual and anticipated--such categories of programming are likely to emerge as important elements of videodisc program offerings.

Hence, the CBC should be well positioned to version past productions, to develop new programming with an eye on supplemental home video markets, and to create products specifically tailored to the new medium.

A second strength is educational programming.<sup>19</sup> There are three provincial educational broadcasting authorities in Canada: ACCESS (Alberta), TVOntario, and Radio Quebec. All of them produce and distribute the kind of programming for which many American institutions and entrepreneurs now envisage a dynamic future. TVOntario is particularly illustrative. Based on its significant research capabilities,<sup>20</sup> this organisation has been able to develop some of the most effective instructional material for children now extant. "Readalong", especially, has enjoyed international acclaim, and the series has been marketed with great success throughout the English speaking world. Moreover, "Readalong" and a great many other Canadian produced programs are extensively distributed to schools in Ontario in videotape format: 28000 programs were sold in this way in 1979/80.

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19. An indication of the market potential of this 'sector' is provided by the results of an American educational telecommunications assessment project conducted for the Joint Council on Educational Telecommunications. Because of the advent of home video, current U.S. expenditures of from \$300 million to \$600 million for telecommunications educational activities will need to be expanded over the next five years by \$329 million annually, according to project manager Chalmers Marquis.
20. These capabilities enabled TVOntario to develop a program analyser which is now being marketed throughout the U.S. The Authority has a deep interest in the potential of computer assisted learning, based on its experiences with measurement techniques such as the Analyser, and could be expected to bring special insight to the challenges of videodisc/microprocessor applications (The U.S. House Subcommittee on Science, Research and Technology recently was told by WICAT that this technology can increase use of a learner's productivity time by a factor of twenty-five).



Ontario is not alone in its commitment to widespread distribution of informational/educational programming in videotape format. Most of the provinces, as well as the National Film Board, engage in such distribution. One among many examples is the service provided to small communities in Newfoundland. Partly as a consequence of a Department of Regional Economic Expansion (DREE) grant to place VCRs in learning centres in thirty communities in the province, Memorial University's Extension Department has been able to develop and distribute educational programming on videotape... with results that have produced consulting contracts for the university, regarding such services, with at least five Third World countries that want to establish something similar. These and many other Canadian initiatives are important, because they involve an educational process with respect to acceptance and utilisation of video equipment and because they bespeak a nascent production capability of some proportions. Videodisc--cheaper,<sup>21</sup> more durable, and easier to use--is thus a technology which could be expected to complement and even replace video playback equipment now in place.

A third strength is the production capability integrated within the major commercial television stations.<sup>22</sup> To date, that

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21. Tape duplicating costs are significant constraints. TVOntario estimates a wholesale cost of \$20 for a 1 hour, 3/4" tape; to that must be added dubbing costs of about \$26. The educational institutions that purchase the tapes pay TVOntario \$46.
  22. In a 1976 study of the independent Canadian production industry, Professor Hugh Edmunds identified six such stations: CFTO (Toronto), Glen Warren Productions, CJOH (Ottawa), Carleton Productions, CFCF (Montreal), and Champlain Productions.

capability has been under-utilised, in that production of Canadian shows has so far been a duty of the commercial broadcasters rather than a profit-oriented, priority activity. Glen Warren and Champlain productions have shown that they are capable of producing extremely competitive television programs of sufficient entertainment value to penetrate tough export markets; with the added market window of home video, assuming an ability to penetrate domestic and foreign distribution systems, these studios, together with Global's Barber Greene Productions and other houses that enjoy a close relationship with Canadian broadcasters, could be expected to enter into more co-productions or unilateral productions leading to exploitation of the full range of supplemental markets--sales to other broadcasters, sales to pay television operations, and home video.

A fourth strength, usually under-estimated by Canadians especially, is home-grown entrepreneurial courage and ability. Canada's independent production sector provides ample testimony to this: in a situation where the economics of production and cost recovery are almost exactly opposite the conditions of their American counterparts (producers in Canada are lucky to recover twenty to thirty per cent of their program costs on first sale to a domestic buyer, nearly always the CBC; in the US, sale to one of the commercial networks provides an average seventy to eighty per cent of the production costs of an individual program), Canadian independents like Neilson-Ferns have managed to survive and grow. Even more than the integrated studios, these companies can be expected to take advantage of the supplemental markets implicit in home video.

To the half dozen 'major' independents must be added the twelve or so smaller companies that have already proven themselves capable of production quality good enough for network release on the CBC; individual entrepreneurs, like Michael Spivak of Jaylar Productions, must--by temperament and necessity--seek out the kind of opportunities that are presented by the special production requirements and, of course, marketing considerations of home video. And the smaller independents, at least, will be considerably aided by the entrepreneurial initiatives of companies like Reed Career Services of Edmonton. This company is compiling libraries of small-scale home video productions oriented toward information on careers and work environments...and marketing them domestically and internationally.

Another kind of entrepreneurial willingness is implicit in the planned manufacturing activities of Vancouver businessman Graeme Waymark. Waymark is negotiating a licensing agreement with Philips so that he can set up a Canadian plant to manufacture optical laser discs. With Alberta Government assistance, he may set up his plant in Edmonton in order to take advantage of proximity to a stable supply of Mylar, a petroleum-based chemical out of which he plans to make the discs. With plant construction scheduled for the Spring of 1982, Waymark is optimistic about establishing a Canadian presence in at least this aspect of videodisc technology; he anticipates being able to provide permanent employment for about 300 workers.

A fifth strength is Canadian technical leadership in certain aspects of software development and interactive television. The proven capabilities of TVOntario, in respect of the design of educationally oriented childrens programming, has already been noted, but this organisation has also developed considerable expertise, as have Infomart and several other institutions, relative to software for use in videotex format. Such expertise is evidently transferrable to the programming of interactive optical laser discs relative to the use of logic trees and interconnects with microprocessor technology. As well, in considering the use of videodisc technology for its future requirements, Public Archives of Canada is already anticipating a total system that would incorporate Telidon for data diffusion. Development of industrial systems incorporating Canadian advances in a range of such technologies, including optical fibres, together with videodisc technology, may well provide the needed entry point for a Canadian involvement in the slowly emerging institutional market for information and archival storage and retrieval.

A final strength resides in the creative force of relevant Canadian cultural activities. In its yet to be released "A Strategy for Culture", the Canadian Conference of the Arts notes that over the last few years there has been a significant shift in the way Canadians are spending their leisure time...with a large part of that shift claimed by the performing arts. Dance companies, opera companies and symphony orchestras, and theatrical groups have enjoyed significantly increased public interest and

'participation'; in 1978, according to Statistics Canada, for example, 92 theatre companies presented over 16000 performances to about 4.3 million Canadians. Despite their inability to combat rising costs, which led to a weaker financial performance in 1978 than in 1977 for performing arts companies, because it is difficult to improve the productivity of these cultural industries through technological innovations and economies of scale, the public interest they have generated and the maturation they have gone through over the last thirty years represent a considerable resource for development of Canadian content for home video. Moreover, their persistent requirement for augmented and diversified funding constitutes an important motivation to exploit the kinds of opportunities presented by videodisc technology. In the United States, some performing arts companies are actively seeking out such opportunities (eg., Joseph Papp's New York Shakespeare Festival), and, with appropriate information and incentives, Canadian groups can be expected to follow suit.

In addition to these general strengths, of course, there are many other areas of potential in Canada. There is a nascent capability in respect of Canadian pressing of digital audio recordings, for example, and recording of popular Canadian musical artists constitute an important growth area. On the hardware side, Electrohome appears to be entering a new era of prosperity; the company is well positioned for exploitation of the institutional television market. Relative to the potential for specialised

programming, important strengths could reside in Canada's commercial (advertising) production sector. And, perhaps most important, the National Film Board's substantial experience and expertise could be turned to new forms of video production.

#### Canadian Weaknesses

Canada is a recipient, not a leader, of videodisc technology and the programming applications that will sell it. Hence, development of a Canadian 'position' means playing a catch-up game--on technological, programming, and distribution fronts. Success at this game will require real sensitivity to deficiencies that have already victimised the country's technological and cultural capabilities in an increasingly interdependent international community. Some of those weaknesses, as a matter of cultural and economic imperative, must be redressed. Others, such as lack of resources to produce big budget feature films, must be recognized and, probably, accepted as natural consequences of Canada's size, small population, proximity to American corporate strengths, and so on.

On the technological front, it is evident that both the declining fortunes of the consumer electronics sector and the complete lack of Canadian research and development respecting videodisc argue for extreme caution in trying to mount products and services that go head to head with the activities of multinational giants like RCA, Philips, and Matsushita. On the other hand, it may not be

too late to undertake development activities aimed at enhancement of videodisc applications relevant to Canadian strengths, perceived future international marketing niches, complementary Canadian technologies in the communications field, or identified Canadian requirements. Respectively, instructional programming, the emerging international market for educational software, Telidon and optical fibres, and the demonstrated interests of large organisations like Public Archives and the CBC in the use of videodisc for archival storage come to mind. Also, despite the lack of Canadian processes and innovations respecting disc replication, employment aspirations and the availability of appropriate raw materials constitute a basic rationale for moving on this front.

Regarding programming, Canada has never been able to compete successfully in the production of entertainment films and television. Even with the additional market window of pay television, it will be difficult for Canadian producers to access the kinds of budgets that have enabled major Hollywood studios and the US commercial networks to dominate the television schedules and cinematic screenings of countries throughout the world. Neither, without provision of extraordinary financial assistance and the rapid development of a cadre of sophisticated producers, directors, and the like, is this country likely to make a significant dint in the high budget entertainment offerings that will make up a large part of the videodisc market. However, it is conceivable that the domestic market will support a limited range of video productions of the entertainment variety--i.e. with high budgets. In the U.S., \$1 million budgets have been predicted by A.D. Little consultant David Fishman as typical of future made-for-video

programs (Video News, 12 March 1980) in other categories.

Structurally and in terms of the economics of Canadian television production there are serious, albeit well known, deficiencies. There are few incentives for commercial broadcasters to produce Canadian, and Canadian content requirements are essentially met through the production of integrated studios. These studios and the CBC, according to the CFTA, account for about 80 per cent of monies spent on domestic program production. The independent producer, who chiefly depends on the CBC as an initial market for his productions, is hamstrung by the Corporation's problem of balancing mandated programming requirements against the independent's desire to produce something that will sell abroad, and the CBC is itself in the constant dilemma of finding American programming cheaper to buy (and more successful in the advertising market) than it is to produce Canadian. One of the many consequences of this situation is that the CBC, the commercial broadcasters, and the independents are unable to devote significant resources to the kinds of development activities that are characteristic of profitable US programming operations and that constitute a sine qua non for the creation of programming tailored to the new home video formats.

A further weakness bears on the CBC's mandate. Although the Corporation was established to inform, entertain, and enlighten Canadians--objectives that are certainly consistent with the probable role of home video--it is as a broadcaster that this role is to be carried out. Hence, in addition to the ongoing problem



of budgetary constraints on its conventional activities, the CBC has not so far been able to commit significant resources to establishment of a leadership role in new technologies for delivery of video entertainment and information. Evidently, lead times for the effective commercialisation of videodisc technology will be significant; in the absence of a specific commitment to development and distribution of programming in this format, the CBC is unlikely to shape a coherent Canadian approach to home video.

Lack of access to effective domestic and international distribution systems is another weakness that has bedevilled Canadian cultural industries. This problem has, of course, persistently restricted the growth of a competitive feature film industry. But, relative to the future marketing of videodiscs, the structure of the Canadian recording industry is especially relevant. According to Statistics Canada, some \$230 million (wholesale) worth of records and audio tapes were sold in this country in 1978. Of this, foreign-controlled companies accounted for 78 per cent; only 4 per cent of their total sales were of recordings they produced in Canada (a further 2 per cent of their sales were of recordings produced in Canada by other companies and issued under a lease arrangement). In "A Strategy for Culture" the Canadian Conference of the Arts notes

Because the foreign-controlled companies are principally involved in producing records based on imported master tapes, their capital requirements are more limited and their risks much lower. Their competitive advantage has served as the basis for developing their position of substantial dominance in the Canadian market. The result is that the Canadian recordings produced by Canadian companies have to make their way within an industry structure dominated by foreign controlled firms.

There are already signs of a repetition of this situation with respect to home video. One example is provided by the aggressive activities of Media Home Entertainment, a California-based distributor of home video software. Eleven of its 46 distributors, tied into 3000 retail outlets, are in Canada, and the company has recently established tape duplicating facilities in Toronto. Although this company has so far limited itself to distribution of videotape, and it intends to keep tape prices competitive with disc costs, it also owns disc rights to about 69 per cent of its product. Media's chief competitor, Magnetic Video, which expects to be operating in every country in the world that has VCRs by the end of 1980, has also been active in Canada. The company has already contracted VTR Productions Ltd. to duplicate its titles, and although, according to Home Video Report (28 April 1980), "no-one is going to get rich with the present VCR population, Magnetic Video...wants to become firmly established before the software race begins in order to avoid a fight for shelf space later". The videodisc war will undoubtedly be fought with similar foresight.

Although videocassette duplication and distribution is a growing business in Canada, dominated by VTR Productions of Toronto (100 retail outlets throughout Canada), there is as yet no evident linkage between this business and Canadian program suppliers; hence, the vertical integration typical of Magnetic Video/Twentieth Century Fox--wherein product from many sources, as well as the parent company, is distributed--is not likely to emerge without specific policies to create such linkages. On the other hand, the Canadian recording industry is beginning to take a marked interest in the potential of videodisc, and perhaps linkages in the music business will develop.

#### IV. Imperatives and Recommendations

It seems evident that home video--especially videodisc technology, with its anticipated low disc costs and suitability for mass retail merchandising--has the potential to accelerate the acculturation process by American entertainment and information, a process that is already well established by virtue of cable television and the importation of US programming and that will undoubtedly be extended by the development of pay television services in Canada. It seems equally evident that a long tradition of wholesale acceptance of US programming in this country, entrenched public appreciation of American entertainment, and the inexorable trend toward open skies policies relative to satellite distribution of programming rule out the development of policies that some, at least, would label xenophobic--i.e., protection of Canadian

programming and cultural interests through the construction of rigid tariff and other barriers against the importation of American home video. Similarly, on the hardware side, these are not auspicious times to introduce barriers against Dutch, Japanese, or American technology in the hope that, protected from the threatening forces of international competition, Canadian manufacturers will develop home-grown versions of videodisc players and other home video equipment.

It is imperative, therefore, that Canadian entrepreneurs and the creative community seek out areas in which they can compete, both at home and internationally. Having selected those areas, it is incumbent upon governments to support appropriate development with every tool at their disposal. This cursory review suggests initial concentration in four areas--bearing on a congruence of Canadian programming strengths and perceived market opportunities, the need for "chosen instruments" in respect of the identified programming priorities, the potential of Canadian system applications relative to videodisc technology in the context of information storage and retrieval; and the need to support replication, distribution, and program development in the private sector.

### Programming Strengths

As noted earlier, Canada has strengths in four kinds of programming that have significant home video potential. These are music, childrens programs, educational programming, and programming for audiences with special interests (eg., natural history and cultural productions). Significant domestic penetration of Canadian programming via videodisc in these areas would achieve important cultural objectives. Moreover, since all four areas are expected to be of considerable interest to consumers in other countries, it may be possible to build on a strong domestic base for export marketing. And, with respect to music, there could be important spin-off benefits of strong domestic performance--i.e., the fragmented Canadian audio recording industry would receive an important boost in terms of the promotion of Canadian artists and musical groups.

As a first step, therefore, we recommend that the videodisc project team compile a detailed information base that would at once serve to focus the development activities of Canada's program production industry and enable policy makers to assess overall requirements for support of initiatives in home video. This would involve...

- identification and characterisation (facilities, people, resources, inventory, and future plans) of Canadian video production capability in the areas of music, childrens programs, educational and instructional television, and special interest programming;
- identification and characterisation of requirements for the enhancement of production in these areas relative to the capabilities and emerging market opportunities for videodisc;

- compilation of a comprehensive description of international initiatives in these areas, relative to home video, and delineation of emerging marketing vehicles and opportunities.

As well, because videodisc technology has the potential to contribute to enhanced regional and ethnic expression--i.e., relatively small production runs are needed to recoup modest production expenditures--this kind of specialised programming deserves serious study. The extraordinary success of such regional publishing ventures as Halifax's Atlantic Insight, as one example, suggests the possibility of important regionally-oriented, video production opportunities. The key constraint, of course, is the degree of player presentation. We therefore recommend, for regional, ethnic, and remote (i.e., Canadian communities lacking diversity of television services) contexts, that the videodisc project team...

- examine potential benefits of a program to subsidise player utilisation and penetration.

### Chosen Instruments

The "chosen instrument" notion has long been a staple of policy development relative to industrial strategy, and, in the energy sector, it has been realised through the enlarged mandate and resources of Petro-Canada. In the home video context, public and educational broadcasters are clearly candidates for this role... in view of the concentration of relevant research and production

capabilities within these institutions. This argument implies articulation of appropriate mandates--and investment of the resources necessary to realise those mandates--for the CBC, Radio-Quebec, TVOntario, and ACCESS. It could also mean the creation of special purpose institutions and companies in provinces that do not yet have significant production capabilities. It further implies the development of vastly improved marketing capabilities in relation to the home video productions of educational and public broadcasters, capabilities that could be developed within or in association with<sup>23</sup> these broadcasters.

As a first step toward characterisation of one or more public sector chosen instruments in the home video area, then, we recommend that the project team ...

- explore the interest of relevant CBC programming departments in, and assessment of the requirements for, mounting a developmental activity aimed at production for and marketing through home video;
- assess the research and development capabilities and interests, relative to home video, of provincial media departments and broadcasting authorities;
- identify and assess the marketing activities and capabilities of provincial video producers, and project requirements for enhanced distribution and commercial exploitation.

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23. The potential of joint venturing with the private sector for maximum commercial success in the home video market is illustrated in the decision of public broadcaster WGBH-TV (Boston) to form a new distribution company with Bruce Paisner, former president of Time-Life Films (Variety, 12 November 1980). The new company, Novacom, has many of the same goals espoused by the CBC in its preliminary analysis of the need for ventures-style enhancement of its marketing activities.

## Systems Applications

Studies currently underway by Public Archives of Canada may well provide a base for the third area of concentration, systems applications. However, in order to ensure that this area of opportunity is explored with maximum sensitivity to emerging international markets, it would be appropriate to extend ongoing work in a context that includes relevant industrial interests-- especially regarding those companies with a demonstrated commitment to the commercialisation of optical fibres and Canadian videotex applications.

To this end, in cooperation with companies like Bell Northern, Norpak, Infomart, and so on, we recommend that the videodisc project team...

- determine short and long term potential of videodisc's integration with optical fibre and videotex technology;
- identify potential domestic and international customers for integrated systems, and project value and timing of appropriate markets;
- identify and describe relevant international initiatives.

## The Videodisc Business

Finally, longstanding structural deficiencies in the Canadian video and audio industry can be addressed in the context of ensuring significant private sector involvement in videodisc production, manufacturing, and distribution. Evidently, the



entrepreneurial and creative strengths of independent producers and the production studios of commercial broadcasters should be unleashed--relative to both selected program areas and other opportunities that will emerge as videodisc technology penetrates world markets. This will require support for the development activities without which expertise in producing programs designed for various videodisc formats will not emerge.

Home video program production assistance should be integrated into the government's ongoing review of financial incentives and support mechanisms. These include expansion of the CFDC mandate, incorporation of certified home video production into the revision of the CCA to attract private investor financing<sup>24</sup>, and reviewing the granting structure for performing arts groups. One example of a desirable consequence of action based on such review would be Canadian independent recording companies producing music videodiscs with major Canadian artists...supported by CFDC and private investor capital.

The replication of discs in Canada also constitutes a potentially important opportunity...for two reasons. Obviously, there are

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24. Relative to exports, the incentives approach might include an examination of the following options:

- tax rebate on exports
- indirect tax incentives for exports
- direct export tax incentives
- deferral of export income for tax purposes
- export expenditure subsidies (technical advice)
- export development agency for film and TV.

important economic implications relative to employment and the export market. Secondly, access to domestic manufacturing capability will be important to Canadian producers, especially in relation to the production of relatively small runs of discs aimed at audiences with special interests (eg., opera or certain kinds of "how to" programming).

Distribution systems will also be key. Canadian producers of programming for videodisc will need reliable access to effective national distribution, the lack of which has persistently plagued several Canadian cultural industries. To achieve this goal, Canadian record retailers will need to be apprised of market information about videodisc and of information pertaining to anticipated Canadian activities in this area...well before the technology actually achieves significant consumer acceptance in this country. A further possibility bears on the potential of Canadian mass merchandisers, especially those, such as the Western cooperatives<sup>25</sup>, that may wish to carve out particular niches in the Canadian home video market, to promote and distribute Canadian videodisc product.

Our recommendations for initial actions relative to the business environment for Canadian video entrepreneurs are to...

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25. Federated Cooperatives of Saskatchewan have already invested in this area, via partial ownership of Cablecom, a Saskatoon-based company that provides closed circuit pay television programming and that is aggressively investigating a range of two-way television services.

- assess appropriateness of CFDC-style bridge financing for private sector development of videodisc programming concepts, including development emanating from, or done in association with, performing arts groups;
- assess appropriateness and potential impact of tax incentives to generate new private sector developmental, production and export activities relative to videodisc;
- develop "best case" scenario regarding location, format, and scale of Canadian videodisc manufacturing activities;
- consult Canadian mass merchandisers and record retailers regarding potential interest in videodisc distribution;
- develop options (eg., tax incentives, subsidies) to encourage distributors' interest in retailing "made in Canada" videodiscs;
- consult with Canadian business development agencies regarding requirements for support of Canadian initiatives in the home video business.

Overall, we believe, the objectives of the videodisc project team can be addressed in the context of three challenges. The first is the problem of identifying--and articulating roles for-- one or more chosen instruments in the public sector. This will clearly require extensive consultation with appropriate agencies. The second challenge is to develop federal policies for home video in the context of ongoing review of financial incentive and support mechanisms for other program production areas. Home video should not be treated as an extra tier of policy measures that have to be guided through the process of government decision-making. Finally, and perhaps most importantly, the project team faces the challenge of developing an information base and activities that will be of sustained value to the private sector.

In concluding our preliminary assessment, we urge the project team to address this third challenge through an examination of potential private-public mechanisms that will serve as both an information service and as a broker for home video ventures, domestically and internationally. One option would be the creation of a marketing group with private sector equity participation that would reduce present levels of reliance on foreign information and expertise in the home video area. This and other options should be explored in designing the appropriate organisation to take Canada into a maximum participation in the international home video marketplace.

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TOWARD A CANADIAN POSITION ON VIDEO-  
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