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**BEYOND A PRINCIPLE OF APPROPRIATE TECHNOLOGY:
Ensuring Linguistic Access for Canadian Users of
the Information Highway**

by
KERRY RAUCH, B.A. Honours

**A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of**

Master of Arts

Department of Mass Communications

**Carleton University
Ottawa, Ontario
August 1996
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**Beyond a Principle of Appropriate Technology:
Ensuring Linguistic Access for Canadian Users
on the Information Highway**

submitted by Kerry Rauch, B.A.

**in partial fulfilment of the requirements for
the degree of Master of Arts**

Thesis Supervisor

Chair, School of Journalism and Communication

Carleton University

September, 1996

Abstract

Beyond a Principle of Appropriate Technology: Ensuring Linguistic Access for Canadian Users on the Information Highway examines the issue of linguistic accessibility on the Canadian information highway. While the dominant economic discourse of instrumentalist technology suggests the self-determination of new information technology, the alternative discourse of Appropriate Technology emphasizes the concept of power; as such, the principle of Appropriate Technology reveals the special interests which lie behind technological development, and allows for the treatment of non-economic issues in non-economic terms. In order to deal effectively with the issue of linguistic access on the information highway, it is necessary to take the principle of Appropriate Technology one step further, however. Exploring the prevailing social and political attitudes which surround new technology provides insight into how community-centred networks may lead to the democratization of technology, in a concerted effort to ensure universal access.

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Chapter One
The Power of Language In Social Communication

With one instantaneous act of divine intervention in the ancient writings of the book of Genesis, a new era in communication had dawned. The Tower of Babel, erected by a proud nation of irreverent men, was an attempt to ascend into the heavens where men would rule and reign with God. In his righteous indignation, the Creator declared an end to the one-language world community, vowing that the confusion of languages would be its eternal curse. It is a curse which extends even to contemporary society where, in a world containing an estimated 5,000 spoken languages and 1,000 written languages (Swaan, 1991: 309), linguistic differences and incompatibilities are central to much world conflict and civil unrest.

Language clearly constitutes more than a mere compilation of letters, signs and symbols. It has been argued that language is an epistemology in its own right, constructing reality in terms of its own strengths and limitations; through language, the abstract becomes the concrete, creating a cognitive association between the world at large and our own cultural-linguistic capacity for meaning interpretation. Cultural differences may therefore be seen as contributing to linguistic diversity as well as linguistic uniformity. Indeed, the sharing of a common tongue by members of a given culture facilitates social, political and economic transactions, thus uniting the community. A community sharing the same set of linguistic signs and symbols, is also likely to share a common set of general values. It may be argued, then, that language necessarily emphasizes certain socio-cultural values, while at the same time overlooking

others through a linguistic process of elimination. Language may therefore be seen as axiological as well as epistemic. A rupture in the communication process occurs, however, when linguistic barriers are erected between members of the community, thus destroying the existing social, political, cultural and economic structures of interaction. For these reasons, language may be seen as a mirror of national and local culture, a facilitator of social, political and economic efficiency, and perhaps most importantly, a reflection of personal identity.

At the same time, language may also be seen as an instrument of social control, wielded by the ruling class in order to gain the acquiescence of the subordinate masses. Unlike traditional uses of political or military force (often manifested in the form of violent coercion), social control through linguistic manipulation has come to be known as a form of intangible or "soft power" (Nye, 1990:155); in fact, the intangibility of linguistic power often means that individuals do not even realize they are being manipulated. Language, it has been argued, possesses certain inherent qualities which link it to particular threads of ideological thought; through ideological dissemination, the ruling class is able to gain and maintain power for the purposes of social control - in democratic and totalitarian states alike. The use of language as a tool of social control within a democratic society, however, necessarily calls into question the allegedly democratic foundations of that nation. When a nation declares itself to be democratic, it is understood - and in most cases legislated - that the nation will operate

as a free and equal society. Often, such societies will not resort to the use of violent coercion in gaining the acquiescence of the masses; instead, authorities resort to methods of "soft power". In such cases, power is exercised through such forms as economic control, social control (i.e. social norms and traditions) as well as linguistic control (illustrated by the power of language). It is this latter aspect of soft power which will be further explored in this thesis.

As an instrument of power, language may be seen as a single element employed by the dominant class in an attempt to enhance social control. In the pages which follow, it will be argued that throughout history, world powers have recognized and capitalized on the powerful role of language in the daily workings of the world community. Most recently, language has become a central issue with regards to emerging information highway technology. In order to ensure universal access to new technology, policy must be enacted which supports a multilingual information framework. As the world stands on the brink of the twenty-first century, communication scholars must consider the political, cultural and social implications of a single global language for the future of communications, both with regards to individual nation-states and the international community of world citizens.

Chapter One: The Power of Language in Social Communication

Language As Epistemology: Constructing Reality Through Language

As noted by Karl Marx and Friedrich Engels, "Language is as old as consciousness" (Mueller, 1973: 19). Indeed, the ability to communicate one's feelings and/or intentions to another constitutes the basis of human interaction. The notion of language as knowledge, or language as *epistemology*, has been explored by numerous scholars, including Karl Marx, Friedrich Engels, Robert Phillipson, Robertson Patterson, Claus Mueller, Antonio Gramsci and Joshua Fishman. In order to gain a better understanding of the notion of epistemology, it is first of all necessary to clearly define the term. According to *Webster's Ninth New Collegiate Dictionary*, epistemology is defined as "the study of theory of the nature and grounds of knowledge, especially with reference to its limits and validity" (Webster, 1986: 419). Similarly, knowledge, may be defined as "the fact or condition of knowing something with familiarity gained through experience or association" (Webster, 1986: 665).

According to Claus Mueller in *The Politics of Communication: A Study in the Political Sociology of Language, Socialization and Legitimation*, the mere knowledge of words can affect individual capacity for rational thought. In this regard, he reflects upon the notion that:

Metaphorically, language and the concepts and words in it are posed between the individual and his environment and serve as an invisible filter. The individual attains a certain degree of understanding through the classification made possible by concepts that screen and structure perception. The number and quality of concepts available to the individual allow him to organize information and experiences (Mueller, 1973: 16).

Chapter One: The Power of Language in Social Communication

The classification process of which Mueller speaks has been referred to as "categorical differentiation". According to this process, the degree to which linguistic categories are differentiated within a given language community is indicative of the social and cultural value of the object/concept. In the Hawaiian language, for instance, it is evident that fish are highly valued by the island people; not only do fish provide a necessary economic base for the Hawaiians, they also figure prominently in Hawaiian custom and religion. It is not surprising, then, that there is a high level of categorical differentiation accorded to the many varieties of Hawaiian fish. For this reason, a single species of fish might be identified as a *pua-ama* (a "mullet under a finger length"), a *kahaha* (a "mullet about eight inches long"), or an *ama'ama* (a "mullet about 12 inches long"). The Hawaiian language therefore classifies those items which are of greatest social, cultural, political and economic importance to the island people. It may therefore be argued that the Hawaiian language constructs Hawaiian reality, in that it emphasizes certain aspects of island life, while diminishing the importance of others. In addition, within the Eskimo language community, there exists an expansive vocabulary for snow and weather conditions. Eskimos are able to distinguish between more than a dozen types of snow because their language makes this codification possible. Based on their linguistic process, therefore, Eskimos are able to apply a high level of categorical differentiation to their surroundings, which in turn, results in sharper perception. The Eskimo language may therefore be seen as a model of the

Eskimo social structure. As noted by Antonio Gramsci in *The Prison Notebooks*:

Ideas and opinions are not spontaneously born in each individual brain: they have a centre of formation, of initiation, of dissemination, of persuasion - a group of men, or a single individual even, which has developed them and presented them in a political form of current reality (Gramsci, 1991: 192).

The reality constructed by language must therefore be duly noted and carefully considered.

As pointed out by Robert Phillipson in *Linguistic Imperialism*, language "relates to the transmission of the norms and behaviour of a model social structure, and these are embedded in language" (Phillipson, 1992: 53-54). As observed by Edward Sapir, language may be considered in terms of stimulus and response - a theory which suggests a certain degree of linguistic determinism (Coward, 1977:128). Sapir adopts a behaviorist notion of language, that is, language as a catalyst for action. In his view, language may be seen as inherently composed of the socio-cultural customs and traditions which define a particular language community. The actions of that community, he argues, are inherently linked to the language of the same. Similarly, Phillipson observes that "In practice, our notions of order in the world and in ourselves are inseparable from the language in which we frame them" (Phillipson, 1992: 22).

The ordering of reality, as evidenced in both the Eskimo and the Hawaiian language communities, is achieved through language, thus illustrating the epistemic nature of language. Mueller also states that:

Man can be conscious of something if he knows a name for it, and if he can

Chapter One: The Power of Language in Social Communication

place it within his linguistic and conceptual framework. Language can thus be understood as a necessary precondition for thought, since it provides the building stones for thought processes. Only when thoughts and concepts are expressed through language do they exist (Mueller, 1973: 15).

The role of language within the community, then, according to Mueller, is to provide the parameters within which everyday life may take place.

Furthermore, it might also be noted that language necessarily limits the range and scope of subject matters which may be discussed within a given community, due to the fact that certain realities are unexpressable in certain linguistic processes. In the ancient Hawaiian tongue, for instance, there exist no words for the Western religious notions of *faith*, *holiness*, *throne* and *demoniac* (Hale, 1995: 94). In Hawaiian terms, an angel was either an *akua* ("a god"), or a *kanaka lele* ("flying man"); neither term met with the doctrinal approval of the first foreign missionaries to the island. The structure of language therefore dictates not only *how* humans speak, but also what they *speak about*. Mueller draws an important link between language and cognition, explaining the phenomenon by which language is able to limit community conversation:

Thought and perception are influenced by language in several ways. Words and concepts at one's disposal make information (or stimuli) coming from the environment comprehensible. Information cannot be adequately perceived or decoded if the terms and categories, by means of which the decoding process takes place are not available (Mueller, 1973: 16).

Gramsci echoes Mueller's view that language is epistemic. In "Cultural and Ideological Hegemony", Gramsci observes that "if it is true that every language contains the element of a conception of the world and of a culture, it could also be true

that from anyone's language one can access the greater or lesser complexity of his conception of the world ..." (Gramsci, 1991: 48-49). In Mueller's view, "Language and cognition are two factors that cannot be separated ... the type of language an individual internalizes influences his cognitive development as well as his perception of himself and his environment (Mueller, 1973: 17). Language and thought may therefore be seen as being intertwined. For this reason, Mueller adds that "the absence of sufficient conceptual development and of certain value predispositions, which is related to both socialization patterns and language codes, can prevent the individual from understanding the political code of society at large" (Mueller, 1973: 17).

Mueller's observation that language may act as a barrier between communities with differing sets of cultural and social values, may be linked to the reality of the Hawaiian language community. In a culture where high technology has not been ranked highly in terms of traditional value, it is not surprising that there is very little linguistic capacity for the Hawaiians to speak of technology in their everyday conversation. The word "computer", for instance, does not exist in the Hawaiian tongue. The introduction of high-tech in Hawaii in recent years, has consequently led to a cultural clash between new Western technology and the traditional Hawaiian tongue. Since no words existed to represent the new technologies, the word "computer" has come to be known as *lolouila* or "electronic brain" (Hale, 96). Many words have been transliterated. Hence, "telephone" has become *kelepona*, while

“heep” has become *pipa* (Hale, 1995: 96) · Mueller concludes that “Language can be understood as a cultural and political guidance system into which values handed down from the past are deposited” (Mueller, 1973: 18). Understanding the historical roots of a language, therefore provides insight into the social, cultural and political realities of the language community.

The examples of the Hawaiian and Eskimo communities illustrate that language is comprised of certain epistemic qualities which, in effect, render it impossible to speak of language in terms of “value-neutrality”. Rather, as pointed out by Joshua Fishman in *The Spread of English: The Sociology of English As an Additional Language*:

The relative unrelatedness of English to ideological issues in much of the Third World today must not be viewed as a phenomenon that requires no further qualification. Westernization, modernization, the spread of international youth culture, popular technology and consumerism are all ideologically encumbered and have ideological as well as behavioural and econo-technical consequences (Fishman, 1977: 1987).

Robert Phillipson also emphasizes that there is no such thing as a neutral language. In *Linguistic Imperialism*, Phillipson writes that:

Claiming that English is neutral (a tool, an instrument) involves a disconnection between what English is ('culture') from its structural basis (from what it has and does). It disconnects the means from ends or purposes, from what English is being used for (Phillipson, 1992: 287).

With the increasing spread of the English language to such regions as the developing world, then, there occurs a simultaneous transmission of cultural and ideological

values from the foreign language state to the domestic language community. The implications of such ideological and cultural transmissions necessarily call into question the neutrality of the English language, as claimed by Mueller, Phillipson and Fishman, and demands further investigation of its overall impact on local culture and indigenous language communities.

Language As Axiology: Creating Value through Language

In addition to being seen as epistemic, language may also be viewed as axiological. Axiology is defined by *Webster's Ninth New Collegiate Dictionary* as "the study of the nature, types, and criteria of values and of value judgements, especially in ethics" (Webster, 1986: 121). For Robert Phillipson, Eileen Mahoney, Jeremy Tunstall, Howard Frederick, Glen Fisher, Robert McCrum, William Crane, Robert MacNeil, Brian Weinstein, William J. Drake, W.G. Enriguez, E.P. Marcelino, George Steiner and H.G. Widdowson, language not only represents an epistemology whereby communications scholars may learn and observe the socio-cultural origins of a language community, but also the values which underlie those origins. Once again, it may clearly be argued that communication is value-laden and subjective, and that no language is value-neutral.

In this regard, Wilson Dizard argues in "Exporting the Information Age", that "The expanded world communications network will amplify American ideas and values

in a more forceful way than has ever been done before" (Dizard, 1989: 184). Herbert Schiller also makes the point that the United States "does not simply export products and services in this field. It exports a system, including a heavy ideological bent favouring American values and attitudes that in Schiller's view, are not in the best interests of other cultures, particularly those in the developing nations" (Dizard, 1989: 184). In *The Story of English*, an historical account of the development of the English language, authors Robert McCrum, William Crane and Robert MacNeil also acknowledge the axiology of language. In their view, the myth of the value-neutrality of language was perhaps most apparent during the Cold War, at which time the American and Russian languages were pitted against each other. McCrum et al note that " ... with English-speaking America ranked against the Soviet Union, both its democratic ideal and the language of those ideals -life, liberty and the pursuit of happiness- became closely identified with a fundamental geo-political struggle" (McCrum, 1986: 33). It may therefore be argued that rather than being value-neutral, language is in fact value-laden, representing those philosophies and ideologies which characterize the domestic language community.

The social and historical context of English reveals a number of assumptions embedded within the vocabulary and nature of the language itself. Discourse relating to capitalism, economics, the law of supply and demand, consumerism, trade, development and technology is indicative of a culture unique to the developed world.

Chapter One: The Power of Language in Social Communication

Chung Kyung Chul, an official at I-Net Technologies Inc., an Internet access provider in South Korea, observes that the proliferation of American English on the Internet in particular causes foreigners to submit to an American understanding of communication. Chul states that "It is not only English you have to understand, but American culture, even slang. All in all, there are many people who just give up" (Pollack, 1995: B8).

Indeed, as noted by Masters student I.P. Hall in Brian Weinstein's book *Language, Policy and Political Development*, the English language "suppresses the use of both Chinese and Japanese. The commercial power of the English-speaking race which now rules the world drives our people into some knowledge of their commercial ways and habits" (Weinstein, 1990: 31). Similarly, in his article "Territoriality and Intangibility: Transborder Data Flows and National Sovereignty" in *Beyond National Sovereignty: International Communications in the 1990s*, William J. Drake observes that "informational imports involve not only language, but also intellectual orientations and values" (Nordenstreng, 1995: 277). As English ascends to the status of dominant world language, therefore, it would seem clear that foreign-language speakers will need to comprehend not only the basic words and phrases which constitute the English language, but also the "American way" which permeates the very fibre of the language.

In this same regard, V.G. Enriguez and E.P. Marcelino reveal in *Neo-colonial Politics and the Language Struggle in the Philippines* that English Language Teaching

(ELT) programs clearly illustrate the manner in which American ideology is disseminated through language. Focusing on ELT in the Philippines where the domestic way of life varies dramatically from that of the United States, the authors write that:

With American textbooks, Filipinos started learning not only a new language, but also a new way of life ... With the imposition of the English language, the country became dependent on a borrowed language that carries with it the dominant ideology and political-economic interest of the United States. With the dependence of the country on a borrowed language, it became dependent too on foreign theories and methods underlying the borrowed language, thus resulting in a borrowed consciousness. The people's values were then more easily modified so that they equate foreign interest with national interest. Thus, it became easier for the United State to further subjugate the Filipino people and impose its will on them (Enriquez and Marcelino, 1984: 3).

It may therefore be argued that American English reflects not only the USA's domestic style of communication, but also the core values of its citizenry.

Author George Steiner further supports the argument that language is value-laden in his book *After Babel: Aspects of Language and Translation*. In Steiner's view:

In ways too intricate, too diverse for socio-linguistic to formulate precisely, English and American-English seem to embody for men and women throughout the world - and particularly for the young - the 'feel' of hope, of material advance, of scientific and empirical procedures. The entire world image of mass consumption, of international exchange, of the popular arts, of generational conflict, of technocracy, is permeated by American English and English citations and speech habits (Steiner, 1975: 488).

It may therefore be argued that language is not in fact neutral, but rather, laden with ideological meaning. In the words of H.G. Widdowson, "the worry about linguistic imperialism derives from a recognition of the identifying power of language, which can dominate cultural domains and invest them with an alien order of reality" (Brumfit,

1982: 11). The notion of language as power, then, is one which must be carefully considered.

Language As Power: Achieving Social Control through Language

The study of power has gained popularity in recent years, with the rise of political economy in the field of communications. In their respective works, Dale Spender, Glen Fisher, Stephen Gill, David Law, Antonio Gramsci, Gary Jones, Robert Cox, J. Galtung, Robert Phillipson, Michele Barret, Stuart Hall, Immanuel Wallerstein, James Joll, Raymond Williams, Walter Adamson, Joseph Nye and Herbert Schiller have all emphasized the importance of power in the social-scientific study of language and communication. Before examining the relation of power to language, however, it is first of all useful to provide a working definition of the concept of "power". According to Joshua Goldstein, author of *International Relations*, power may be defined as "the ability to get another actor to do what it would not otherwise have done" (Goldstein, 1994: 50). Ross Eaman further clarifies that power is "the capacity of an individual or group to influence, direct, or control the beliefs or behaviour of other individuals or groups" (Eaman, 1995: 1). Because it is an element of all social relationships, Eaman believes that power is not a negative or destructive force *per se*. Rather "a destructive situation is one in which there is either no power (in which case no activity can be co-ordinated) or else an extreme imbalance of power (in

which case the interests served by the co-ordinated activity are likely to be one-sided)" (Eaman, 1995: 1). Based upon these defining characteristics of the notion of power, it is possible to proceed with an analysis of the concept of language as power.

In a stable, democratic environment, language exists as a powerful element for the purpose of maintaining a balance between social control and social autonomy. As such, language might be considered a tool to educate the young, to facilitate political, cultural and economic exchange or to reinforce national and local identity. In an unstable social environment, however, language power is unbalanced, with one dominant tongue prevailing over subaltern tongues for the purpose of social control. Dale Spender acknowledges that, in most societies, the imposition of language on a community takes place for the purposes of maintaining social control. According to Spender, "If language symbolizes, represents experience through the construction of reality, the potential for control over those means of organizing and structuring the world means the potential to exercise power over others" (Spender, 1980: 195). Similarly, in *The Global Political Economy*, Stephen Gill and David Law add that structural power, through such manifestations as language, "stresses the power of ideas and shapes the outlook of the subordinated groups through structural constraints" (Gill and Law, 1990: 75).

The writings of Antonio Gramsci further reveal the importance of language as an instrument of political power. Gramsci believes that by imposing its norms of

language use and its notion of “literacy” upon society, the dominant social group is able to impose its values and beliefs on society at large. For Gramsci, language is the chief social element whereby the ruling bloc persuades citizens to adopt the dominant ideology of the state. He observes that any group wishing to gain a position of dominance in a society, must seek, in all ways possible, to establish its linguistic usage as the only one worthy of becoming the “common” language of the nation, proclaiming its universality and emphasizing the parochialism of all others (Jones, 1993: 211). In recent years, Gramsci’s observations have been clearly illustrated by the global thrust of the United States to establish American English as the primary world language.

Indeed, the ascendancy of American English to the position of world language has not occurred by sheer coincidence, but rather by carefully-orchestrated tactics of politics and power.

At this point, it is useful to consider Galtung’s three categories of power which are developed in his book *The True Worlds: A Transnational Perspective*. Galtung identifies three types of power, namely (a) innate, (b) resource and (c) structural. The three categories of power are presented in Table 1.0 on the following page.

TABLE 1.0
Power Categories

Innate	Being Power	English <i>Is</i>
Resource	Having Power	English <i>Has</i>
Structural	Doing Power	English <i>Does</i>

(Source: Galtung, 1980: 62)

According to Galtung, the English language's ascendancy to its powerful world position may be explained in terms of his three categories of power: innate, resource and structural. First, there are those who argue that English is inherently better than other languages, in terms of grammar, facility of usage, etc (i.e. innate power). Jeremy Tunstall, points out in *The Media Are American: Anglo-American Media in the World*, for instance, that the English language is inherently best-suited for media usage, and has therefore emerged as the primary language of the media. According to Tunstall:

English contains a greater variety of pithy phrases and simple words from which to choose (compared with French, for example) and the English-language version is usually shorter than the version in any other language. And English usually has simpler grammar than possible rival languages, such as Russian (Tunstall, 1977: 128).

Similarly, C.J. Brumfit points out in *English for International Communication* that English is best-suited to become the world's international language for two reasons: (a) it is phonologically more accessible to most learners than other languages are, and (b) its lexicon is well-adjusted to the requirements of different cultures (Brumfit, 1982: 2).

In contrast, several scholars have opposed the notion that American English has ascended to world language dominance simply by virtue of its "innate" greatness. In this regard, Robert Phillipson points out in *Linguistic Imperialism* that:

If one conflates the English-intrinsic arguments, one can conclude that English is God-given, civilizing, noble, a vehicle of the entire developing human tradition, well-adapted for change and development, not ethnic or ideological, the world's first truly global language, of universal interest. The conclusion would seem to be that you are in a very real sense deprived if you do not know it (Phillipson, 1992: 276).

Herbert Schiller concurs with Phillipson that the ascendancy of American English to the position of global lingua franca has not occurred by chance, but rather has been carefully calculated by those in power. In *Mass Communications and the American Empire*, he observes that:

The ascendancy of English as the world's scientific language is not the outcome of a universal recognition of the language's superiority or of its neutrality. It has occurred mainly as a consequence of the astronomical expenditures over the post-World War II years by the US military, channelled through the scientific establishment to extend American power in military, scientific and financial spheres (Schiller, 1992: 31-32).

Daniel Katz also counters the notion that the English language has emerged to dominate world communications simply by virtue of its aesthetic qualities. Katz points out in his article "Psychological Barriers to Communication" in Wilbur Schramm's *Mass Communications*, that "Language as it exists is not the product of scientists trying to perfect an exact set of symbols; it is the product of the arena of everyday life, in which people are concerned with manipulating and controlling their fellows"

(Schramm, 1969: 316). It may therefore be argued that the English language has gained dominance not due to its inherent superiority, but rather, due to the fact that powerful American political and corporate interests have promoted the global spread of English for their own gain.

A second reason offered for the emergence of English as the dominant world language is the "resource power" of English. In Galtung's view, English possesses more material (i.e. teachers, teaching materials, books, publishers, computers) and immaterial (i.e. knowledge, skills) resources than any other known language (Phillipson, 1992: 277). For this reason, English is often viewed as the cost-effective language of choice, since its material and immaterial resources have already been extensively developed. Phillipson counters, however, that:

Present-day English extrinsic resources are a direct result of the planning papers and conferences of the decade from the mid-1950s, which triggered the expansion of ELT [English Language Teaching] world-wide, and ensured that the agenda was decided on by the Centre. The unequal resources of the Centre and the Periphery reflect the pattern of English linguistic imperialism in the past. Moreover, it is the present-day imperialist structure which perpetuates the development of English and the underdevelopment of other languages (Phillipson, 1992: 279).

Rather than simply assuming that a particular language has developed independently in its acquisition of material and immaterial resources, communications scholars must recognize the deliberate compilation of language resources by special interest groups and organizations.

The "structural power" of English is the third category of power which Galtung

offers as a reason for the dominance of English. According to C.A. Ferguson (quoted in Robert Phillipson's *Linguistic Imperialism*), English is powerful due to its structural or functional power. Writes Ferguson:

The spread of English is as significant in its way as is the modern use of computers. When the amount of information needing to be processed came to exceed human capabilities, the computer appeared on the scene, transforming the processes of planning and calculation. When the need for global communication came to exceed the limits set by language barriers, the spread of English accelerated, transforming existing patterns of international communication (Phillipson, 1992: 277).

The conception of English as structural power is therefore clearly functionalist, and necessarily overlooks the element of power which has been present in the global spread of English.

Antonio Gramsci's vision of language, on the other hand, readily acknowledges the existing power struggle at work between the ruling and the ruled in society. The notion of *hegemony* is the organizing focus of his thoughts on politics and ideology.

Raymond Williams defines the notion of *hegemony* as:

... a whole body of practices and expectations: our assignment of energy, our ordinary understanding of man and his world. It is a set of meanings and values which as they are experienced as practices, appear as reciprocally continuing. It thus constitutes a reality for most people in society, a sense of absolute because experienced reality beyond which it is very difficult for most members of society to move in most areas of their lives (Williams, 1973: 14).

In *The Politics of Truth*, Michele Barrett observes that hegemony is best understood as "the organization of consent - the processes through which subordinated forms of consciousness are constructed without recourse to violence or coercion" (Barrett, 1992:

54). She explains that the ruling bloc operates not only on the political level, but throughout the whole of society. Popular culture and knowledge are therefore developed in such a way as to secure the participation of the masses in the projects of the ruling stratum. Similarly, Stuart Hall points out that from a political economy perspective, hegemony "is another word for the ideological incorporation of the masses" (Hall, 1989: 50). He observes that "Hegemony implied that the dominance of certain formations was secured, not by ideological compulsion, but by cultural leadership" (Turner, 1990: 207). Hall's view therefore echoes Gramsci's belief that the imposition of dominant culture in society reinforces the dominant ideology of the ruling class.

While dominant culture is often imposed on the masses by the ruling class, it is important to note that resistance to the hegemon is common. In the case of the English language, social resistance takes place in the form of slang, and deliberate abandonment of grammatical and spelling standards. In this regard, young people often rebel against the dominant culture by adopting words and linguistic symbols of their own. This social resistance may be seen as an attempt to circumvent the dominant code of linguistic conduct. Interestingly, the dominant class often co-opts the language of resistance, turning it to their own advantage; advertisements for youth products will often feature resistant language, for instance. While linguistic resistance to the dominant form may at first appear to possess a certain degree of power, then, this power is only a perceived

power. In reality, youths must submit to the dominant code (i.e. spelling, grammar rules) in order to graduate and obtain meaningful employment. In this manner, the hegemon may be seen as ultimately triumphing over resisting forces.

In his article “Words as Power” in *Continuities in Popular Culture: The Present in the Past and the Past in the Present and Future*, Gary Jones observes that hegemonic rule is “rule by consent, but that consent is not really free - it is manufactured or created” (Jones, 1993: 209). Hegemony is present and society is consequently stable, when the underlying population embraces the world view of the dominant class as its own (i.e. when it has become the ‘common sense’ of the society); according to Jones, it is this acceptance of the received ideas that makes the subaltern classes willing participants in their own subjugation (Jones, 1993: 210). In *Hegemony and Revolution: Antonio Gramsci’s Political and Cultural Theory*, Walter Adamson observes that, in Gramsci’s view, a class aspiring to supremacy “will always attempt to secure a hegemonic position, i.e. to gain political legitimacy by weaving its own cultural outlooks deeply into the social fabric” (Adamson, 1980: 149). According to Gramsci, once the world view of the group has trickled down and solidified into “common sense”, its position of supremacy is secure. Once the dominant group has achieved its position of superiority, however, it must “take pains to assure that the hegemonic world view that sustains those relationships is coherently produced and disseminated throughout the whole society” (Jones, 1993: 210).

Gramsci's theory of hegemony seeks to explain the foundation of social and political life, not only through the coercion of the state, but also through language and culture (Jones, 1993: 208). According to Gramsci, the supremacy of the dominant class is achieved through the consent of the masses, which accept as common sense the world view of the dominant class. Through the widely disseminated world view of the dominant view, then, the ruling class is able to maintain social control, because the "subaltern classes" have accepted the dominant classes' vision of social reality as their own. In fact, as Jones observes, "The aspirations, beliefs, needs in sum the entire life of the subaltern classes is impregnated with the ideology of the dominant class" (Jones, 1993: 209). According to James Joll in his study of Antonio Gramsci, Gramsci understood "that the rule of one class over another does not depend on economic or physical power alone, but rather on persuading the ruled to accept the system of beliefs of the ruling class and to share its social, cultural and moral values" (Joll, 1978: 16).

Gramsci's conception of power does not rely upon physical coercion alone, therefore, but also upon the more complex process of ideological dissemination. Raymond Williams supports Gramsci's emphasis on hegemony and stresses the notion that hegemony allows the dominant class to exert uncoercive power over individuals in society, thereby causing them to adapt to new cultural influences; in so doing, Williams contends, the dominant class is able to effectively co-opt any threat to dominant culture. In his article "Base and Superstructure" in *Problems in Materialism and*

Culture, Williams writes that "... hegemony supposes the existence of something which is truly total, which is not merely secondary or superstructural, like the weak sense of ideology, but which is lived at such a depth, which saturates the society ..." (Williams, 1983: 12). Hegemony is therefore all-pervading; it infiltrates not only language and culture, but also business, family life and the body politic.

Closely tied to Gramsci's theory of hegemony is Joseph Nye's notion of "soft power", as detailed in *Bound To Lead: The Changing Nature of American Power*. According to Nye, "soft power" occurs when "one country gets other countries to want what it wants ... The ability to affect what other countries want tends to be associated with intangible power resources, such as culture, ideology and institutions" (Nye, 1990: 155). Nye singles out the United States as possessing the greatest degree of "soft power". He writes that:

Soft co-optive power is just as important as hard command power. If a State can make its power legitimate in the eyes of others, it will encounter less resistance to its wishes. If its culture and ideology are attractive, others are more willing to follow. If it can establish international norms that are consistent with its society, it will be less likely to have to change (Nye, 1990: 32).

In this same regard, Herbert Schiller observes that it is "American domination of popular communication and control over a good chunk of the world's information resources that Nye views as the constituents of power in the 1990s and beyond" (Schiller, 1992: 36). Nye's conception of "soft power" and Gramsci's theory of hegemony may also be related to Joshua Goldstein's notion of "neo-colonialism",

which he describes as “the continuation of colonial exploitation without formal political control” (Goldstein, 1994: 487). According to Goldstein, neo-colonialism reflects the relationship between the developing world and the United States, in which (with few exceptions), the United States was not a formal colonizer in the first place. Goldstein’s view of neo-colonialism therefore closely reflects both the notions of “soft power” and the theory of hegemony.

In *Bound to Lead*, Joseph Nye offers an overview of the transformation of power throughout the ages, which may be directly linked to the notion of language as power. Nye’s overview is presented in Table 1.1 (following page). In Nye’s view, political power has been transformed over time from a violently coercive nature (i.e. mercenary armies and strong navy ties) to a “softer” nature of power (i.e. universalistic norms). The role of language as power may therefore be seen as complying with Nye’s model of historical power transformation. Today, as the United States struggles to maintain its position as world “superpower”, language has adopted a crucial role in the dissemination of American cultural values, norms and ideology. As will be further discussed in the pages which follow, the ascendancy of American English to the dominant position of single world language is perhaps the most effective way in which American corporate and political interests have aspired to maintain social control, both within and beyond American borders.

TABLE 1.1
The Historical Transformation of Power

16th Century	Spain	Gold bullion, colonial trade, mercenary armies, dynastic ties
17th Century	Netherlands	Trade, capital, markets, navy
18th Century	France	Population, rural industry, public administration, army
19th Century	Britain	Industry, political cohesion, finance and credit, navy, liberal norms, island location (easy to defend)
20th Century	United States	Economic scale, scientific and technical leadership, universalistic culture, military forces and alliances, liberal international regimes, centre of transnational activity

(Source: Nye, 1990: 34)

English as the Emerging World Language

When Noah Webster first published his *American Spelling Book* in the early 1800s, (today known as *Webster's Dictionary of the English Language*), he foresaw a day when American English would emerge as the common tongue of all world citizens. Webster believed that American English would one day go uncountered in the world, and that "one hundred million Americans would spread across the entire continent, all speaking the same tongue, like children of the same family" (Baron, 1990: 45).

Similarly, in his 1856 work *Life and Works*, John Adams believed that American English "would become the next world language ... and he recommended the study of the language to everyone" (Baron, 1990: 29). Today, it is evident that the English language has indeed assumed a dominant role in global communication. The primacy of American English in business, science and technology has virtually cemented the future of American English as the common world language. According to Abram de Swaan, in his article "Notes on the Emerging Global Language System":

In sheer weight of numbers, English is second only to Chinese, and when it comes to opponents for passive or active translation, the unique, supercentral position of English makes it the most attractive option for second language learners with an international orientation (Swaan, 1991: 319).

Similarly, McCrum et al observe in *The Story of English* that "English has a few rivals but no equals. Neither Spanish nor Arabic, both international languages, have this global sway. Another rival, Russian, has the political and economic under-pinning of a world language, but far from spreading its influence outside the [former] Soviet Union,

it too is becoming mildly colonized" (McCrum, 1986: 20). Table 1.2 (see page 29) illustrates the important position assumed by the English language, in the company of the twenty most widely spoken languages in the world.

According to Joshua S. Goldstein, in *International Relations*, "If there is a world language, it is English" (Goldstein, 1994: 418). Herbert Schiller echoes this view in *Mass Communications and American Empire* in which he writes that "English seems to have entered the stage of a self-expanding global *lingua franca*, connecting all supranational and many national languages in a network of communicative interdependence that constitutes the emerging world language system" (Schiller, 1992: 32). Schiller is one of many scholars who has referred to the English language as the global *lingua franca*. To clarify, author Howard Frederick defines the term *lingua franca* as "any language used to communicate between people who speak different tongues" (Fisher, 1987: 86). Robert Phillipson, in his work *Linguistic Imperialism*, offers a similar definition of the term, identifying *lingua franca* as:

... a language that is used for communication between different groups of people, each speaking a different language. The *lingua franca* could be an internationally used language of communication (e.g. English), it could be a native language of one of the groups, or it could be a language which is not spoken natively by any of the groups, but has a simplified sentence structure and vocabulary and is often a mixture of two or more languages (Phillipson, 1992: 32).

For Schiller, there are many indicators of a trend toward the usage of English as a *lingua franca*, including the increasing proliferation of English-language scientific

TABLE 1.2
Twenty Most Widely Spoken Languages in the World

Language	Number of Speakers (Millions)
Mandarin Chinese	720
English	305
Spanish	240
Arabic	150
Bengali	150
Russian	145
Portuguese	140
Hindi/Urdu	140
Japanese	120
German	105
Wu Chinese	75
Javanese	66
Cantonese	66
Italian	65
Punjabi	63
Korean	61
French	60
Telugu	57
Marathi	56
Tamil	55

(Source: Webster, 1986: 673)

and technical articles, as well as the growing professional, governmental and business reliance on the English language.

In Nye's view, "the American language has become the *lingua franca* of the global economy and of transnational, social and professional groups; whatever the Japanese economy may achieve, the Japanese language will never rival English" (Nye, 1990: 194). Similarly, McCrum et al add that:

As well as being the language of international trade and finance, it is the language of technology, especially computers, of medicine, of the international aid bodies like Oxfam and Save the Children, and of virtually all international, quasi-diplomatic exchanges from UNESCO to the UN, to Miss World, to the Olympic Committee, to World Summits (McCrumb, 1986: 42-43).

In this respect, Glen Fisher notes in *American Communication in a Global Society*, that "today English has become the basic international language for technology, commerce, finance, science and travel" (Fisher, 1987: 12).

The call for a one-world language has been sounded by numerous scholars. Mario Pei observes in *One Language For the World* that "The situation in the field of science perhaps more than in all others, seems to call for a common tongue available to everyone" (Pei, 1958: 45). Indeed, according to George Steiner, author of *After Babel: Aspects of Language and Translation*, "it is estimated that 88 per cent of scientific and technical literature is either published in English initially or translated into English shortly after its appearance in such languages as Russian, German and French" (Steiner, 1975: 488). In this same regard, Pei notes that:

In science and technology, a world language will enable us to make the entire world output directly and immediately available to the entire world. Important discoveries and inventions will not have to wait for slow, difficult, often inexact translations or unsatisfactory abstracts, which often omit important details (Pei, 1958: 53).

Pei therefore views the primacy of English in the global community as fulfilling a particular function, which indicates a functionalist approach to the study of language and communication in society.

Similarly, Joshua Fishman, Robert Cooper and Andrew Conrad describe English as essential to "upward mobility, the way to be plugged into the mainstream of specialized knowledge, the symbol of prestige in many elite circles" (Fishman, 1977: 12). Indeed, as R.X. Hindmarsh notes in his article "English as an International Language", "English is a commodity people seek eagerly to acquire, often at great expense, for broadly sociocultural purposes: to obtain information, to converse in multinational gatherings, to travel" (Hindmarsh, 1978: 88). Hindmarsh further states that:

English is the international language of the air, and failure to use it efficiently can endanger passenger safety. English is the language, increasingly of banking and industry; many international firms based in non-English countries conduct their entire operation throughout the world in English and put promotion bars on staff without the requisite degree of proficiency in it (Hindmarsh, 1978: 42).

It might be noted, however, that neither Fishman et al nor Hindmarsh acknowledge the powerful interests underlying the global spread of the English language. This ahistorical, asocial approach is evidenced by Hindmarsh's observation that "There is no

point in asking ourselves whether some other language might not be easier to learn: the world has opted for English and the world knows what it wants, what will satisfy its needs" (Hindmarsh, 1978: 88). In the absence of social and historical context, then, the global spread of the English language is viewed as deterministic, denying the crucial related elements of social control and suppression. At this point, it is therefore useful to consider a brief, historical analysis of the global spread of the English language.

The Global Spread of English: A Brief Historical Analysis

C.J. Brumfit has observed in *English for International Communication* that "The principal reason why English is an international language is because by historical accident it was found to be a convenient means for establishing international groups of people with purposes and expertise in common" (Brumfit, 1982: 13). From a critical perspective, however, Brumfit's "historical accident" theory must be questioned. In the years preceding the Second World War, the British English language rose to power largely through the process of colonialization. As McCrum et al observe in *The Story of English*:

The first level of the global sway of English is to be found in those countries, formerly British colonies, in which English as a second language has become accepted as a fact of cultural life that cannot be wished away (McCrumb, 1986: 39).

Through a vast process of English-language training programs, the language eventually

became one of Britain's most valuable exports (McCrum, 1986: 39). Following the Second World War, the English language extended its world-wide reach through a variety of media channels, including radio, television, film, print, and more recently, the Internet. During the post-war years, however, American English gradually came to replace the British tongue, with its slang and alternate spellings and pronunciations. The rise of the American mass media has often been used to explain this substitution of American English for British English. As Herbert Schiller points out, "The use of English world-wide has been abetted further by the American media product that has swept over the world in this same period - and that continues to flow massively" (Schiller, 1992: 32).

In 1945 — the year which saw the end of the Second World War — radio became the "Voice of America". It was a voice which echoed around the world when on May 8, 1945, Edward R. Murrow reported the end of World War II via American radio (McCrum, 1986: 31). According to Tunstall, with the emergence of American radio, the United States assumed a commanding world position. Indeed, the U.S. had:

... twice as many sets per population as Britain, three times France and thirteen times the Soviet Union. Along with this radio predominance went manufacturing capacity and leadership in all other aspects of radio - except perhaps serious programming (Tunstall, 1977: 141).

Due in part to the proliferation of American radio, the end of the Second World War marked a turning point in English-language usage around the world. As McCrum et al note in *The Story of English*, "After 1945, the dominant voice of the English-speaking

world was no longer British but American" (McCrum, 1986: 31). During the course of World War II, the rising number of American radio stations had managed to create and eventually globalize an entirely new "war vocabulary" of American English terms.

Words such as *fireball*, *mushroom cloud*, *test site*, *countdown*, *fall-out*, *fusion*, *fission*, *chain reaction* and *atomic holocaust* soon gained international acceptance through American radio broadcasts (McCrum, 1986: 32). Through the medium of radio, a new era in English-language dissemination was born.

If American radio gave birth to the global spread of English, then American television raised and nurtured it into mature adulthood. As noted by Robert Nador at the 1988 Toronto Festival of Festivals, "Television is in colour, in stereo and in English" (Collins, 1989: 351). Indeed, as Neil Postman reveals in *Amusing Ourselves to Death*, television has become a new epistemology (Postman, 1985:78) — an epistemology which has shaped audience perception of the world from a reality of words to a reality of images. Since the dawn of the television age in the early 1950s, American life has been virtually transformed by this new image-based reality.

With a growing number of television sets being sold to American families during the 1960s, world events such as the Vietnam War were played out in the living rooms of households all across America. The world-wide dissemination of American television broadcasting soon led to a global understanding (if not acceptance) of such terms as *defoliate*, *firefight*, *friendly fire*, *search and destroy mission* and the *domino*

theory (McCrum, 1986: 34). Those killed during the Vietnam War were referred to by American television correspondents as *inoperative combat personnel*, while killing was termed *pacification*. Due in part to the proliferation of television programming developed during the decade of the 1960s, American culture gradually shifted from a print-based culture to one of image-based reality. Before long, the new image-based reality had been exported to the world.

In their article "The International Flow of Television Programmes", Colin Hoskins and Rolf Mirus refer to the 1983 Varis Study which identified the U.S. as the world leader in terms of hours of television programming. In 1983, for instance, the U.S. share of exports was:

Seventy-seven per cent for Latin America, 44 per cent for Western Europe, 42 per cent for Arab Countries, 47 per cent for Africa (south of the Sahara), 70 per cent for Canada and nearly 90 per cent for the Philippines. The Eastern Bloc is the only region where the US is not the dominant exporter (Hoskins and Mirus, 1988: 499).

In fact, American television programme exports accounted for 75 per cent the world's total television programme exports in 1983 (Hoskins and Mirus, 1988: 499). In contrast, the United States imported only 2 per cent of its television programming from abroad in 1985 (Lorimer, 1991: 240).

Given the fact that U.S. television programming has historically constituted the majority of world television content, it follows that the international market for television is largely English-based. As Collins observes, "Language (and culture) is a

very important factor in the shaping of television markets; some producers are significantly advantaged and others disadvantaged by language" (Collins, 1993: 70). Indeed, the Director General of the British Council, Sir Richard Francis has stated in the *London Times* that "the value of having, in the post-industrial age, people use the language of one's own culture is virtually inestimable" (Francis, 1989: 14). In this regard, Collins further states that:

The factor of comparative advantage offered by the English language enables us to account for the disparity in information flows between Anglophone and other states, and the success of Anglophone information exporters in international markets - a record of success which is at odds with the persistent deficits experienced by major Anglophone states on their overall international trade balances (Collins, 1994: 393-394).

The American advantage in television production is evidenced by its continued financial success, despite a North American economic recession. In 1988, Jack Valenti, President of the Motion Picture Association of America, told US Congress that "in one important information sector, film and television programmes, the USA had in 1987 a positive trade balance of \$1 billion" (Valenti, 1988: 20). Similarly, in 1986, the U.S. entertainment industry was second only to aerospace in terms of its trade surplus of \$4.9 billion (Hoskins and Mirus, 1988: 512).

Sponsorship of the major U.S. television networks has also led to the global spread of the English language. With the world-wide dissemination of American programming, such generic corporate identifiers as Kodak, Gillette, Coke, Kellogs, Marlboro have become household words all around the globe. McCrum et al point out,

for instance, that "Coca-colonialism introduced 20,000 English words into regular use in Japan" (McCrum, 1986: 32). Indeed, "since the end of the Second World War, so many new words have been added to the Japanese vocabulary - more than 20,000 by some estimates - that some fear the language will lose its identity" (McCrum, 1986: 43). Through the medium of television, then, the English language has been promoted world-wide as the "language of choice".

In addition to achieving the highest rates of domestic television programming exportation, English-speaking nations - led by the United States - have also proven highly efficient in feature film production. Wilson Dizard observes, for instance, that:

In the 1920s, the [film] industry produced and distributed most of the world's films establishing the medium's artistic, technical and economic standards. This production dominance was cut back in later years as film industries developed abroad, but Hollywood continued to set the pace. It was an envious Stalin who once told a visitor, "If I could control the American film industry, I could control the world" (Dizard, 1989: 205).

Dizard further states that "Even now, when American production is down to 10 per cent of the world total, Hollywood films dominate foreign markets with total international revenues in 1988 of over \$2 billion" (Dizard, 1989: 205). Many scholars have attempted to explain the widespread popularity of American film productions. Hoskins and Mirus maintain that "Because the cinema exposure of Hollywood movies has familiarized world audiences over the years with U.S. fictional entertainment values, the taste for current American productions has actually increased as an indirect result" (Hoskins and Mirus, 1988: 506). Indeed, Howard Frederick agrees that "The

lofty ideals of democracy and freedom, as well as the material values of consumerism and affluence, capture the global imagination" (Frederick, 1993: 10).

Tunstall further reveals that "The mutual use of the English language was crucial in American entry to the British and Commonwealth film markets. This entry both consolidated English as the world media language and gave the American media a flying start into the world market" (Tunstall, 1977: 125). Collins also points out that the United States has long enjoyed a decisive advantage in film production, due in part to its early capture of a commanding position in international information markets (Collins, 1994: 388). According to Collins, "This took place during World War I when the European film studios closed their markets to each other and reduced film production" (Collins, 1994: 388). While European film studios remained closed for production, the United States was able to maintain and increase its production and trade in the European markets. For this reason, Collins notes that "The United States consolidated its position in the inter-war period through technological innovation (e.g. sound, sensitive film stocks, etc.) and during and after World War II by filling the vacuum in European film production" (Collins, 1994: 388-389). Tunstall agrees with Collins' assertion, observing that:

In 1947-1948, American media reached their highest point in terms of direct dominance of the media in other countries ... Hollywood feature films were the most obvious field of American dominance; and there was the backlog of war-time production, not yet seen in many countries ... While in 1948 Hollywood made 432 feature films, the Soviet Union made under 20 and even Italy, at the height of its neo-realism boom, made only 54 (Tunstall, 1977:

141).

Wildman and Siwek further explain the dominance of the U.S. film and television industries by pointing out that "the English-speaking market for video products has much greater spending power than do markets comprised of other linguistic populations" (Wildman and Siwek, 1988: 390). In his article "The Language of Advantage: Satellite Television in Western Europe in Media", Richard Collins offers an illustration of the world's wealthiest linguistic markets, shown in Table 1.3 (following page). As noted by Collins, "It is the advantage enjoyed by Anglophone producers within the richest and (of market economies) largest of world language communities that has made their productions the basis of a slowly developing global culture" (Collins, 1989 354). For both historical and economic reasons, then, the film industry in the United States has flourished since the end of World War II, contributing significantly to the global dissemination of the English language.

In addition to the global dominance of English-language radio, television and film during the post-war period, the English-language print media have also been at the centre of international media attention. According to Collins, the "English-language publishing accounts for more than half the total world market" (Collins, 1989: 352). In 1982, for instance, 5,795 English-language books were translated into German, while only 873 German-language books were translated into English; similarly, while 3,557 English-language books were translated into Spanish, only 108 Spanish books

TABLE 1.3
A Comparison of Linguistic Markets

Language	Native Speakers (Millions)	1981 GNP (Millions \$US)
English	409	4,230,375
Hindi/Urdu	352	209,023
Spanish	265	653,958
Arabic	163	328,547
Bengali	160	12,692
Portuguese	157	303,465
Malay/Indonesian	122	237,715
Japanese	121	1,185,861
French	110	812,179
German	101	1,017,528
Punjabi	69	29,757
Italian	62	502,306

(Source: Collins, 1989: 354)

were translated into English (Collins, 1994: 392). American-English language books also dominate the world market in terms of exports. Geoffrey Reeves notes in *Communications and the Third World*, for instance, that:

The main 'Third World' exporters, Mexico and Argentina, have only one-tenth of the sales of the leading exporters, the United States and the United Kingdom. Educational books, as well as scientific and technical books, represent an

appreciable proportion of those published, especially in the United States and Britain, and also represent significant parts of the total book exports from those two countries (Reeves, 1993: 19).

In terms of book publishing, then, the United States (along with other English-speaking nations) continue to dominate the world market.

Within the global newspaper industry, the United States holds a similar advantage. Tunstall states that "The great national vehicle of American English was the newspaper press" (Tunstall, 1995: 127). He further notes that "English has evolved as a language with and through the media, especially in the press. All of the great popular American journalists understood the significance of using simple spoken English in the press" (Tunstall, 1995: 127). Tunstall writes that American journalists have in fact largely shaped the form and content of the English language. He observes that:

Journalists in the USA especially have long been especially prominent in literature - Mark Twain, Theodore Dreiser, Stephen Crane, Ernest Hemingway are examples; many American writers have moved easily between literature and the media and (in contrast to Europe) they have usually worked not for prestige newspapers but for the popular press (Tunstall, 1995: 128).

More recently, in his 1995 article "Are the Media Still American?", Tunstall reveals that "The domestic U.S. newspaper is still the leading single example in the world of domestic media political power" (Tunstall, 1995: 16). Neil Postman agrees that with the emergence of the popular press in the United States and increased reliance on wire news services, the English language has become "the language of headlines -

sensational, fragmented, impersonal" (Postman, 1985: 70). Indeed, Tunstall states that the inherent characteristics of American English - its "brevity, terseness, pace and precision" (Tunstall, 1995: 128) - have led to its recognition as the language "best-suited to comic strips, headlines, rivetting first sentences, photo captions, dubbing, sub-titling, pop songs, hoardings, disc-jockey banter, news flashes and sung commercials" (Tunstall, 1995: 128). American English has therefore been heralded as the language of the press, and has contributed greatly to the world-wide spread of the English language.

In recent years, yet another medium of global proportions has emerged: the Internet. As in the past, the English language is becoming increasingly identified as the primary language of the cyberspace community - which will be most often referred to in this thesis as the "information highway". In their article "Physical Distance and Language as Determinants of the International Telecommunications Networks", George A. Barnett and Young Choi observe that "Due to American dominance in computer and communications hardware and software and media programming, English has become the dominant language in the international media and in computing" (Barnett and Choi, 1995: 251). Indeed, as observed by Dizard:

... American computers have, by and large, set the world standard making foreign competitors follow in their technical footsteps. As a result, by 1976, United States computer equipment firms accounted for 87 per cent of the sale of the world's computers, by value. By the late eighties, the American share dropped to less than three-fourths of the international market due to increased foreign competition. This is still a healthy lead (Dizard, 1989: 198).

New York Times correspondent Andrew Pollack notes that English-language domination on the information highway is emerging as a topical issue within both social and technical circles. He writes that:

With the sudden explosion of world-wide interest in the Internet, the dominance of English, which stems from the network's beginnings in the United States, has become a sensitive issue. One concern is that the vast majority of the world's people, who do not speak English, will be at a disadvantage, unable to avail themselves of the resources of the information age. The issue is likely to become more acute as the use of the network outside the United States spreads from the business and technical elite, who tend to speak English, to the masses. Another issue is that English, already the international language for business and science, is becoming the lingua franca of the computer world as well, further casting other languages into the shade (Pollack, 1995: B8).

European Commissioner and former French Prime Minister Edith Cresson made a similar observation at a multimedia conference held in May 1995, stating that "For us in Europe, it will no longer be just a question of protecting the broadcasting of films on television, but above all, of ensuring that there is a minimum of 'European' content on CD ROMS and other databases" (Pollack, 1995: B8). Pollack observes that "With its use of complex Chinese characters, Japanese has always been more difficult to type than Latin-based alphabets, making personal computers less convenient than in the West" (Pollack, 1995: B8). Although certain technological devices allow the use of simplified Japanese characters, when communicating on-line with non-Japanese users, non-Japanese computers will not accept Japanese texts. Pollack writes that "Among the Japanese, who trail the United States in advanced telecommunications, there is fear that if the language of computers remains English, it will be more difficult for them to

compete in the information industries of the future" (Pollack, 1995: B8). Some scholars have gone so far as to predict the annihilation of the Japanese language, due to the dominance of English on the Internet and other new information technologies. In his thesis *Mori Arinori*, I.P. Hall writes that the use of the English language in Japan:

... suppresses the use of both Chinese and Japanese. The commercial power of the English-speaking race which now rules the world drives our people into some knowledge of their commercial ways and habits. It is a requisite of our independence in the community of nations. Under the circumstances, our meagre language, which can never be of any use outside of our islands, is doomed to yield to the domination of the English tongue ... Our intelligent race, eager in their pursuit of knowledge, cannot depend upon a weak, and uncertain medium of communication in its endeavour to grasp the principal treasury of Western science, art and religion. The laws of the state can never be preserved in the language of Japan. All reason suggest its disuse (Weinstein, 1990: 189).

With the increase in English-language usage due to the linguistic partiality of such new technologies as the Internet, then, it would appear that Hall's fears for the future of the Japanese language - as well as other languages - are well-founded.

While most scholars would agree that English has indeed ascended to the position of the world's dominant languages, others argue that the use of English will eventually decline, as have prior world languages (namely Greek, Latin and French).

In *Technics and Civilization*, for instance, Lewis Mumford writes:

There is no reason to think that any single national language can now dominant the world, as the French and the English people have by turns dreamed: for unless an international language can be made relatively fixed and lifeless, it will go through a babel-like differentiation in precisely the same fashion as Latin did. It is much more likely that bilingualism will become universal - that is, an arranged and purely artificial world-language for pragmatic and scientific uses and a cultural language for local communication (Mumford, 1963: 294).

Mumford's work, written in 1963, however, could not have foreseen the impact of new information and communication technology on the spread of English. Hindmarsh points out, for instance, that while former world languages have been eroded and eventually vanished altogether, English possesses certain traits which differentiate it from these former global tongues. Hindmarsh points out that the Greek language disappeared with the end of the Roman Empire, while Latin gradually fragmented into the Romance languages. French, he observes, "flourished in Europe for 200 years, but lost ground to nationalism in the nineteenth century" (Hindmarsh, 1978: 43). Unlike these prior world languages, however, the English language appears to stand a better chance of survival. In this regard, Hindmarsh observes that:

English, with its wider geographical base, its 300 million native speakers, its utility as a tool of learning and its important in science and technology and commerce, is now incontestably the international language of the world. Whether it will be so a hundred years from now depends on political, economic and cultural factors more than on the characteristics of the language itself: but one thing looks certain - English will not fragment as Latin did. The media will see to that (Hindmarsh, 1978: 44).

Although it is true that the future of the English language is not set in stone, it may be predicted that the current global trend toward the international adoption of English as the principal world *lingua franca*, will lead to a strong and steady growth of the English language community. Howard Frederick points out that the future of English as the dominant world language may be further facilitated by the increasing indifference among nations toward the American English language. He acknowledges

that “While in the past there was considerable resistance to English, particularly in France and Latin America, today there are fewer complaints that English is an affront to the cultural dignity of other countries” (Frederick, 1993: 88). Similarly, Dennis Baron writes in *The English-Only Question* that “... English continues strong as the international language of technology, trade and diplomacy, and language watchers insist that, barring nuclear war or natural catastrophe, English is in no danger of losing its international status in the foreseeable future” (Baron, 1990: 177). In Chapter Two, the impact of English-language domination on issues of universal access — in particular relation to the development and implementation of the information highway — will be discussed in detail.

Chapter Two
Ensuring Linguistic Access to the Information Highway

The issue of universal access has long been central to communications policy in Canada. Given the nation's vast land mass and its relatively small population, universal access has traditionally played a vital role in providing essential services to Canadians. Stephen Brooks observes in *Public Policy in Canada*, that:

The distribution of most of this country's population in a thin band within a few hundred kilometres of the United States - a band that is punctuated by urban centres between which stretch vast distances of sparsely populated land - has meant that communications have assumed vital importance in linking together the national economy and society (Brooks, 1989: 298).

For this reason, "There has always been a public policy objective of ensuring universal service in the Canadian broadcasting system" (*Final Report*, 1995: 15). Indeed, universal access is a legislated policy objective, appearing in both the *Telecommunications Act* and the *Broadcasting Act*. Both communications policies recognize the importance of universal access, and support their enforcement in the Canadian communications industry. One of the primary objectives of the *Telecommunications Act*, for instance, is to "render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada" (Angus and McKie, 1994: 148). In this regard, Rowland Lorimer observes in *Mass Communications*, that:

For telecommunications, the fundamental issue is always that of fair access. This revolves around the principle that individuals (households or businesses) are entitled to receive adequate service at equitable and non-discriminatory rates ... the usual principle is that there must be no deliberate deprivation of service and the rates charged must be shown to be just and reasonable (Lorimer and Scannell, 1994: 59).

Similarly, the *Broadcasting Act* states that it will "through its programming and the employment opportunities arising out of its operations, serve the needs and interests, and reflect the circumstances and aspirations, of Canadian men, women and children, including equal rights, the linguistic duality and multicultural and multiracial nature of Canadian society and the special place of aboriginal peoples within that society" (Angus and McKie, 1994: 149). The Canadian telephony industry has also developed in close relation with the concept of universality of service. As Robert E. Babe writes in *Telecommunications in Canada*:

The independent telephone industries of both Canada and the United States were conceived because dominant, privately-owned telephone companies were slow to extend service to sparsely settled regions. Provincialization of Bell Canada's operations on the prairies was a response in part to that company's reluctance to serve rural areas (Babe, 1990: 140).

Given the widespread acknowledgement of universal access in Canadian telecommunications and broadcasting legislation, then, it is apparent that Canadian policy makers have long considered the issue of universal access as one of high priority.

Linguistic access is a crucial aspect of Canada's general policy on universality of service. As an officially bilingual nation, Canada has traditionally reflected its national duality in its communications policy. Linguistic considerations are included in the *Telecommunications Act*, but more specifically in the *Broadcasting Act*. As specified in the *Broadcasting Act*, Section 3:

(1) It is hereby declared as the broadcasting policy for Canada that:

(b) the Canadian broadcasting system, operating primarily in the English and French languages and comprising public, private and community elements, makes use of radio

Chapter Two: Ensuring Linguistic Accessibility to the Information Highway

frequencies that are public property and provides, through its programming, a public service essential to the maintenance and enhancement of national identity and cultural sovereignty;

(c) English and French language broadcasting, while sharing common aspects, operate under different conditions and may have different requirements;

(f) each broadcasting undertaking shall make maximum use and in no case less than pre-dominant use, of Canadian creative and other resources in the creation and presentation of programming, unless the nature of the service provided by the undertaking, such as specialized content or format or the use of languages other than French or English, renders that use impractical, in which case the undertaking shall make the greatest practicable use of those resources;

(k) a range of broadcasting services in English and French shall be extended to all Canadians, as resources become available; (Angus and McKie, 1994: 149-150).

With the emergence of the information highway, linguistic access has been challenged by the perceived need for rapid development and global competition. While English-language content is flourishing on the information highway, French and Aboriginal languages are largely under represented. Universal access, in its purest form, suggests an open opportunity on the part of all citizens - regardless of language - to learn and profit from communications networks. In a state of true universal accessibility, each Canadian resident would be ensured equal access to information highway services. In reality, however, there exists a wide disparity of access to the information highway for non-English speaking Canadians. In his article "Trading in Culture: the Role of Language", Richard Collins observes that "Clearly a particular language community with all other things being equal tends to prefer information content encoded in its own language. But all things are seldom equal." (Collins, 1994: 389).

The unequal development of linguistic content on the information highway must therefore be brought into question.

With regards to access to telecommunications and broadcasting services, there exists both a core and a periphery in Canada. John Rennie Short observes that "The core-periphery model refers to the spatial division of the world and a set of economic relationships" (Short, 1993: 7). In her study of Inuit broadcasting in Canada, Laura U. Marks notes that Canada's North is a type of "third world audience" which imports the technology of the "South" (Marks, 1994: 4). Southern Canada may therefore be perceived as possessing more power and control than the northern regions of the nation. This reality is clearly reflected in the restricted access of the North to such new technologies as the information highway. In many ways, French Canada is also seen as a peripheral actor within the hierarchical structure of the Canadian state. The development of Canada's information highway is a prime illustration of the peripheral status of both Francophone and northern Canadians. While the infobahn emerges in English Canada as potentially the century's most powerful instrument of communications, the linguistic barrier erected between the nation's core and its periphery linguistic communities is likely to have debilitating results.

Without dispute, the English language is a "core" language. As Abram de Swaan observes:

In the course of this century, a world language system has evolved in which some 10 or 12 supranational languages function as central codes for dozens of other national languages, and many of these are, in turn, in a central position with respect to several regional languages or dialects. Among the supranational languages, there is one that

occupies a very special position, since in all supranational languages there are bilingual speakers who are also competent in this one language, which is therefore central to all central languages: and this supercentral language is, of course, English (Swaan, 1991: 316).

De Swaan points out that members of the peripheral language communities choose to speak the supercentral language (English) "since that is the language from which translation to every other peripheral and next higher central language is available" (Swaan, 1991: 317). As such, there emerges a core/periphery relationship between the world's language communities, with English enjoying a fairly secure position of power. According to de Swaan "Speakers of only the central language do not gain much by learning a second language themselves, but profit when others, peripheral language speakers, learn their languages and in so doing, also increase the former's opportunities for direct communication and passive translation" (Swaan, 1991: 317).

In his book *Linguistic Imperialism*, Robert Phillipson identifies the potential dangers made possible by a centre-periphery relationship dominated by one sole great power. He contends that:

In the next phase of imperialism, neo-colonialism, centre-periphery interaction will be increasingly by means of international communications. Computer technology will obliterate the need of the physical presence of the exploiters. New communications technology will step up the Centre's attempt to control people's consciousness. This will play an ever-increasingly role in order to strengthen control over the means of production. For this to be effective requires the Centre's cultural and linguistic penetration of the periphery (Phillipson, 1992: 53).

In an age which he refers to as "neo-neo-colonialism", Phillipson argues that "... an increased linguistic penetration of the Periphery is essential for completing the move away from crude

means, the sticks of colonial times and even the more discrete means of the neo-colonialist phase of asymmetrical bargaining, to neo-neo-colonialist control by means of ideas" (Phillipson, 1992: 53). Based upon Phillipson's assessment, then, the dangers of the centre-periphery relationship become readily apparent. In an attempt to study the linguistic inaccessibility of the Canadian information highway more closely, let us first consider national access to French-language services on the Canadian infobahn.

Accessibility to French-Language Services on the Information Highway

The relatively restricted access to French-language services on the Canadian information highway should come as no surprise, given the fact that the information highway originated in an English-speaking nation (i.e. the United States). Given the significant non-English speaking population in Canada, however, the issue of ensuring universal access for Francophone information highway users is one of great importance. According to the Department of Canadian Heritage, the segment of the Canadian population which speaks English only is 67 per cent; the segment which speaks French only is 15 per cent; the segment which speaks both French and English is 16 per cent; while the segment which speaks neither French nor English is 1 per cent (Canadian Heritage, 1994: 3). Immersed in a reality of English-developed technologies and terminologies, many Francophone users of the information highway have encountered an imposing linguistic barrier to information services on the electronic infobahn. "One speaks of an electronic highway and we are still on dirt roads,"

observed one resident of Northern Quebec during a focus group discussion for the May 1994 report on *Canada's Information Highway: Services, Access and Affordability* (Angus and McKie, 1994: 73). Indeed, in a 1994 survey conducted by Anderson Consulting, while awareness of the information highway is high in the French-speaking province of Québec, survey results do not indicate a high rate of information highway usage. Table 2.0 illustrates the level of information highway awareness across Canada.

TABLE 2.0
Canadian Awareness of the Information Highway

Region	Level of Awareness
Prairies	72.8%
Québec	71.4%
Ontario	70.7%
British Columbia	67.4%
Maritimes	59%

(Source: Anderson Consulting, 1995: 4)

According to the Anderson Consulting study, a slightly higher level of awareness of information highway technology was noted among English-speaking Canadians (70.2 per cent) than French-speaking Canadians (68.8 per cent), while awareness of the Internet was strongest in the province of BC (at 66 per cent) and lowest in the province of Québec (at 33.6 per cent). Furthermore, the highest level of Internet usage in Canada, according to Anderson Consulting, occurred in Atlantic Canada (at 17.2 per cent), while the lowest level of Internet usage

occurred in Québec (5.5 per cent). While awareness of the information highway as a concept is high, therefore, there also exists a low level of usage and awareness of the Internet among Francophone Canadians.

Statistics such as those provided by Anderson Consulting are not surprising considering the vast number of technical and cultural obstacles which exist between Francophones and the English technology of the Internet. These obstacles include the lack of French-language software and content on the information highway, the high cost of translation and the lack of French-language technical terminology. Perhaps one of the most comprehensive documents produced on the subject of Francophone accessibility on the information highway, emerged from the Conseil de la Langue Française under the Government of Québec. Entitled *Avis sur les Industries de la Langue dans la Société de l'Information*, the 40-page document presents the French Canadian perspective on the development of the information highway in Canada. According to the Conseil, the information highway has been designed to technically accommodate an English-speaking majority. Quoting George Doddington of the Advanced Research Projects Agency in the United States, the Conseil observes that:

En effet, lors de la diffusion de l'imprimerie, les langues avaient des chances relativement égales vis-à-vis d'une technologie essentiellement neutre. Il n'en va plus de même avec des technologies qui privilégient l'interface anglais-machine et qui assurent ainsi, à une langue, une primauté qui entraîne la marginalisation du français dans ses fonctions reliées au travail, à la formation, à la science et à la technologie. Cette réalité confère au développement des industries de la langue une importance stratégique primordiale (Conseil, 1994: 26).

The need for the development and implementation of an information highway which accommodates not only English-speaking users but speakers of all world languages, is expressed by Fleras Coulmas in the Conseil's report. In this regard, Coulmas observes that:

A cause de l'avènement de la société du savoir, il est aujourd'hui plus que jamais crucial d'avoir rapidement accès à de l'information en tout genre. Pour s'assurer que la langue permette, plutôt qu'empêche, d'atteindre ce but, il est nécessaire de la travailler et de la raffiner, tout comme les autres matières doivent être améliorées au nom d'une productivité accrue (Conseil, 1994: 19).

Furthermore, Coulmas observes that, given the fact that the twentieth-first century will be characterized by the need to exchange information, there is a real need to ensure equal linguistic access to all information highway services.

According to le Conseil de la Langue Française, there are a number of obstacles which dissuade Francophones from becoming active participants on the information highway. Technical obstacles are perhaps the greatest barrier encountered by French-speaking users of the information highway. In this regard, the Conseil observes that:

C'est ainsi qu'au moment où on parle de la mise sur pied d'autoroutes de l'information, sur l'unique grand réseau existant (Internet), seule la langue anglaise a droit de cité alors qu'il n'y a aucun obstacle technique à ce que toutes les langues puissent être véhiculées dans les systèmes de communications. En effet, d'une part, les micro-ordinateurs travaillent actuellement dans presque toutes les langues codifiées. D'autre part, les réseaux électroniques actuels fonctionnent au moins en huit bits, ce qui permet l'usage des signes diacritiques. Par ailleurs, seul le réseau Internet fonctionne en sept bits et il doit passer, dans un proche avenir, au fonctionnement en huit bits. De plus, même en sept bits, des solutions techniques existent, mises au point notamment par des firmes québécoises, pour tenir compte des signes diacritiques des langues (Conseil, 1994: 17).

While the technology may exist to allow for French-language diacritic signs and symbols, there has been a general lack of interest on the part of technology researchers and developers to ensure French-language access to the information highway. As observed by the Conseil:

... la nécessité d'améliorer les interfaces, l'accès à ces outils et leur utilisation est devenue la condition de leur expansion et de leur utilisation maximale. L'utilisation de la langue orale, notamment, permet de se libérer des contraintes de la saisie du texte par le clavier et des contraintes de fonctionnement de la machine (Conseil, 1994: 18).

Without the linguistic freedom to participate on the information highway, there emerges an undeniable inequality of access to information highway services. Consider, for instance, the following passage which provides "Sites of Particular Interest" to French users of the information highway; note that all French accents have been stripped away in this example, and have been replaced by nonsensical signs and symbols:

"Sites of Particular Interest":

"http://www.cum.qc.ca/" Communauté Urbaine de Montréal
 "http://www.crim.ca/" Centre de recherche Informatique de Montréal CRIM)
 "http://www.csr.ists.ca/w3can/Welcome.html">Central list of all Canadian WWW
 servers (of which more than sixty in Québec)
 The Québec <I> Information Highway : "http://www.risq.net/"
 (Réseau interordinateur scientifique québécois)
 The Canadian <I> Information Highway: "http://www.canet.ca/canet/index.html"

Due to the stripping of French accents, special software is required to ensure the retention of electronic message integrity. Angus and McKie confirm in their 1994 study of access to the Canadian infobahn, that the notable lack of French-language software available to Francophone users, necessarily limits their participation on the information highway. As we

have seen, many regular (i.e. English-based) text messaging services and other types of software routinely strip accents from material written in French and other languages.

In recent months, the Canadian Radio-Television and Telecommunications Commission (CRTC) has observed that "in order that Francophones may have their own spaces on the information highway, the Commission encourages the offering of distinct service packages and creation of navigational tool tailored to their particular needs" (CRTC, 1995: 38). According to the CRTC, "Francophones should be able to access package of French-language discretionary services and notes that the deployment of addressable technology should permit distribution to offer distinct packages of services tailored to meet the needs of their Francophone subscribers" (CRTC, 1995: 38). The Federal Government's SchoolNet menu structure is provided in both official languages, for instance, as is any content originating from Industry Canada; however, special software is required at the gopher client site, otherwise the translation is imperfect. It might also be noted that translation software is not yet widely available. An additional difficulty with French-language access to federal services such as SchoolNet is the fact that information is lodged at hundreds of different sites in Canada and around the world, and Industry Canada has not undertaken to translate any of this information. Nevertheless, SchoolNet co-ordinators insist that a priority effort is being made to identify additional French language educational content and services for inclusion in the SchoolNet menu.

Ensuring French-language *content* on the Canadian information highway is another important step toward ensuring linguistic equality to information highway services. The Conseil de la Langue Française believes it is necessary that the Francophone culture be included on the information highway, in order to provide a balanced flow of cultural programming into Francophone homes. The Conseil makes the following observation of the current unequal flow of cultural information on the information highway:

Les modèles technologique, économique et sociétal dominants induisent des tendances à la création d'un ordre mondial uniforme et unilingue. Une démarche pluraliste sur les plans linguistique et culturel permettrait de privilégier une libre circulation, des infrastructures ouvertes, une diversité des contenus, des produits et services, et la prise en compte du multilinguisme (Conseil, 1994: 21).

The absence of French-language content, the Conseil observes, will necessarily result in the creation of a uniform and unilingual order. As expressed by Suzanne D'Amours of the Association des Producteurs de Films et de Télévision du Québec, "Authorities must strike a balance between individual interests, as evidenced in the demand for more interaction with the world, and the public interest as served by sustaining the cultural identity of Francophone Canadians" (CRTC, 1995: 40). The inclusion of French-language content on the information highway is therefore seen by the Francophone population as a vital cultural need.

For Herbert Schiller, the inability to include one's own cultural point of view within the framework of public discourse, introduces a threat to local culture. He observes, for instance, in *Mass Communications and the American Empire* that "... the cultural integrity of weak societies whose national, regional, local or tribal heritages are beginning to be menaced

with extinction by the expansion of modern electronic communications, television in particular, emanating from a few power centres in the industrialized world" (Schiller, 1992: 153). Schiller would likely argue, along with the Conseil, that it is necessary to include French-language content on the information highway in order to avoid the further disintegration of local culture. The need for increased French-language programming on the Canadian information highway has been acknowledged by both the CRTC and the Information Highway Advisory Council (IHAC). In this regard, IHAC observed at its June 15, 1995 meeting, that:

Government policies should stimulate, through incentives a) the creation and production of new content adapted to the information highway, with special consideration for the unique needs of the French-language market; b) the creation, production and implementation of navigational and menu systems in both official languages, to ensure universal access by all Canadians to all content (IHAC, June 1995: 7).

Similarly, the CRTC has observed that packages or tiers of French language services along with "the creation of additional French-language programming services and development of French-language navigational tools to assist users in accessing electronic information" (CRTC, 1995: 3) are required to ensure universal linguistic access for French-speaking information highway users.

An additional need identified by the Conseil with regards to ensuring equal access to the information highway, is the need for more multilingual terminology in technical discourse. In this respect, the Conseil states, for instance, that:

Le besoin d'échange d'information, la quantité d'information à traiter, l'accélération des échanges, la nécessité de travailler de plus en plus en temps réel, le développement

des capacités techniques des machines, font en sorte que le traitement de la langue par les machines numérisées est devenu le défi des technologies de l'information (Conseil, 1994: 17).

The English-language monopoly on technical terminology necessarily puts non-English speaking information highway users at a disadvantage, and provides unique benefits for Anglo-American companies. According to the Conseil:

Les interrelations langue-machine privilégient l'anglo-américain car il n'est pas seulement la langue privilégiée de la diffusion de l'information technique, scientifique, commerciale et financière, mais aussi celle des développements technologiques immédiatement reliés aux interactions avec la langue. Ces développements sont en effet intimement liés à la puissance commerciale de grandes sociétés américaines ainsi qu'au support à la recherche octroyé par le gouvernement américain aux industries de la langue par le biais (Conseil, 1994: 23).

Through the emergence of a virtually unilingual information highway, then, there results a distinct set of inequalities which necessarily impact the Francophone way of life.

The release of the annual report of the Commissioner of Official Languages in March 1996 confirms the fact that with the development of new information highway services, the fairness and equality of access is seriously drawn into question. The report observes, for instance, that in 1995 there were 15 separate complaints submitted to the Commissioner regarding "the unavailability in French of various information, the poor quality of some documentation in French and problems associated with accessing information in French, such as the lack of software and menus to conduct information searches" (Commissioner of Official Languages, 1996: 51). While certain problems, such as the low number of government home pages available in the French language, are easily rectified, other problems are not so quickly

resolved (i.e. the poor quality or lack of availability of certain documents in the French language). As a result of the growing number of complaints regarding the unavailability of French language materials on the information highway, the Commissioner has ordered a study to be conducted of 20 federal government institutions in Canada, "to determine their compliance with the *Official Languages Act*, identify obstacles and propose solutions" (Commissioner of Official Languages, 1996: 52). The results of the special investigation are to be reported in 1997.

Accessibility to Aboriginal Language Services on the Information Highway

The Aboriginal peoples of Canada's North comprise a second peripheral community within Canada's borders. Like Canada's Francophone population, the Aboriginal peoples are at a distinct linguistic disadvantage when it comes to accessing information on the information highway. As observed in *Northern Voices on the Information Highway*, "Proficiency in English will become even more important for users; there might be a fear among Aboriginal people that their languages will be lost, but there should also be a priority and funding put in place for translation services and development of software programs in the Aboriginal languages" (IBC, 1995: 31). Indeed, within Canada's northern community, there exists a wide diversity of Aboriginal languages, including eight official languages in the Yukon territory (Northern and Southern Tutchone, Gwich'in, Han, Tagish, Tlingit, Kaska and Upper Tanana) as well as eight official languages in the Northwest Territories (English, French, Inuktitut,

North and South Slavery, Gwich'in/Dogrib and Chipewyan). In total, there exist over 50 Aboriginal languages in Canada. Many of the linguistic obstacles of the Canadian Aboriginal peoples are similar to those faced by the Francophone population of Canada: lack of Aboriginal software, Aboriginal technical terminology, translation expenses and long-distance connection costs. An additional challenge to communication within Aboriginal circles, is the fact that the Aboriginal community of northern Canada is based on an oral tradition of communication, rather than one of print or electronics. For this reason, the imposition of "southern" technologies on Canada's North has additional cultural and social repercussions for the Aboriginal population.

In a culture based upon the oral tradition of storytelling, the electronic and print media are virtually foreign means of communication, and ones for which Canada's Aboriginal peoples are ill-equipped - both technologically and psychologically. Geoffrey Reeves, in *Communications and the Third World*, identifies the oral tradition of communication as "oramedia", that is, a type of folk media which is collectively owned and "grounded in an indigenous culture, produced and consumed by members of a group" (Reeves, 1993: 2). According to Reeves, oramedia rely heavily on strict social conventions, reinforce the values of the group, and contribute "to the maintenance of the basic social relationships and world view of the group" (Reeves, 1993: 2). He further notes that the oramedia use a language accessible to the "common man", thus manifesting little differentiation between producers and

consumers (Reeves, 1993: 2). The inherent differences between oral societies and literate or electronic societies are outlined by Rowland Lorimer who writes that:

The oral tradition and its ability to preserve the past, to transform that past as necessary, to base law in custom and to explain all events within a natural cosmology, point to the stability of oral societies and their tendency to preserve, extend and adapt culture. Rather than being concerned with the continued existence of formal structures and institutions, oral societies are most successful at extending the dynamics of interaction (Lorimer and McNulty, 1991: 5).

Lorimer adds that "the ways in which oral societies present knowledge and cultural integrity are fundamentally different from those of literate society" (Lorimer and McNulty, 1991: 6).

For this reason, the imposition of southern technologies such as the English-based information highway, on the Aboriginal peoples of the North threatens not only indigenous culture, but an entire social order as well.

The attempt to force "southern" technology into the Canadian North is like trying to force a square peg into a round hole; the two are simply incompatible. Indeed, according to Lorraine Thomas and Anne Forster, authors of *Connecting the North: Defining Northern Users' Needs*, communication tools are chiefly designed to accommodate an English-speaking audience of print-based users (Thomas and Forster, 1993: 31). Thomas and Forster point out that:

Given that most telecommunications and data services originate in the South, it is not surprising that they share two characteristics: virtually all require fluency in one of Canada's official languages, and virtually all assure the user is familiar with the conventions and communication modes of a print-based culture. Both these assumptions can effectively bar access to Northern (and particularly Aboriginal) users. Both Inuit and First Nations cultures in the North rely primarily on non-print media for

communication: and a significant percentage of Northern Aboriginal people still consider English as their second language (Thomas and Forster, 1993: 42).

Furthermore, Thomas and Forster observe that:

Communication tools such as bulletin boards, on-line "real time" text conversations, e-mail systems and voice messaging are being developed to serve an urban, English-speaking population. Northerners face the challenge of developing and applying these technologies to serve remote, non-urban, Northern end-users, many of whom are neither English-speaking nor text-based in their communication needs (Thomas and Forster, 1993: 44).

Considering the fact that print-based culture remains foreign to most Aboriginals, it is not surprising to discover that the most popular forms of mass media in Canada's North are television and radio call-in shows. Joanasie Akumalik of Baffin Island (where the primary language is Inuktitut) conducts his own television phone-in program, and believes that the medium is the best communication tool other than face to face communication through travelling (Thomas and Forster, 1993: 37). Akumalik expresses the need for "communication tools that have a visual and audio component and are interactive, accessible and private"; print-based communication, on the other hand, is ineffective in serving his clients whose method of communication is primarily oral (Thomas and Forster, 1993: 37). The dangers of forcing a print-based culture on an oral culture are readily apparent. According to Thomas and Forster, "With the current emphasis on English text-based communications, there is a strong risk of strengthening the traditional domination by English and Southern culture, instead of enhancing and strengthening the unique cultures and languages of the North" (Thomas and Forster, 1993: 52).

A primary step toward ensuring equal linguistic access to the Canadian information highway for the Aboriginal peoples, is ensuring the ability to readily exchange information in their own language (and unique syllabic language system) over their own network. To this end, a unique data network system is required, since the symbols used in the Aboriginal languages (chiefly Inuktitut) have no counterparts in the digital code used by most computers and networks. To clarify, syllabic language was introduced to the Amerindian languages of Western Canada nearly 150 years ago. According to Arthur Thibert, author of the *English-Eskimo Dictionary*, syllabic writing "was unknown to the Eskimos as late as 1885, when it was adapted to their language, with a few additional signs" (Thibert, 1970: viii). Thibert further states that "Although it is very practical in many ways, it is not a precise manner of writing" (Thibert, 1970: viii). For this reason, few computer networks are able to support the syllabic form of communication. The need for such a system in Canada's North is apparent nevertheless. One Baffin Island school teacher observes, for instance, that:

We need a reliable, high speed cost-effective, two-way telecommunication infrastructure. We need technology that allow the creation of an on-line environment that supports the languages, orthographies and interactions of the indigenous peoples of the North (Access and Social Impacts Committee, July 11, 1995: 5).

Northern educator Bob Turner points out that when Aboriginal children are forced to do their learning and researching and "chatting" in either of Canada's two official languages, those children are eventually likely to experience the loss of their Mother tongue. Observes Turner: "The language research that we are doing now shows that it is detrimental to the cognitive process" (Thomas and Forster, 1993: 37). Although specialized computer software does allow

Inuktitut-speaking children to correspond with one another in their own native language (i.e. via such outlets as the Takuyaksat bulletin board), the Inuktitut language text is considered to be a graphics file because of its non-Latin based characters. According to Sandy McAuley of the Baffin Division Board of Education:

Because syllabics are considered "graphics" file instead of a text file by computers, it takes considerably longer to transfer information and on-line costs rise accordingly. A popular feature has been the CHAT mode which allows students to talk back and forth via computer in real time. However, CHAT mode requires a higher bandwidth and will not support syllabics: students who want instant feedback from other students from outside their community must communicate in English (Thomas and Forster, 1993: 37).

Indeed, increased bandwidth on Canada's information highway is a need which was also identified at the "Connecting the North Symposium" of November 1994. Participants at the symposium found that:

The high cost of telecommunications in much of the North is a result of the low bandwidth available. Bandwidth is the factor which determines the rate at which information can be transmitted: the lower the bandwidth, the slower the transfer of information ... video, audio or data. Low bandwidth in the North means that information sent by fax or modem takes much longer to send, increasing long distance costs. Information faxed or sent by modem frequently arrives incomplete or not at all. Users must try again and again and long distance charges multiply (IBC, 1995: 24).

The issue of linguistic accessibility on the information highway has great implications, not only for Aboriginal education, but also with regards to health, culture, community politics and self-government. On April 1, 1999, after years of negotiations to ratify the Final Land Claims Agreement between the Inuit of Nunavut and the Government of Canada, a third territory known as Nunavut (Inuktitut for "our land") will be officially established in Canada's North.

Chapter Two: Ensuring Linguistic Accessibility to the Information Highway

With a total population of 22,000, Nunavut will boast three official languages: Inuktitut, Inuinnaqtun - and English.

Chapter Three
***National and International Response to Linguistic Inequality
on the Information Highway***

National Response to Linguistic Inequality on the Information Highway

In April 1994, the Government of Canada established the Information Highway Advisory Council (IHAC) to make recommendations to the Minister of Industry on "a national strategy to govern the evolution of Canada's advanced information and communications infrastructure, respecting the overall social and economic goals of the federal government" (IHAC, *The Canadian Information Highway*, 1994: 33). IHAC operated for a total of 15 months, and was comprised of 29 members, including individuals representing various corporate, social, cultural and educational segments of Canadian society. The work of the Council was primarily based on three policy objectives, namely:

- ☛ to create jobs through innovation and investment;
- ☛ to reinforce Canadian sovereignty and cultural identity; and
- ☛ to ensure universal access at a reasonable cost.

The Council was also required to take into consideration five basic principles in its deliberations. These principles included:

- ☛ an interconnected and interoperable network of networks;
- ☛ collaborative public and private sector development;
- ☛ competition in facilities, products and services;
- ☛ privacy protection and network security; and
- ☛ lifelong learning as a key design element of the information highway.

The Council's first published document, *The Canadian Information Highway: Building Canada's Information and Communications Infrastructure*, identified 15 policy issues which guided policy discussions during the IHAC mandate. The list of policy issues, phrased as questions, were raised as follows:

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- I. How fast should the advanced network infrastructure be built? how will network improvements be financed?**
- II. What is the proper balance between competition and regulation?**
- III. Should requirements for Canadian ownership and control of communications networks be reviewed?**
- IV. How quickly can Canadian industries move toward universal standards, and how should these standards be determined?**
- V. How can the federal government co-ordinate its activities with other governments?**
- VI. How should copyright and intellectual property issues be addressed?**
- VII. What measures are needed to support Canadian cultural and other content-based products and services?**
- VIII. What controls, if any, should be placed on the information that is put on the network?**
- IX. How can the information highway be used to improve government services to the public?**
- X. How can personal privacy and security of information be protected?**
- XI. How can we ensure that Canadian information industries take full advantage of the R&D and technological development opportunities presented by the information highway?**
- XII. How can the information highway best be used to improve the growth and competitiveness of all Canadian businesses, especially small and medium-seized enterprises, throughout Canada?**
- XIII. How can Canadians be assured of universal access to essential services at reasonable cost?**
- XIV. What consumer awareness and learning opportunities should be provided to enable Canadians to be effective users of the information highway?**

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XV. What opportunities does the information highway present to improve government operations?

Within the framework of these 15 public policy questions, the issue of linguistic equality on the Canadian information highway emerged under five policy issues: Canadian Culture and Content, Research and Development, Universal Access, Consumer Awareness and Learning, and Government Operations. With regards to language, the Council's *Final Report* concludes that:

To reflect Canada's linguistic duality, the French language must have a prominent presence on the information highway. Government policies should stimulate, through appropriate incentives, the creation and production of new content and navigational tools, to meet the needs of Canada's French-language market (IHAC *Final Report*, 1995: xi).

Both the French and Aboriginal speaking populations of Canada are acknowledged in the Council's *Final Report*, and the need for increased access to information highway services for these two language communities is identified. Under closer examination, however, there would appear to emerge a number of contradictions with regards to the Council's view of the priority of Canada's indigenous languages on the information highway. It is interesting to note that of the 29 members assigned to the IHAC, only five were Francophone-Canadians: André Bureau (Astral Communications Inc.) André Chagnon (Le Groupe Vidéotron Ltée), Jean-Claude Parrot (Canadian Labour Congress), Guy Savard (Midland Walwyn Inc.) and Charles Sirois (Teleglobe Inc.). With the exception of Parrot, each of the Francophones represented corporate industry; consequently, the dedication of these individuals to cultural

matters, such as ensuring linguistic accessibility on the Canadian information highway, is questionable. It might also be noted, that the sole Aboriginal member on the Council did not remain with the Council for its entire mandate, leaving the Council for several months with no representation from Canada's Aboriginal peoples. The fact that the discourse of the Council was primarily economic in nature, may be explained by the proliferation of corporate and economic interests represented, including IBM Canada Ltd., Bell Canada, Rogers Cablesystems Ltd., Newbridge Networks Corporation, Information Systems Architects Inc., Edmonton Telephones Corporation, Rogers Cantel, Unitel Communications Inc., Western International Communications Ltd., the New Brunswick Telephone Company Limited, NewEast Wireless Technologies and NewEast Wireless Telecom and others. Given the strong presence of business interests on the IHAC, it is perhaps unsurprising that the discourse adopted by the Council was primarily one of economics. In her book *Language: The Unknown*, Julia Kristeva notes that:

A discourse bears and imposes an ideology and every ideology finds its discourse. One can then understand why every dominant class pays particular attention to the practice of language and controls its forms and the means of its distribution: the news, the press, literature. One can understand why a dominant class has its favourite languages, its literature, its press, its orators, and why it tends to censor any other language (Kristeva, 1989: 287).

Indeed, the discourse of the dominant class is adopted in the case of the IHAC, and thus the economic interests of a select group of business leaders takes priority over cultural interests.

Although it acknowledges the need for equal access to information highway services for Francophone and Aboriginal Canadians, the Council's report places a strong emphasis on

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issues of economic importance. This contradiction renders ineffective several recommendations proposed by the Council with regards to ensuring linguistic accessibility on the information highway. In support of linguistic access to information highway services, the IHAC *Final Report* acknowledges that "French-language software and information is scarce, putting Francophone communities at a disadvantage. Aboriginal communities are similarly disadvantaged" (IHAC *Final Report*, 1995: 79). In this regard, the *Final Report* calls for increased support of French-language services on the Canadian information highway, stating that:

To reflect the linguistic duality of Canada, the French language must have a prominent place on the information highway. Thus, French-language products and services must continue to develop as an essential expression of Canadian content. Government policies should stimulate, through incentives, the creation and production of new content adapted to information technology, with special consideration for the needs of the French-language market. In addition, the creation, production, and implementation of navigational and menu systems in both official languages should incorporate the principle of universal access by all Canadians to all forms of content (IHAC *Final Report*, 1995: 29).

The *Final Report* also highlights the importance of creating opportunities for Aboriginal access on the information highway, emphasizing that "The development of learning materials in English and French and materials for Aboriginal students in their first language should be supported. Software tools must be developed to allow for the display of material in the relevant language" (IHAC *Final Report*, 1995: 80).

Despite the claim that linguistic access is required to ensure universal access to the information highway in Canada, however, only six of the Council's more than 200

recommendations make *direct mention* of the need to make room for Francophone and Aboriginal Canadians on the information highway. These recommendations include:

Recommendation 7.3 - Government policies should stimulate, through incentives:

- a) the creation and production of new content adapted to the information highway, with special consideration for the unique needs of the French-language market,
- b) the creation, production and implementation of navigational and menu systems in both official languages to ensure universal access by all Canadians to all content.

Recommendation 11.21 - The federal government should support the development of learning materials in both French and English, as well as the development of language-specific software tools to allow the display of the materials in both official languages. Learning materials for Aboriginal students should be available in their first languages, along with appropriate language-specific software.

Recommendation 13.14 - Public policy should strongly support the development of uniform, easy-to-use methods of accessing advanced telecommunications and content-based services:

- a) in both official languages and with multilingual capacity;

Recommendation 14.2a) Recognizing the jurisdiction of the provinces and territories in education, governments, in partnership with other stakeholders, should develop and adopt a comprehensive national strategy for lifelong learning on the information highway, in accordance with the following principles:

- contribute to the creation and availability of quality content on the information highway, especially Canadian content, in both official languages;

Recommendation 15.1 - The government should adopt the following mission statement:

The government will make it a priority to become a world leader in the rapid introduction and generalized use of electronic information and communication systems, and in affording all Canadians the opportunity to communicate and interact electronically with its departments and agencies in either official language.

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Recommendation 15.5 - In order to ensure broader acceptance and more effective usage of information technology by government employees, user interfaces must be easy to learn, use and operate, and learning and training programs must be readily available. The information highway must be able to function in either official language. It must also be accessible to people with special needs.

The Council recommendations clearly reflect the need for a linguistically accessible information highway in Canada, and policies which acknowledge both the French and Aboriginal language communities. The Council's recommendations also reveal the need for increased development of French and Aboriginal content on the Canadian information highway, as well as a need for easy-to-use navigational software. Further highlighted, is the need for more learning materials in French and Aboriginal languages, in order to provide Francophone and Aboriginal students in Canada with valuable learning tools. The Council's recommendations also identify the necessity of a national strategy for lifelong learning (in the nation's two official languages), and stress the importance of ensuring the availability of information highway services in Canada's two official languages.

A number of recommendations in the Council's *Final Report* may also be seen as supporting the notion of linguistic accessibility to Canadian information highway services in an *indirect manner*. These include:

Recommendation 7.1 - Canadian cultural policy must be reaffirmed and strengthened in relation to the new information infrastructure.

Recommendation 12.3 - The government should develop new approaches for the promotion of Canadian content in a manner consistent with Canada's cultural objectives, the realities of a competitive global marketplace and the tremendous economic opportunities of the information highway and in a way that encourages

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emerging existing content providers.

Recommendation 13.2 - The federal government should adopt the following principles as criteria for determining how access to facilities and services should be provided on the information highway to all Canadians.

a) universal, affordable and equitable access: local availability of basic access facilities for the delivery of information highway services at reasonable cost, regardless of geographical location; equitable opportunity for all, including people with disabilities and groups with special needs, to access and use the information highway.

b) consumer choice and diversity of information: to the maximum extent possible, provision of services will be driven by market forces. Consumer choice among a wide range of commercial and non-commercial information and services in a variety of formats should be available.

c) competency and citizens' participation: Canadians should be able to acquire a basic understanding and command of information technology to enable them to use and benefit from information highway services. The information highway must provide adequate opportunity for self-expression and participation in the information society and for controlling incoming and outgoing information.

d) open and interactive networks: full interactivity, interconnection and interoperability of networks; freedom to provide, circulate and exchange information.

Recommendation 13.5 - The CRTC should conduct periodically a public review process for:

a) developing or updating, as the case may be, a set of criteria for defining universal services

b) designating services, i.e. the Internet, that should be provided on a universal basis; and

c) determining the conditions under which these services should be provided at just and reasonable rates.

Recommendation 13.21 - Industry Canada, Human Resources Development Canada, Statistics Canada and other government departments should conduct and/or support the research necessary to identify how gender, age and other social factors create

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differences in participation in the information highway.

The above recommendations demonstrate the need for the renewal and reinforcement of Canadian cultural policy, as well as the importance of developing the principles of universal access. In reference to the issue of universal access, the Council observes that:

The use of the highway in Canada must not create a society of information haves and have-nots. Initial surveys indicate, however, that there are already barriers to equal access - for example, more men than women use the highway. Other barriers may be related to social factors such as age, income and language, producing undesirable disparities in participation and access to benefits. The Council believes further research is needed to identify inequalities (Rec. 13.21) and develop measures to reduce or eliminate them (Rec. 13.22) (*IHAC Final Report*, 1995: 47).

Considered in isolation, the latter observation would seem to indicate a whole-hearted dedication to the cause of linguistic accessibility on the information highway. Considered within the context of the *Final Report*, however, the Council's commitment to linguistic equality must be questioned.

While numerous recommendations in the Council's *Final Report* appear to support the notion of equal linguistic accessibility on the Canadian information highway, a greater number of recommendations appear to threaten this universality of access. Recommendations in support of increased foreign ownership of Canada's broadcasting services, global competition, standardization and the "driving force" of the marketplace, all draw into question the issue of universal linguistic access on the Canadian information highway. The following recommendations demonstrate the potential threat to ensuring linguistic accessibility:

Recommendation 1.3 - The provision of the information highway, facilities across the nation must be driven by existing or potential market demand.

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Recommendation 2.1 - Foreign ownership rules under all federal communications legislation should be the same, including the *Telecommunications Act*, *Broadcasting Act*, *Teleglobe Canada Reorganization and Divestiture Act*, etc. At a minimum, the rules should be liberalized to the extent of the *Telecommunications Act*. We also recommend that ownership rules accommodate the evolution of international agreements in these sectors while protecting Canadian interests.

Recommendation 2.5 - Competition in international services should be permitted as soon as such competition is viable and sustainable. The determination of viability and sustainability should be made part of a public proceeding that examines international by-pass issues, use of Canadian facilities, international treaty and trade obligations and foreign ownership caps.

Recommendation 3.1 - The Council encourages Canadian Heritage to immediately issue a *Canada Gazette* notice requesting public consultation on revisions to the foreign ownership rules for broadcasting in accordance and in harmony with those for telecommunications undertakings.

Recommendation 4.1 - The federal government should endorse open interconnection standards that are supported internationally and by industry. Government-industry partnerships on standards development should be encouraged.

Recommendation 4.3 - The federal government should cooperate with industry to support and promote Canada's active participation in the development of international interoperable standards through work with Standards Development Organizations.

Recommendation 4.4 - The federal government and industry should collaborate with other international groups such as the International Organization for Standardization (ISO) and the United States Information Infrastructure Standards Panel.

Recommendation 5a) - The federal government, in close collaboration with industry, R&D organizations and computer network interest groups, should continue its action to co-ordinate the development of a global information highway. Canada' for example, could initiate an international meeting of national information highway advisory bodies.

Recommendation 5b) The federal government should strengthen Canada's linkages with international fora such as the G7, the Asia-Pacific Economic Co-operation (APEC), and the Organization for Economic Co-operation and Development (OECD) and should promote the development and adoption of open standards in international organizations such as the international Telecommunications Union (ITU) and the

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International Organization for Standardization (ISO).

Recommendation 12.5 - Government and industry must:

- a) promote open standards policies and their rapid development on an international basis, while not limiting the scope for early developers and adopters of new information highway technologies to enter the marketplace.
- b) ensure a well-functioning market on the information highway by maintaining a strong national voice in global standards-setting initiatives;
- c) ensure transparency by distributing standards information; and
- d) support interfaces that are elegantly simple to use.

In considering the above recommendations, certain contradictions become readily apparent.

First, according to the Council, there exists an inconsistency between the percentage of foreign ownership permitted within the Canadian telecommunications and broadcasting industries.

Indeed, the current percentage of foreign ownership allowed in Canadian broadcasting industry is 20 per cent, while within the telecommunications industry the limit on foreign ownership is 33.33 per cent. In this regard, the Council notes that "In an era of convergence, it creates difficulties for companies developing the information highway to access adequate capital, and results in the inequitable treatment of players" (IHAC *Final Report*, 1995: 95). In order to create a consistency between the telecommunications and broadcasting industries in Canada, the Council proposes that "ownership regulations in the *Broadcasting Act* should be harmonized and liberalized with those of the *Telecommunications Act*, namely 33.33 per cent at the holding company level" (IHAC *Final Report*, 1995: 17). While emphasizing the need for increased foreign ownership of Canadian broadcasting services, however, the Council fails

to distinguish between the two different fields of broadcasting and telecommunications. While telecommunications services simply provide the technological capability for individuals and organizations to communicate, broadcasters provide *content* services. While telecommunications services cannot be dismissed as "neutral", it may be argued that there is a far greater threat of cultural invasion where broadcasting services are concerned. Clearly, the Council's sights are set on economic objectives, rather than cultural ones. The reasoning behind the Council's push for increased foreign ownership is based on the fact that "The emerging Canadian information highway will require large investments and foreign investors often provide advanced technology and services in addition to capital. Limitations on foreign ownership/participation may have the effect of denying access to needed capital" (HIAC *Final Report*, 1995: 105). The Council's failure to make the distinction between broadcasting and telecommunications is therefore misleading. Consequently, the Council's argument for increased foreign ownership of Canadian broadcasting services (i.e. the need to "harmonize" the telecommunications and broadcasting industries) is inherently flawed, and will work against the universality of linguistic access to the Canadian information highway. The rate of high foreign ownership in Canada's cultural industries is significant, in the view of Rowland Lorimer and Jean McNulty, "not only because it weakens the cultural sovereignty of Canadian society but also because it clearly affects the content of the cultural products that are made available to Canadians" (Lorimer and McNulty, 1991: 179). Given the Council's recommendation to increase foreign ownership of the Canadian broadcasting industry, it may

be anticipated that cultural sovereignty in Canada will continue to deteriorate, should the recommendation be adopted; as a result, it will be virtually impossible to ensure linguistic accessibility on the Canadian information highway.

A second factor which threatens to undermine the Council's recommendations in support of linguistic accessibility is the issue of international standardization. According to the *IHAC Final Report*, "The most important feature of standards is that they allow for interconnection and interoperability of networks and equipment. Open standards are particularly important for Canada; as a trading nation, our future prosperity is closely tied to success in the international information economy" (*IHAC Final Report*, 1995: 107). In supporting open standards, the Council contends that:

Open international standards facilitate access to different networks and sources of information, establish a level playing field for the diffusion of new products and services and extend productivity benefits on a global scale. Where international, regional or national standards do not exist, proprietary standards should be permitted on an interim basis provided they are not used as barriers to competition (*IHAC Final Report*, 1995: 167).

The emphasis on international standardization — where the English language would undoubtedly act as the lingua franca — diverts the focus from ensuring regional connections to Canadian information highway services. An information highway based principally upon economic goals will surely fail to lead to an interconnected network which benefits the non-English speaking communities of the nation of Canada. Amongst the Aboriginal peoples of Canada, for instance, there is a real need for interconnection with regards to issues of self-government. Thomas and Forster observe that many self-government organizations "not

only need to inform their constituents, but also need to find better communication tools that will allow them to communicate interactively with the people they serve in order to get feedback and input into decisions and initiatives being taken" (Thomas and Forster, 1993: 27). Consider Table 3.0 (following page). Rather than concentrating every effort on a "global" vision of the information highway, it is imperative that Canadian policy makers ensure the interconnection and interoperability of regional networks as well. The fragmentation of regions will only lead to the isolation of Canada's northern communities. And yet, instead of proposing a regional focus on issues of interconnection and interoperability, the Council proposes the establishment of an international body designed to deal exclusively with matters relating to the information highway. According to the Council, "Such a body could also serve to advance the process of developing international standards for interoperability and interconnectivity" (IHAC *Final Report*, 1995: 111). As we have seen in the past, however, such international bodies as UNESCO and the ITU have failed in their efforts to foster regional growth, and have, in fact, served to further the agenda of the world's advanced industrialized nations (in most cases, the United States). It is useful to consider whether the establishment of an international body with the purpose of dealing with issues relating to a global information highway, would contribute to greater regional growth, or the further spread of American influence.

TABLE 3.0
Interconnection Needs of Northern Community

Individuals to Individuals	People within Organizations And Service Providers	People within Organizations And Sectors	Northern Resources	Training and Support End Users
Artist to artist	Student to tutor	Data communication for social service delivery	Sharing of educational curriculum	Ongoing access to technology experts in educational applications
Student to student	Business person to business infrastructure	Suppliers, buyers and markets	Sharing of vision for communication development	Training for business people to use new technologies
Teacher to teacher	Community video maker to regional communication organization	Hospitals to hospitals	Connect communication organizations	Continued training for doctors and nurses in medical technologies
Business person to business person	Community member to elected representative Patient to hospital Caribou hunter to community harvesting operation	School administrators to school administrator Members of boards Social service fieldworkers for support Decision makers	Share information on government development programs	

(Source: Thomas and Forster, 1993: 6-7)

A third factor which seems to suggest a more economic than social/cultural vision of the information highway in the Council's *Final Report*, is the emphasis on global competition. At present, there is a push for deregulation in the telecommunications industry, which is directly connected to the push for increased global competition. As expressed by the Council, "Competitiveness is indicative of international and domestic success" (IHAC *Final Report*, 1995: 16). Given this claim, it may be anticipated that policy decisions made with regards to the development and implementation of Canada's information highway will be competition-conscious. The Council acknowledges, for instance, that "The market is a powerful force for progress. Competition breeds innovation and innovation leads to productivity, growth and jobs" (IHAC *Final Report*, 1995: 7). An explanation of the alleged link between increased competition and productivity, growth and jobs is not discussed in the Council's *Final Report*, however. In this same regard:

The Council recommends that the government, in its regulatory framework for telecommunications, should act (rec. 1.1 and 2.11) to remove outdated and unnecessary barriers to competition and implement safeguards against anti-competitive practices. Furthermore, a reformed regulatory system should reflect convergence and promote synergy, by, wherever possible, integrating information industry regulations (Rec. 12.4b) (IHAC *Final Report*, 1995: 16).

With regards to competition, the Council is reasoning in terms of global impacts, rather than regional impacts. The focus on the macro implications of policy necessarily overlooks the communications needs of individual Canadian citizens. In several aspects, then, the Council's commitment to linguistic equality on the Canadian information highway is brought into question, when considered in light of the economic thrust of the Council's agenda.

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The annual report of the Commissioner of Official Languages reinforces the argument that the outcome of the Information Highway Advisory Council's *Final Report* is inadequate to deal with the issue of language accessibility on the information highway. In his report, the Commissioner observes that while the IHAC report claims to be committed to reflecting the linguistic duality of Canada (with a prominent place being given to the French language on the information highway):

... the report does not provide much detail about exactly how these goals can be achieved or how generally the Canadian information highway can be used to advance the equality of status and the use of English and French in Canadian society. An unequivocal commitment by the government of Canada to the promotion of both official languages should be a key feature of its strategy for the development of the Canadian information highway (Commissioner of Official Languages, 1996: 12).

Based on the fact that the IHAC *Final Report* does not truly present a consistent action plan for ensuring linguistic accessibility to the information highway for all Canadians, it must therefore be questioned whether the report is truly a step in the direction of linguistic equality.

Global Response to Linguistic Inequality on the Information Highway

While efforts have been made at the national level to consider the question of linguistic equality on the information, steps have also been taken at the international level to acknowledge the issue. At the 1994 Summit of the G7 nations (including Canada, the United States, Japan, the United Kingdom, Germany, Italy and France) held in Naples, Italy, leaders agreed to hold a special G7 summit dedicated to issues relating to the global information highway. The summit, entitled by participants the "Information Society Ministerial

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Conference" was held from February 24-26, 1995 and marked the first gathering of the G7 nations to discuss information technology. The G7 ministers responsible for industry, telecommunications and broadcasting met in Brussels, Belgium, to discuss the future of the global information society. Attending the Summit were Canada's Industry Minister John Manley, then Canadian Heritage Minister Michel Dupuy, Secretary of State Jon Gerrard and others, including David Johnston, chairman of Canada's Information Highway Advisory Council.

The G7 ministers agreed to eight core principles for development of the information society at the February 1995 Summit, including: (1) promoting competition, (2) encouraging private investment, (3) defining an adaptable regulatory framework, (4) providing open access to the networks, (5) while ensuring universal provision of services, (6) promoting equality of opportunity and (7) diversity of content and (8) recognizing need for global co-operation, particularly with less developed countries (G7, 1995: 4). In the view of the G7 ministers, the aforementioned eight principles would be achieved "by means of":

- ▣ promotion of interconnectivity and interoperability
- ▣ developing global markets of networks, services and applications
- ▣ ensuring privacy and data security
- ▣ protecting intellectual property rights
- ▣ co-operating in R&D and in the development of new applications
- ▣ monitoring of the social and societal implications of the information society.

In relation to the issue of ensuring linguistic accessibility to the global information highway, principles numbers five and six are most relevant. According to the theme paper of the G7 Ministerial Conference on the Information Society "Cultural and linguistic aspects of

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the information society are of particular relevance. The nature and operation of the global information infrastructure must respect cultural and linguistic diversities" (G7, 1995: 13). In its own paper outlining the Canadian contribution to the G7 thematic paper on the information society, the Canadian delegation notes that:

Canada recognizes that it is important for local cultural content to be widely available to the world at large, in as many languages of the world as possible. In order to realize the benefits of the information society, the people of the world must see themselves reflected in the context of domestic and international content ... Canada therefore recommends that the objectives encourage all nations to ensure production and distribution of cultural content in their national languages, whether of a knowledge or entertainment nature, through the global information society (Canada, 1995: 4).

By all appearances, the issue of linguistic accessibility to information highway services was a priority issue at the G7 Summit on the Information Society.

Subsequent papers emerging from the Brussels Summit do not indicate a similar concern with linguistic accessibility, however - a factor which seems to suggest that cultural/linguistic considerations included in the Summit thematic paper have been sidelined in favour of economic considerations. In fact, the only reference made to the issue of linguistic accessibility on the global information highway in a post-Summit paper entitled *Building A Global Information Society: A Call for Government Action*, is the brief observation that:

The Global Information Society will need to take account of cultural diversity and languages. Indeed, the global information society should thrive on diversity and promote it [and] identify and dismantle barriers to free trade in content, ensuring the access of content creators and suppliers to infrastructures on a transparent and fair basis, while promoting diversity of content, including cultural and linguistic diversity (G7 Business Roundtable, May 1995: 18).

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The above assertion of G7 business leaders troubled at least four companies participating in the G7 Business Roundtable, namely Canal+, France Telecom, Matra Hachette and Telefonica. In fact, the four companies "expressed their concern in dismantling the only existing protection, the trade barriers, without defining a new solution" (G7 Business Roundtable, May 1995: 18). While promoting the notions of cultural and linguistic diversity, then, the means by which the G7 business community proposes to achieve such diversity are highly questionable.

It might be noted that the strong corporate business slant of proceedings at the Summit on the Information Society was likely due to the overwhelming presence of leaders from the G7 business communities. Companies represented at the Summit included: AT&T, Apple Computer Inc., the BBC, Bell Canada International Inc., Bertelsmann, BT Plc British Telecom, Deutsche Telekom, France Telecom, Mitsubishi Electric, Nippon Steel, NYNEX Corporation, Olivetti, Philips, SEGA Enterprises, Siemens, Silicon Graphics, Teleglobe, Texas Instruments, the Walt Disney Company and Time Warner (G7 Business Roundtable, May 1995: 14-15). Considering the number of high-profile international corporations represented at the Summit on the Information Society, it is not surprising to discover that cultural issues were overshadowed by issues of competition, interconnectivity, interoperability, job creation, global trade and investment, standardization, privacy, data protection and

its *Final Report*, for instance, the Council cites Recommendation 1.4 which states that "The development of the information highway should be technology neutral" (IHAC *Final Report*, 1995: 93). Furthermore, in the view of the Council, "The government should pursue technologically neutral policies; i.e. it should not be selecting the technologies to be used for future service delivery of the information highway" (IHAC *Final Report*, 1995: 93).

According to Cees J. Hamelink, however, the argument made in support of technological neutrality is "an utterly misleading notion" (Hamelink, 1988: 62). In his book *The Technology Gamble: Informatics and Public Policy*, Hamelink explains that

The inherent bias of modern technology generates industrial goods, equipment, processes and services that are suited for the performance of mechanistic tasks and that are ill-suited for the handling of multidimensional tasks. Information technology is a case in point. Most of its products, techniques, and services, such as mass media systems or telecommunications networks, are suited mainly for message transmissions. These reduce human exchanges to audio-visual components which are a weak compensation for the real life encounters they increasingly replace (Hamelink, 1988: 65).

Hamelink further observes that "The barrel of a gun can, if one insists, be used to stir one's tea. It is however, better at killing and will primarily be used certainly for that purpose" (Hamelink, 1988: 62).

In *Global Communication and International Relations*, Howard H. Frederick points out that it is impossible to separate the notion of power from the development of new technologies. In this respect, he argues that:

Technology is not politically neutral. Quite the contrary, it plays an important role in the international distribution of power and the exercise of political, social and economic controls. Like all products of human labour, technology has a social origin. Its development is connected with certain social needs, purposes and practices as perceived

information security, intellectual property rights and education.

Following the G7 Summit of 1994, the issue of French-language accessibility on the information highway was broached at the December 1995 Francophonie Summit in Cotonou, Benin. Comprised of 46 of the world's French-speaking nations, the Francophonie "still claims a major role for itself in the preservation and promotion of the French language, especially in a new world economy dominated by information technology" (Stackhouse, 1995: A2). During his speech at the opening ceremony of the Francophonie Summit on December 2, 1995,

Canadian Prime Minister Jean Chrétien stated that:

The French language is a vehicle with which many peoples, our peoples, have traced the path of their history. In this era of globalization, that path has become a highway, an information highway. A highway which must be incorporated into an extremely complex system of highways, in which this language that we share must make its own way or be left by the wayside. The Francophonie must take the offensive. The phenomenal expansion of automated communications technologies is literally transforming the physical and geographical borders of our countries into virtual borders. The very word *border* becomes obsolete when it is no more than a line drawn in the sand. The line is still moving to find a new word to define it. Mr. President, I hope that the Cotonou Summit will be remembered as the one at which the Francophonie affirmed its resolute determination to take the information highway (Chrétien, 1995: 4).

Another official at the Summit observed that the Francophonie plans to establish a fund to ensure access to the Internet in French. The official indicated that the fund would not create a separate French information highway, however, observing, "We want to build a ramp so French-speaking people can get on it," he said (Stackhouse, 1995: A2). An official Canadian

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document at the Summit called for French to be "established more strongly in diplomacy so that countries whose small Francophone communities wish to establish more diversified relations with members of the Francophonie, can do so on the information highways" (Stackhouse, 1995: A2). At the same Summit, French President Jacques Chirac pointed out that English-language domination not only threatens other tongues but carries with it the risk of reducing all humanity to a single language and culture; in this context, Chirac suggested that the promotion of French was a moral imperative (Maser, 1995: H3). According to Chirac, the right to speak and work and learn and live in French means "the right to think, communicate, feel emotion and pray in a different way" (Maser, 1995: H3). Clearly, the issue of French language accessibility on the information highway is not specific to the French-speaking population of Canada alone, but rather extends to all Francophone nations.

For the most part, Canadian and global responses thus far to the issue of linguistic inequality on the information highway have reflected an economic discourse applied to a set of largely non-economic concerns. In discussing the question of universal linguistic access to the information highway, policy makers have become trapped within their own discourse of economic thought, where language is regarded as a cultural product to be bought, sold and traded for profit in the cultural marketplace. The public policy questions raised by the Information Highway Advisory Council (IHAC) with regards to the issue of linguistic accessibility on the Canadian information highway have been framed within a predominantly

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economic discourse, and as such, render it impossible to speak of language under any other terms. What is required to ensure genuine dialogue on the issue of universal access to information highway services is an alternative form of discourse which allows for the open discussion of linguistic issues in new terms, unfettered by the economic restrictions of mainstream thought. Such an alternative discourse will be explored in Chapter Four

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Chapter Four
Beyond a Principle of Appropriate Technology

One of the fundamental weaknesses of the dominant discourse associated with the development and implementation of the information highway to date has been its dependency on economic rhetoric. In his book *Critique of Economic Reason*, Andre Gorz writes that in our modern times, non-economic values have been increasingly "instrumentalized" for economic ends (O'Brien, 1989: 1). Indeed, in framing the public policy questions for Canada's information highway, the Information Highway Advisory Council (IHAC) has effectively eliminated the opportunity to speak of language and culture in any terms other than economics. When speaking of culture (of which language is a significant component), for instance, the Council emphasizes the economic benefits of a vital, domestic, cultural industry, rather than focusing on the aesthetic and individual benefits of cultivating one's own unique national identity. As such, culture is treated as a product whose value may be determined solely in terms of dollars and cents. From an economic perspective, scholars such as Stephen Brooks contend that:

... the distinction between "economic" and "cultural" is largely artificial. This is most obvious in the case of popular culture and the mass media. Both the advocates and the critics of state protection for Canadian culture are used to making their case in terms of the economic benefits or costs argued to be associated with public support. The communications sector of Canada's economy accounts for a large number of jobs and billions of dollars in annual income - further justification for giving close attention to the economic side of cultural activities (Brooks, 1989: 299-300).

The focus on the economic aspects of culture is evident in the IHAC *Final Report*, which states that:

As the ninth most important industry in Canada in terms of GDP, the arts and cultural sectors are critical to job creation, investment and economic output. Collectively, they generated \$24 billion a year (4 per cent of GDP) in 1992 in direct and indirect

revenues, a 44 per cent increase in current dollars over 1986-1987 (IHAC *Final Report*, 1995: 121).

Given its economic view of culture and, hence, language, the Council appears to consider the relationship between culture and Canadian citizens as one of production and consumption. In this regard, the Council observes that "For Canada's cultural industries, the information highway offers new opportunities to reach consumers around the world" (IHAC *Final Report*, 1995: 25). In economic terms, the success of Canada's cultural industries is measured by market performance, rather than in terms of individual fulfilment. Consequently, "increased global competition" is a popular refrain in public policy among Canada's cultural industries. Ultimately, in the Council's view, it is essential that Canadian cultural industries seek "to better position themselves in domestic and international markets" (IHAC *Final Report*, 1995: 32).

It is important to note that in treating cultural content as a mere cog in the larger economic wheel, however, the information highway itself is often dismissed as a neutral technology. The Council's view of information highway technology may therefore be identified as "instrumentalist". The instrumentalist view proposes that "Artefacts are neutral tools and that their social benefit or cost is determined by the ways in which they are being used. This presupposes the unbiased nature of technical knowledge" (Hamelink, 1988: 62). According to the instrumentalist perspective, the information highway is a technologically neutral apparatus, and as such presents no threat to any particular cultural, social and/or linguistic community. The instrumentalist view of technology is clearly adopted by IHAC. In

its *Final Report*, for instance, the Council cites Recommendation 1.4 which states that "The development of the information highway should be technology neutral" (IHAC *Final Report*, 1995: 93). Furthermore, in the view of the Council, "The government should pursue technologically neutral policies; i.e. it should not be selecting the technologies to be used for future service delivery of the information highway" (IHAC *Final Report*, 1995: 93).

According to Cees J. Hamelink, however, the argument made in support of technological neutrality is "an utterly misleading notion" (Hamelink, 1988: 62). In his book *The Technology Gamble: Informatics and Public Policy*, Hamelink explains that:

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Hamelink further observes that "The barrel of a gun can, if one insists, be used to stir one's tea. It is however, better at killing and will primarily be used certainly for that purpose" (Hamelink, 1988: 62).

In *Global Communication and International Relations*, Howard H. Frederick points out that it is impossible to separate the notion of power from the development of new technologies. In this respect, he argues that:

Technology is not politically neutral. Quite the contrary, it plays an important role in the international distribution of power and the exercise of political, social and economic controls. Like all products of human labour, technology has a social origin. Its development is connected with certain social needs, purposes and practices as perceived

by centres of power (Frederick, 1993: 53)

In Frederick's view, researchers must consider technology in its social and historical context, in order to arrive at an accurate hypothesis. Similarly, Eileen Mahoney observes that "Information and technology are not neutral. The information age is not beyond capitalism, history or politics" (Schiller, 1992: 19). The fact that the information highway has emerged within a capitalist society where consumption is central to the notion of social "progress", necessarily influences the development of the technology itself. In this same regard, Jeremy Tunstall points out that the context must be considered when attempting to ascertain the neutrality of technology. In *The Media Are American*, he observes that "The Anglo-American media – operating in the fields of politics, entertainment, culture and commerce on a world scale – cannot possibly be 'value-neutral'" (Tunstall, 1977: 201). Rather, he reveals that:

... the configuration into which various pieces of technology are arranged and made internationally available reflects the values – political, social and commercial – of the nation where the system was established ... The resulting media are not really value free, they are urban rather than rural; they present WASP culture with some Jewish, Latin and Black support; they are supported by closely interwoven commercial and social science research; Anglo-American media neutrality forms a marriage of convenience and UNESCO media neutrality (Tunstall, 1977: 202).

In Tunstall's view, the political, social and commercial contexts within which technology is developed must be carefully considered. To deny the historical development and power represented by a certain technological development necessarily presents an incomplete picture of the technology itself.

In order to ensure linguistic access on the Canadian information highway, it is therefore necessary to reject the dominant economic discourse which adopts an instrumentalist view

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user donations. Angus and McKie point out that some members of the FreeNet community feel the FreeNets are a public responsibility and should be publicly funded (Angus and McKie, 1994: 71). Others observe that they would welcome the notion of government subsidization of the FreeNets (for equipment and line charges), "until a sufficiently large group of users is attracted to these systems that they could become self-sustaining" (Angus and McKie, 1994: 72). In this same regard, Angus and McKie make the recommendation that "Government support of FreeNets should be linked to objectives and programs to give Canadians greater access to public information" (Angus and McKie, 1994: 72). A corresponding recommendation of the IHAC in its *Final Report* states that:

The federal government, working with other stakeholders wherever applicable, should develop a variety of financial support mechanisms such as tax measures and seed-funding programs to ensure the long-term viability of community networks and to establish and maintain a network of public access points in all communities to enable Canadians lacking other means of access to connect to the information highway (IHAC *Final Report*, 1995: 173).

Given the underlying economic objectives of the federal government with regards to information highway development in Canada, however, it is unlikely that strong government support will be given to the establishment of FreeNet communities across the country. Rather, community interests will likely continue to be overshadowed by government and corporate agendas, leaving communities to create public on-ramps onto the information highway. These public on-ramps allow users to approach the information highway through their own regional points of access. As such, users are not isolated, but rather remain regionally conscious, while at the same time communicating with a vast population of Internet users around the world.

To speak of a technology as being "neutral" is to imply that any range of ends may be attained by the deployment of given means. That is to say, that there is no functional and intrinsic connection between ends and means. Appropriate Technology, in contrast, implies that an intrinsic and functional relationship exists between ends and means: the two are not independent. In other words, ends are inherent in means: given means evoke certain ends (Willoughby, 1990: 275).

Willoughby adds that "The Appropriate Technology notion points to the need for knowledge of a diversity of technical options for given purposes, careful analysis of the local human and natural environment, normative evaluation of alternative options and the exercise of political and technological choice" (Willoughby, 1990: 7). Without rejecting technology completely, then, the notion of Appropriate Technology proposes a more conscious human effort to ensure that technology is developed appropriately to fit the needs of a given community. As such, Appropriate Technology has come to be known as the communications principle of the "optimistic pessimists" (Schumacher, 1974: 284).

Within the context of the Canadian communications industry, it is necessary for Aboriginal and French-speaking communities to apply the concept of Appropriate Technology, in order to ensure their linguistic survival. To this end, many northerners view the emergence of the information highway in Canada as a new opportunity to enhance northern communications, despite the potential threat of language and culture loss. Lorraine Thomas and Anne Forster propose that the adoption of a discourse of Appropriate Technology will eventually lead to greater linguistic equality for Canada's northern users of the information highway. In *Connecting the North: Defining Northern Users' Needs*, they contend that "Technologies chosen for the North will need to enhance and serve Aboriginal languages and

cultures, or they may serve to further the erosion of these cultures and further the dependence southern expertise to define northern development" (Thomas and Forster, 1993: 44). In addition, the IBC "Connecting the North" symposium held November 23-25, 1994, found that "Technology will have a major effect on language and it does not have to be negative. If local people are involved, there will be major improvements in how we deliver programs and knowledge to the community. For many years, we have wanted more culture in schools, therefore the new technology could be used as a means of storing and retrieving information on local culture" (IBC, 1995: 27). In this regard, the IBC final report on "Connecting the North" observes that:

The cultural impact is difficult to predict, but we see the technologies as having the potential to promote culture and language use by allowing communities to communicate both graphically and orally. To reduce any negative impact, partnerships between government and community agencies must play an active role in implementing a communication network (IBC, 1995: 30).

In order to ensure that appropriate technology is developed in conjunction with the "southern" information highway, there is therefore a need for increased funding in R&D endeavours to promote the development of Aboriginal communications technology. The "Connecting the North Symposium" discovered, for instance, that "Geographic, cultural and linguistic differences mean that systems designed for use in southern urban setting may not work in the North. Funding will be required for experimentation, field testing and developing of appropriate software applications and systems" (IBC, 1995: 41). There is also a need for more attentive policy decisions with regards to the implementation of an information highway which fulfils the unique needs of Canada's northern community. In this respect, Richard Collins

points out that "The continuing convergence and interdependence of media, content and carriage suggests that software characteristics notably language and culture will become more and more important foci for communications policy" (Collins, 1994: 396).

Having rejected the dominant economic discourse of the information highway, what is required is a shift from the current rhetoric of product-centred technology employed by the dominant paradigm to a more "community-centred" discourse of Appropriate Technology — a shift which first emerged during the 1970s under the direction of then CRTC Chairman, Pierre Juneau. Marc Raboy reveals in *Missed Opportunities* that on May 13, 1969, the CRTC first "described cable services as 'community programming' and emphasized that they were to be complementary to, rather than competitive with, over-the-air broadcasting" (Raboy, 1990: 196). Resulting from this new community-centred discourse of technology was a move toward community empowerment. One significant area affected by Juneau's new community networks, was the Canadian North. The Inukshuk Project emerged in the 1970s as one of the federally-sponsored endeavours. In essence, the Inukshuk Project permitted residents in six Inuit communities to communicate in their own language via satellite network. As a result of the Inukshuk Project, the Inuit Broadcasting Corporation (IBC) later emerged, when the CRTC recommended the licensing of an Inuit television network. In January 1982, IBC began broadcasting on the CBC northern network. In her article "Inuit on the Airwaves", Debbie Brisebois observes that:

An appropriate application of a communication technology developed in the South and applied in the North can be illustrated by the success of the Inuit Broadcasting Corporation. The visual and oral-based medium of television suits the visual and oral-

based culture of the Inuit. It also supports languages other than English, so that people can easily communicate in Inuktitut (Brisebois, 1994: 1).

Similarly, in her article "Reconfigured Nationhood: A Partisan History of the Inuit Broadcasting Corporation", Laura U. Marks points out that the Inuit Broadcasting Corporation (IBC) has been most effective in applying the concept of appropriate technology to the communications needs of Canada's northern communities. In this regard, she writes that

The IBC is an example of how First Nations people have taken technologies that have colonized them culturally and economically, and turned them to the purpose of cultural renewal. Rather than at the invasion of TV and radio, the Inuit have taken advantage of them as low-cost extensions of traditional teaching and storytelling (Marks, 1994: 4).

As is evident in the case of northern community-centred discourse, it is easier to engage in a wider range of policy discussion when all stakeholders have been brought to the table. It is proposed therefore, that -- as in the case of the IBC -- community-centred discourse must be applied in the development of information highway technology.

Perhaps one of the most promising manifestations of alternative, community-centred discourse, is the development of the FreeNet model, representing regional on-ramps to the information highway. As defined by the Information Highway Advisory Council (IHAC), a FreeNet is a "Non-profit community organization that provides free access to electronic mail and information services and to computer networks such as the Internet" (IHAC *Final Report*, 1995: 194). As of September 1995, there were 28 FreeNets in Canada, with more than 150,000 members (IHAC *Final Report*, 1995: 46). According to Elisabeth Angus and Duncan McKie, in *Canada's Information Highway: Services, Access and Affordability*, FreeNets

provide:

... much-desired community access to other networks, for users in schools, libraries, community centres as well as individual users dialling in from home. To some extent, Freenets are a grassroots community response to lack of affordable access to other networks. They allow the creation of a "critical mass" of users who can communicate with each other and with users far afield, including access to the Internet (Angus and McKie, 1994: 70).

In effect, "FreeNets allow these users to exchange information with each other and can also provide access to wider networks" (Angus and McKie, 1994: 71). The process is therefore decentralized by nature; rather than being organized in a hierarchical (i.e. vertical) structure, FreeNets are horizontal networks which provide on-line network access to as many people as possible (Angus and McKie, 1994: 71). For this reason, many FreeNet users consider the horizontal approach to network communications as "the democratization of technology". In light of the fact that FreeNets challenge the traditional, one-way information flow of public information, it is not surprising to find that the IHAC *Final Report* dismisses FreeNets as "victims of their own success: busy lines often make it difficult to get through" (IHAC *Final Report*, 1995: 46).

Indeed, certain challenges face the FreeNet community, one of which is the overabundance of potential subscribers. Angus and McKie confirm that "The more users (and incoming traffic) a FreeNet has, the more telephone lines it needs to connect its modems to the telephone company's local switch" (Angus and McKie, 1994: 71). More telephone lines lead to an additional challenge: higher connection costs. While FreeNets are "free" to subscribers, then, there do exist certain network costs; to date, these costs have been largely covered by

user donations. Angus and McKie point out that some members of the FreeNet community feel the FreeNets are a public responsibility and should be publicly funded (Angus and McKie, 1994: 71). Others observe that they would welcome the notion of government subsidization of the FreeNets (for equipment and line charges), "until a sufficiently large group of users is attracted to these systems that they could become self-sustaining" (Angus and McKie, 1994: 72). In this same regard, Angus and McKie make the recommendation that "Government support of FreeNets should be linked to objectives and programs to give Canadians greater access to public information" (Angus and McKie, 1994: 72). A corresponding recommendation of the IHAC in its *Final Report* states that:

The federal government, working with other stakeholders wherever applicable, should develop a variety of financial support mechanisms such as tax measures and seed-funding programs to ensure the long-term viability of community networks and to establish and maintain a network of public access points in all communities to enable Canadians lacking other means of access to connect to the information highway (IHAC *Final Report*, 1995: 173).

Given the underlying economic objectives of the federal government with regards to information highway development in Canada, however, it is unlikely that strong government support will be given to the establishment of FreeNet communities across the country. Rather, community interests will likely continue to be overshadowed by government and corporate agendas, leaving communities to create public on-ramps onto the information highway. These public on-ramps allow users to approach the information highway through their own regional points of access. As such, users are not isolated, but rather remain regionally conscious, while at the same time communicating with a vast population of Internet users around the world.

FreeNet Case Study: The Blue Sky FreeNet of Manitoba

In order to observe the effect of an alternative discourse of "community-centred" Appropriate Technology in action, one may consider the Blue Sky FreeNet of Manitoba Inc. Although it is an imperfect model of the ideal notion of applied Appropriate Technology, Blue Sky FreeNet does provide a rudimentary model for open, community-centred, information networking. Based in Winnipeg, Manitoba, Blue Sky FreeNet was founded in January 1994 by a group of Manitoba citizens who shared a vision which would "increase the literacy and prosperity of all Manitobans" (Blue Sky FreeNet, 1994: 9). The mission statement of Blue Sky FreeNet is "To bring free, public access, community-based electronic information services to Manitoba, Canada; to provide community organizations with the means to disseminate information; and to encourage public discussion and education" (Blue Sky FreeNet, 1994: 9). Based upon the mission statement of the Winnipeg FreeNet, it is clear that a community-based discourse is being invoked. The objectives of Blue Sky FreeNet reflect this same prioritization of community needs and interests:

- ☛ To bring free, public access computer-based information services to the citizens of Manitoba.
- ☛ To partner with government and industry to gain equal cost access to FreeNet information, by eliminating user telecommunications charges, or providing alternate access.
- ☛ To create connections with other computer-based networks, to allow the free, interactive flow of information between different community groups.
- ☛ To establish complementary relationships with existing free and fee-for-service computer-based information services in the Manitoba community.

☛ To provide education and training to the community in the access of computer-based community information (Blue Sky FreeNet, 1994: 9).

It is interesting to note that Blue Sky FreeNet also addresses the federal government's three primary objectives for the Canadian information highway (job creation, support of culture and equity of access) from a community-based perspective. In the view of Blue Sky FreeNet, "job creation and economic stimulation will result from increased public literacy both in the real and the technological sense through the elimination of communications barriers and access to public information" (Blue Sky FreeNet, 1994: 10). Rather than approaching the employment issue from a macro (or global) level of analysis, the community network adopts a micro (or regional) level of analysis, which necessarily prioritizes the local community over the international community. With regards to the notion of cultural support, the Blue Sky FreeNet once again adopts a regional approach. According to the Blue Sky FreeNet, "Support of culture will take place through shared exchanges between the mosaic of nations that composes the Manitoba population. Support for both official languages, the mother tongues of immigrant populations and First Nation languages is planned" (Blue Sky FreeNet, 1994: 10). Rather than adopting a principally economic vision of culture, Blue Sky FreeNet emphasizes the importance of local culture and language communities. Finally, in addressing the federal government's third objective with regards to the information highway, Blue Sky FreeNet observes that:

Equity of access by all Manitobans will be achieved through the co-operation and co-ordination of the multiple FreeNets within the province in establishing the FreeNet communications backbone throughout the Province. Public and specialized access terminals will be available in all communities. Arrangements with the telephone, cable

and other carriers will allow the FreeNets to offer no-cost access to all Manitobans and all Manitoba FreeNets (Blue Sky FreeNet, 1994: 10).

Blue Sky FreeNet therefore abandons the federal government's notion of "reasonable" access to "essential" services, and commits to provide all Manitobans with equal access to information highway services. Once again, the dominant discourse is replaced with an alternative vision of the opportunities presented by the information highway for ordinary Canadian citizens.

Other evidence of Blue Sky FreeNet's adoption of an alternative discourse of Appropriate Technology includes the FreeNet's observation that "Equal access to information technology levels the playing field and empowers every citizen, regardless of location or status" (Blue Sky FreeNet, 1994: 1). In addition, Blue Sky FreeNet consistently refers to its users as "citizens"; emphasizes the potential for interactive communication presented by the information network; encourages the sharing of knowledge; while at the same time promoting open access, non-profit public information services, and community priorities. Within the parameters of this community-based dialectic, one may speak freely of ensuring linguistic access to information highway services. Blue Sky FreeNet stresses, for instance, that it can:

Provide the widely-dispersed First Nations bands with a useful means of communication both between the bands themselves and with other similar groups around the world. Using appropriate software and computers, communications and materials may be in languages such as Cree, Ojibway, Dene or Dakota as well as in English or French (Blue Sky FreeNet, 1994: 3).

The application of the principle of Appropriate Technology by Blue Sky FreeNet is evident, while its commitment to ensuring widespread community access is clearly stated. It is a

principal finding of this research paper, that in order to address the issue of linguistic inequality on the information highway, it is necessary to adopt a similar discourse which rejects economic-based evaluation in favour of a community-based application of Appropriate Technology.

Despite its strengths, Blue Sky FreeNet does possess certain notable weaknesses. FreeNet experts point out, for instance, that Blue Sky FreeNet was in fact initially established with limited input from community members, thus emerging as a "top-down" information network. It may be argued, however, that this "top-down" approach is common to the development of many, if not most, community information networks. The need for technological apparatuses and technical expertise in order to establish the FreeNets often encourages the involvement of government and/or private interests. In order to ensure the emergence of true, community-centred information networks, however, it is necessary to abandon the "top-down" approach of establishing FreeNets. Communities must pool their own resources in order to produce a genuine "grass-roots" information network which reflects the interests of the community as a whole, rather than the minority interest of government and private enterprise. In so doing, communities will ensure the maintenance of community dialogue across the nation. While it remains important in the age of the "global village" to communicate internationally, it is imperative that communication lines remain open among Canadian communities from coast to coast. In so doing, Canadian citizens will ensure that regional issues are discussed in an open forum of public debate, rather than being overshadowed by issues of more general importance.

Reframing the Information Highway Policy Questions

Having adopted an alternative discourse of Appropriate Technology within which to discuss the development and implementation of Canada's information highway, the next step is to re-think the framework of public policy questions raised by IHAC. In creating public policy for the information highway which not only implies but openly advocates the application of Appropriate Technology, there is a need for a reframing of the central policy questions. In so doing, it is necessary to ensure the revised public policy issues reflect not only the interests of Canada's corporate community, but also individual Canadian citizens. For this reason, a revised list of the Council's 15 public policy issues is offered in the pages which follow. The list of revised policy issues is based upon the rationale that in order to develop effective and comprehensive legislation to govern the information highway, a community-centred discourse must be adopted. The alternative discourse adopted must reflect the special needs and considerations of individual communities, rather than adopting a purely instrumentalist view of information highway technology.

There are certainly more than 15 public policy questions which may be raised by the development and implementation of the information highway in Canada; yet, the revised list of 15 issues allows more room to address the important questions in terms of community interest, rather than the economic interests of government and corporate alone.

1. How fast should the advanced network infrastructure be built? How will network improvements be financed?

Revision: What are the real costs of establishing an advanced Canadian network

infrastructure? Who will finance the building of the network and to what extent will the resulting technology reflect the interests of its financiers?

II. What is the proper balance between competition and regulation?

Revision: What is the proper balance between corporate and community interests?

III. Should requirements for Canadian ownership and control of communications networks be reviewed?

Revision: Do current requirements for Canadian ownership and control of communications networks benefit foreign interests or those of Canadian communities? To what extent do foreign interests shape the content of communications networks in Canada?

IV. How quickly can Canadian industries move toward universal standards and how should these standards be determined?

Revision: How may the Canadian information highway be individualized in order to provide open community access and empowerment?

V. How can the federal government co-ordinate its activities with other governments?

Revision: How can Canadian communities co-ordinate their activities with other communities at home and abroad, without compromising the unique needs of Canada's diverse cultural and language communities?

VI. How should copyright and intellectual property issues be addressed?

Revision: How can we ensure the protection of Canadian creators on the information highway?

VII. What measures are needed to support Canadian cultural and other content-based products and services?

Revision: What measures are needed to ensure the protection of Canadian cultural artefacts on the information highway?

VIII. What controls, if any, should be placed on the information that is put on the network?

Revision: How can we assure individual and community empowerment through the creation of the Canadian information highway? What individual freedoms will be threatened by controls placed on the information highway?

IX How can the information highway be used to improve government services to the public?

Revision: How can the information highway be used to ensure fair and equal treatment of all citizens by the Canadian government?

X. How can personal privacy and security of information be protected?

Revision: How can we create a balance between personal privacy/security and open access to public information on the Canadian information highway?

XI. How can we ensure that Canadian information industries take full advantage of the R&D and technological development opportunities presented by the information highway?

Revision: How can we ensure that communities will take full advantage of the unique, culture-enhancing features of the Canadian information highway?

XII. How can the information highway best be used to improve the growth and competitiveness of all Canadian businesses, especially small and medium-sized enterprises, throughout Canada?

Revision: How can the information highway best be used to revitalize and reinforce the process of democratization within Canada?

XIII. How can Canadians be assured of universal access to essential services at reasonable cost?

Revision: How can Canadians be assured open access - regardless of age, gender, education, profession, income, class or language - to all services on the Canadian information highway?

XIV. What consumer awareness and learning opportunities should be provided to enable Canadians to be effective users of the information highway?

Revision: How can we make Canadian citizens more aware of the community-enhancing avenues available on the information highway?

XV. What opportunities does the information highway present to improve government operations?

Revision: What opportunities does the information highway present to ensure the just and fair representation of all citizens in Canada?

The application of a discourse of Appropriate Technology in developing and implementing the information highway is imperative if Canada's non English-speaking communities are to enjoy open access to services on the Canadian information highway. For this reason, revising the list of public policy questions raised by IHAC to reflect a more community-oriented communications plan, is a significant first step toward breaking free of the instrumentalist tunnel-vision of the economic sector.

Beyond a Principle of Appropriate Technology

Beyond the adoption of a discourse of Appropriate Technology, there exists a real need for a redefinition of the social institutions and values which are reflected in public policy. As Alain Touraine observes in *Critique of Modernity*, the new social movements of the late twentieth century are revealing a new generation of social and cultural problems and conflicts. The conflict is no longer about who controls the means of production, but one over the goal of cultural production, including areas such as education, health care and mass information (Touraine, 1995:246). Touraine further notes that "the greatest challenges to the establishment now have an ethical basis, not because collective action is powerless, but because domination now affects bodies and souls", rather than external conditions alone (Touraine, 1995: 247).

Hence, there is a shift from "political action and economic themes to personal and ethical themes" (Touraine, 1995: 248). In Touraine's view, "the new social movements speak of self-management rather than the meaning of history, of internal democracy rather than the seizure of power" (Touraine, 1995: 248). The new social movements are therefore looking inward for freedom, rather than to external forces.

As David Dickson observes in "Political and Technological Change", it is impossible to consider technological change (i.e. external change) without also considering the social and political context (i.e. internal change) which accompanies the new technology. In this regard, he observes that:

To the extent that technology becomes not only a function of, but in fact an integral part of the dominant political interests, it is impossible to think in terms of technological change unless we are simultaneously prepared to consider the need for social and political change. Indeed, it is only through political change, and in particular through achieving liberation from the economic and political shackles of a dominant class, that the possibility of significant technological change can emerge. The category of 'inappropriateness' in technology, as that to underdevelopment in general, is the inevitable function of a world trade system that reinforces the supremacy of the united interests of foreign capital and an indigenous elite: technology becomes one of the prime means by which this supremacy is maintained (Carr, 1985: 29-30).

Without social and political change, Dickson argues the principles of Appropriate Technology will never be successfully applied in practice. Similarly, Willoughby observes that "the serious obstacles to Appropriate Technology are meta-technical: they are primarily social and political in nature" (Willoughby, 1990: 334). Just as Touraine's subject within the social movement must overcome both internal and external obstacles, so too must community-centred interests battle to overcome the external (i.e. lack of technical expertise and technological

apparatuses) and internal (i.e. social, economic and political barrier) restraints of the dominant paradigm.

E.F. Schumacher goes one step further in suggesting that what is required is a re-thinking of technology as a social construct. According to Schumacher:

What we need are what I call optimistic pessimists who can see clearly that we can't continue as before, but who have enough vigour and joyfulness to say all right, so we change course. I know it can be done and it will be done if people are not paralysed by either the optimists or the pessimists (Schumacher, 1974: 284).

Indeed, this thesis proposes that the most effective opposition to the dominant discourse and ideology of the ruling class is an organized, grassroots resistance. Community empowerment comes only when citizens dare to form their own alternative discourse within which to frame those issues which affect them the most as individuals and communities. To this end, the application of the principle of Appropriate Technology has been proposed. As Willoughby observes, through the principle of Appropriate Technology "a diverse range of human concerns and environmental issues may be viewed from the common perspective of technology practice" (Willoughby, 1990: 337) - including issues of technical-empirical, socio-political and ethical-personal importance. The principle of Appropriate Technology therefore provides a powerful, alternative discourse, within which to discuss such social issues as linguistic equality on the information highway. E.F. Schumacher notes in *Small is Beautiful: A Study of Economics as if People Mattered*:

It is widely accepted that politics is too important a matter to be left to experts. Today, the main content of politics is economics, and the main content of economics is technology. If politics cannot be left to the experts, neither can economics and technology. The case for hope rests on the fact that ordinary people are often able to

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take a wider view, and a more "humanistic" view, than is normally being taken by experts. The power of ordinary people, who today tend to feel utterly powerless, does not lie in starting new lines of action, but in placing their sympathy and support with minority groups which have already started (Schumacher, 1973: 213).

The onus for the development of effective information networks which reflect community interests and hence, the linguistic and cultural particularities of a region, rests on ordinary Canadians. Through the window of an alternative discourse of Appropriate Technology, it is possible to envision a nation within which myriad languages and cultures may be equally represented through community collaboration.

CONCLUSION

In order to deal effectively with the issue of linguistic access on the information highway, one must reject the dominant economic discourse, in favour of an alternative discourse of Appropriate Technology. The alternative discourse of Appropriate Technology allows researchers to explore non-economic concerns in non-economic terms. It also rejects the instrumentalist view of technology and the value-neutrality of technology. In recognizing that technology has emerged and developed within a given culture which carries its own values and ideologies, supporters of the Appropriate Technology theory contend that it is not taken for granted that one technology may simply be imposed on a given community. Rather, the technology must be shaped and moulded by the residents of that community — not an outside source — in order to ensure equality and universal accessibility.

Having moved toward an alternative discourse of Appropriate Technology, the issue of linguistic access on the information highway has been explored from a community centred perspective. This shift from an economic (or macro) level of analysis to a more community-oriented (or micro) level of analysis, allows the free movement toward concrete solutions to the challenge of ensuring linguistic access. Using the principle of Appropriate Technology, the FreeNet phenomenon has been examined and recommendations made for the regional development of information highway on-ramps. The FreeNet model — which emphasizes interactive communication, the sharing of knowledge between citizens, non-profit information services and community priorities — is one where Appropriate Technology is central. In the future, communities must pool their own resources and develop their own community

networks, in an effort to produce a genuine grassroots movement toward the principle of **Appropriate Technology**.

While at times it may be tempting to overemphasize the role of technology in communications research, it is vitally important that the social and political conditions which surround a new technology be examined as well. Furthermore, it is necessary to modify not only the technology to ensure it is appropriate, but also social and political attitudes, to ensure they reinforce the notion of **Appropriate Technology**. Ensuring linguistic access on the information highway is not an issue which may be left to the political leaders of our day. Rather, the onus is on ordinary citizens to ensure that their individual needs are being met. Only then will universal access become a reality for all language communities.

APPENDIX
Summary of Researcher's Recommendations for
the Development and Implementation of
the Information Highway

APPENDIX I

Summary of Researcher's Recommendations for the Development and Implementation of the Information Highway in Canada

Researcher's Recommendation 1.0 Language must be recognized as a cultural issue, rather than one of economics.

Researcher's Recommendation 2.0 Public policy makers must acknowledge that technology is value-laden and formulate policy accordingly.

Researcher's Recommendation 3.0 Human beings must be recognized as integral components in the development of new information technologies.

Researcher's Recommendation 4.0 Techno-central public policy must be abandoned in favour of community-centred public policy.

Researcher's Recommendation 5.0 Public policy makers must abandon the prevailing economic discourse of mainstream society in favour of an alternative form of discourse.

Researcher's Recommendation 6.0 Public policy makers must adopt an alternative discourse of Appropriate Technology.

Researcher's Recommendation 7.0 French and Aboriginal content on the Canadian information highway must be ensured through the research and development of new French and Aboriginal-language software.

Researcher's Recommendation 8.0 Increased bandwidth is required to support the syllabics, diacritics and orthographies of the French and Aboriginal languages on the Canadian information highway.

Researcher's Recommendation 9.0 Multilingual terminology must be developed in technical discourse, to allow widespread access and understanding.

Researcher's Recommendation 10.0 Information highway users must be recognized as citizens, rather than consumers.

Researcher's Recommendation 11.0 Emphasis must be placed on the development of

regional enhancement of information highway services, rather than the increased globalization of services.

Researcher's Recommendation 12.0 Public policy must support individualization rather than the standardization of information highway services.

Researcher's Recommendation 13.0 Centralized systems of information networking must be decentralized.

Researcher's Recommendation 14.0 A principle of horizontal rather than vertical organization must be adopted with regards to information highway services.

Researcher's Recommendation 15.0 The principle of mass production must be rejected in favour of the principle of production by the masses, thereby encouraging community empowerment.

Researcher's Recommendation 16.0 The principle of open rather than reasonable access must be reflected in information highway public policy.

Researcher's Recommendation 17.0 Government control over regional information networks must be reduced, while at the same time increasing community and individual control over information highway services.

Researcher's Recommendation 18.0 Bi-directional rather than one-way communication must be encouraged between citizens, in order to provide a microphone for the community voice.

Researcher's Recommendation 19.0 Information sharing must be the focus of public policy, rather than information commodification.

Researcher's Recommendation 20.0 Non-profit public information services must be established and commercial information services avoided.

Researcher's Recommendation 21.0 The federal government must provide additional funding for the development of community FreeNets across Canada.

Researcher's Recommendation 22.0 Communities across Canada should pool their resources (i.e. technical skill, technological apparatuses) in order to ensure a true grass-roots movement.

Researcher's Recommendation 23.0 Discussion amongst Canadian information highway users must not be replaced by international discussions amongst Canadian and foreign users.

Researcher's Recommendation 24.0 In order for Canadians to maintain a constructive dialogue on issues of national importance, it is integral that all citizens - regardless of age, nationality, gender, education, profession, class or language - enjoy universal access to information highway services.

Researcher's Recommendation 25.0 Internal structures must be altered in order to guarantee universal access to information highway services in Canada.

Researcher's Recommendation 26.0 Social, economic and political institutions must be restructured, in order to allow for a nation-wide, internal democratization.

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