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THE MYTH OF THE GII:
Who Does It Benefit?

by

JODY LYNN NASSR, B.A.

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

Master of Arts

School of Journalism and Communication

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Ottawa, Ontario
April, 1997
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**The Myth of the GII:
Who Does It Benefit?**

submitted by Jody Nassr, B.A.
in partial fulfilment of the requirements for
the degree of Master of Arts

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ABSTRACT

The thesis compares the Global Information Infrastructure (GII) initiative to a similar, but unrealized call for universal access to telecommunications put forward by the Maitland Commission in 1984. Within a political economy framework, it argues that the GII is also unlikely to materialize as a truly universal “network of networks” and, therefore, as a means by which international development can occur. As a conduit for the information commodity, the GII is likely to reach only the urban centers of the developing countries wherein lie concentrations of both capital and consumers. Conversely, because of the lack of economic incentives, investment in telecommunications infrastructures in remote, sparsely populated areas of developing countries is highly improbable.

Because the GII initiative is pursued nevertheless, the thesis argues that the GII has become a modern-day myth. It employs Roland Barthes’ mythological analysis to examine the language and symbols used in the print media in support of the GII initiative and exposes the techniques that generate and perpetuated the GII myth, which, in turn, serves the interests of the global elite.

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Chapter One: An Introduction

The objective of this thesis is twofold. First, it examines the global telecommunications initiative, the Global Information Infrastructure (GII) —as it is described and promoted by American Vice President Al Gore—in order to determine whether the GI and its supposed concomitant benefits are likely to be realized. The analysis of the likelihood of the GI is made in the light of a similar vision of global interconnectivity described by the Maitland Commission in 1984, whose recommendations for the installation of basic telephone service within the reach of every person on earth, have not been realized. Second, the thesis sets out to determine if the GI has become mythologized, and if so, how and why it has become so.

What follows in this introduction is the background to the subject being examined, a sketch of the theoretical lens through which the subject is being viewed, a description of the methodology used for the analysis, and an outline of the thesis chapters.

Background

Developers of information and communication technologies — satellite, television, computer, cellular, telephone switching, wireless and cable technologies, etc.—are refining the means to converge these heretofore distinct technologies into one interactive communication/information system. This system is often referred to as “The Information Highway,” or “The Information Superhighway” and it is supposed to be the essential component, the backbone, of economic life in what has been termed the “Information Age.”

Many developed countries are in the process of establishing their own national information highways or NII's (National Information Infrastructures). With a small leap of the imagination, one can envision a time when all of the world's NII's might be interconnected to create one global telecommunications network. This vision is not the stuff of science fiction, it is the working concept behind the countless speeches, conferences, papers and policies that have been prepared in anticipation of just such a Global Information Infrastructure, or GII. One outspoken “visionary” of the GII is American Vice President Al Gore, who stated in a speech to the World Telecommunications Development Conference in April, 1994:

...the President of the United States and I believe that an essential prerequisite to sustainable development, for all members of the human family, is the creation of this network of networks. To accomplish this purpose, legislators, regulators, and business people must do this: build and operate a Global Information Infrastructure. This GII will circle the globe with information superhighways on which all people can travel... From these

connections we will derive robust and sustainable economic progress, strong democracies, better solutions to global and local environmental challenges, improved health care, and—ultimately—a greater sense of shared stewardship of our small planet.

(Gore: 1994)

Gore's quest for the GII has been termed the "shared vision," perhaps to indicate that most people who have given thought to the issue have come to the same conclusion: build and operate a Global Information Infrastructure. Yet that conclusion is not new. In 1982, the United Nations' International Telecommunication Union established a Commission¹, headed by Sir Donald Maitland, whose task it was to examine the state of world telecommunication development. The Maitland Commission, as it has become known, presented its findings in 1984 in the report "The Missing Link: Report of the Independent Commission for World-Wide Telecommunications Development." The report states that:

Dramatic advances in the technology of telecommunications are taking place at a time when the role telecommunications can play in economic and social development throughout the world is more important than ever. It is our considered view that henceforward no development program of any country should be regarded as balanced, properly integrated or likely to be effective unless it includes a full and appropriate role for telecommunications, and accords a corresponding priority to the improvement and expansion of telecommunications.

(ICWWTD, 1984: 11)

The Maitland Commission maintained that, with a concerted effort on the part of the industrialized countries, all of mankind should be within easy reach of a

¹ The Commission was set up by a resolution of the International Telecommunication Union, a United Nations organization, in 1982.

telephone by the early part of the second millenium. It also suggested that the system by which the telephone network should operate be "wholly digital" state-of-the-art technology to accommodate advances in voice, text and video transmission, even though the use of such technology in developing countries would be, at first, insignificant. These recommendations were seen as the essential steps that a developing country would have to take if it wanted to move out of its chronic state of underdevelopment and its dependency on "first world" countries. Yet, despite the call for the world-wide implementation of even the most basic (analog telephone) telecommunication technologies, little has changed in the state of the world's interconnectedness since the Commission produced its recommendations.²

Nevertheless, without referring to the Maitland initiative or considering the reasons for its failure, Gore advanced the Maitland recommendations on a much grander scale. He stated, "...we cannot be complacent about the disparity between the high and low income nations, whether in how many phones are available to people or in whether they have such new technologies as high speed computer networks or videoconferencing" (Gore, 1994). What the under-developed countries of the world need, he continued, are the state-of-the-art modern technologies of communication because "a primitive tele communications system causes poor economic development" (Gore, 1994).

Yet, that very fact begs the question: If the call for world-wide basic telephone service (whether it is based on integrated digital networks or "primitive"

² In 1983, there were 370,408,000 telephone mainlines in the world. Low income countries shared 2.2% of these mainlines, amounting to a teledensity (number of telephone lines per 100 population) of 0.31. In 1992, there were 574,352,000 mainlines in the world. Low income countries shared only 4.5% of the total mainlines, leaving them a teledensity of 0.80.

technology) has not been answered in twelve years, can it be expected that the fiber-optic cables and digital streams of the GII — a system whose cost will be significant even for the *industrialized* countries—will reach beyond the borders and urban centers of the underdeveloped nations and into the homes of their rural, mostly impoverished citizens in the foreseeable future? In other words, can the GII be built in light of the fact that simple telephone technology has yet to reach most of the world's population?

The following thesis determines whether the GII "shared vision" is just that—a vision. By comparing the documentation of the Maitland Commission to the documents pertaining to the GII, drawing out the similarities in terms of their goals and recommendations, and determining whether the obstacles (or the realities) that prevented Maitland's recommendations from being fulfilled still exist, the thesis determines whether the building of the GII will be encumbered by those same obstacles, and, therefore, to what extent the GII can be achieved in the foreseeable future. Will the new technologies, like the telephone today, primarily reach the urban centers of the world? Will they, for the most part, connect the elites of one nation to the elites of another? Who will they benefit most, and how? At whose expense? These questions cannot be answered definitively. However, the thesis argues that there is strong evidence to suggest that the implementation and use of the new technologies will benefit, for the most part, a relatively small group of elites and will be concentrated in the urban centers of developing countries.

The title of the thesis indicates that there is a mythological dimension to the GII "shared vision" that needs to be examined. The "shared vision" is driving the

research and development effort of many of the companies in the telecommunication (and related) industry, and receives a tremendous amount of government funding, media attention and popular support. Relative to the enthusiasm for it, there is little criticism of the GII initiative or of its technologies in terms of any negative consequences—economic, political, social, or cultural—that may arise as a result of its implementation. That the building of the GII may benefit certain individuals or groups far more than others, or that it may even cause others to become disadvantaged seems not to be an issue. Finally, and perhaps most importantly, there is no evident concern for the possible failure of the GII initiative in light of the failed Maitland initiative. On the contrary, there is little question of the inevitability of the GII; most media coverage of the subject, for example, has not asked *whether* or *why*, but *when*, the GII will be in place. In this way, the GII has taken on mythological characteristics.

Myth is a system of communication, a type of speech whose messages are contained in words, pictures, objects and actions/situations. Mythology, the study of myth, falls under the rubric of semiology, the science of signs, but also draws on ideology, the study of ideas; as Roland Barthes describes it, mythology studies “ideas-in-form” (Barthes, 1957: 112). Barthes’ analysis of mythologies is relevant to understanding the popularity of the GII (or information technologies in general), for, as Timothy Lukes contends, “the rise of informational societies arguably places a high premium upon the professional study of codes and communication” (Lukes, 1995: 8).

Perhaps the GII myth is one particularly worthy of study because it is a system of communication *about* a communication system, and its ideological messages,

therefore, may be particularly well hidden or “naturalized,” as Barthes would argue. In his book Mythologies, he defines naturalization as “what-goes-without-saying” (Barthes, 1957: 11). When, in the popular media, nature and history are confused, when something goes without saying or is assumed without question or criticism, it has become naturalized. That, says Barthes, is a form of “ideological abuse” (Barthes, 1957: 11).

With respect to the new information technologies, the mass media have done little to question, and a lot to bolster, the GII, and therefore may be one of the foremost “naturalizers” of the GII. For example, the prevailing contention that “(c)ountries and companies will not be able to compete in the global economy if they cannot get access to up-to-date information, if they cannot communicate instantly with customers around the globe,” (Gore, 1994) is part of the argument for the building of the GII. Yet, upon closer analysis, it really speaks of the importance of having access to the GII as though it were *already built*. In this sense, the GII has been naturalized; it already exists. The media have delivered this same message over and over, in the form of product advertising, newspaper and magazine articles, television documentaries, career ads and so forth.

Even on the level of popular culture, the “reality” of living in a high-tech, interconnected world has been written into screenplays, novels, comic books and music. And while these vehicles of popular entertainment often show both the benefits and the dangers associated with computer/telecommunications technologies, there are few which question that the wired world is inevitable and that it will benefit almost everyone.

That the media repeat the “global village” mantra daily, and that there is little objection or criticism on the part of the media consumer, lends credence to the theory that many or even most Western people must obtain some benefit by believing in the myth; otherwise there would be no reason to accept it. Therefore, it may not be just “elites” who contribute to the process of myth building, although they are the group who stand to gain most by its existence.

The second part of the thesis, then, ascertains whether and how the GII has been mythologized, and describes the characteristics of that myth. It determines who has created the myth, why it is being perpetuated, and, perhaps most importantly, who benefits—and in what ways—by the ideological messages it carries.

Theoretical Lens

In his book, Communication and the Transformation of Economics (1995), Robert Babe describes and contrasts neoclassical economic theory and political economy, and then goes on to identify three theoretical streams of political economy, one of which is drawn upon for the purpose of this thesis.

Why Political Economy?

The prevalent economic discourse in Western countries (and increasingly in Eastern and “Third World” countries), can safely be described as neoclassical. Among other things, this view considers the realm of economics to be analytically separate from social, political and cultural realms, thereby allowing its practitioners to isolate the market—the epicenter of economic analysis—and subject it to “scientific” laws. The neoconservative world, say Sussman and Lent, is a world “of supposedly mathematically derived ‘laws’ of social transaction, governed by ‘rational choice,’ which, in reality, largely ignores the social-historical origins and current existence of economically unequal stakeholders” (1991: 2). Disengaged from the analysis of human agency and unequal distribution and deployment of power, for example, neoclassical economics “exaggerates the prevalence and efficacy of Market as Mechanism, and blinds spectators and analysts to problems of human suffering and to the existence, use/misuse of economic power” (Babe, 1995: 71).

Conversely, political economy reintegrates the economic and political realms, addressing the impact and the influence that each has upon the other. The

political economy of communication is a critical approach to the subject and “is concerned with the question of power and how it is appropriated and mobilized for achieving interest objectives, including how the design and uses of advanced communication and information technologies help to insulate the small number of high-stakes players” (Sussman & Lent, 1991: 2). In short, political economy studies the economy as a system of power and a site for conflict and social change because human agents or actors with unequal access to resources are involved in its organization and function.

The GII documentation and the Maitland Commission’s report require analysis from the theoretical perspective of political economy precisely because they are initiatives that perfectly illustrate the interrelation between government and business, or politics and the economy. Their analysis is informed, first, by the general precept of political economic theory: that one cannot analyze the economy in isolation of other socio-political structures.

Through this theoretical lens, one would note, for example, that it was **government**, embodied in the personage of US Vice President Al Gore, that was proposing the building of the GII to business and government, (the telecommunications “decision-makers”), at the World Telecommunications Development Conference in 1994. Government is here representing the interests of huge multinational corporations in urging other countries to “buy into” the GII concept.

With respect to the Maitland Commission, political economy points out that as it examined the state of telecommunications development in the world, the

Commission did not accept or solicit submissions from interest groups and other non-governmental organizations who might be well placed to comment upon it. Instead, the Commission, comprising “high-profile” government officials and business executives, accepted funding and donations in kind from several multinational telecommunication developers from industrialized countries as it “independently” undertook its examination of a selected body of documentation. This documentation included studies published by the International Telecommunication Union (or the ITU, whose membership comprises government and business leaders), the Organization for Economic Cooperation and Development (or the OECD, an organization of Western countries whose purpose it is to further economic growth and, to that end, promote technical analysis of economic trends), and books written from an uncritical, pro-business perspective.

It is the business of political economy to note, and examine the possible repercussions of, the links between government and business and the omission of other interest groups and non-governmental organizations.

Which Political Economy?

Babe identifies three streams of political economy that have some important differences in terms of their main positions, yet share some fundamental principles. They are liberal, Marxist, and institutionalist political economy.

Liberal political economy arose after the publication of Adam Smith’s *The Wealth of Nations* (1776), and holds that a “free” and competitive market will lead to

economic prosperity for all. While cognizant that competition will also lead to the elimination of the weaker competitors, liberal political economists advocate government intervention in the marketplace to prevent monopolies and preserve competition, and to enact social measures to redress inequities or misfortunes that may occur as a result of market failures and/or imbalances.

Karl Marx believed that because “the Executive of the modern state is but a committee for managing the common affairs of the bourgeoisie,” (Babe, 1995: 74), government would not intervene in the marketplace by placing restrictions on market concentration. The process of production, and not the marketplace, was Marx’s center of analysis and he maintained that workers’ consciousness and acceptance of their class-divided world was formed as a result of the method, and ownership of the means, of production. He saw that labour was treated as a commodity, and that workers were being used to achieve wealth for the bourgeoisie. The exploitation of labour would end, he believed, only when private ownership of the means of production ended.

Today, says Babe, contemporary Marxist political economists are less prone to base their analyses of, say, the “effects” of communication and information technologies on the conditions of production. They are more likely to focus on the idea of consent or **hegemony** whereby workers and citizens agree to the conditions of their world as a result of being enveloped in an ideology that is nurtured by the mass media because the mainstream media are owned by the elite and operate under the same economic and ideological conditions. It is no wonder, then, that neoclassical economics is the “mainstream” discipline, and that alternatives to the status quo are given scant publicity.

Institutionalist political economy sees the market as an expression or manifestation of the prevailing organization of its institutions, not as the determining factor of the organization of society. The economy, to institutionalists, is an evolving, dynamic and unpredictable thing. They believe that Marxist class analysis is simplistic, and view conflict as something that occurs within, as well as between, classes.

The analysis of the GII initiative draws upon the work of contemporary Marxist political economists (or “neo-Marxian” political economy). While liberal political economists may dream of a beneficent state intervening on behalf of its citizenry, the ongoing promotion of privatization and deregulation, as well as increased concentration in the telecommunications industry, indicates that the state is in fact acting (or not acting) on behalf of the bourgeoisie. And while institutionalists may be correct in noting that conflict occurs within and between classes, contemporary Marxists show that the more significant conflict—that which affects our individual and collective well-being—does indeed occur between classes. For example, Babe notes that globalization, a trend being realized through free trade and “Information Highway” initiatives, is “all about increased global divisions of labour, increased trade, increased production, and greater waste” (Babe, 1995: 208). Each and all of these things result in an increase in the gap between existing classes and are incompatible with the concept of sustainable development.

The thesis, then, is written from the camp of contemporary Marxist political economy (which has not diverted greatly from Marx’s precepts, yet adds to his

theory other analyses of power, such as the concept of hegemony), and draws its support from some important Marxist theorists, many of whom are specialized in the political economy of information and communication (technologies).

Narrowing the Scope:

The “Filters” of Commodification, Structuration and Semiology

Through the lens of contemporary Marxist political economy, and as it pertains to information and communication technologies, there are several filters of analysis; some Marxist theorists cut through the standard rhetoric of the Information Highway by filtering out class division, allowing them to see how access to information (or lack thereof) will create a growing gap between the information haves and have-nots. By filtering out labour, other theorists focus on how the global reach of information technologies leads to the growing power of transnational corporations over labour. This thesis is written with a view through the filters of commodification, structuration and semiology, described below.

Commodification

With respect to communication studies, commodification theory contends that information has become a commodity, and, as such, is central to capitalism and the expansion of the American (or Western) “empire.”

Commodification has been defined as “the process of taking goods and services which are valued for their use, e.g., food to satisfy hunger, stories for

communication, and transforming them into commodities which are valued for what they can earn in the marketplace, e.g., markets for food, commercial television" (Mosco, 1995: 18). The political economy of communication places importance on understanding that communication technologies and practices contribute significantly to the commodification process, and that structural forms, namely business and government, are responsible for the "production, distribution, and exchange of communication commodities and for the regulation of the communication marketplace" (Mosco, 1995: 19). When information becomes a commodity, the effects on the social, political, cultural and economic environment can be serious, and warrant further examination.

Drawing from commodification theory, the thesis examines the extent to which elite persons and groups in business and government are promoting the GII so as to expand capitalism, commodify information and communication practices, and add value to traditional commodities through the use of communication and information technologies.

Structuration

Structuration, another area of analysis of political economy, helps to balance the focus on business and government by introducing the ideas of social practice, social process and agency (Mosco, 1995: 24) into the study of social relations, particularly power relations. For example, structuration recognizes that hegemony is a social process, a construct, where hegemony is defined as

what comes to be incorporated and contested as the taken-for-granted, common sense, natural way of thinking about the world,

including everything from cosmology through ethics to everyday social practices. Hegemony is a lived network of *mutually constituting meanings and values*, which, as they are experienced as practices, appear to be mutually confirming.

(Mosco, 1995: 26 – my emphasis)

Thus, structuration theory refutes any notion of “conspiracy,” which holds that the bourgeoisie conspire, as an elite group, to dupe the ignorant masses into acceptance of their exploitation. Structuration theory, therefore, can effectively be used to describe the social relations/conditions that serve as the environment within which the GII myth can be built and believed. As Anthony Giddens has stated, the theory of structuration is nothing more than a social theory which encompasses issues having to do with “the nature of human action and the acting self; with how interaction should be conceptualized and its relation to institutions; and with grasping the practical connotations of social analysis” (Giddens, 1984: xvii).

Semiology

The weakness in structuration theory is that it does not go deeply enough into the processes of language and symbolism, which, together, help to construct the modern-day myths that allow hegemony to occur. Political economy, whether liberal, Marxist or institutionalist, is also lacking deeper analysis in this area, although, as Babe notes, political economy is well-suited to seek out and identify the various myths that “mainline scholarship” uses to legitimize and maintain the status quo or to create a persistent hegemony.

...political economists writing in or from an economics tradition acknowledge the importance to economic affairs of the symbolic. Belief, knowledge, myth, 'common sense,' ideology—all contribute to the political economy framework within which goods are exchanged. Indeed, the very discipline of neoclassical economics can be interpreted and analyzed as a symbolic or rhetorical system, serving to condition the economic system that it purports to describe.

(Babe, 1995: 63)

Babe identifies three common mythologies that, separately and together, help to create the conditions under which unequal distributions of power and wealth can operate without question and seemingly “naturally,” even to those who are most disadvantaged by those conditions. They are the myths of the Market, of Technology and of Evolution, and they will be discussed in greater detail in the body of the thesis. The GII has gained its mythic characteristics and proportions as a result of being illuminated and magnified by all three mythologies, and the job of political economy is to deconstruct these myths to expose the centers of power behind them. But it is Barthes’ analysis of modern day mythologies—itsself based on Saussure’s semiological analysis of “the processes of meaning by which the bourgeoisie converts its historical class-culture into universal nature” (Barthes,1957)—that describes the way in which the symbols and signs of the myth can be made to mean.

Though the mass media help to produce and reproduce the GII myth by their delivery of carefully constructed “sign systems,” government-sponsored initiatives, such as commissions, task forces, etc., and the international symposia and conferences sponsored by both government and private industry, are equally effective sign systems that serve to give the myth of the GII greater currency. Using both structuration theory and semiology in the analysis of the

GII as myth, the thesis identifies some of the more “influential” of these meaningful events, and cites examples in popular culture (movies, magazines, novels, comic books, and billboards) to illustrate how the myth is cycled through the masses and how the hegemony of telecommunications and/or information technology has been constructed and has become not only taken for granted but valued so highly as to define, and to become the economic foundation of, this “Information Age.”

Methodology

The first part of the thesis is an “institutional analysis” of two bodies of documentation: the submissions to and report of the Maitland Commission, and the existing documentation relating to the Global Information Infrastructure. The bodies of documentation and other factors, such as the participants and the funding agents of both projects, will be compared and contrasted to determine the likelihood of the GII. Where possible, interviews will be surveyed or conducted with persons central to the debate, and statistical data will be used where necessary.

In the second section, the GII documentation is re-examined in an effort to disclose any techniques that may be employed to create and preserve the GII myth. It suggests why industry and government may be continuing to make great efforts to create and fuel the myth of the GII and why the myth is so popular, i.e., why it has become unquestioned and “naturalized.”

Chapter Two:

Theoretical Background

Chapter two begins with a historical background for the debate about the relationship between new information and communication technologies and the development of nations. The background highlights the rise and fall of the “modernization” paradigm which was based on the theories of social scientists whose research into communication and change indicated that Western-style development could be inspired and imitated with the help of the mass communication media and Western programming content. By laying this foundation, the stage is set for the argument made in chapter five that modernization theory has never really been discredited, only re-fitted for the promotion of the “new” information and communication technologies of the GII.

Central to the chapter is, first, a review of the neo-modernization theorists and their arguments in support of the new information and communication technologies’ fundamental role in the development of nations. Following this is a refutation of the neo-modernizationists’ arguments by scholars of political economy whose arguments, for the purpose of this thesis, center around the commodification of information and its role in maintaining elite power and the existing hegemony through the expansion of capital.

Structuration theory is also reviewed in this chapter to the extent that it may help to explain the reproduction of the social environment, particularly the media environment, within which the GII is being promoted, accepted as feasible and acted upon. Structuration theory, together with the more detailed semiotic

theory as it is employed in Barthes' concept of mythology, shows how hegemony can be reproduced and maintained by shedding light on the underlying structures of meaning which enable mutual consensus.

Barthes' mythological analysis will be employed in the second part of chapter four to examine some of the sign systems that help to construct the mythological environment of the GII.

Chapter Three:

The Maitland Commission

This chapter examines the promise and performance of the Maitland Commission, which suggested in its 1984 report that, "...if put into effect, (our recommendations) will bring *all mankind* within easy reach of a telephone by the early part of the next century...The way will then be open to all of the services that telecommunications can provide—the transmission of data, facsimile and an ever growing number of other services"(ICWWTD, 1984: 5 – italics mine).

It seeks to determine what has happened to prevent the recommendations of the Maitland Commission from being implemented. This chapter:

- i) examines the Maitland Commission: Who comprised it?
How was it funded? Whose reports were included its research?
- ii) reviews the Maitland Commission's Report (and the supporting documentation) and determines its mandate, findings and recommendations,
- iii) determines the extent to which these recommendations have been successfully implemented, and
- iv) suggests why many of its recommendations have not (so far) been successfully implemented.

Chapter Four:

The Global Information Infrastructure (GII)

The political economic dimension of the GII:

What is the GII initiative? Is the GII a more elaborate, complex and costly version of the recommendations of the Maitland Commission? If so, why is it being undertaken—what will be the effect of aspiring to a GII? And if the obstacles that prevented Maitland's recommendations from being realized are still present, then are the goals of the GII attainable? To answer these questions, this chapter:

- i) outlines the concept of the GII,
- ii) describes who it involves, the auspices under which they convene, who it does not involve, and why,
- iii) examines the documentation and reports pertaining to the GII and determines its specific goals,
- iv) draws parallels and notes any differences between the goals of the GII and those of the Maitland Commission, and
- v) suggests that the commodification of information, not just the information technology itself, is what is at stake in the global economy, and determines who might be the benefactors of this process.

The mythological dimension of the GII:

The information gathered in chapter three and in the first section of this chapter will have examined the "shared vision" of the promoters of the GII and will have sought to determine whether the GII is likely to be realized in the near future. If it is not likely, why, then, are governments, business and individuals operating as though the GII is inevitable? This section draws on the work of Roland

Barthes, Jacques Ellul, Saussure and others, to determine whether the GII has become mythologized.

Structuration theory may help to show how the hegemony of the GII can be socially constructed; the GII may have been the vision of big business, but it is supported and believed in by hundreds of thousands, maybe even millions, of people .

This section examines some of the GII documentation in an effort to disclose any techniques that may be employed to create and preserve the GII myth. I will then ascertain *why* industry and government may be continuing to make great efforts to create and fuel the myth of the GII. I will also suggest why the myth is so popular, i.e., why it has become unquestioned and “naturalized.” To do this, it will be necessary to:

- i) examine the GII documentation to disclose the techniques used in the process of myth-building,
- ii) examine the mass media’s role in the perpetuation of the myth,
- iii) cite several examples where the myth is brought to, and cycled through, the mass population through organs of popular culture,
- iv) ascertain who stands to gain, and what is to be gained, by promoting the myth of the GII.

Chapter Five:

Promises Versus Probabilities

This chapter summarizes the thesis, suggesting that neo-classical economics and the neo-modernization development paradigm's enthusiasm for the new telecommunication technologies' role in international development may re-establish a neo-colonial relationship between the developed and developing worlds, and calls for a more critical look at the telecommunications/information industries' promises for economic renewal and/or prosperity upon the implementation of the GII.

It shows how the mass media play an essential role in underlining the myth of the Global Information Infrastructure—which negates the possibility of a neo-colonial relationship—through the use of language and images and by virtue of the fact that they are the instruments of the elite who stand to benefit by the collective belief in, and actions toward building, the GII. Included in this chapter is a substantial amount of analysis of several recent articles in newspapers and magazines that support this assertion.

The chapter also tries to discover, as Slack recommends, whether the language used by the GII promoters creates a structure that delimits the actions of the collectivity of individuals in a society, or whether the terms may, indeed, be rearticulated so as to either suggest an alternative reality, or, in the least, describe alternative uses for the instruments of change.

Chapter Two: Theoretical Background

Introduction

Relative to the amount of critical literature on the impact of mass communication technologies on global economic, political or cultural development, little scholarly criticism has been concerned with the “new” interactive communication and information technologies that integrate computer (digital) technologies with the high-capacity digital switching systems of telephony. In fact, these technologies are being highly lauded by a wide range of theorists in the academy, along with business leaders, government officials and casual users, for their revolutionary, democratic and liberating potential as well as for their key role in the new global economy. Because of their interactive nature, the technologies are said to provide access to, and facilitate the sharing of, “knowledge” and, for this reason, are a priority for the economic and cultural development of the lesser developed countries (LDCs). The mass communication media, on the other hand, have been in no small part responsible for the developing nations’ continued economic and psycho-social dependency on (and grievance with) the industrialized countries because of their one-way transmission of Western cultural and consumerist values.

Recently, however, critical scholars and thinkers have become increasingly aware of the negative economic, political and cultural significance of the new technologies for both developed and developing countries (Sussman, 1992). In developing countries, telecommunications development has so far been

concentrated in the urban centers and for the benefit of a few, while little has changed, in terms of telecommunications or economic development, in rural and remote regions. In his article on dependent development in sub-Saharan Africa, for example, Boafo shows that most of the modern facilities for communication are concentrated in the urban centers of those countries where 20-25% of the population lives. Of this group, only a small proportion, consisting of "local political, socioeconomic and military elite"³, expatriates, and affiliates of transnational corporations has access to and benefits directly from the uses of the facilities" (Boafo, 1992: 108). Furthermore, the development that has taken place in the sub-Saharan countries may be considered to be "dependent development" in that the telecommunications equipment, services, contracts, and so forth, are purchased on the credit given by the governments of the equipment manufacturers or the manufacturers themselves, adding to the heavy debt burden of the LDCs. Additionally, the management of the operations or training of technicians and engineers to operate and maintain the equipment is also supplied by equipment manufacturers. Consequently, the capacity to do indigenous research and development or manufacturing—in other words, the means to become independent in this sector—is never developed (Boafo, 1992: 111). Furthermore, the economic development that telecommunication technologies have brought to newly industrialized countries has been in support of an even more comfortable, consumer lifestyle of the privileged in developed countries. Sussman has noted that microassemblage of an IBM computer contains components from "such exotic corporate industrial havens as the Philippines, Hong Kong, Taiwan and El Salvador" (Sussman, 1991: 43). These "offshore units" of the computer and telecommunication industries, he argues, "have become the

³ "Elite" and other key terms used in this paper are defined in the Appendices.

real pillars of the 'global information society.' So vital are these outposts to transnational production and distribution that without them it is almost inconceivable that First World consumerist societies, as we currently know them, could function" (Sussman, 1991: 44).

That the consumerist societies' continued existence has created "spin-off" economic development in some of these countries is true; however, the kind of development that international communications technologies can bring about depends entirely on who is in possession of informational power, that is, who has access to the technologies and to the information vital to development.

In order to have a better understanding of how international informational power might impact upon the economy of developing nations, we must, as Alleyne notes, understand "how the technologies and processes of international communication have been developed and under what rules" (Alleyne, 1996: 21). Because the new technologies are born from, and combine the distinguishing characteristics of, older telecommunication and mass media systems, they must be analyzed in relation to the economy of developing countries in their correct historical context. As Valdes points out, it is imperative to consider the information technologies as "the natural result and inherent component of the overall social system which produced them, a system that was ripe for their invention, fabrication and social allocation" (Valdes, 1987: 203).

The following section on the relationship between new information and communication technologies and the economy of developing countries places the arguments of scholars from two opposing theoretical camps within a historical

context. On one side of the ideological table sit the neo-liberal or neo-modernization theorists, whose work, in essence, supports the prevailing view that the new technologies will “cause” not only global development but global democracy, providing that all borders remain open to the information essential to these global changes. This “new” modernization paradigm arose from the post-industrial theses of such influential academics and “futurists” as Daniel Bell, Alvin Toffler, Wilson Dizard and Everett Rogers, “all of whom, inspired by technical breakthroughs in cybernetics and telecommunications technology in the 1970s, examined social change through an exaggerated technological-determinist view of history” (Sussman and Lent, 1991: 13). Valdes describes the neo-modernization perspective as an “optimistic-naive” one, that emerged under the information age paradigm, again, based on Daniel Bell’s declaration of the end of the industrial age. Neo-modernizationists “anticipated [the] social and economic equalizing power of information and information technologies” (Valdes, 1987:203) which, when procured by the developing countries, would speed up their development process and promote their self-sufficiency.

On the other side of the table sit scholars of political economy, who regard the information and communication technologies as private highways, built by (and for the use of) Western transnational corporations (TNCs) and elite groups, over which information goods as commodities will travel. The nature of these digital commodities will determine where the technologies will be concentrated and who has access to them. The unequal accessibility of both the technologies and the information they carry can serve to further establish the hegemonic power of the Western world over developing countries, and can maintain or exacerbate

existing power relationships between classes within countries. As Guback describes it:

The eruption of selected forms of technology is referred to frequently—but simplistically—as a communication revolution. That, however, is a totally inappropriate term to describe what is happening. A revolution entails an abrupt political and/or economic change. What we are witnessing in communications is decidedly not a cataclysmic upheaval, but a consolidation and extension of the existing economic and political power structures that control communication in certain countries. Generally, this is centered in the private sector of the economies, and in relatively powerful, industrialized nations, among them the United States.

(Guback, 1981: 1)

This consolidation of power will have obvious implications for the economic development of Third World countries, but it must be made clear from the outset that political economy is not primarily concerned with whether the new information technologies will “cause” development. Following Marx’s observation that capitalism needs to expand in order to survive and that the means of communication and transportation (the social processes of production) must also expand to accommodate and facilitate that growth, (Mosco: 1989), the new information and communication technologies are seen by political economy as the means by which capitalism can expand. Therefore, political economy is concerned with the efficacy of capitalism’s efforts to develop the world as it expands via the new technologies.

These divergent views are relevant to the examination of the GII initiative because the GII is projected to be a global network of the new interactive communication and information technologies, and global economic development is supposed to be the *raison d’être* of the GII. The theoretical perspectives

outlined below, then, can be applied to the GII and represent different scholarly opinions as to whether the GII can lead to national development, on the one hand, and, on the other, whether the expansion of capital, made possible by the building of the GII, can lead to independent national development.

Furthermore, the GII, envisioned as being a network of electronic “highways,” will carry capitalism’s newest and most socially significant commodity—information—to the markets of the world. The modernizationists declare that it is this information, made universally available by the unimpeded implementation of the GII, that will be the catalyst for the economic and cultural development of all nations. Political economy argues that because information is increasingly becoming commodified, its unequal distribution will be ensured; like any commodity, the cost of information will determine who has access to it. But unlike any other commodity, the information commodity confers a certain power upon its holders. Political economy tries to show how the GII—the global transportation system for the information commodity—will allow informational power to be contained and accessible to a select few, affecting the nature and extent of development that will take place in any country.

A word must be said about a particular weakness in the arguments put forth by political economy: it tends to view the structures of business and government as fixed and predisposing, and fails to explain how consensus is reached, at an individual level, on the the capitalist project of expansion, even as that expansion creates further division between the information haves and have-nots. This chapter tries to fill in that gap in political economy by elaborating upon structuration theory.

In his seminal work, The Constitution of Society (1984), Anthony Giddens developed "structuration theory," an elaboration upon the views of those social theorists who recognized that there is an interactive relationship between human actors and history. Prior to that, many social theories, political economy amongst them, tended to view structures such as business and government as rigid and determining. Giddens argued that social theory relates (or should relate) to issues having to do with "the nature of human action and the acting self; with how interaction should be conceptualized and its relation to institutions; and with grasping the practical connotations of social analysis" (1984: xvii). His theory of structuration posited that human beings act to institute and maintain structures and that their actions arise out of the very institutions they reproduce. In other words, social structures enable, and are enabled by, human actors, and human actors enable, and are enabled by, social structures.

The value in structuration theory to political economy is that it expands political economy's macro conception of "power" to include the concept and consequences of power on an interactive, micro level, although Giddens's theory stays away from historical specificity and avoids pointing to the power operating within structures that limit human agency (Mosco: 1996, 273). Nevertheless, structuration theory does provide an insight into social relations and the influence that they have upon the agency of individuals, something that political economy has downplayed, particularly with respect to communication practices. Furthermore, structuration theory accords a fundamental role to language and the interpretation of meaning. Language use, says Giddens, "is embedded in the concrete activities of day-to-day life and is in some sense partly constitutive of

those activities" (Giddens, 1984: xvi). It is language, or, more accurately, the **process of communication**, that plays a definitive role in the construction of **hegemony**. The notion of hegemony was derived from the writings of Antonio Gramsci, whose Prison Notebooks were made available to the English-speaking world in 1971. Gramsci's concept of hegemony refers to "the process by which a dominant class not only enforces and maintains its power but, over a period of time, manages to gain endorsement from the subordinate class without the use of force because the power relationship is accepted as a popular ideology" (Alleyne, 1995: intro). The system of relations within the information and communication structure, and by virtue of that system's ability to influence culture, is a significant means by which hegemony is created and maintained. As Stuart Hall points out, one must be aware that

dominance [is] accomplished at the unconscious as well as the conscious level: [we must] see it as a property of the system of relations involved, rather than as the overt and intentional biases of individuals in the very activity of regulation and exclusion which function(s) through language and discourse.

(Hall, 1982 in McQuail, 1984: 61)

Structuration theory and the notion of hegemony are useful in the analysis of the GII because they help to explain the reproduction of the social environment, particularly the media environment, within which the GII is being promoted, accepted as feasible and acted upon.

A Brief Sketch of Communication and Development History

The idea that the installation of mass communication technologies would inspire the economic development of nations gained acceptance after the Second World War, when the United States, basking in the glory of military victory and revelling in a booming post-war economy, sought to ensure that the newly independent developing countries could participate in a burgeoning global network of commerce and commercialism. The theory that the mass media would help bring developing countries to an economic and political level equivalent to that of the Western countries—most notably the United States—was heavily supported by the Massachusetts Institute of Technology's Daniel Lerner and other influential social scientists, economists and communication scholars, such as Wilbur Schramm, Harold Lasswell and Ithiel de Sola Pool.

"Modernization" theory, as it came to be known, posited that a country's level of development could be measured in terms of its proximity to the socio-economic level of American or Western society. This approach to development determined that the cure to the "backwardness" of developing countries was a matter of superimposing the Western economic model of development onto these countries and watching them grow as production and the economy "took off." Within the modernization paradigm, notes Servaes (1991: 55), development is defined as :

unilinear and evolutionary, and...the state of underdevelopment [is defined] in terms of observable, quantitative differences between "poor" and "rich" countries on the one hand, and traditional and modern sectors in the poor nations on the other hand. Development implies the bridging of these gaps by means of an imitative process which occurs in stages, in such a way that the

traditional sectors and/or countries gradually assume the qualities of the modern ones.

However, it soon became apparent that the Western model of development, based on a strategy of industrializing with modern technology concentrated in urban centers, was not trickling down to benefit all groups in society. In fact, it was failing miserably, leaving in its wake “excess industrial capacity even in the new plants, as well as unemployment and underemployment, urban congestion, rural stagnation, food shortages, income inequalities, widespread poverty and other anomalies” (Oshima, 1976: 17). Part of the reason was that the modernization paradigm had, at its foundation, a view of development that isolated the economy from other realms of life, such as the social, political and cultural. Success of development, for example, was measured only by the growth rates of the countries’ Gross National Product (GNP). When, in the second half of the ‘60s, the GNP growth rates began to stagnate and all of the maladjustments mentioned above began to appear, it became apparent that something else was missing.

What was missing, Oshima states, was “effective demand” for the output of the factories and plants (Oshima, 1976: 18), and, to create a demand for the goods produced, some non-economic factors would have to be thrown into the equation. These were the socio-psychological elements that would affect the thinking and the attitudes of the people in these poorer countries. To effect these attitudinal changes, the Western notion of development would have to be instilled in the developing countries’ educational, social, and political institutions. But it was Western-style communication practices, introduced into the cultural arena of developing countries, that would be of greatest value in this area of socio-psychological change.

In his book The Passing of Traditional Society, (1958), Daniel Lerner, one of the “fathers” of modernization theory, posits that communication is the main instrument of socialization and socialization is the main agency of social change. The mass communication media aid in this socialization process because they affect the psycho-political life of a transitional society by allowing its people to vicariously experience alternative realities (Lerner, 1958: 53). It is the “psychic mobility,” the ability to make a profound mental adjustment to a new situation, Lerner determined, that will allow for a people to sustain a social change. Economist Max Millikan captured the essence of this belief when he stated that “(i)f the new societies are to take advantage of the opportunities modern technology opens to them of manipulating their environment, their members must radically widen their perception of the choices they can make in their daily lives in ways for which their direct and inherited experience gives them no guidance whatsoever...the key is modern communication” (Millikan, 1967: 4). “Modern” communication, however, was Western communication and was as ideologically loaded as was the Western economic development model after which the developing countries were supposed to fashion themselves. As Jan Servaes points out, in Western society, “communication stimulates and disseminates values and supports institutions that are favourable to achievement, mobility, innovation and consumption—all part of the Western conception of ‘modernization’ ” (Servaes: 1991: 55).

The modernization paradigm was the dominant development paradigm up until the “intellectual revolution” of the late ‘60s, when it came under great attack by both Western and Latin American scholars, whose critique of the modernization

paradigm evolved into a theory of development known as Dependency Theory. This theory "portrays the media as frequently part of the system of exploitation by foreign capital and acting to increase and reinforce the state of dependence" (McQuail, 1984: 46). Most vocal in this group of critics, who became known as the "Dependistas," were Latin American sociologists, education critics and communication theorists, such as Paolo Friere, Andrew Gunder Frank, Rafael Roncagliolo and Armand Mattelart, to name a few. They criticized the modernization theorists for their ethnocentricity and for basing their approach on a tradition of evolutionism and functionalism. For the Dependistas, it was becoming quite clear that, even after many developing countries had made substantial investments in communication and information systems (produced in industrialized countries), the economy of the developing countries was intricately bound up with, and dependent upon, the Western nations, whose own prosperity was growing as a result. This dependency was in some part fostered, but certainly maintained, by television programming and other mass media whose content was created and marketed internationally by Western media organizations. The role of mass communication technologies in society became central to the Dependistas' critiques of Western dominance not only because the U.S. (especially) reaped tremendous profits from the sale of communications hardware, software and technical expertise to their countries, but because a more insidious psycho-social dependency on the U.S. by the less-developed countries was evolving as a result of the promotion of American attitudes and lifestyles "which extol acquisition and consumption at the expense of other values" (Kim and Frith: 1993). Western values of consumption, consumerism and individualism were being reinforced through advertising and through Western films and regularly scheduled television and radio

programming—and the traditions, customs and even the languages of diverse cultures were being swept away in the information flow.

The psycho-social dependency that, the Dependistas argued, resulted from the installation of the communications hardware and software in their countries was not an “accidental” occurrence. Joyce Nelson argues that the involvement of the U.S. government and military in the expansion of television networks in developing countries, through assistance, subsidies and other forms of financial aid, indicates clearly their intent to use television as an ideological tool. The ideology of consumerism and individualism also proliferated via the big three U.S. networks: NBC, ABC, and CBS. In 1960, for example, the ABC television network invested in the establishment of the Central American Broadcasting Network and, as part of its plan, offered each member station “free” programming, available to them only during prime time viewing hours. The programming would be sponsored by a number of American companies who had operations established in Central America (Nelson, 1987).

Many communication critics and social/political commentators with similar sentiments as those of the Latin American Dependistas, participated with the latter in international fora sponsored by UNESCO, the United Nations, the International Institute of Communications, the International Association for Mass Communication Research, and so forth. There, they echoed concerns about cultural domination and the reproduction of American (or Western) values via the mass media. They argued that since the flow of information was one way, from the developed to the developing countries, and since the cost of developing their own communication systems and cultural industries was far too great for

the developing countries to equalize the imbalance of communication flow, they were defenceless against the cultural and economic toll that such communication dominance exacted. Consequently, they called for what came to be known as the New World Information Order, which stressed balance and diversity in international communication flow. For this to occur, there would have to be regulation of the communications industries, which would affect everything from the percentage of foreign ownership to the amount of foreign programming permitted to be broadcast into a given nation.

The views and suggestions of those opposed to American and First World domination of the communications flow are best encapsulated in a 1980 report of the UNESCO commission (the International Commission for the Study of Communications Problems) headed by Sean MacBride, entitled "Many Voices, One World." This report was the basis for a world-wide debate with proponents of "the free flow of information" on one side (the political right), and those opposed to cultural domination through unbridled, one-way communication flow on the other (the political left). The arguments of the Dependency theorists have become less influential since then, however, because it has been acknowledged that they narrowly focused on the exchange relationships between developing and developed countries and lacked insight into the power arrangements between the national bourgeoisie **within** developing countries and those of the developed countries. Servaes suggests that "the Dependistas put too much emphasis on the contradictions at the international level, and thus overlook the existing contradictions at the local level between the interests of the state and the media owners on the one hand, and between the government and the population on the other" (Servaes, 1992: 60). While the Dependistas did

demonstrate that the repression of a people could come about via an ideological component, their approach was deficient in reference to class and class fractions, and tended to treat Latin American countries as a “ ‘homogeneous block suffering the ideological aggression of the transnational corporations’ ” (Sarti, 1981: 319 in Reeves, 1993: 39).

The debate itself has not been settled. To oversimplify, the “cultural imperialism” that defined the effects of the free flow of ideas via mass communication technologies has come to include the “electronic colonialism,” which the newer information and communication technologies and their content are said to bring about. The “left” side of the debate has taken on a new perspective by, among others, those theorists within the school of (international) political economy. While these theorists may differ on some points of argument, most “view the phenomenon of foreign private industrialization of Third World communication and culture as not simply the latest stage of imperialism, but rather as a shared project of postindependence, or neo-colonialism” (Sussman and Lent, 1991: preface). On the “right” side of the political spectrum and of the debate, and despite the fact that it has lost the widespread theoretical endorsement it once enjoyed, the modernization paradigm continues to be influential on political and institutional fronts, (Servaes: 1991) and is now referred to as neo-modernization or neo-liberal development theory.

Neo-modernizationists, picking up the modernization theorists’ thread, continue to insist upon the centrality of communication and information technologies in the socio-economic development of nations, and overlook or deny the possibility of a continued colonialism. Proponents of the new technologies, whether they be telecommunications devices, computer systems or direct broadcast satellite

television, are quick to point out that it is the *interactive* nature of these technologies that guarantees emancipation of, and reciprocity amongst, peoples. Giving all peoples access to the technologies of communication and, therefore, to each other's ideas, information resources and knowledge banks, they argue, will, in due course, foster greater understanding between cultures, and lead to greater political and economic cooperation and, ergo, economic prosperity between and within nations. However, political economy argues first that "giving all peoples access to the technologies" is much easier to say than it is to realize, as the statistics on teledensity in developing nations will attest. Furthermore, they agree that bringing communication and information technology within the reach of any individual or any population does not guarantee that they will have access to the data they may need to fully exercise their democratic rights or to determine their own economic development. While the **potential** of technology to have a desired effect is acknowledged by all sides, political economy maintains that the use and availability of *any* technology is dependent upon both the historical moment and the prevailing social, economic and cultural structure into which it is introduced, affecting greatly the **probability** that the desired effect will take place.

Arguments from both the neo-modernizationist and political economy perspectives given greater depth in the following pages.

Neo-Modernization

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The explosion of telecommunications in the second half of the twentieth century may be compared to the transition that humans made thousands of years ago from hunting to agriculture, or, more recently, from an agricultural society to an industrial society. The transition of industrial societies, via the limbo of the post-industrial society, into fully-fledged information societies—as we witness now—makes telecommunications the hallmark and defining characteristic of our society. It is the measure of a society's wealth or poverty, and a major factor in a society's capacity for change.

(Howkins, 1979: 12 in McPhail, 1987: 125)

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Since Howkins made the above statement over fifteen years ago, the exponential growth in the telecommunications and computer industries has inspired contemporary "futurists and visionaries" to speak beyond the borders of information societies and onto the borderless, timeless vista of the Information Age. At least one author has gone so far as to suggest that even the term Information Age is obsolete and that "it is time to coin a new term that reflects the contemporary state of technology, its use and future evaluation" (Koelsch, 1995, xvi). The developments in these industries over the years have increasingly lead to the convergence of their once-discrete technologies (see chart below). The latest stage in this convergence—the digitization and compression of audio, video and text-based information—has made it possible for data to be stored and manipulated in computers, and sent and received almost anywhere on the planet

Convergence Between Communications Technologies: Case Studies from North America and Western Europe (OECD, 1992).

at the speed of light. The transportation of the data involves the digitized switching systems at telephone company exchanges, the carriage infrastructure of the telecommunications and cable industries, and the various receiving apparatus—telephone, cellular phone, television, computer and radio equipment. With the availability of these technologies in the industrialized world, it is not a great leap of the imagination to envision the globalization of information technologies and all of the good that such information exchange will bring to people everywhere. In fact, it has become a very real possibility. For many scholars involved in communications and development issues, this possibility creates an exciting challenge and an opportunity for the developing countries to “leapfrog” over the slow, industrialization process and into the Information Age.

One such scholar is Daniel Lerner. As one of the pioneers of the modernization paradigm, Lerner has since acknowledged that the Western development paradigm had not worked in the LDCs and that it had, indeed, been responsible for much of the discontent in these countries. Whereas the Western development model was based on the relatively slower-paced, evolutionary stages of development undergone by the peoples in Western civilization, the modern mass media, *inter alia*, had allowed the peoples of the LDCs to skip over some of these stages⁴ to their detriment, and were in large part responsible for what Lerner had

⁴ Lerner notes, for example, that the gradual influx of Western farmers into the cities enabled them to find lucrative work in the growing manufacturing sector. With extra money earned there, city workers could afford to send their children to school where they learned to read. The next stage was an increased involvement in political affairs, brought about by the “average” person’s ability to read, and to afford, the daily newspapers. This sequence, followed by hundreds of thousands of Westerners over a dozen decades, “eventually produced an apparently seamless behavioural web conducive to self-sustaining growth.”

termed the consequences of rising expectations, rising frustrations and, finally, military takeovers. However, for Lerner, all is not lost. He maintains that the new interactive communications technologies will be different in terms of their impact on social change in these countries.

At a conference held in Hawaii in 1975, Lerner and several other scholars, psychologists and social scientists came together to “assess what [had] been learned in ten years [since an earlier conference on the same subject] concerning the use of communication in development, the changing needs of developing countries for communication support, and new priorities for communication expertise, communication research, and modern communication technology” (Lerner, 1976: 1). Lerner himself was particularly excited about the development possibilities for the new communication technologies, which began with the setting up of the American-owned COMSAT and collectively owned INTELSAT geostationary satellites, and had given rise to the experimental satellite complex known as PEACESAT, in which ten satellite terminals, stationed throughout the South Pacific, were networked so as to enable “conference calls” to take place over long distances. After taking part in a PEACESAT radio conference on how to educate Micronesians on the voting procedure for a plebiscite on self-government, Lerner came away from the experience “with a vivid sense of what communication satellites might do for the global diffusion of information and ideas leading to affirmative action” (Lerner, 1976: 296). He later confirmed that conviction after having participated in an international program, which included

(Lerner, 1976: 290). The peoples of the LDCs reversed this trend by moving, en masse, into the cities and “languishing” there, unable to find work. At the same time, they did not need to learn to read to become aware of what was going on in the world around them. The mass media enabled the illiterate to see and hear the news—and to believe the promises that advertizements and movies, as well as their charismatic leaders, made for a better, more modern lifestyle.

correspondence (distance learning) courses taught by one professor at the University of the South Pacific and satellite-delivered to ten Pacific islands without colleges of their own. Because the technology was interactive, the course could be taught in a seminar format rather than as a series of one-way lectures. The technology, said Lerner, would be the key to the LDC's economic future as it would allow them to skip over several centuries of Western development without having to make huge investments in the traditional modes of schooling that require buildings, costly equipment and supplies, and a large body of highly trained personnel (Lerner, 1976: 296). Advances in transistor-powered television receivers would also contribute to development of agricultural areas by delivering to rural and remote regions valuable programs about improved farming practices, new pest control methods and so on. However, for Lerner, it was the linking of computers with satellite technology—opening up the enormous field of data management—that held the most promise for development, both within and without developing countries.

Data management of this type can be applied to almost every sphere of activity in a society, rich or poor, and it can be used on a world-wide basis. Its effects are already becoming visible in such fields as transportation, government administration, banking and business administration, scientific research of all types. Its use will surely spread widely to include everything from hospital administration and medical care through high-rise construction and household chores.

(Lerner, 1976: 298)

Lerner was not naive about the rate of absorption of the new communication technologies in LDCs, nor was he overly optimistic about the success that such technologies would have in increasing the quality of life in developing countries in the short run. Yet he was convinced that the technologies were the answer in

the long run, because, like it or not, the world was becoming one. All policies of all countries, Lerner stated, should be established within a global context, and scholars and policy makers must play their role in supporting the global vision.

The enthusiasm that Lerner had for the potential of the new communication and information technologies to boost the development of the LDCs was not his alone. Then, and increasingly over the last two decades right up to the present, the scholars and policy-makers upon whom he called to play their roles in the further championing of the new communication technologies have been, and are still, doing just that. They maintain that, among the other good things the technologies have brought and will continue to bring about (such as distance education and greater political awareness), is almost limitless economic opportunity, because "new technologies, and in particular, information technologies,

are proving to be a major driving force behind economic development and growth not only because the information technologies sector is in itself a highly dynamic and expanding field of activity that creates new markets and generates investment, income and new jobs, but because information technologies facilitate the adjustment of economic and industrial structures generally.

(Michaelski, 1979: 13)

With the distance and time-shrinking characteristics of the new technologies, the new markets of which Michaelski writes are not limited to the industrialized or even the newly industrializing nations, but can be located virtually anywhere in the world. The result, notes Michaelski, is "an unprecedented growth in interdependence, which, for all its virtues,

impinges dramatically on every country's economic, political, and cultural autonomy. Not only have national economies become more susceptible to the effects of policy decisions taken at the international level, but hardly a policy area remains in which governments can implement measures at the domestic level without having some impact on the domestic policy of some other country. The pace of technological change, particularly in the field of information and communications, will likely accelerate the process.

(Michaelski, 1979: 15)

The prospect of global economic and political interdependence is both welcomed and worrisome. While the word "interdependence" denotes an equal level of dependence between the world's nations, it is widely acknowledged that the playing field is not level to begin with. Michaelski notes that "the nations at the center of innovation, development and application of new technologies will pursue their transition to the high-tech and service-based economy, leaving much of the production and assembly of the more mature product groups to the industrializing countries at the periphery" (Michaelski, 1979, 16). While this scenario sounds less than ideal for the peripheral countries, Michaelski and others of his ilk firmly believe that the resulting international division of labour will "prove generally beneficial for world growth and economic welfare in general" (Michaelski, 1979: 16) providing that no one country puts up restrictive trade barriers or subsidizes its non-competitive industries.

It is this last point that bears further examination and that is, in fact, at the heart of the ongoing "free flow" debate. Because the new technologies permit larger and larger amounts of information to flow at increasingly faster rates, and because in the past information flow has been the cause of concern for many of

the developing countries, many of the scholars and policy makers in the field who believe that the new interactive technologies are altogether different than the old have continued to concentrate on developing arguments for the unrestricted flow of information between countries.

One long-time supporter of the “free flow” position is the late Ithiel de Sola Pool, a professor of Political Science at the Massachusetts Institute of Technology who specialized in the study of communications. De Sola Pool’s arguments against “protectionism” are reminiscent of those made by John Milton in his famous *Aereopagitica*:

No government happily accepts a loss of control over what happens within its boundaries. The normal response to foreign influences is to build walls...Yet, for two hundred years free-trade economists have argued that excluding foreign goods is self-destructive. Under most circumstances, economic advantage goes to the country that opens its arms to the world market, and decline comes to the country that tries autarchy.

(de Sola Pool, 1990: 66)

De Sola Pool argues that there have never been any isolated civilizations in the world, and that sometimes the very things that a culture has come to call its own have actually been introduced by a foreigner sometime ago in its history. The process of “cultural diffusion” begins with the adoption of cultural elements or products from abroad, and it is not necessarily a “bad” thing since these items or ideas are slowly modified—sometimes taking generations or even centuries—to suit the needs of the recipient culture. The “problem” today may arise from the fact that the accretion of foreign elements can take place in a few short years or in a few microseconds (de Sola Pool, 1990: 66). When this happens, the recipient

culture can expect an initial period of “direct dependence on interaction with the source culture” to be followed by a “patriation of the new activity and a relative growth of domestic interactions as a result” (de Sola Pool, 1990: 142). This process works most effectively in countries where there are no “status-maintenance factors” that serve to protect privilege in certain fields of knowledge. Licensing and censorship laws, as well as copyright laws, are some of these factors. Two other “status-maintenance factors” that tend to preserve the imbalance in international information flow are the need for large capital investment in information transmission and processing equipment, and the fact that there is a tendency toward monopoly in the production of large databases.

On the first of these latter two factors, de Sola Pool is optimistic that the large investment needed to obtain equipment and lease space on satellites will become minimal in the near future. Just as video production used to require expensive cameras and skilled crews but is now possible using “hand held” equipment operable by virtually anyone, the once giant room-sized computer has shrunk in both size and cost, making information management available without the large capital investment. With respect to the natural tendency toward monopolization, de Sola Pool notes that those countries now involved in database publishing—the United States leads in this field—will most likely enjoy a global monopoly for some time since the expense, time and effort needed to produce the data bases makes it unprofitable for someone else to duplicate the effort. However, he asserts that this field is still in its infancy and thus there is still time for other countries to catch up. Furthermore, there are some databases that are naturally regional or culture-specific and they, of course, will have to be developed by companies in the region or nation.

Since cost does not seem to be a factor to de Sola Pool, he advises that those nations wanting to “progress” or develop ought to invest in education and in “microwave equipment, the building of studios, the expansion of publishing, the creation of news agencies, the extension of training, the establishment of computer networks, and the subsidization of the arts” (de Sola Pool, 1990: 144). To get started, they ought to import what they need from abroad as cheaply as possible and use what resources and facilities they have. Protectionism in the intellectual and cultural fields, says de Sola Pool, is not the answer; it is more damaging to a country’s economy than protectionism in material trade because “in things of the mind...the process of using a medium is also the process of learning to be its master...Protectionism in trade may facilitate the development of an industry; protectionism in things of the mind...inhibits learning” (de Sola Pool, 1990: 145). For de Sola Pool, the use of online computer networks and satellites can only aid in this learning process because they allow for the creation of intellectual communities or centers of intellectual activity to arise.

De Sola Pool believes that it is competition from other countries that will improve the domestic communications scene in other developed or developing countries, as their telecommunications administrations would respond to competition in the industry by developing their own services. “Success,” says de Sola Pool, “...requires several things, but not protection from the free flow of ideas” (1990: 146). To stop the intrusion of those who already have the advantage is to do one’s country a disservice because protectionism “protects inefficiency, removes incentives to self-improvement, penalizes consumers, and lowers the gross national product” (1990: 148).

Just whose gross national product will be lowered by protectionist measures against the “free flow of ideas” is a point worthy of consideration. In his book, The Coming Information Age, Wilson Dizard is straightforward: the “free flow of ideas” means big business for the United States, and restrictions on the flow of information—that is, communications goods and services—is nothing less than a threat to the American industrial empire.

The United States needs a strong world communications network to support its overseas interests. Economically, the export of communications goods and services is increasingly important. Politically, communications are the nervous system for the interdependent world order to which this country is committed and particularly important to this world order are improved links between the industrialized and developing nations.

(Dizard, 1989: 184)

The “improved links” of which Dizard speaks may not be forged in everybody’s interest. Dizard himself acknowledges that American ideas will be amplified via these links “in a more forceful way than has ever been done before” and that this will provoke strong reactions from recipient countries ranging from anger to admiration (1989: 184). It has also given rise to three trends, one of which Dizard identifies as “the threat of political restrictions on the growth of the world system” (1989: 185). Paramount among these restrictions are the policies that place limitations on transborder data flow, much of it coming from the U.S. and other European countries into less developed countries. This is particularly problematic for the United States, whose communications industry, once “cockily confident” in its dominant role in communications equipment production, message distribution and information products and services, can no longer make such a claim. Because its domestic market is no longer the locus of

world telecommunication growth (in terms of equipment production and use), and because information has become a “measurable element in calculations of national strength” the U.S.’ fight against “protectionism” is really a fight for the right to produce, buy and sell this new strategic resource without trade barriers. Dizard quotes communications consultant Andrew Aines as he assesses the importance of information technology—and the data it processes and carries—to the economic and military might of a nation:

The battle is to use modern information technology most advantageously. It involves out-and-out espionage, military and industrial. It involves the quest for scientific and technical data of all kinds and for all purposes. It involves the delivery of political information...It involves the United Nations, COMECON (the Soviet economic bloc), the Common Market, military alliances and many other international bodies.

(Dizard, 1989: 186)

Data communications, says Dizard, is the fastest growing area of international telecommunications traffic, with typical annual growth rates ranging from ten to fifteen percent (1989: 191). Technical data, for example, are increasingly important to overseas business operations and must be allowed to move more quickly and efficiently without impediment for “information is a

highly salable item, and [the USA] has traditionally held the lead in making technological data available for a fee. The United States is responsible for almost half of the global trade in the licensing or sale of technical know-how. This is sold in many different forms, but increasingly it is moving as data between computers.

(Dizard, 1989: 203)

Technical data aside, administrative networking between multinational corporations and their branches, manufacturing plants and other interests

overseas, as well as the financial transactions between banks and their branches is also a highly lucrative, telecommunication technology-intensive business. Notable is Citicorp's computerized global network, which links its branches in 95 countries, and Bank of America's use of three satellites to link its branches in various countries around the world. A new phenomenon arising out of these instantaneous transactions is the 24-hour global money market, which, for all of its supposed convenience, was the main contributing factor to the October 1987 Wall Street crash. Though Dizard acknowledges that there is some danger posed by instantaneous communication, international rules preventing similar future catastrophes can be established. In any case, he maintains that the benefits the global electronic data network has brought to U.S. companies far outweigh any inconvenience it may have caused them. It has helped business disperse over the globe to locations where taxes are low, labour is cheap and restrictions on data flow are few. Furthermore, "thanks to good communication circuits," banks and businesses can keep their profits in off-shore tax havens, such as the Cayman Islands and the Bahamas (1989: 204).

Unfortunately for Dizard, not all business can be done on Caribbean islands and, for some time to come, U.S. firms will have to contend with countries that are placing restrictions on transborder data flows. Yet Dizard is hopeful; though the placing of restrictions on information flow has been of some economic benefit to the countries adopting such policies, and some loss to American industries, the real political issue remains—that America has "a leadership role to play in the evolution of a world communications system whose emphasis is on openness rather than protectionism and outmoded concepts of sovereignty" (1989: 207). While assuring a "reasonably open market" for American communication and

information products and services is an important part of the American strategy, "it should complement the major thrust of our strategy—our commitment to an open information order, one in which adequate information and communications resources are available to everyone" (Dizard, 1989: 214). Dizard is not making a direct argument for the "development potential" of the information technologies and the free flow of information, yet he is convinced that access to the global communications grid, which will likely be built by American, Japanese and European companies, as well as by the new communications industries of the Third World, will bring about the "post-industrial democratic evolution" so sorely needed abroad. This altruistic mission will tremendously benefit American industry, he admits, but that is not its main purpose.

Political Economy

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"In the era of super-enterprises and super-technology, some are merchants, others are merchandise."

(Eduardo Galeano, 1990)

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According to Hamelink, no technology is value-free and every technology has an impact of some sort, and of varying degrees, when it is introduced into a culture (Hamelink, 1983). Communication and information technologies distinguish themselves in that regard because their impact is created by both the physical presence of the equipment and by the information commodity they carry. The history of information and communication technologies in developing countries shows that their impact is both profound and irreversible. Hamelink notes that:

A technology implies an institutional structure to support the administration, continued maintenance, and marketing of that technology. When a technology is imported, it is inevitable that at least some of the supporting social structure will also be introduced. The importation of the communication media is a classic example of how the whole institutional complex and administrative organization were brought in along with the supposedly "value-free" technology.

(Hamelink, 1983: 17)

The passage above shows that the impact of a technology goes beyond its immediate use in the systematic treatment of something such as information. The

effect of any technology depends upon the prevailing social, economic and cultural structure into which it is introduced. For example, print with moveable type was invented in China long before it came to Europe, but it never developed as a “technology of freedom” as it did in Europe, given the prevailing social and economic system in China at that time (Garnham, 1992). Schiller, too, contends that “as with technology in general, it is the social matrix within which [the new technologies are] developed and employed that ultimately determines the benefits [they] produce or deny, as well as who are to be beneficiaries and victims” (Schiller, 1983: 22).

The historical context into which a technology is inserted is no less important. Neville Jayaweera argues that the historical context into which the new communication and information technologies are being introduced in developing countries is the period of post-war global expansion of “capitalism,” and that in itself has grave implications for developing countries. Jayaweera’s account of the political decolonization of colonial empires after World War II provides a historical background that shows how Third World countries became even more dependent upon the colonizing countries after their “independence” was granted. Once independent, these countries became free and open markets for capitalist enterprise to exploit. Three structural transformations took place:

- Monopoly capitalism replaced competitive capitalism.
- Production was transferred to developing countries where capitalists could take advantage of cheap labor.
- The multinational corporation emerged “as the instrument whereby monopoly capitalism effected and sustained the shift to the periphery of the Third World.”

(Jayaweera, 1986: 37)

These transformations led to the New International Division of Labour (NIDL). In theory, NIDL is supposed to lead to “self-propelled and autonomous capitalist development at the periphery,” (Jayaweera, 1986, 37) as Michaelski and de Sola Pool have contended, because it brings in much-needed capital and production facilities into these countries, provides employment for its people, and transfers technology into a technologically starved area. However, autonomous development did not “spin off” from this arrangement. After having disturbed the political economy of the developing nations, Jayaweera argues, the “developers” did not make good on their promise and build up capitalism within them. Instead, they were content to “create and perpetuate dual economies within them and to maintain them purely as suppliers of primary commodities and as captive markets for the metropolitan production machine” (Jayaweera, 1986: 38).

This is the political economic context into which the new technologies of information and communication have been introduced. The first of these technologies to arrive into many of the developing countries were computers, satellites and ground terminals. Their purpose was to facilitate business: to provide corporations with information on financial matters, to report on market conditions and stock prices, to aid in product design, etc. They were as important to NIDL as railroads, steamships, telegraphy and paved roads were to the industrial revolution (Jayaweera, 1986: 39), but, Jayaweera maintains, the installation of the technologies, production facilities and so forth are only “a temporary phase in the rejuvenation of metropolitan capitalism...” (1986: 41) and not evidence of capitalism itself. What he ascertains is that “the rationalization of constant capital has [in the first half of the 1980’s] threatened to reverse NIDL,

erode the Third World's comparative advantage, and return industrial production to the metropolitan centers" (1986: 41).

That the information highway is being built by big business and, political economy argues, for the interests of big business, is clear when one considers, as does Luyken, that historically, whether the communication system be a group of relay-couriers or postal coaches, "the international expansion of communication and information systems can be traced in parallel to the interests and objectives of the persons creating them" (Luyken, 1987: 221). The British, he points out, developed their undersea telegraph cable system in order to "command and control" their Commonwealth, and the United States laid the first intercontinental transatlantic telephone cable as it became increasingly involved in international business after World Wars I and II (Luyken, 1987: 221). Because of the connection between the communication technologies and existing business operations, it is not likely that the new information and communication technologies, which are supposed (by some) to reach into every home, school and library on earth will, in reality, reach those non-business entities outside of major commercial markets. The GII will be "global" only in the sense that major centers of commerce are located in political and economic capitals throughout the world. It will not, however, be universally accessible, because, as Luyken points out, the "local extension loops which would effectively turn this infrastructure into a universal service facility decline in density in proportion to the decreasing GNP power of a given region or country" (Luyken, 1987: 226).

Gillespie and Robins agree, adding that the "distance shrinking" characteristics of the new communication technologies, which have long been at the core of the

"decentralization of power and commerce" argument, do not, in fact, overcome "geographical expressions of centralized economic and political power"; instead, they "constitute new and enhanced forms of inequality and uneven development" (Gillespie & Robins, 1989: 7). Drawing from the work of Harold Innis, they contend that communications technologies have a spatial, rather than a temporal bias, and thus tend to "encourage the centralization of power and control over space rather than its decentralization" (Gillespie & Robins, 1989: 9).

Gillespie and Robins maintain that the technologies will serve the "private interests of the transnational corporations that will engineer, supply, install and make use of the emerging global grid" (1989: 12), one that is being built by private corporations in the United States, Europe and Japan, as Dizard foretold (1989), and that is being shaped in their own image. The "grid," or electronic highway system that will crisscross over the planet, will not be a public thoroughfare as are the physical highways on which we drive our cars. It will be (and already is becoming) a privately owned system or systems, a fact that "challenges the assumption that modern communications networks will make all information freely and ubiquitously available" (Gillespie & Robins, 1989: 12). Furthermore, several studies have shown that the hubs of the grid or network are now centered in the developed metropolitan regions in the U.S. and Europe. While it would seem that regions remote from national and international markets would require the technologies much more so than the centers, the fact is that they make the least use of the new information and communication technologies. Gillespie and Robins are not optimistic about the implications for those individuals, organizations or even countries on the periphery. They note that the new technologies, far from smoothing out uneven geographical

development, are in fact introducing new spatial structures and new forms of geographical inequalities. This technological restructuring “reflects the broader processes of unequal and uneven economic development that have always characterized capitalist societies” (Gillespie and Robins, 1989: 15).

Anthony Smith argues that the introduction of the technologies in developing countries can exacerbate the inequalities that presently exist between industrialized and developing countries because the latter are the untapped market for the products of the former. In effect, the LDCs are always the customer and never the producer, always importing, never exporting. Though some may argue that this makes both the North and South economies mutually dependent, it is worth noting, says Smith, that “even in a situation of interdependence, the more powerful and the more independent can use the relationship itself for improving their relative position. Better access to information acts like a lever, greatly multiplying the ability to exploit one’s own resources” (Smith, 1980: 117). However, developing countries are caught in a double bind; should a country decide not to become part of the information network, its ability to protect its sovereignty and its resources is equally threatened. Smith points out that, for example:

...a society with no access to satellite sensing data about itself is unable to control its own economic destiny and can in no real sense any longer be thought to be ‘free’. Yet that nation may not be able physically or economically to control the technology through which the information about itself travels and in which it is stored.

(Smith, 1980: 117)

In order to take advantage of the information that is supposed to boost its economy, a developing country needs an **indigenous** infrastructure to support the acquisition and processing of such information. Such an infrastructure would include training centers, transportation systems, computers and parts manufacturing plants. Clearly, few developing countries have, nor can they afford to install, such an infrastructure. Additionally, the ability of developing countries to manufacture equipment or develop software technology is thwarted by the fact that between 60 and 90 percent of the patents associated with the technologies are owned by corporations based in the industrialized nations, specifically the USA (Hamelink, 1983). Developing countries are forced to import the technologies as well and/or allow foreign ownership of domestically located manufacturing plants, again maintaining their position as "suppliers of primary commodities and as captive markets for the metropolitan production machines," as Jayaweera noted above. Furthermore, until home-based training centers are in place, the technicians who use the imported equipment or who operate the plants will be foreign-trained, "thus creating and maintaining Western standards of professionalism and organizational structure" (Hamelink, 1983: 16).

The developing nations are clearly starting out at a disadvantage because the call to join the information age is being made by those who are already years ahead in terms of their own informational and technological development and who stand to gain by selling the LDCs the equipment, expertise and information they need to "ride" on the network of information highways. This is not a secret; even U.S. Vice President Al Gore promoted the global electronic network to his fellow Americans as a means by which U.S. firms can "compete and win" in the international economy (Schiller, 1996: 91). There is no competition in "giving

away" the vital information that has to do with real national development. The information that could be applied to social and economic development is inaccessible to the developing countries because Western values dictate that scientific and technological knowledge, for example, is not considered to be a public good; as commodities, they are "jealously guarded by corporate interests and treated as a proprietary right" (Hamelink, 1982: 18).

If vital knowledge, technological or otherwise, is not transferred or is made inaccessible due to its privatization and relative high cost, then the large transnational corporations of the industrialized nations will remain firmly in control of the information flow and, therefore, in control of the kind of "development" that will take place within the Third World countries. Knowledge of market conditions, weather, resources in the ground, or the information technology itself, provides the companies and nations that have it with enormous advantages, Smith argues (1980: 115), and national independence and socio-cultural self-determination are dependent upon a nation's ability to have access to this knowledge. "In this most and very influential technology," Hamelink says about information technology and microelectronics, "the wealthier industrialized countries are carving out the niche that will serve their interests best" (Hamelink, 1982: 22).

Thus far, the arguments of political economy theorists have largely pertained to the ability of the new information and communication technologies to lead to the industrial/economic development of the non-industrialized countries as they further expand the industrialized countries' own markets. National development, however, means more than technology transfer and the

establishment of a few domestic manufacturing plants. On a microcosmic level—and proponents of “true” national development are cognizant that it is the participation of the collective of individuals that is the ultimate determining factor—political economy looks at issues of physical and financial accessibility to the communication and information hardware and data by individual citizens. Golding and Murdoch, for example, note that cultural consumption, or the consumption of “symbolic forms” such as novels, newspapers and theatrical performances, increasingly relies on machines to mediate between the symbolic commodity and consumer. Television sets, VCRs, and now cable hook-ups, satellite dishes and home computers, are all becoming household “requirements” that must be purchased or rented to enable citizens communicative choices (Golding and Murdock, 1991: 20). Clearly, not everyone can afford the hardware. Craig McKie argues that computer-based communications technologies “have come to augment the capital stocks and improve the working assets of those who already [possess] formidable advantages” (1991: 393) and that, because of this, “the [technology] has increased the discrepancies between the powerful and the powerless, the well-off and the impoverished” (1991: 393). He points to statistics showing ownership of computers in Canada, which reveal that 36% of those earning over \$60,000 per year own home computers, while 10% of those earning under \$30,000 own home computers. Based on educational criteria, 35% of adults with university degrees have home computers in contrast to 19.3% of adults with only high school education (McKie, 1991: 401). In addition to the communication appliance, there is the cost of service and content to consider. Basic telephone service, for example, is fast becoming an unaffordable necessity, even in the United States. Mosco notes that

AT&T itself predicts that deregulation and the divestiture, both emanating from the pressures on large corporations to keep down the price of long-distance service, will cause local rates to jump 200 to 300 percent over the next five years, forcing three out of 10 U.S. households to do without telephones.

(Mosco: 1988: 11)

These statistics do not reflect the cost of connecting to the Information Highway and using the various online services, of course. Fortner reports that in addition to the \$3,700 (minimum) 1994 cost of hardware, which includes a computer, modem and communications software enabling "hook-up," there is a monthly service charge that is over and above regular cable or telephone charges. When cable companies incorporate Internet access, the average monthly charge will be \$61.00 (Fortner, 1995: 144).

It is clear from these figures and reports that many individuals and households in the so-called "advanced" societies will not benefit from their national information infrastructures. Mosco cites the U.S. Congress Office of Technology Assessment's 1990 report to show that

...changes in the U.S. communication infrastructure are likely to broaden the gap between those who can access communication services and use information strategically and those who cannot. Moreover, the people most likely to be adversely affected will be those for whom the new communications technologies are held out as a means to improve their circumstances—the poor, the educationally disadvantaged, the technologically isolated, and the struggling small business.

(Mosco: 1994: 10)

Using the information "strategically" is probably not what the average individual will want to do; most of the "information" accessed will be

entertainment content, such as pay-per-view movies, computer games and specialty channels because, as the Senior Vice President of Marketing at Philips Media said, "the publicity trumpeting the information highway is full of myths. One myth...is that the public is anxious to embrace this new world of interactive technology...Most U.S. consumers...are more interested in 'vegging out' " (Fortner, 1995: 144 quoting Shell, 1994: 27). Other information for which, perhaps, the average individual may not have need, but which is or will be needed by citizen's groups, non-governmental or non-profit organizations, government departments or research institutes, for example, is now priced far out of the reach of any but the largest corporations. For example, *The Economist* reports that

data gathered by the National Oceanographic and Atmospheric Administration's latest earth-resources satellite (which set American taxpayers back \$36m) are available only through a private company that charges \$2,500 to \$5,900 a year. The Federal Reserve Board's quarterly reports on the financial health of banks used to be given away but now cost \$500 apiece in digital form.

(Economist, Dec. 1993: 35)

These fees should not come as a surprise because the biggest group of users of the new communication and information technologies in the next five years will come from big business (The Economist, Dec. 1993: 35). The cost of data—information that is being commodified and transported on this global highway—is prohibitively expensive for all but a handful of wealthy individuals, and this is especially the case in developing countries. The information made available to the elite in developing countries comes in many forms that may serve, directly or indirectly, to give their local urban economies a boost. However, the price tag on the information, or on the transmission of the information needed by the

majority of the population to fully participate in national issues and, therefore, their own national development, is what creates the “growing gap” between those who have access and those who do not.

The process of transforming an object from having use value to exchange value is called “commodification,” and when something has been commodified⁵, or has become an exchangeable or “marketable” item, it significantly impacts upon social relations. Marx noted, for example, that the commodity represents past social relations because it is the physical embodiment of the labour time of its producers (Marx, 1859: 15). Furthermore, because the existence and use of the commodity itself may have both intended and unforeseen effects on society, it can have “future” ramifications on social relations as well. In Technopoly, Neil Postman describes how any technology can have unintended consequences, some of which unalterably impact upon society. Referring to Lewis Mumford’s investigation of the role of the mechanical clock in civilization, Postman recounts that it was invented and intended for the sole use of the monks, who needed a more accurate method of regulating canonical hours. Centuries later, as a commodity, it would be used to synchronize and control the actions of men (Postman, 1992:14), regulate production and working hours, and lead to the standardized product. “In short,” Postman asserts, “without the clock, capitalism would have been quite impossible” (Postman, 1992: 15). The consequences of the commodification of time could not have been foreseen by the monks; the

⁵ In Capital, Karl Marx describes a commodity as, first, “an object outside us, a thing that by its properties satisfies human wants of some sort or another” (Marx, 1859: 13). In addition to satisfying human wants, a commodity must also bear two kinds of value: use value and exchange value. Roughly speaking, use value can be considered the quality or utility of a thing. Exchange-value is the unfixed quantitative value of a commodity that renders it “equal to” another commodity for which it might be traded. Engels, Marx’ editor, added that, “(i)n order to become a commodity, the product must be transferred *by exchange* to the person whom it will serve as use-value” (Engels, 1859: 16).

commodification of information, however, may have even more serious repercussions.

Herbert Schiller notes that when information becomes commodified, it becomes privately owned and, therefore, available to the consumer on an ability-to-pay basis. Since production and sales of the information commodity are connected to income,

...the overall economy is directed...to producing for, and seeking, those with the most income. This is not illogical, given the features of the system, because this offers the greatest possibility of profit. It follows that a privately owned and managed information highway will be turned towards the interests, needs and income of the most advantaged sectors of society.

(Schiller, 1996: 96)

Since the majority of those who can pay for these commodities will be concentrated in urban centers, especially in the developing countries, economies of scale dictate that, like the telephone, the new communication and information technologies will also be concentrated there, leaving on the periphery the rural majority of the population who, first, do not have physical access to the technologies and, second, do not have the financial means to "buy" the information.

Being on the periphery, either physically or economically, should not be an obstacle to an individual's full participation in his or her civil, political and social rights, argue Golding and Murdoch. Social rights, they maintain, include the universal access to information and communication facilities. They identify three

main kinds of relations between communications and citizenship that amount to the communicative rights of individuals:

First, people must have access to the information, advice, and analysis that will enable them to know what their rights are in other spheres and allow them to pursue these rights effectively. *Second, they must have access to the broadest possible range of information, interpretation, and debate on areas that involve political choices, and they must be able to use communications facilities in order to register criticism, mobilize opposition, and propose alternative courses of action.* And third, they must be able to recognize themselves and their aspirations in the range of representations offered within the central communications sectors and be able to contribute to developing those representations.

(Murdock and Golding, 1991: 20—my emphasis)

To enable people to exercise their citizenship, communications systems should provide for user feedback and participation, and access to them must be universal and guaranteed, no matter what the income level or the location of the citizen. This implies that communication systems ought to be publicly funded as are public educational institutions, libraries and public broadcasting systems—but even these hallowed institutions are increasingly being subject to the pressures of the market. In agreement with Schiller, the authors determine that if “the provision of information is increasingly entrusted to the market, then access to that information becomes dependent on economic as well as political and technological constraints” (Golding and Murdoch, 1989: 190). This is especially true when one considers that the information that is useful for development purposes, such as that which may be held in the Pentagon or, again, information for research on technologies, is not only costly, but often encrypted.

While Golding and Murdoch are speaking of barriers to full citizenship posed by the commodification of information, their argument clearly applies to development issues as well, since development depends upon the full participation of the supposed beneficiaries. For example, Patil notes that rural development programs initiated all over the world often fail because of poor participation on the part of the beneficiaries—mainly the rural poor. Their participation is dependent upon their acceptance of the development programs/projects, and in order for such programs to gain their acceptance

...effective communication links between the initiators [of the projects] and the would-be participants have to be forged and strengthened on a continuing basis. This in brief, is the core of development communications.

(Patil, 1985: 23)⁶

Patil goes on to say that communication for development must be a two-way, dynamic process that requires a system that ensures the receipt of feedback from the participant to the sender of development information. Clearly, if the technology does not reach the poor, this process cannot be achieved, and if the sending of information is not free to participants, participation will not occur.

National development in LDCs involves millions of very poor, widely dispersed, mostly illiterate and formally uneducated people. The enthusiasm of those in the field of international development, like Daniel Lerner, who see satellite technology, for example, as the means by which participatory development can occur, is naive if the cost of participation is not considered. In 1975, for example, the SITE experiment in India, which used satellite communication to deliver development programming to 2,334 villages in underdeveloped distant states,

⁶ Beltran's definition of national development is based on the "participatory process," and is the definition assumed by this thesis. See Appendices.

was considered a success only while the use of the satellite and the development of the television and radio programming were “free.” Once the experiment was over, India was expected to pay for the satellite time, which it could not afford to do. Consequently, the project folded. Stover notes that, at that time, the first ten minutes of satellite time cost India \$1,037 and another \$41.25 for each additional minute; with their four-hour programming schedule, their bill came to \$10,525.50 per day. The figures do not include the cost of earth stations, teleconferencing facilities, terminals or the cost of program development (Stover, 1984: 91). Furthermore, the SITE project was not interactive precisely because of the illiterate and uneducated beneficiaries. Interactivity, in any case, would have been a further financial burden that certainly could not have been borne by the participants directly. The cost of access must be kept in mind in light of such definitive statements as that made by U.S. Vice President Al Gore when he said that “a primitive telecommunications system causes poor economic development” (see Chapter 1). The system used in the SITE project was far from primitive.

It is clear from the SITE example that the provision of communication and information technology to the rural poor is a losing proposition for its developers if they are looking for an immediate and sizeable return on their investment; equally obvious is the fact that almost no one outside of the urban centers of the developing countries can afford to buy information. The purchase of information, then, is, and will remain, the privilege of a very few as long as it is a commodity.

One of the consequences of exclusive access to the technologies and the information commodity, Schiller warns, is that “not only do those with the ability to pay gain advantaged access, but eventually—and, ultimately most importantly—they become the arbiters of *what kind* of information shall be produced and what is made available” (Schiller, 1981: 55—my emphasis). Information, unlike any other commodity, has a “special” status and significance in our social, cultural, political and economic lives. Unlike material objects, information affects humans on many levels, the most insidious being the ideological. Manipulating information—withholding, editing, falsifying, censoring, or limiting access to it—can have serious effects on all levels. When access to, and control over, information can be had only by those who have the financial means, there may be serious ideological repercussions for society because, as Mosco notes, the communication commodity, unlike any other, “contains symbols and images whose meaning helps to shape consciousness” (Mosco, 1996, 147). In their book The German Ideology, Marx and Engels noted the relationship between ownership of the means of material production and the means of “mental production” so that:

...generally speaking, the ideas of those who lack the means of mental production are subject to it...In so far, therefore, as they rule as a class and determine the extent and compass of an epoch, it is self-evident that they...among other things...regulate the production and distribution of the ideas of their age; thus their ideas are the ruling ideas of the epoch.

(quoted in Murdock and Golding, 1977: 15)

Murdock and Golding derive three important propositions from this passage: the capitalist owners of the means of production are also in control of the production and distribution of ideas; their views and perspective of the world, its structure and events, are the views that get reported and that come to dominate the

thinking of subordinate groups; this ideological domination is what maintains class inequalities.

If ownership and control of communication technologies and information belongs only to those who already hold power and, however indirectly, determine the direction of development for their own or other nations, self-determined national development—especially economic development—cannot take place. Furthermore, if the history of mass communication media in developing nations gives any indication, the information most likely to be available to, and accessible by, the bulk of people in the developing urban markets—the so-called “middle classes”—will be consumer information, what Herbert Schiller calls the “meat and potatoes” of the information infrastructure (1996: 80). Hamelink supports that prediction, noting that, historically, the products delivered via communication and information technology, when introduced into a developing nation, have been “more often oriented toward a sophisticated level of consumption rather than toward a solution to the pressing basic social problems” (Hamelink, 1983: 18). This, in effect, creates a larger discrepancy between the rich and the poor in developing countries, thereby “disintegrating” the nation. Consumer information will likely consist of the traditional movies, video games and shopping channels now made “digital” and accessible on a fixed (monthly) rate and a “pay-per” basis. This is not a hidden agenda, given that U.S. Vice President Al Gore promoted the information infrastructure to participants at an international telecommunications conference as a “global information marketplace, where consumers can buy and sell products” (Schiller, 1996: 91).

If what political economy argues is true, why is it that many of the governments and citizens of the developing countries are inviting their own exploitation or creating greater class divisions by accepting the position that the GII will “cause” development? Structuration theory, as it has been developed by Anthony Giddens, and semiotic theory can shed some light on the power imbalances in society—global society included—which are at the core of such acquiescence.

Giddens concept of structuration refers to the “process by which structures are constituted out of human agency, even as they provide the very ‘medium’ of that constitution” (Mosco, 1996: 212). What this means is that the structures/institutions and the actions/behaviour of people in a given society give rise to each other and, in this way, the theory refutes the notion that structures, such as government or business, determine the manner in which social actors may behave and therefore determine the nature of society (Mosco, 1996: 213). Giddens’ concept of the *duality of structure* is essential to this understanding of the constitution of society. The duality of structure refers to the way in which people’s actions reinforce the need for certain social structures (e.g., criminal activity reinforces the need for correctional institutions) and the social structure reproduces people’s actions (the correctional institute is a “learning center” for criminal activity).

Though Giddens’ assertion that social structures and social actions are mutually constituting confers upon social actors a level of power that other theories, such as functionalism and structuralism, had not, he nevertheless understands that power plays a very determining role in how social actors behave. It is this power that is at work when actors “agree” to class division, for example, and when

governments enter into deals with other governments that may not be in the best interest of their citizenry.

"There is no more elemental concept than that of power," said Giddens in his book, The Constitution of Society (1984: 283), and, indeed, power is at the heart of interpersonal as well as international affairs. Giddens understands that power plays an important role in the day-to-day activities of "actors." While individuals are skilled and knowledgeable, engaged in social activities according to both conscious and unconscious rules and aware of the influences that motivate them (reflexive monitoring of action), Giddens recognizes that the "skilled interpretative exchanges of actors are not to be seen as taking place between peers...but are likely to be skewed or imbalanced by the distribution of power in society at large" (Kilminster, 1991: 95). However, Giddens defines power as "the means of getting things done" (1984: 283), and so power is not an inherently "bad" or divisive thing, though, he admits, it is often at the heart of the most bitter conflicts in social life. Such power struggles, as they are aptly named, have to do with attempts to divide resources that confer upon those who hold them some form of control in social systems, where "control" means the capability of an individual or a group of "influencing the circumstances of action of others" (Giddens, 1984: 283) This *dialectic of control* underlines the fact that the exercise of power is not limited to direct "blood and fury" confrontations of rival collectivities (Giddens, 1984: 259).

There are two distinct notions of power in Giddens' theory. The first is the power of the individual to make a difference through praxis and the second, a sub-category of the first, is termed relational power. The concept of social praxis is

fundamental to Giddens' theory of structuration. Cohen states that while praxis may initially be defined as the "instances of conduct and interaction produced by social agents" (Cohen, 1989: 12), she believes that it is synonymous with the *constitution of social life*. That is, praxis refers to

...the manner in which all aspects, elements and dimensions of social life, from instances of conduct in themselves to the most complicated and extensive types of collectivities, are generated in and through the performance of social conduct, the consequences which ensue, and the social relations which are thereby established and maintained.

(Cohen, 1989: 12)

The instances of conduct cannot be taken to refer to the isolated actions of individuals. Though Giddens himself does not acknowledge the fact, Mosco notes that in Giddens' conception of structuration theory, the "individual" acts only as a social being, one whose behaviour "is constituted out of their matrix of social relations and positionings, including class, race and gender" (Mosco, 1996: 215).

Relational power is "the capability of actors to secure outcomes where the realisation of these outcomes depends upon the doing of others" (Cohen, 1989: 150). The means by which those superordinate actors may secure intended outcomes is through access to two categories of resources, allocative and authoritative, the elements of which are asymmetrically distributed. Allocative resources are "material resources involved in the generation of power, including the natural environment and physical artifacts; allocative resources derive from human dominion over nature" (Giddens, 1984: 373). Authoritative resources are "non-material resources involved in the generation of power deriving from the

capability of harnessing the activities of human beings; authoritative resources result from the dominion of some actors over others”(Giddens, 1984: 373). These two kinds of resources are necessary for the expansion of power, but “allocative resources cannot be developed without the transmutation of authoritative resources, and the latter are undoubtedly at least as important in providing ‘levers’ of social change as the former” (Giddens, 1984: 260).

Giddens determined that both kinds of resources need to be **stored** in order for power to reproduce itself. For example, “the expansion of capitalism to form a new world economy would not have been possible without the development of a range of techniques for the preservation and storage of perishable goods, particularly food” (Giddens, 1984: 260). Likewise—and this is the point most important for the subject under study—**authoritative resources must be stored in order for power to regenerate and expand across time-space, and the means by which this is accomplished is through the effective retention and control of knowledge and information.**

In pre-literate societies, the memory, manifest in myth-telling and traditional practices, was the only “container” within which information could be stored (Cassell, 1993: 188). In literate societies, the printed word was the first means by which information essential to the administration of society was stored, and in the first historical phase of the written word, lists were the most common type of written record. Cassell notes that the significance of list writing for ancient society is in the power that it bestowed upon list-keepers.

The keeping of written ‘accounts’—regularised information about persons, objects and events—generates power that is unavailable in

oral cultures. The list is the most elementary form of information coding, and therefore of information storing.

(Cassell, 1993: 188)

Claude Levi-Strauss determined the nature of this power.

When we consider the first uses to which writing was put, it would seem quite clear that it was connected first and foremost with power: it was used for inventories, catalogues, censuses, laws and instructions; in all instances, whether the aim was to keep a check on material possessions or on human beings, it is evidence of the power exercised by some men over other men and over worldly possessions.

(Levi-Strauss, 1959: 30)

Writing was not the only precondition to the Western notion of progress. However, according to Levi-Strauss, whenever and wherever writing occurred, its use was linked with "the establishment of hierarchical societies, consisting of masters and slaves, and where one part of the population is made to work for the other part" (Levi-Strauss, 1959: 30).

Adding to this, Giddens maintains that the clay tablet, piece of papyrus, or paper upon which lists and other types of information were stored were the containers

...which store allocative and authoritative resources that generate the major types of structural principle in the constitution of societies...Information storage...is a fundamental phenomenon permitting time-space distancing and a thread that ties together the various sorts of allocative and authoritative resources in reproduced structures of domination.

(Giddens, 1984: 262)

As new forms of information storage were developed, so developed the class-divided society—simultaneously with the walled city, considered by Giddens to be the ultimate container of information, “the crucible of power.” Giddens states that it was the impact of capitalism that finally broke up the city and helped to form, as it was shaped by, the nation-state.

Thus far, Giddens’s theory explains what it is that confers power onto some actors and not others: the exclusive access to and/or ownership of, stored allocative and authoritative resources. To extend this line of reasoning, it can be argued that the computer has now become the ultimate container of the authoritative resource, information, and that, because it is concentrated in the cities and surrounding urban areas (especially in developing countries), the city has become, once again, the “crucible of power.” The computer is concentrated in the cities principally because the new “list owners”—those having control over, and access to, the stored information—are, for the most part, the transnational corporate elite, also located in or near large urban centers. It therefore would come as no surprise to Levi-Strauss to see the extent to which they, as a “class,” have used the computer and telecommunications technology to extend their “capitalization or totalization of knowledge” (Levi-Strauss, 1959: 30) on a global scale and bring about a global division of labour, where one part of the *world* population is made to work for the other part.

All this, however, stops short of explaining how it is that the many who do not have access to, or ownership of, the resources agree or consent to allowing the few such access and ownership, even as the many are disadvantaged by such unequal distribution of resources. According to Cassell, Talcott Parsons’ believes

that the “authority” of those in power is, in fact, bestowed upon them by those ruled and that this gives them a “right” to their power over others. Authority, in this sense, is the “institutionalized legitimation which underlies power” (Cassell, 1993: 215) and is defined by Parsons as “ ‘the institutionalization of the rights of ‘leaders’ to expect support from the members of the collectivity’ ” (quoted in Cassell, 1993: 215). The term “institutionalized legitimation” takes coercion or force out of the equation, and approximates Gramsci’s concept of hegemony in that there is an unspoken agreement, occurring as a result of one’s socialization and education, to relinquish power to a certain group in society. The way in which this state of agreement comes about has to do with a society’s contract with those who rule them; according to Parsons, it is the collectivity of individuals who choose their leaders and who allow them to rule if, and only if, everybody gains thereby. It may be the case that leaders are initially chosen because they have access to resources—Parsons does not say—but they remain “in power” only as long as “those who have ‘invested’ in [them] have received back, in the form of the effective realization of collective goals, an increased return on their investment” (Cassell quoting Parsons, 1993: 215).

To illustrate using the example already given, the collective goal of keeping law and order in society has been institutionalized in the judicial/penal system. The learning of criminal activity within the correctional center may be considered an “unintended consequence” (Giddens’ term) of the action of setting up the correctional institute, but nevertheless serves to underline the need for such structures, and, at the same time, legitimizes the authority of the judicial/penal system. For Giddens, those authorities within the system have been given certain powers and privileges as a result of their access to authoritative resources, such

as a higher education and a number of years of experience; for Parsons, it is their commitment to further the collective goal of society, and their ability to do so.

There are many collective goals in any given society, some of which are given greater priority than others. As well, those given greater priority in one society may not be predominant in another. Cassell notes that, according to Parsons, the American society is characterized by “the primacy of values of ‘instrumental activism’, which entails that one main ‘collective goal’ of the society is the furtherance of economic productivity” (Cassell, 1993: 214). The transnational corporation’s increasing “authority” can be understood in this light. Using concepts from both Giddens and Parsons, the power and authority of the TNCs comes from their privileged access to information and knowledge (authoritative resources), and this access is allowed (consented to) by the majority of the less privileged because such advantage bestowed upon the TNCs will enable them to further the collective goals of the American society—the most important being its economic advancement. The process of structuration is readily at work in this scenario because there is no enforcement on the part of the TNC; the common value system is what gives rise to the TNC “structure” and the actions (or lack thereof) of the individual in the American social context sanctions the power, authority and the actions of such a structure.

The acquiescence of labourers who have lost their jobs as a result of the relocation of their company to developing countries where labour is much cheaper can be explained by this process. By virtue of their upbringing or living in a society with such common values as instrumental activism, they have come to “understand” that with increasing globalization comes global competition;

organizations must remain competitive in order to survive, even if it requires them to move onto foreign soil and abandon all loyalty to their domestic labourers. They “understand” that the corporation must seek ways in which to lower its costs or else succumb to the competition and declare bankruptcy—a condition which, for the domestic labourers especially, would leave them far worse off in the long run. On the other hand, it is now commonplace to hear how the economy of a newly developing country has “shot ahead” as a result of structural changes enabling foreign-based TNCs to build manufacturing plants within their borders and hire their labourers for very low-wages, relative to the wages of labourers in the home countries of the TNCs. That foreign labour is being exploited is refuted by the argument that the economy is “booming” and that workers are far better off than they were as peasants, even as their environments are degraded, their children taken out of school, their cultures destroyed and so forth. It is this kind of argument that allows both the less powerful governments of the developing countries and the more powerful governments of the developed countries to believe in the benefits of telecommunications technologies investment, and it is the message that they pass along to their constituents: everybody will benefit by these technologies because they will increase their country’s global competitiveness, and everybody will lose if they do not make an investment in the technologies. Yet how can everybody win? Are all societies characterized by the same collective goal of “instrumental activism?” Perhaps not, but it is surely the case that most TNCs, by their very nature (and, therefore, no matter where they may be located), are characterized by just such a goal. The power of these corporations to effect societal changes in their own self-interest, therefore, is worth examining in greater detail.

Robert Babe points to the general theory of international relations developed by the peace activist and communications scholar Johan Galtung, which contends that "the corporate/governing elite in peripheral countries (for example, 'Team Canada' in Canada), generally identifies much more closely with elites in core countries than with the mass of its own population" (Babe, 1996: 205). It is fairly obvious that the goal of any TNC is the furtherance of economic productivity. Because of the TNC's power, supposedly sanctioned by the society at large, government, accountable to that same society, acts in accordance with the wishes of the TNC. This may explain how governments, such as the Canadian government,

...enter into "free trade" deals that erode the very sovereignty of the federal government itself, that increase pressure on government to cut back already inadequate environmental legislation, to cut back social programs, to yet further reduce corporate taxes, and to pursue policies that disadvantage much of the domestic labour.

(Babe, 1996: 207)

Taken out of the context of this discussion and examined "objectively," if that could be done, the grave, even devastating, consequences of such deals and policies would surely threaten the credibility and the existence of the government that formulated them, or the TNCs for whom such policies were created. Yet, such policies exist. Perhaps Galtung's theory does not go deep enough to explain that "imperceptible" power at play, which can create the necessary climate within which such "bad" policies can be made, defended, and accepted. This climate is one in which and over which a particular society may have very little control. Cassell notes how inadequate Parson's theory is in this respect, as the latter starts with the assumption that there is consensus between

power-holders and those ruled, and therefore, ignores the fact that the “interests of power-holders and those subject to that power often clash...

...it is surely beyond dispute that positions of power offer to their incumbents definite material and psychological rewards, and thereby stimulate conflicts between those who want power and those who have it. This brings into play, of course, a multiplicity of possible strategies of coercion, deceit and manipulation which can be used to either acquire, or hold on to, power.

(Cassell, 1993: 221)

It is useful, at this juncture, to introduce another theoretical concept that helps to explain how such “strategies of coercion” can be employed by power-holders so as to enable them to keep their power or to prevent others from questioning it, even as that power may harm those subordinate to it. Semiotics, “the science of signs,” allows us to understand the phenomenon of myth and the art of “myth-making,” a means by which powerful entities with access to the allocative and authoritative resources can create self-serving ideological climates, that, as Chomsky would say, “manufacture consent” (Chomsky, 1988).

The Oxford English Dictionary defines myth as “a purely fictitious narrative usually involving supernatural persons, actions or events, and embodying some popular idea concerning natural or historical phenomena.” Hence, we understand that a Greek myth is “not true,” in that it cannot be supported by any scientifically rendered evidence, and that it was used as a means to explain phenomena that could not be explained otherwise. However, the kind of myth with which we are concerned is best defined in The Random House Dictionary of the English Language as “an unproved collective belief that is accepted uncritically and is used to justify a social institution as the belief in the biological

inferiority of slaves used in support of slave societies." This definition of myth is relevant to the discussion of power-holding on a societal level, for it points to the unquestioned collective belief, or the "ideological climate," which underlies the consent necessary for social institutions, including the institution of elite power itself, to thrive. In his book Mythologies, Roland Barthes exposed the "image" as well as the text circulated by the mass media as being largely responsible for creating that collective belief.

Barthes analysis of modern-day mythology arose out of his effort to build upon the theory of structural linguistics developed by Ferdinand de Saussure, who wrote his seminal work, Course in General Linguistics, in 1916. For Saussure, every utterance in a given language is actually a sign that "stands for" something, and that "something" derives its particular meaning only by virtue of its difference from, and its relation to, other things. Because of the relationship of signs to one another, Saussure determined that language is a system of signs "which [is] to be studied 'synchronically'—that is to say, studied as a complete system at a given point in time—rather than 'diachronically', in its historical development" (Eagleton, 1983: 96). Furthermore, this system of signs does not link directly to speech, the traditional "unit of analysis" of the linguist, but to the underlying structure of signs that make speech possible.

Barthes sought to apply Saussure's theory of signs to the image, and was most interested in determining whether the reproduced image (as in a photograph or graphic reproduction) could be a legitimate system of signs, and thereby considered to be a "fusion of perceptual knowledge—'an almost anthropological knowledge'—and cultural knowledge" (Innes, 1985: 190). His semiology, or

analysis of the semiotic structure of messages contained in cultural images—especially those symbolically “full” images found in advertisements—enabled Barthes to determine that “the image is penetrated through and through by the system of meaning in exactly the same way as man is articulated to the very depths of his being in distinct languages” (Barthes, 1977: 42). In this way, the study of the “rhetoric of the image” became identical with the study of ideology and the various ‘myths’ of modern life, which “[could] not be but for a single society and history” (Barthes, 1985: 203).

As Eagleton explains, Barthes’ earlier work was quite political in nature in that it was meant to expose those signs or sign systems that “pass themselves off as natural, which offer themselves as the only conceivable way of viewing the world, [and] are by that token authoritarian and ideological” (Eagleton, 1983: 135). One of the functions of ideology is to “naturalize” social reality

...to make it seem as innocent and unchangeable as Nature itself. Ideology seeks to convert culture into Nature, and the ‘natural’ sign is one of its weapons. Saluting a flag, or agreeing that Western democracy represents the true meaning of the word ‘freedom’, become the most obvious, spontaneous responses in the world. Ideology, in this sense, is a kind of contemporary mythology, a realm which has purged itself of ambiguity and alternative possibility.

(Eagleton, 1983: 135)

Eagleton’s example of “saluting a flag” is a well-chosen one, for Barthes’ now-famous “mythological deconstruction” of a cover photograph on a French magazine (*Paris-Match*) illustrates just how receptive we are (those of Western culture) to ideological messages “hidden” within the image. The photograph shows a Negro in military uniform saluting, his eyes uplifted—we “know” he is

saluting the French flag. This is the “meaning” of the photograph, says Barthes, yet, the picture *signifies* something else, something that serves to reinforce an understanding at a sub-conscious level and serves an ideological purpose. What it really says to us (and “says” is the proper term in that myth is a form of “speech”) is “that France is a great Empire, that all her sons, without any colour discrimination, faithfully serve under her flag, and that there is no better answer to the detractors of an alleged colonialism than the zeal shown by this Negro in serving his so-called oppressors” (Barthes, 1959: 116).

It should be clear from the above example that those who might have power over myth-making would have almost unlimited power because it is exercised at the level of the sub-conscious. That power would enable the power-holders to make themselves “invisible” as power-holders and would make the decisions, actions or manipulations that serve to ensure their survival as an “anonymous” class the **natural order of things**. Barthes notes how in France, from 1789 to the present day, several “types” of bourgeoisie have been in power one after the other, but for all of their supposed differences, a certain status or a “certain regime of ownership, a certain order, a certain ideology” has persisted at a deeper level (Barthes, 1957: 138). The deeper level of which Barthes speaks is, in fact, the level of the “collective sub-conscious” which allows the bourgeois’ world to seem the “natural” world—so much so that everything else is named in relation to the bourgeoisie, themselves needing no naming, as they have made themselves the “norm.” Barthes’ sees evidence of this power everywhere:

The whole of our France is steeped in this anonymous ideology: our press, our films, our theatre, our pulp literature, our rituals, our Justice, our diplomacy, our conversations, our remarks about the weather, a murder trial, a touching wedding, the cooking we

dream of, the garments we wear, everything, in everyday life, is dependent on the representation which the bourgeoisie has and makes us have of the relations between *man* and the world.⁷

(Barthes, 1957: 140)

It is by no accident, of course, that Barthes' choice of everyday occurrences have to do with forms of communication, because again, myth is a form of speech, a second-order language, which is alive not only in images, but in objects, rituals, texts, the performing arts and, of course, language. Since it is only by virtue of our ability to communicate that we can become a "culture,"⁸ it is clear that those who have access to various forms of communication are in a unique position to generate myth and, therefore, to have control over a culture. The elite in Western society are power-holders because they have access to the means by which the materials of myth—the forms of communication—can obtain their ideological substance. This is precisely what Marx had meant when he stated that the ideas of those who regulate the production and distribution of the ideas of their age are the ruling ideas of the epoch. The question remains, however, as to whether the elite themselves are so much a part of their "natural" world that they are subjected to its myths, even as they are themselves the generators of those myths. Certainly Giddens might submit to this, because this is the essence of the "duality of structure" within structuration theory. Althusser's analysis of ideology, too, would seem to indicate that the elite are very much subject to their own ideology even as they create it through myth-making. For Althusser, ideology and its relationship to society and "class" starts with the premise that

⁷ Barthes may not have seen this power at work in his own gender-biased language, which, as the following passage illustrates, supposes *man* to be the ex-nominated norm and *woman* to be the named "non-man"!

⁸ Karl Deutch suggests that we look to the processes of communication if we are looking for the "basis of the coherence of societies, cultures and even of the personalities of individuals" (Deutch, 1953: 61).

human societies exude ideology “as the very element and atmosphere indispensable to their historical respiration and life” (Althusser, 1970: 232). Ideology, therefore, is as much a defining characteristic of society as is population. It is not imposed upon a society; rather, it is the result of the actions and interactions of people, and hence, is “unconsciously” reproduced. Althusser maintains that ideology

...is profoundly unconscious, even when it presents itself in a reflected form...Ideology is indeed a system of representations, but in the majority of cases these representations have nothing to do with ‘consciousness’: they are usually images and occasionally concepts, but it is above all *as structures* that they impose on the vast majority of men, not via their ‘consciousness’. They are perceived-accepted-suffered cultural objects and they act functionally on men via a process that escapes them.

(Althusser, 1970: 233, emphasis added)

Althusser’s use of “perceived-accepted-suffered” is a concise way of showing that ideology is, first, believed in (understood and taken for granted) and second, lived. It is lived by all over whom it presides, all classes, all people. So it is not a falsehood invented by the ruling classes to keep the subordinate classes enslaved. The bourgeoisie are also enslaved by it because it sustains or nourishes their will to survive as the ruling class.

In reality, the bourgeoisie has to believe in its own myth before it can convince others, and not only so as to convince others, since what it lives in its ideology is the very relation between it and its real conditions of existence which allows it simultaneously to act on itself (provide itself with a legal and ethical consciousness and the legal and ethical conditions of economic liberalism) and on others (those it exploits and is going to exploit in the future: the ‘free labourers’) so as to take up, occupy and maintain its historical role as a ruling class.

(Althusser, 1970: 234)

So, when we speak of the class function of an ideology, it must be understood that, not *only* is the ruling ideology the ideology of the ruling class, as Marx stated, but the ruling ideology *constitutes* the ruling class, “by making it accept the lived relation between itself and the world as real and justified” (Althusser, 1970: 235). In other words, the ruling ideology also rules the ruling class. As Chomsky says, the “commissars,” or the elite who have access to the media and the intellectual journals and who control the educational apparatus in Western society (specifically the U.S.), are not aware that they are part and parcel of the effective indoctrination of society. While believing themselves to be independent and critical thinkers, this group functions “to design, propagate and create a system of doctrines and beliefs which will undermine independent thought and prevent understanding and analysis of institutional structures and their functions” (Chomsky, 1992: 5)—including their own institutional structures and their own functions within them!

How does all of this relate to the new telecommunications technologies and the promotion of the Global Information Infrastructure? It is now apparent: the builders and owners of the technologies and the information it will carry and those who stand to gain by the implementation of the communication technologies are the elite whose access to these and other forms of communication gives them the power to create a “meta-language” about the technologies, a language that, as the arguments above have shown, is a reflection or manifestation of their own belief system, a belief system that has been developed in their own image and in their own self-interest. That meta-language is the myth, the taken-for-granted, naturalized “understanding” that these technologies are the answer to uneven development, to the unequal distribution

of information, wealth and power and so forth. Therefore, we can expect that the language and the images related to the GII will be myth-laden, and if we do a mythological analysis of such images and texts, we will discover that these myths support the status quo—they serve their creators.

Chapter Three

The Maitland Commission

Introduction

In 1982, the International Telecommunication Union (ITU) held its Plenipotentiary Conference in Nairobi, a fitting “developing world” venue in which to consider the question of telecommunications development. During this conference, it was recognized that a communications infrastructure was of fundamental importance to the economic and social development of all countries. This point, and that there was a “low level of resources...allocated to telecommunications development by international aid and investment organizations”(Missing Link⁹, 1984: 71) was stated in Resolution 20 of that conference. Resolution 20 also called for the establishment of an International Commission for World-Wide Telecommunications Development which would examine the state of telecommunications development in the developing world. The Commission’s mandate, specifically, would be:

- to examine the totality of existing and possible future relationships between countries in the field of telecommunications involving technical cooperation and a transfer of resources in order to identify the most successful methods of such transfer;
- to recommend a range of methods including novel ones for stimulating telecommunication development in the developing world using appropriate and proven technologies in ways which would:

⁹ The Report of the International Commission for World-Wide Telecommunications Development is entitled “The Missing Link.” Quotations from this report are referenced by the acronym ML.

a) serve the mutual interests of governments, operating companies, the public and specialized user groups in the developing world and of the public and private sectors in the developed countries; and

b) lead to progressive achievement of self-reliance in the developing world and the narrowing of the gap between the developing and developed countries;

- to consider the most cost-effective way in which the Union could stimulate and support the range of activities that might be necessary to achieve a more balanced expansion of telecommunication networks.

(ML, 1984: 72)

In the spring of 1983, the Administrative Council of the ITU set up the Commission as per the specifications of Resolution 20; it was to be “completely independent and constituted of members of the highest international reputation serving on a voluntary basis,” and it was to be “financed from independent non-commercial sources” (ML, 1984: 71). Perhaps to emphasize its independence, the Administrative Council’s Resolution 900 officially named the commission The Independent International Commission for World-Wide Telecommunications Development. For brevity, however, it is commonly referred to as “The Maitland Commission,” after its chairman, Sir Donald Maitland.

The Maitland Commission completed its task and published its report, *The Missing Link*, in December, 1984. That report is the subject of analysis in this chapter. However, before the report is examined, a few words must be said about the International Telecommunication Union itself, in order to provide a context for the analysis.

The ITU

The International Telecommunication Union, originally called the International Telegraph Union, was founded in Paris in 1865. It did not become a specialized agency of the United Nations until 1947. It is an intergovernmental organization “within which the public and private sectors cooperate for the development of telecommunications.”¹⁰ It has a membership of 185 member states (governments) and 363 members comprising public and private operators, scientific and industrial companies, broadcasters, and regional and international organizations. Of the 17-page list of members, there are no non-governmental, non-profit organizations (NGO’s) listed. However, the ITU is now considering ways in which links can be established with those members of the NGO community whose work or interests revolve around telecommunications issues.

Traditionally, the ITU holds its Plenipotentiary Conferences about every seven years. According to John Gilbert, communications consultant and Secretary to the Maitland Commission, the 1982 conferences were most significant in that they brought the ITU into the arena of “technical cooperation” with the developing countries, something that had been debated for many years. He summarized that:

The developing countries felt that the ITU had not done enough to stimulate the creation of telecommunications infrastructure worldwide. They wanted to see a higher priority, including financing, given to telecommunications. The industrialized countries argued that telecommunications was one of many sectors funded by the UNDP and other international agencies. They

¹⁰ All ITU information and quotations were found online at: <http://www.itu.ch/>

argued that the ITU, a specialized technical agency, should not expand further into areas of development.

(Gilbert: 1992: 2)

The 1982 conferences saw this and other contentious issues related to technical cooperation hotly debated, such that other issues on the agenda still had not been addressed by the fourth week of the six-week conference period. By that time, the idea of establishing an independent commission which would examine the state of world telecommunications development was readily accepted by the exhausted delegates. However, they could not have known that the report produced by the Commission would spark off another debate, this one carried on “around the world to an extent never seen before on any document concerning telecommunications” (Gilbert, 1992: 3).

In 1989, at the ITU plenipotentiary conferences held in Nice, it was acknowledged that progress on Maitland’s recommendations had been slow, although some important steps had been taken in a few of the developing countries, particularly those in the Asia-Pacific region. Yet, it was also recognized that technical assistance to the developing countries was indeed as important as the ITU’s traditional activities of co-ordination, standardization and international regulation. A High Level Committee (chaired by Gabriel Warren of Canada), which was to review the structure and functioning of the ITU and to recommend reforms “enabling the organization to respond to the challenges of the new international telecommunications environment” (see footnote 10), was established at that time. At the next plenipotentiary convention in Geneva in 1992, and in accordance with the recommendations of the High Level Committee, the ITU was reorganized into three main sectors: the standardization

sector (ITU-S), the radiocommunication sector (ITU-R), and the development sector (ITU-D). The ITU-D is the sector that:

fosters the development of telecommunications in developing countries by establishing medium-term development policies and strategies in consultation with other partners in the sector and by providing specialized technical assistance in the areas of telecommunications policies, the choice and transfer of technologies, management, financing of investment projects and mobilization of resources, the installation and maintenance of networks, the management of human resources as well as research and development.

(see footnote 10)

It is this sector, along with the Telecommunications Development Bureau (known by its French acronym, BDT) of the ITU (a body that “absorbed” the Center for Telecommunications Development—one of Maitland’s “pet” recommendations), that is to continue the tasks recommended by the Maitland Commission by playing “a catalytic role in mobilizing resources and creating awareness of the importance of telecommunications” (Maitland, 1992: 17).

The Maitland Commission: Members and Miscellanea

The members of the Maitland Commission came from the following industrialized and developing countries: India, the United States, Kuwait, Japan, Germany, Morocco, France, the United Kingdom, Tanzania, Venezuela, Gabon, Senegal, Romania, Indonesia, the USSR, Costa Rica, and Saudi Arabia. No women were on the Commission, and members were of very high official rank in government or in educational institutions, and/or were in the top-level executive management of banks or large corporations in the telecommunications sector.

While the Commission was initially to be independent, in that it was not to be influenced by, or attached to, any interested organization or institution, it received many generous contributions, in cash and in kind, from banks, government departments and several large corporations in the telecommunications business, including: AT&T (USA), Bell Canada Enterprises (Canada), British Telecom, Cable and Wireless (UK), GTE Corporation (USA), MCI Communications (USA), NEC Corporation (Japan), Northern Telecom (Canada), RCA Corporation (USA), Siemens (Germany), Teleglobe Canada, Wang (UK), and Western Electric (Saudi Arabia).

The Commission's research was based on available literature. No original research was commissioned for two reasons: the Commission had neither the time (they were to report within the year) nor the funds at their disposal to commission newer studies and, second, the literature that existed at the time was said to be extensive and to draw conclusions from it would best serve the Commission's purposes. Background information and statistics were gleaned from ITU and OECD-prepared studies, Arthur D. Little analyses of world telecommunications, and CCITT (French acronym for International Telephone and Telegraph Consultative Committee) reports. Out of sixteen other articles and studies reviewed by the Commission for its first chapter on the role of telecommunications (in development), ten were sponsored by the ITU and the OECD, and several of these studies were authored by Heather Hudson (USA) *et al.* It appears that none of the literature reviewed was from a "critical" political economy perspective that would consider that "the issues which are at the core

of global economic dysfunctions are the backdrop for any discussion of communications or information" (Golding, 1991: 48).

The Missing Link

"There is in our opinion no good reason why by the early part of the next century virtually the whole of mankind should not be within easy reach of a telephone and of all the benefits this can bring" (ML, 1984: 4).

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Number of telephone mainlines per 100 population:

	1982	1992	2000 (est.)
Nepal:	00.10	00.40	00.81
Thailand:	00.89	02.50	08.44
Japan:	36.02	48.15	81.97

(From J. Parapak , APT Journal, Vol. 5, No. 2, May 1993)

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The Missing Link begins with a chapter on the role of telecommunications (presumably in development) wherein Maitland *et al* point out that the relationship between telecommunications and development is a positive one, and that there is a "strong correlation...between the number of telephones per capita and economic development measured by gross domestic product" (ML, 1984: 9). The term "development" is otherwise never defined in the report, nor is it explicitly stated whether a particular model of development is employed. Yet "development" is implied in the examples illustrating the impact that telecommunications can and do have on various aspects of social, political and economic life: telecommunications play a vital role in the improvement of health services and in the dispatch of aid in emergencies; in delivering education and in strengthening the social and cultural fabric; in increasing efficiency in economic,

administrative and commercial activities; in decreasing the need for travel while, at the same time, improving the coordination of the movement of goods; and in reducing the migration of the rural population to the cities, thereby increasing productivity and stimulating economic activity in rural areas. These are facets of development that can not be improved unless information, carried over a telecommunications system that allows it to be instantly transmitted, can be easily and quickly sent and received anywhere in the country. It is this latter point on which the Commission was emphatic; real national development, in any sense of the word, would not be possible unless the telephone network could be extended into rural and remote areas.

Though the Commission stated that telecommunications was not an end in itself and that "the impact of telecommunications on the process of development is inevitably influenced by other factors," (ML, 1984: 10) it argued that telecommunications, as a complement to other investments, are an important means by which the overall quality of life in any country can be enhanced and, for this reason, ought to be given greater priority in development programs and initiatives.

After having determined the importance of telecommunications to national development, the Commission went on to describe the actual state of world telecommunication development at that time. It painted a very dismal picture indeed. The Commission noted that "(m)ore than half the world's population live in countries with fewer than ten million telephones between them and most of these are in the main cities. Two thirds of the world's population have no access to telephone services," and that, "(o)ver half the world's population live in

countries with less than one telephone for every 100 people" (ML, 1984: 13,15). The "penetration" of telephony, defined as the proportion of telephones to the population, in urban versus rural areas, was even more appalling. In the cities and large towns of Tanzania, for example, 1984 statistics showed that there was one telephone for every 69 people, while this disparity increased to one telephone for every 1,060 people living in its rural areas. This was contrasted to Belgium, where there was one telephone for every three people in the cities and large towns, and one phone for every four people living in rural settings.

Apart from the actual differences in number of telephone mainlines between developed and developing countries, the Commission reported on the quality of telecommunication equipment and services in developing countries. Again, the situation was rather bleak. Sophisticated telecommunications systems were virtually unknown in developing countries, with the exception of a few of the largest cities in the more developed of the developing countries.

The reasons for the disparities in the distribution and quality of telecommunications amongst the world's population, the report stated, included "differences in economic capability, historical experience and the different priority given to investment in telecommunications in the industrialized world and developing countries" (ML, 1984: 14). Specifically, the disparities were either caused or exacerbated by deficiencies in funding, in the supply of equipment, and in the difficulties associated with extending the network to remote areas, the details of which follow.

Funding

- Funding for telecommunications in developing countries was low, relative to the amount allotted to other development programs, such as agricultural and rural development, electric power, transportation, water supply and waste disposal, industry and education. In 1980, for example, the World Bank loaned over three billion \$US to developing countries' agricultural and rural development programs; loans toward improvements or additions to telecommunications infrastructures totalled approximately \$125 million (U.S.) Furthermore, funds sought from international development agencies and banks by the developing countries went to these other areas; telecommunications were not seen as a priority in their hierarchy of needs, and, in fact, many saw telephones as luxury items.
- Telecommunications operators had difficulty finding investment capital. Returns on investment were not substantial enough to improve upon the poor quality of the existing system and/or to expand the existing system into remote areas where the expected return on investment would be even lower than in urban areas.
- Developing countries did not manufacture the hardware and software components of telecommunications systems and therefore were forced to purchase in hard currency—sometimes up to 60% of the cost—the necessary equipment and service (expertise) needed to install, operate and/or maintain the system. Furthermore, only a very small percentage of profits earned (from international calls) were in hard currency.

- Funding for telecommunications equipment purchases was often arranged through suppliers themselves; the “attractiveness” of their financing terms may have enticed buyers to purchase equipment unsuitable for their actual needs, or to install different types of equipment over the years, which lead to incompatibility of plant and equipment, difficulty in training personnel and in finding parts and services for one or more portions of the systems.
- Competition between suppliers had been most fierce for the “sure thing,” i.e., for those relatively unhostile and largely populated centers in developing countries. Consequently, rural and remote regions were ignored, and there existed no profit incentive to develop new products to suit the needs of these outlying regions.

Supply of Equipment

- Most developing countries had been purchasing (and still do purchase) their telecommunications products from multinational firms based in advanced countries. These products were, for the most part, developed for large markets in advanced countries. In turn, the demands of the markets in advanced countries had been forcing the development of more sophisticated telecommunications equipment, which was often not appropriate for developing countries. Furthermore, and as a result of the constant upgrading of the telecommunications systems and equipment, manufacturers stopped making the older equipment and many also ceased production of spare parts for the older systems. Some developing countries were then forced to adopt

newer systems even though the older system was still providing adequate service.

- Some small and poor countries required only limited quantities of equipment and, because of economies of scale, had to pay high prices for small orders of spare parts, customers' receiving equipment, and even the essential components of the main system itself due to high transportation, set-up and maintenance costs.
- Dependency on the telecommunications manufacturer for guidance on maintenance procedures, technical assistance, and so forth, placed the telecommunications operator at a disadvantage. If the required assistance was not forthcoming, the system could not be maintained and service to the customer suffered. The problem was exacerbated with the introduction of new, technologically more sophisticated systems as the operator struggled to keep up with the changes and the retraining of staff.

Problems of Remote Areas

- The large distances and the difficult terrain between densely populated areas of developing countries, the thinly dispersed population in some of these large stretches of land and the consequent high cost per line, the lack of good roads and public electricity supplies were all given as reasons for the lack of telecommunications facilities in the rural areas of some developing countries. Though satellite technology and radio technology available at the time made the physical wiring of these rural areas unnecessary, even the cheapest configuration for an adequate telecommunications system still made the

average cost per line five times more expensive in rural areas than in densely populated areas.

- The demand for telecommunications in rural areas was difficult to forecast; in some cases demand greatly exceeded projections, but for the most part, returns on telecommunications investments in rural areas were low and in many cases, losing propositions, deterring investors. In light of this fact, the Commission admonished that “commercial profitability alone is an inappropriate criterion for decisions on investment in remote areas. Hence different and more flexible policies are required to account for indirect benefits” (ML, 1984: 22).
- When faced with a decision to upgrade existing systems in densely populated areas or invest in new systems for remote areas, telecommunications operators often chose the safe bet—to expand and improve the profit-making urban system.

After having determined the reasons for the difficulty in expanding the telecommunications networks into developing countries, and especially into their remote and sparsely populated regions, the Commission made suggestions as to how the ITU could work to achieve “the harmonization, development and enhancement of telecommunications throughout the world” (ML, 1984: 25). The Commission established that the ITU, being the recipient of UNDP (United Nations Development Program) funds for telecommunications-related projects in developing countries, could be only as effective in carrying out these projects as funds permitted. That the Union had resolved, in 1982, to expand upon the the

ways and means in which it could assist developing countries, could be by no means a solution to telecommunications underdevelopment unless the funds forthcoming from the UNDP would increase proportionately. The problem lay in the fact that the ITU's actual expenditures associated with these projects exceeded the funds provided by the UNDP.

Maitland recommended that all organizations involved in the funding of development projects, especially the UNDP, and all those applying for and receiving funding for such projects:

- accord a greater priority to telecommunications development amongst other aspects of development in third world countries and appropriate adequate resources for this sector; and
- consider the world-wide expansion of telecommunications to be an important element in the process of development as a whole, and that a high priority be given to regional cooperation, especially between developing countries.

Apart from the ITU and the UNDP, other organizations at which the recommendations were aimed included the the International Bank for Reconstruction and Development (IBRD), the United Nations Educational, Scientific and Cultural Organization (UNESCO), which operates the International Program for the Development of Communications (IPDC), the Organization for Economic and Cultural Development (OECD), INTELSAT, INTERSPUTNIK and INMARSAT (the three organizations that provided global commercial communications via satellite systems), as well as the numerous

regional development banks, inter-regional organizations that cooperate to develop telecommunications networks, foster close relations between telecommunications operators, and/or improve technical and administrative services.

The Choice of Technology

The Maitland Commission was on top of the changes taking place in telecommunications technology at that time. Digital switching and computer-controlled exchanges, plus the voluminous carrying capacity of fibre optic wires and the distance-shrinking characteristics of communications satellites would make possible the transmission of huge amounts of voice, text and video data anywhere in the world. The high quality and efficiency, low maintenance, flexibility and the falling costs of a wholly digital network made this type of system, to the Commission, the ideal one for developing nations. It stated:

We believe that taken together the advantages of a wholly digital network are overwhelming and that every telecommunications planning decision should now be made with the creation of such a network in mind.

(ML, 1984: 33)

It was acknowledged by Maitland that many developing countries would not need the “luxury model” telecommunications system at first—their needs were for basic telephony, for the most part. Even though it had been already noted that the supply of replacement parts and the dearth of maintenance personnel for older telephone systems was problematic, it was suggested that those countries with existing analog equipment utilise it until the “end of its economic life rather

than (replace it) prematurely by digital equipment," (ML, 1984: 33). Nevertheless, if a digital system were to be installed right from the beginning, the Commission noted, the foundation would be laid for the future expansion of the network when it was needed, avoiding problems associated with integrating older and newer systems. Still, the initial cost of such a system would be prohibitive for most developing countries, especially those with large expanses of hostile terrain between urban centers. The Commission therefore recommended that manufacturers of equipment develop systems that would allow developing countries to integrate remote areas into their network at lower costs, which would, necessarily, include the use of satellite communications. To help developing countries select appropriate equipment for their needs, the Commission also recommended that the ITU put together a catalog of telecommunications equipment and components so the developing countries would know what is available and at what cost. Finally, even after having admitted that contracts for spare parts and maintenance are often not honoured, the Commission nevertheless recommended that when purchasing equipment, developing countries ensure that their contract includes a commitment for the supply of spare parts, training and maintenance.

The Commission did recognize that the installation of digital systems in developing countries would make those countries vulnerable to exploitation by operators in developed countries, as the following paragraph attests.

When telecommunications networks in the developing world are extended to provide advanced data communication facilities, entities in industrialised countries who would normally operate such facilities may gain advantages with respect to information on trade and world market conditions.

(ML, 1984: 33)

Their suggestion for “closer cooperation between industrialized and developing countries in the data communications field” (ML, 1984: 33) as a means to avoid this potential threat to national sovereignty was given no further elaboration. However, the indigenous manufacture of telecommunications equipment, which would avoid this potential danger, was not entirely out of the question. The Commission recommended that developing countries, either singly or cooperatively with other developing countries or regions, take into consideration the set up of local manufacturing establishments for specialized products and/or spare parts for their existing equipment. Manufacturers in advanced countries might also cooperate in this respect. As well, research and development facilities and training institutes were seen as highly necessary if developing countries were to lessen their dependency on advanced countries for systems engineers and maintenance personnel, and if their local or regional manufacturing establishments were to produce specialized systems tailored to their needs and their unique environments. Telecommunications equipment manufacturers in developed countries could cooperate in these endeavors, and the research and development (R&D) centers and training institutes, once operational, could then be the channels through which the transfer of technology could take place. Funding for these centers and institutes would come from local governments, international funding agencies, the Technical Co-operation Department of the ITU, and from industrialized countries.

The Maitland Commission even made recommendations for the management of the telecommunications entities in developing countries. While it did not officially recommend privatization, it did state that, since the incorporation of

new technologies would affect almost every facet of telecommunications operations, a "separate (from government), self-sustaining enterprise, operated on business lines" (ML, 1984: 38) would be the best structure to handle such changes.

The greatest number of recommendations were made in the areas of financing, since lack of foreign exchange and low funding in the telecommunications sector seemed to be significant problems confronting developing countries. The Commission strongly recommended that the certain funding agencies, such as the IBRD, establish an insurance plan and "cross-default" arrangements such that investment in telecommunications systems in developing countries would be protected against non-commercial risks. Advanced countries, too, should offer the same type of insurance to their manufacturers and suppliers who export equipment to developing countries. The Commission also recommended that member states of the ITU set aside a portion of revenues from international telecommunications traffic to fund telecommunications development (and pre-investment costs, such as those associated with feasibility studies) in developing countries. Other funding arrangements, such as trust funds and revolving funds established by ITU member states, international funding agencies and Regional Development Banks, could provide loans for telecommunications projects; in the case of the former, all repayment of the loans would go back into the fund; in the case of the latter, preferential tax exemptions could be made available to investors.

Criticisms of Maitland's Recommendations

The Commission's response to its concern about the advantages industrialized countries would have on trade and world market conditions should developing countries install wholly digital telecommunications technology was a call for "closer cooperation between industrialised and developing countries in the data communications field" (ML, 1984: 33). According to Mosco and McAllister, such a weak call cannot be of much comfort because it "begs the fundamental question of control" (1987: 339). The fact that the technology is not developed indigenously leaves these nations dependent upon advanced countries and perpetual hostages to the constant demands of the latter's market forces. Critics of Maitland's choice of technology have also noted that it would make better sense that developing countries begin by installing less expensive, perhaps even basic telephone equipment that would serve their immediate needs until they are in such a position, and have their own demonstrated need, for more sophisticated systems. Such a system could also be maintained locally (Mosco and McAllister: 1987).

Though the Commission suggested that developing countries find ways to establish their own manufacturing facilities for telecommunications equipment for their special needs, the suggestion may appear to be disingenuous in light of the statement that "developing countries represent a fast-growing and potentially the largest market for telecommunications equipment and should be highly attractive to manufacturers in industrialised countries" (ML, 1984: 57). The proposal for an ITU-published catalog of telecommunications equipment and suppliers serves only to emphasize the latter statement. Mosco and

McAllister note that "Third World analysts and policy-makers may well ask whether their call for equity is not being met by transforming the ITU into a marketing vehicle for the large telecommunications manufacturers. However well meaning they may be, it is unlikely that such activities will diminish the real political concerns of developing countries" (1987: 340).

The State of Telecommunications Development—Ten Years After Maitland

The November/December issue of Transnational Data and Communications Report (1992) published an article by Donald Maitland titled " 'The Missing Link' Revisited." This same article, tailored to an Asian readership, was republished in the APT (Asian-Pacific Telecommunity) Telecom Journal in May, 1993. Both of these articles, and nine out of the ten articles in the APT Journal dedicated to the topic of the state of telecommunications since the publication of The Missing Link, affirm the "first principle" of telecommunications technology established by the Maitland Commission in the 1984 report—namely, that there is a positive relationship between telecommunications and economic, social and cultural development, and "which (is) chicken and which egg (is) an esoteric question" (Maitland, 1993).

All authors acknowledge that some challenges—technical ones, such as regulation and standardization were mentioned—have arisen as a result of the exponential growth of telecommunications technologies, but these concerns are minimized by numerous statements that exalt not just the quantifiable benefits of, but the fundamental societal and global changes brought about by, these technologies. The most important of these fundamental changes for Maitland is

“the steady, indeed relentless, globalization of economic activity,” including “cross-border mergers and acquisitions, international joint ventures (and) cooperative research and development projects” (Maitland, 1992: 17). Maitland firmly believes that the creation of electronic networks, the “Information Society,” and the international trade of the information commodity that these connections enable without regard to national boundaries, “should be warmly welcomed” (Maitland, 1992: 17).

The evidence, however, indicates that they are not. Despite this “progress,” most of which has occurred in the industrialized economies and the areas of East Asia “where the importance of an effective telecommunications infrastructure was recognized at an early stage in the planning process,” (Maitland, 1992: 17) and despite all the potential benefits that further telecommunications development can bring, Maitland and the other contributors to the APT Journal special issue are dismayed at the lack of “imaginative political response to the challenge presented by these opportunities...” (Maitland, 1992: 17) in most developing countries. In real terms, many of the reports acknowledge, the information gap between the “information haves and have nots” is ever widening. Paramount among the many reasons given for this discrepancy was, and still is, the lack of funding going to the very needy developing countries, especially those with large expanses of sparsely populated terrain, and the lack of coordination and cooperation between regions in developing countries. From “The Missing Link: Ten Years After,” the following are some of the other reasons given for the widening gap, as well as some prescriptive remedies:

“(T)he gap can only be filled through international solidarity and cooperation” (Arnold Ph. Djiwatampu, Director of ITU’s Telecommunication Development Bureau).

“The key factors to telecommunications development appears to be high priority given by the government, enhancement of private sector participation and commitment to human resource development as well as utilization of modern appropriate technology” (Jonathan Parapak, Secretary General of Indonesia’s Ministry of Tourism, Posts and Telecommunications).

“(L)imited public funds and restricted private participation left little room for concrete action...” (Richard Barber, Executive Director, Pacific Telecommunications Council).

“How can we provide the links to the sparsely populated and isolated areas, and to islands far from major population centers?... Let us look at the major factors involved: economic justification...economy of scale...competition” (Dr. Mats Nilson, Managing Director, Tongasat).

Maitland notes that unforeseen local and global events that governments were powerless to change may have kept them from focussing on the telecommunications priority. The end of the Cold War and the rise of ethnic tensions; terrorism, drug traffic, wars, natural catastrophies and the sometimes consequent breakdown of law and order; global economic recession and the lack of “policies and instruments appropriate to the post Cold War world” (Maitland, 1992: 17), are all reasons given for the lack of response to the Commission’s

recommendations. Yet Maitland also recognizes that these reasons and remedies are symptomatic of a greater underlying problem that must be overcome if any further progress is to be made. He contends that it is the lack of understanding, by governments and the higher authorities involved in regional development, of the importance of telecommunications to the social, economic and cultural development of a nation.

If the existence of the telecommunications gap is acknowledged and the Commission's proposals for bridging it have been broadly endorsed, that is good news...The bad news is that this enlightened attitude is not yet widely spread throughout the developing world. There is one commanding reason for this: in too many countries the key role telecommunications can play in economic and social development and in enhancing the quality of life is not sufficiently appreciated at the highest political level. This is the missing link we have to bridge.

("Bridging the Missing Link," Maitland, Telecom '87 speech)

Maitland never seems to be tired of repeating this maxim throughout his written articles and speeches, yet appears to be fed up with the lack of understanding exhibited by politicians who, he says, need to be told of the telecommunications prerogative "in the plain language they understand" (Maitland, 1993). Arnold Ph. Djiwatampu, Director of the ITU's Telecommunication Development Bureau, agrees, stating that "telecommunications' social and developmental function deserve careful consideration by decision-makers as a pledge for a better future" (Djiwatampu, 1993).

What Maitland and virtually all but one of the other contributors to the "ten years after" articles on the state of telecommunications development are suggesting is that the ultimate problem of telecommunications under-development is that not many of those involved in this sector have followed the

over thirty recommendations of the Maitland Commission's The Missing Link report of 1984. The solutions they have offered are, in fact, reiterations of one or more of the Maitland recommendations, which, Maitland attests, are still valid, for were the Commission members to meet again today, "they would undoubtedly conclude that their analysis of the situation remains valid and would, with only minor modifications, reiterate the substance of the recommendations in The Missing Link with renewed vehemence" (Maitland, 1993).

However, without an analysis of any real political concerns that may be behind the failure of government leaders to develop their telecommunications infrastructure according to the Maitland vision, the authors either attribute it to external factors beyond the control of individual governments or ignore the "why" question altogether and prescribe steps to remedy the situation—one of which is to simply "enlighten" ignorant political leaders.

Just one of the several articles that were examined for this chapter attempts to describe what may be the real political and economic reasons for the drive for global telecommunication development and interconnectivity and, by implication, hints at what may be one of the key reasons political will may be lacking. John Ure notes that

Just as early Western capitalism was able to conquer the East with cheap manufactured commodities, which, as Marx remarked, were really far more lethal than gunships, the modern industrial economies are renewing their competitive offensive with rising levels of productivity in tradeable high technology goods and services.

(Ure, 1993: 27)

It is this “competitive offensive” that is “spearheading the efforts of the rich nations to widen GATT to include trade in services on the world economic agenda”(Ure,1993: 27). Perhaps it is this reality that is making political leaders hesitate to make the investment in telecommunications. Yet, those political leaders who *are* aware of the importance of telecommunication to development and yet choose not to make the investment in a telecommunication infrastructure that follows the Commission’s recommendations are, according to Maitland, choosing to “forgo the economic and commercial advantages of full participation in a growing world network” in favor of closing their doors against “the free flow of information across frontiers...on ideological or political grounds...” (Maitland speech, “Bridging the Missing Link,” Telecom ‘87).

If Sir Donald Maitland admitted to the political nature of telecommunications development, that was as close to it as he ventured to go, at least in an explicit manner. Yet, whether or not he realized it, his promotion of the privatization, deregulation and liberalization of the telecommunications industry is as political as any statement about ideological differences. Furthermore, Maitland’s description of a global utopia brought about by telecommunications interconnectivity is a distinctly “Western” vision, one that is promoted today—with renewed vehemence—by U.S. Vice President Al Gore whose vision of “The Global Information Infrastructure” is just as utopian. Both Gore’s and Maitland’s visions are those of the “one world,” or “the Global Village” that telecommunications interconnectivity will bring about. This world will be a

single marketplace—its components interdependent in commerce, manufacture, agriculture, banking and numerous other services.

Telecommunications would be the new trade routes. New commercial partnerships would be formed... Standards would have to be set with the world market in view. Design would have to take account of a wider range of physical conditions, usage, appetite, taste and tradition. Language barriers would have to be overcome. And, as this happened, ideas about social conditions wages and the rights of the individual would be freely exchanged. Hallowed notions of sovereignty would be eroded. The distinctions between the so-called first, second and third worlds would begin to fade. In the end, there would be only one world. Of course, the trouble with this scenario is that it is too good to be true.

(Maitland speech, "Bridging the Missing Link," Telecom '87)

Maitland does not consider that his idea of utopia itself may be the real political concern of the leaders of other nations. However ideal the scenario may sound to Maitland, it is a Western capitalist-consumer culture that is being promoted through the installation of telecommunications technology in developing countries, just as Western ideals of capitalism, individualism and consumerism were brought to the cities and villages of the developing world via the installation of televisions and radios over which were broadcast advertisements, news and entertainment programs produced in industrialized nations. Without understanding the historical context in which these new technologies are being understood by other government leaders whose utopian vision may not be aligned with those of Maitland or Gore, those involved in the promotion of global telecommunications may be doomed to writing "ten years after" articles for many decades to come.

Chapter Four

The Global Information Infrastructure

Many things in the telecommunications world have changed and are changing still since Maitland's report was published. One thing not changing, as many of the "experts" in the field have acknowledged, is the real state of telecommunications development in developing countries—that is, the state of interconnectedness within and amongst the people living in developing countries. But advances in the state of telecommunications and computer technologies have created what many in the industry are calling a "revolution" in communications, such that, *in theory*, a wider range of telecommunications goods and services can now be offered to people in developing countries just as readily as the basic telephone and, apparently, at a lower cost.

Heather Hudson, who was a special advisor to the Maitland Commission and who drafted several chapters of its report, notes that innovations in telecommunications technologies, wireless technologies in particular, "offer affordable means of reaching less (sic) isolated rural customers. These technologies make it possible to serve rural communities without laying cable or stringing copper wire" (Hudson, 1994: 69). Digital compression technology, together with LEOs (Low Earth Orbit satellites) and VSATs (Very Small Aperture Terminals—satellite earth stations) make interactive voice and data exchange possible in remote regions. Furthermore, e-mail, computer conferencing, electronic meetings, data services, audio/video teleconferencing, distance education, electronic transactions, and other developments in telecommunications over the past decade have made Maitland's call for "the

whole of mankind [to be] brought within easy reach of a telephone and, in due course, the other services telecommunications can provide" seem quaint and shortsighted. Hudson, like many of the politicians and telecommunications development "experts" we have seen, including Maitland himself, is a firm believer in the potential of the new technologies to inject the telecommunications/development relationship with a new vitality that the simple telephone could never have achieved on its own.

Though telecommunications technologies are far more advanced than Maitland could have foreseen in 1984, it must be said that, like the telephone, these advances in the technology are being made in the industrialized countries and in response to demands being made from large corporations, government agencies and other organizations predominantly based in the industrialized countries. Like the telephone, the technologies are now concentrated in the industrialized countries and their application in developing countries for national socio-economic development purposes is a definite possibility, just as are efficient transportation or water irrigation systems. However, as political economy has tried to show, that likelihood can be determined only by placing the new technologies in their proper historical and political context. Doing so, one would conclude that—like the telephone—they will likely be installed, and remain, in the larger commercial centers of developing countries. This is so because, according to political economy, the advances made in the telecommunications technologies themselves are being driven by the needs of American and "First World" industries to conduct their overseas affairs and to open up new markets for the information commodity. If political economy is correct, then it is clear why Maitland's earlier recommendation for the provision of basic telephone

service to all of mankind has failed; in simple terms, the project has been deliberately dropped because, in light of the potential for the newer telecommunication technologies to facilitate business transactions and to open up information markets, "basic telephone service" does not meet the needs of international business, nor can it be a conduit over which information can be sold. In light of the new telecommunications technologies, the provision of basic telephone service would do *nothing more than* provide people with a means to obtain emergency medical attention, get information about farming equipment or news about a distant loved one, as Maitland once so humbly envisioned. If an investment is to be made in telecommunications, it has to produce reasonable returns, otherwise it is an act of charity. As the United States' NII project and the American-lead GII initiative seem to indicate, the combined power of computer and telecommunication technologies to generate huge profits takes development aid out of the equation. International development has become an enterprise. The question remains, however, as to whether the new "commercial" approach to telecommunications development will, in fact, bring all of mankind within the reach of telecommunications, as promised by the promoters of the GII.

That advances in computer and telecommunications technology have been considered important to the economy is evident if one considers only the number of mergers between corporations that have taken place (and continue to take place) in order to give the partners an advantage in the hugely profitable field of interactive television alone. The newsletter Digital Media compiled a list of such mergers that filled six pages of small print (Wall Street Journal, July 14, 1993). The companies were all jockeying for position in what they assumed would be the three main segments of a vast and lucrative digital industry: content (movies,

databanks, services), delivery systems (cables, satellites, wireless), and control mechanisms (remote controls or other mechanisms that will enable the consumer to manipulate and/or customize the torrent of data coming off “the highway”). The fact that, in 1994, American consumers purchased \$8 billion worth of personal computers and \$8.3 billion worth of television sets (Time, 1995: 25), makes it evident that these partners may have hit the market for “information” technology at just the right time. Add to this the number of task forces, committees, commissions and conferences organized in the U.S. and other industrialized countries to examine the feasibility and economic implications of a national information infrastructure, and it is quite clear that governments in the industrialized countries are also preparing for the great economic boom that is being promised by the “Information Revolution.”

In the fall of 1993, U.S. Vice President Al Gore and Secretary of Commerce Ronald Brown released their “Agenda for Action” (AFA)¹¹ a statement of the US Administration’s vision of its National Information Infrastructure (NII). The Agenda states that the NII can “help unleash an information revolution that will change forever the way people live, work, and interact with each other” (AFA, 1993). The document explains that the revolution that the national “Information Superhighway” would help unleash will allow people to telecommute to their offices and, therefore, live almost anywhere they want without having to forego their jobs or their life-styles. It would also give them access to the best schools, courses and teachers, and have medical information and services available to them whenever, wherever, they needed them. In short, the NII would solve much of the nation’s most pressing social problems by making services, some of

¹¹ All AFA quotes and references found on-line at <http://www.clearlake.ibm.com/alliance/clusters/it/NIIAGENDA.html>

them essential to the well-being and even the lives of Americans, available to everyone. The private sector, responsible for the construction of the NII and all of the goods and services that it will bring to all Americans, would benefit immeasurably as well, and this in turn would create a spin-off economic boom that would be enjoyed by all Americans. Finally, on the global front, the document states that the “advanced information infrastructure will enable U.S. firms to compete and win in the global economy, generating good jobs for the American people and economic growth for the nation” (AFA, 1993). One could scarcely argue with a proposal for a project that promised to eliminate the constraints of geography, disability, and economic status “giving all Americans a fair opportunity to go as far as their talents and ambitions will take them” (AFA, 1993).

The government itself had a role to play by creating the appropriate policy conditions necessary to unleash the market that would unleash the revolution. At the same time, it had to balance this with the assurance that the benefits of such an infrastructure would be available to all Americans at reasonable cost, lest the information highway cause even greater gaps between the “haves and have-nots” and exacerbate the very social problems it was supposed to resolve (AFA, 1993). In order to do that, the U.S. Administration promised to work closely with all sectors of society including labour, academia, the Congress, the public and state and local governments. Their efforts would be guided by the following nine principles and objectives from “The NII: Agenda For Action”:

1. Promote private sector investment, through appropriate tax and regulatory policies.

2. Extend the "universal service" concept to ensure that information resources are available to all at affordable prices. Because information means empowerment and employment, the government has a duty to ensure that all Americans have access to the resources and job creation potential of the Information Age.
3. Act as a catalyst to promote technological innovation and new applications. Commit important government research programs and grants to help the private sector develop and demonstrate technologies needed for the NII, and develop the applications and services that will maximize its value to users.
4. Promote seamless, interactive, user-driven operation of the NII. As the NII evolves into a "network of networks," government will ensure that users can transfer information across networks easily and efficiently. To increase the likelihood that the NII will be both interactive and, to a large extent, user-driven, government must reform regulations and policies that may inadvertently hamper the development of interactive applications.
5. Ensure information security and network reliability. The NII must be trustworthy and secure, protecting the privacy of its users. Government action will also ensure that the overall system remains reliable, quickly repairable in the event of a failure and, perhaps most importantly, easy to use.
6. Improve management of the radio frequency spectrum, an increasingly critical resource.
7. Protect intellectual property rights. The Administration will investigate how to strengthen domestic copyright laws and international intellectual property treaties to prevent piracy and to protect the integrity of intellectual property.
8. Coordinate with other levels of government and with other nations. Because information crosses state, regional, and national boundaries, coordination is critical to avoid needless obstacles and prevent unfair policies that handicap U.S. industry.
9. Provide access to government information and improve government procurement. The Administration will seek to ensure that Federal agencies, in concert with state and local governments,

use the NII to expand the information available to the public, ensuring that the immense reservoir of government information is available to the public easily and equitably. Additionally, Federal procurement policies for telecommunications and information services and equipment will be designed to promote important technical developments for the NII and to provide attractive incentives for the private sector to contribute to NII development.

Though these were the principles that were to guide policy-makers, manufacturers, standards organizations and telecommunications and information providers in the U.S., it was apparent that unless other nations abided by at least some of the more essential principles, a national information infrastructure would not be, in and of itself, a worthwhile effort. As one document states:

The NII must be a an integral part of the Global Information Infrastructure (GII). The global accessibility and use of information is especially critical especially given the increasing globalization of markets, resources and economies.¹²

Since the information-intensive "global economy" would require a global telecommunications network over which digitized information could travel, the nature of a global network would entail technical compatibility of telecommunications systems as well as political cooperation on the part of the governments of all nations. A global information infrastructure initiative would, therefore, have to take place if any one country's national information infrastructure was to be successful. This was especially important for the U.S., since its many TNCs depended upon fast and accurate communications with branch plants, banks, and other interests in many other countries. Not

¹² Quote found on-line at: <http://neon.nlc.state.ne.us/cit/common/sec-ii-e.html>

surprisingly, the U.S. took ownership of the task, and as the following excerpt seems to indicate, its role would be a paternalistic one.

Many countries have distinct legal, cultural, and social traditions that affect how the GII may be implemented. The preservation of distinct cultures and national sovereignty are important for all nations. The GII must, therefore, accomodate these considerations. Because there is unlikely to be a common approach to implementing the GII, however, it is appropriate for the US to work toward international agreements and mechanisms to measure progress in achieving a global information infrastructure.¹³

It was Al Gore who initiated the promotion of the GII vision, and, again not surprisingly, it is simply an enlarged, but more complex version of the United States' proposed NII. The GII initiative is being guided by five of the nine principles and objectives of the NII. They are:

- the encouragement of private investment
- the promotion of competition
- the creation of a flexible regulatory framework that can keep pace with rapid technological and market changes
- the provision of open access to the network for all information providers
- the assurance of universal service

The difficulty in promoting this vision, however, was, and still is, to convince other nations that they should adopt the American "first principles" of privatization, liberalization and competition in order to create the economic incentive necessary for a technologically superior and highly profitable network to be built. Strategically, then, it made sense for Gore to make his first major GII speech to delegates at the ITU's First World Telecommunication Development

¹³ Quote found on-line at: <http://neon.nlc.state.ne.us/cit/common/sec-ii-e.html>

Conference held in Buenos Aires, Argentina, in 1994. There, Gore made what the EIA/TIA (Electronic Industries Association and the Telecommunication Industries Association) called an “impassioned and now famous GII speech” (EIA/TIA White Paper¹⁴ 1996: 11) to the delegates in the hope that they would help create the Global Information Infrastructure by building up their own countries’ national information infrastructures and interconnecting them into “networks of distributed intelligence” (Gore, 1994: 2). This global network, said Gore, would “transmit messages and images with the speed of light

from the largest city to the smallest village on every continent... (and) will allow us to share information, to connect, and to communicate as a global community. From these connections we will derive robust and sustainable economic progress, strong democracies, better solutions to global and local environmental challenges, improved health care, and—ultimately—a greater sense of shared stewardship of our small planet. The Global Information Infrastructure will help educate our children and allow us to exchange ideas within a community and among nations. It will be a means by which families and friends will transcend the barriers of time and distance. It will make possible a global information marketplace, where consumers can buy or sell products.

(Gore, 1994: 2)

It is highly likely that Gore recognized that a full decade had passed since a similar plea for global interconnectivity had been made to the international telecommunications development community, and he was not unaware of some of the obstacles that had been standing in the way of what now had been officially named the Global Information Infrastructure.

¹⁴ Hereafter referred to as WP

Financing is a problem in almost every country, even though telecommunications has proven itself to be an excellent investment. Even where telecommunications has been identified as a top development priority, countries lack trained personnel and up-to-date information. And in too many parts of the world, political unrest makes it difficult or impossible to maintain existing infrastructures, let alone lay new wire or deploy new capacity.

(Gore, 1994: 5)

The Maitland Commission was not referenced in this apparent reiteration of its observations, nor when Gore suggested the same ways and means by which these hurdles could be overcome. For example, he suggested that there could be technical collaboration between the industrialized and developing nations and that "all agencies of the U.S. government are potential sources of information and knowledge that can be shared with partners across the globe"(Gore, 1994: 5). Furthermore, where financing is a problem, "multilateral institutions like the World Bank can help nations finance the building of telecommunications infrastructure" and where training may be lacking, "the United States can help provide the technical know-how needed to deploy and use these new technologies" (Gore, 1994: 5).

Since Gore's vision of the GII, his analysis of its obstacles, and suggestions for overcoming these barriers are basically the same as Maitland's, the question arises: is there any reason to believe that such an ambitious project as the GII vision will be realized if Maitland's relatively unambitious recommendations have yet to be carried out? What has changed that will make any difference to the future state of telecommunications development in developing countries? Certainly the advocate has been "upgraded" in level of authority and prestige. Furthermore, Gore is neither an independent voice nor is he a disinterested one;

he is fairly straightforward about the fact that the construction of the GII is a global business enterprise first, and, second, a means by which further electronic commercial activity can be carried out on a global scale. Other nations stand to boost their own economies and, hence, "develop," if they would only create the regulatory climate necessary. This fact is clear when one considers again that, for Gore, the success of the GII depends upon the international acceptance of the five core principles that the U.S. had adopted in order to help build its own national information infrastructure and which he urged the ITU to incorporate into the Buenos Aires Declaration to be drafted later in the week of the WTDC conference. In fact, these principles were written into the Declaration, and representatives of each member state of the ITU committed to realizing the goals of the Union would return to their home country with a specific agenda based on these five principles. For those representatives of states whose telecommunication carriers were highly regulated monopolies, this agenda would not be an easy one to carry out. However, now that the project was about global electronic commerce as a means to facilitate global trade in general, which, in turn, would lead to national economic development, the pressure to acquiesce would be difficult to overcome.

In the meantime, and after having released its Agenda for Action, the U.S. Administration appointed an Information Infrastructure Task Force (IITF) comprised of high-level representatives of the federal agencies that play a major role in the development and application of information technologies in the United States. Working with the private sector, the IITF's mission included the development of the telecommunication and information technologies and policies, and to promote those applications and policies which would best meet

the needs of the agencies, the private sector and the country. In short, the IITF's primary mandate was to implement the Administration's vision for the NII. Shortly after it had been established, however, the IITF became involved in the GII project, holding conferences and hearings on the subject.

In 1996, the IITF published a report on the GII titled The Global Information Infrastructure: Agenda for Cooperation.¹⁵ The report restates the five basic principles outlined by Gore at the WTDC upon which the GII initiative should be based, re-emphasizing that if the private sector were to build, own and operate the global network, the result would be "a new information marketplace providing opportunities and challenges for individuals, industry and governments" (AFC, 1996). It also makes it clear that it is the business community that is responsible for the pro-competitive restructuring of telecommunications and information markets. Since their activities are becoming increasingly global and they increasingly "require access to advanced services at higher speeds and capabilities, and at lower costs, to manage their global operations effectively," they cannot afford to rely upon "the high cost of leased lines in most countries and the difficulties inherent in attempting to create global networks based on a patchwork of services subject to widely varying capabilities and regulation" (AFC, 1996). The scientific and research communities, too, have stringent demands for global access to information resources as well as for greater computing capacity.

The report repeats all of the usual incantations about the importance of the global information infrastructure to the well-being of all citizens of the world,

¹⁵ All quotes and references to the GII: Agenda for Cooperation—hereafter AFC—found at: <http://www.iitf.nist.gov/iitf-pub.html>

stating how, if implemented, it will affect the quality and efficiency of health care and education, foster a greater sense of global community, and “enhance democratic principles and limit the spread of totalitarian forms of government” (AFC, 1996), but the interesting fact is the shift from “development” issues, with which Maitland seemed to be concerned, to the focus on business, economics and profitability:

Given the facts that the worldwide market for information technology, products, and services is currently valued at \$853 billion, and that worldwide investment in telecommunications infrastructure alone is expected to exceed \$200 billion by 2004, both developed and developing countries need to find ways to share in this growth and prosperity. Attracting private sector investment is the most effective way for countries to do so – as well as to improve their networks and services, promote technological innovation, and succeed within the competitive global economy.

(AFC, 1996: 6)

Perhaps because of its supposed link to the economic development of nations and the huge capital investments that the GII project would require, and, perhaps, to detract from its U.S.-centricity, the World Bank also became involved in the GII initiative, hosting a meeting in July of 1995 at which the Global Information Infrastructure Commission¹⁶ (GIIC) was officially inaugurated. The Commission, an “independent, non-governmental initiative involving diverse communications related industry leaders from developing as well as industrialized countries” (GIIC, 1996: 1) was established to “respond to the recognition that traditional institutions and regulatory frameworks can no longer meet the increasingly complex challenges and opportunities of globalized information” (GIIC, 1996: 2). The Commission’s task is to bridge the gap between

¹⁶ All references to, and quotes from, the GIIC are from the GIIC homepage at: <http://www.gii.org/giic/>

private and public sector interests as well as reconcile differences in the interests of developing and industrialized countries. However, as its Chair Emeritus Diana Lady Dougan emphasizes, "it is purposely structured to be a means of getting out from under the geo-political and bureaucratic limitations of governmental or inter-governmental organizations" (Lady Dougan, 1995: 7).

The online documentation and descriptive information of the GIIC states that the 42-member GIIC has representation from both the private and public sectors. Co-chairing the Commission, however, are four "big players" in the telecommunications industry: the Chairman and CEO of EDS, the Executive Vice-president of Siemens, the President of Mitsubishi, and the Managing Director of EM Warburg, Pincus and Co. As mentioned above, the Chair Emeritus is the Honorable Diana Lady Dougan, Senior Advisor of the Center for Strategic and International Studies. Of the remaining 37 members of the Commission, three are from academic/research institutions (Harvard's Science, Technology and Public Policy Program, China's Institute of Electronics and the USA's Council for Scientific and Industrial Research), two are from government bodies (Egypt's Cabinet Information and Decision Support Center and Indonesia's Department of Tourism, Posts and Telecommunication) and two are from financial institutions (Infrastructure Leasing and Financial Services, Ltd., and The World Bank). The rest, 30 in all, are from large national and multinational telecommunications (and related) corporations. It is clear that "public sector" is a term used loosely on the GIIC, for it has no representation from public interest groups, labour organizations or non-governmental/non-profit organizations involved in either international development or development media issues.

From the GIIC mandate and membership roster alone, it should be apparent that the “new” world-wide telecommunications project is purely a business enterprise involving huge corporations, multi-billion dollar financial institutions and promises for further economic prosperity to all investors, whether they be individuals, business entities or national governments. I-Ways magazine, a publication of the Center for Strategic and International Studies which covers the ongoing activities of the GII Commission in each issue, declared that by encompassing developing countries in the process of transcending “the bureaucratic and geopolitical barriers between government and industry,” the GII Commission “can reinforce [the developing countries’] potential as future markets, rather than weak links, in the global infrastructure” (I-Ways, 1995: 1). True to that objective, there are no pleas in the GII documentation for corporations and institutions to help developing countries build up their own indigenous telecommunications hardware or electronics manufacturing centers, something the Maitland Commission highly recommended to lessen the dependency of developing nations on industrialized nations for telecommunications equipment, services, maintenance and replacement parts. In fact, the GIIC Policy Task Force’s documents underline this complete commitment to the economic imperative of the GII, while holding an almost contemptuous disregard for issues concerning national sovereignty, cultural preservation or even individual privacy. In a section on “Rights in Information Access and Use,” the GIIC Policy Task Force has determined that:

All nations, rich and poor, are to some degree both generators and users of information, certainly all aspire to be so. All have an interest in a fair and efficient global market for information access and services. If the GII is efficient, transaction costs will be low for information and it will be widely available to those dependent on it. If it is fair, those who create commercial intellectual assets will

offer their information to the global market, expecting to be appropriately compensated. Neither fairness nor efficiency is likely to prevail:

- if publishers refrain from marketing their assets in electronic form, as some print publishers are doing,
- or if national government restrictions on the use of information security technologies preclude the transnational exchange of proprietary information,
- or if citizens around the world demand constraints on emerging business offerings from which they might benefit because of concern about possible abuse of personal information about themselves and their families (GIIC, 1996).

Though its mission statement says that the GIIC's objective is to "foster private sector leadership and private-public sector cooperation in the development of information networks and services to advance global economic growth, education and quality of life," (GIIC, 1996: 3) it readily becomes apparent that the kind of national development that concerns the GIIC is each nation's investment in its telecommunications infrastructure, and its interconnection into the global telecommunications network. If education and a general increase in the standard of living are to occur at all, they will happen as a result of this first and most important economic development initiative. In fact, the GIIC has purposely removed from its organizational structure an "Information Access" Task Force that was to consider such social issues as interconnectivity, the information disadvantaged, universal service, employment and other social issues (I-Ways, 1995: 10).

During its three-year mandate, the GIIC will pursue the following goals:

- Strengthen the leadership role of the private sector in the development of a diverse, affordable and accessible information infrastructure;
- Promote involvement of developing countries in the building and utilization of truly global and open information infrastructure;
- Facilitate activities and identify policy options that foster effective applications of telecommunications, broadcasting and information technologies and services (GIIC, 1996: 4).

It is clear from the GIIC's mission statement and the scope of their work that they, too, are committed to Gore's vision and the five principles as outlined in the Buenos Aires Declaration. However, because the Commission is supposedly an "independent" one, the GII project is not so obviously an American-lead undertaking. Under the direction of the GIIC, the development of the GII, and all of the economic benefits it promises to bring, is up to industry leaders—that is, the market. By urging that the building and operation of the GII be left up to the market with no interference from government or regulatory regimes, the GII project might be seen as a politically and economically unbiased undertaking that will bring wealth to all participating nations via the "invisible hand of the marketplace."

Because of this unabashedly market-driven global telecommunications development project, the regulatory barriers to such things as free trade or foreign ownership of media/telecommunications industries and the like that many nations have in place can now be attacked from outside forces *and* from within their own borders by foreign and domestic corporations and businesses whose economic futures suddenly depend on an unobstructed information highway leading into and out of their countries. It is "protectionist" measures, implemented in the name of national sovereignty, cultural preservation or self-

directed national economic development, which are slowing the development of the GII and which explains, in large part, why no measurable progress in telecommunications development in most developing countries, especially in their remote and sparsely-populated regions, has taken place since Maitland made his recommendations. Many nations' telecommunications operators are government-run monopolies, and competition in the industry does not exist. With doors closed to private/foreign investment, there is no dollar incentive to build telecommunication infrastructures for those transnational corporations in the business of telecommunications or for the development banks lending out investor's money. Furthermore, while great fortune awaits those manufacturers of telecommunications equipment (hardware), real and continuous profits in the industry are generated by the sale of information, information services and electronic entertainment after the "Information Highway" is built. Without the doors of global competition flung wide open for the telecommunication equipment and, especially, the associated services of "First World" industry leaders, there has not been any incentive for companies and investors to help install a highway upon which they would not have been able to transport their goods and services freely.

Nowhere is this argument stated more clearly than in the EIA/TIA White Paper titled Global Information Infrastructure: Promise and Performance. These two organizations represent over 1,760 US-based corporations that "manufacture the equipment and systems underpinning the nation's information superhighway" (WP, 1996: preface). Their 1996 paper on the GII states their position with respect to the United States' policy initiatives (Gore's five principles) which are "designed to accelerate the further evolution of the GII," (exec. sum.) and

naturally, endorses those policy initiatives that are in place “to further [their] vibrant, highly competitive, and innovative private sector” (WP, 1996: 1). However, in addition to the five principles, the EIA and TIA make some recommendations of their own. The paper states that the U.S. enjoys the world’s most reliable and advanced information infrastructure and that EIA and TIA’s members form “much of the electronic and telecommunications equipment that forms the nation’s—and increasingly the world’s—information infrastructure, including companies that offer information, entertainment and telecommunications services”(WP, 1996: exec. sum). Following this, the EIA and TIA recommend that the U.S. government “encourage other governments to open their national markets to all suppliers worldwide” (WP, 1996: 4). Clearly, this championing of an international competition in telecommunications equipment comes from those in the best position to win it; the EIA/TIA themselves admit that their recommendations “serve the interests of telecommunications users around the world and serve the interests of EIA and TIA members” (WP, 1996: 4).

The EIA and TIA also recognize and applaud the supposed “trend” toward privatization of telephone administrations in various countries around the world. They note, however, that “in most countries around the world, telecommunication administrations are government entities or sanctioned monopolies, [who] in many cases, have traditionally made procurement decisions [about telecommunications equipment or services] based on motives other than trying to build the most appropriate and user-responsive network” (WP, 1996: 5). They recommend that instead, “procurement by such entities should be open, transparent, procompetitive, nondiscriminatory, and based solely on reasonable business decisions and sound commercial principles” (WP,

1996: 5, emphasis mine). Again, taken together with the first recommendation, EIA/TIA members, already in an advantaged position, would flood foreign markets with equipment, information, entertainment and all related services. Their recommendations, if accepted, would get rid of other values that many countries, Canada included, have considered equally as important as reasonable business decisions and sound commercial principles. In the name of national sovereignty and national identity, for example, the telecommunication regulatory boards or governments of some countries impose limits to foreign ownership and control of communications networks or require that a certain percentage of content be produced within their own borders. In the name of national unity and universal access, a country may subsidize the cost of telephone service for users in remote and sparsely-populated regions at the expense of commercial users in urban centers or users of long-distance services. A government-run telecommunications administration may choose to subsidize or procure equipment from domestic manufacturers at a higher cost than equipment purchased from foreign manufacturers in an effort to promote or support indigenous businesses. If the EIA and TIA had their way, these would be considered unfair practices and "disallowed" under the new trade rules because, essentially, they would serve to limit or impede US firms' entry into foreign markets. Judging by this kind of sentiment toward developing nations who are already at a disadvantage in the telecommunications competition, it might be reasonable to assume that Maitland's recommendations have failed because they were unfair to U.S. and "First World" corporate interests in that they served to level the playing field somewhat.

There is no question that since the Missing Link was published in 1984, the emphasis has shifted from “telecommunications and international development,” which was Maitland’s concern, to the “international development of telecommunications” which is the objective of the GIIC. It is true that Maitland was a firm believer in the adage that “where information flows, so does commerce,” but his objective was to see that flow of information act as a catalyst for a national development that would naturally unfold by itself and in its own time after an initial push from telecommunications technology, made possible through the cooperation of industry, research organizations, governments and lending institutions of the industrialized countries. But the first order of business, for Maitland, was to give each individual equal access to the technology and, thereby, equal opportunity to participate in his or her nation’s development, even at the most basic level. The long-term benefits to those organizations in the industrialized countries would be, amongst other things, an increase in the international trade of goods and services of all sorts—including, but not exclusively, information commodities—made more efficient as a result of an improved and continually improving telecommunications infrastructure.

By contrast, the GIIC’s focus is squarely on the immediate and impending economic benefits that will accrue to those industries now in the business of telecommunications and computer hardware and software and in the development of electronic goods and services no matter where they be headquartered. That they are now predominantly headquartered in the United States is not publically acknowledged by the GIIC members; in any case, the argument is that that will supposedly change if governments of developing countries would follow the U.S. example and open their borders, relax their

regulations and privatize their telecommunications operations. The rest will simply happen; governments of industrializing countries will eventually see economic development happen as their people and industries react to, and take advantage of, the telecommunications explosion. As neo-classical economist Milton Friedman said in a speech to the Fraser Institute, the world political revolution, dramatized by the fall of the Berlin Wall, has greatly reinforced the effect of the technological revolution, particularly the information revolution, by “[adding] enormously to the pool of low-wage, yet not necessarily unskilled, labour” (Friedman, 1993: 8). Advanced countries like Canada and the USA, Friedman continued, must take advantage of these revolutions by opening their borders, thereby facilitating international free trade and “making it possible to take advantage of this enormously expanded volume of human capital that is available to cooperate with our more highly skilled human capital and with our physical capital” (Friedman, 1993: 9). By exploiting the labour in industrializing countries who will build the components of the GII at low wage-rates, and whose governments will then buy it back in its finished form, the advanced nations will maintain their positions of power and the industrializing countries will develop incidentally.

Unfortunately, a paradox exists that will hamper the development of the GII as described by Gore. It is unlikely that all nations will agree to accept and abide by the five principles set out by Gore because of the clear advantage they confer upon U.S. and “First World” TNCs and economies, and the subsequent disadvantage to the “host” nations themselves. More important, however, is the fact that, should developing nations agree to abide by, and legislate for, these principles (and perhaps other recommendations such as those urged by the

EIA/TIA), the GII will still not be truly global, and the disparities between the “information haves and have-nots” will continue to increase in the developing countries. That is so because the invisible hand of the marketplace which is supposed to ensure universal service and equal access to the information and communication technologies will surely not grab ahold of the equally invisible remote and sparsely populated regions of developing countries, especially those countries teeming with poor people whose demographic profiles make it highly unlikely that they will ever afford anything more than basic telephone service, if even that. It seems then that the GII “vision” is damned **whether or not** Gore’s five principles are accepted. And it appears that the Maitland Commission’s call for “different and more flexible policies” for the funding of telecommunications infrastructures in remote areas was simply naive because “commercial profitability alone” is, it seems, “the only criterion for decisions on investment in remote areas” (ML, 1984: 22).

Some real life examples will serve to illustrate the point. A recent article in the *Ottawa Citizen* laments the decline in orders for the telecommunications products of SR Telecom, a Montreal-based manufacturer specializing in wireless telephone systems that are “especially valuable in developing countries where installing wires in rural areas is too expensive and time consuming” (*Ottawa Citizen*, 24 Aug., 1996: F2). The company, once fairly successful in exploiting that particular niche, has seen sales suddenly drop this year, and SR Telecom’s spokesperson, Mike Morris, explained that the reasons were largely bureaucratic in nature. Paraphrasing Morris, *The Citizen*’s high-technology writer reported that:

...the privatization of telecommunication industries in countries such as the Philippines and Indonesia and throughout Latin

America has brought more investors into the industry. These new players don't always have a firm understanding of technology and, in some cases, confusion has existed about what kind of equipment should be purchased.

(Chianello, 1996: F2)

However, a Richardson Greenshields report offers a different perspective on the situation. There is competition between SR Telecom and other companies such as Nortel for markets in developing countries. Nortel's products, however, are aimed at large cities and:

...developing countries, the theory goes, [are] delaying the purchase of phone systems for remote villages. Instead they are considering purchasing Nortel-type products for their larger urban centers, thus diverting business from SR Telecom.

(Chianello, 1996: F2)

No analysis or explanation of why developing countries are delaying the purchase of phone systems for their remote regions is offered. Yet, the facts speak for themselves; the sudden decline in SR Telecom's sales has coincided with competition in, and the privatization of, the telecommunications industries in these countries. There is "no money" in remote and impoverished regions of developing countries, and they will likely remain remote and impoverished so long as telecommunications policy is directed by outside or elitist interests for which the profit motive is the only motive.

Nowhere is this more evident than in the Philippines, and it is interesting that the Philippines are mentioned in the *Citizen* article as one of the group of developing countries which have chosen to concentrate their telecommunications infrastructures in their urban centers. Gerald Sussman (1986) notes that the

Philippines have become the “major international telecommunications subcenter for Northeast and Southeast Asia” and that this key position was borne out of a “long colonial and geopolitical attachment to the West, particularly the United States” (Sussman, 1986: 47). The World Bank (itself “attached” to the US by virtue of its unbroken tradition of installing American presidents and the fact that the US has 20% of voting shares as well as veto-power), has funneled millions of dollars for telecommunications development in the Philippines since the late 1960’s. These loans, Sussman maintains, are “intended to facilitate the fuller integration of the nation’s productive assets with the world capitalist system, a model to which the Bank’s directors are unequivocally committed and, in the case of the Philippines, most of Marcos’s and Aquino’s technocratic elite have been as well” (Sussman, 1986: 48). Indeed, the major partners in, and the major users of, the Philippines’ sophisticated satellite and submarine telecommunications transmission systems, as well as their emerging digital terrestrial networks, are existing and potential transnational corporate investors. Yet, older telecommunications systems that are government run and that serve “ordinary” users, says Sussman, have not been upgraded in over three decades. “Telephone access is prohibitively expensive to all but the socio-economic elite, which largely explains why, with 53 operating companies across the country, there are only 1.2 telephones per 100 population” (Sussman, 1986: 50). The World Bank, Sussman argues, has a role to play in this “structural disenfranchisement of the poor” because it is preoccupied with:

exchange economies and the opening up of market opportunities, based on the “comparative advantage” of low-wage, low-skill, export-oriented industries, mining, agriculture, and allied but subordinate Third World bourgeoisies. The Bank’s disinterest in “older” communication technologies and dedication to proliferating long-distance, “value-added” infrastructure and

services has less to do with a desire to bring the Third World into the fold of the "computer age" than with creating communication bridgeheads toward a new international division of labour.

(Sussman, 1986: 50)

The conclusion Sussman draws is that "the elitist pattern of communication investment and usage has brought deteriorating quality of local telecommunication services and telephone rates that effectively disconnect most Filipinos from information lines and social mobility, while trans-national subsidiaries have never had better channels of information" (Sussman, 1986: 62).

But this kind of discrepancy in telecommunications concentration is not reserved for developing countries. It exists in microcosmic form in the U.S.' inner cities and in the large urban centers of other so-called advanced nations of the world. Time magazine reported that "[seven] million American homes, most of them poor, do not even have the phones that could provide basic access [to emerging high-speed information services]" (Ratan, 1995: 26). One writer observed this huge discrepancy in interconnectivity between Palo Alto and East Palo Alto, California.

Palo Alto is the residence of choice for most of the computer entrepreneurs who have been comfortably counting the increasing dollar value of their stock for the last ten years...The information superhighway is being paved here by the telecommunications companies which rewire neighborhoods with high-speed ISDN cables and install double phone lines in every house. A two-bedroom house on a small lot, by the way, will cost you around \$400,000 to own and over \$2,000 a month to rent...Keep going east...East Palo Alto is where real estate agents in the 1930s and 1940s were encouraged to take their clients of colour so they wouldn't affect Palo Alto property values. The population now is a mix of black, Latino and white, all low-income people who can't afford to live over the bridge. Nobody is wiring the houses with

high-speed cable here...last month, several Palo Alto businesses announced they will no longer deliver to addresses in East Palo Alto because of security concerns.

(Barbara Wade Rose, *The Globe and Mail*, Sat. May 25, 1996, D6)

At the time of writing her letter, Wade may have been unaware that a year and a half earlier, Larry Irving, Assistant Secretary for Communications and Information (USA), had given a speech to an audience at a business convention, where he announced several initiatives funded by the U.S. government that would help public institutions such as libraries and schools to be "on-ramps" to the "Information Superhighway." The initiatives would ensure that all Americans, regardless of means, would have access to information so as to "create a technology-literate and creative workforce ready to compete successfully in the 21st century" (Irving, Oct., 1994). East Palo Alto was named specifically as a site where one of these initiatives was to take place. Youth services organizations in that city were to be linked up with similar organizations in New Haven, Connecticut "for education and skill building" (Irving, Oct., 1994). At the time of this writing, the project had not gotten underway.

That the GII is an enormous undertaking that may never be fully realized has not been the subject of many newspaper columns, magazine articles, or talk shows. On the other hand, the amount of media attention given over to the NII and GII projects in general, and information technology and the "Information Revolution" in particular has been tremendous by comparison.¹⁷ There appears

¹⁷ Time magazine reported that "a Nexis search of newspapers, magazines and television transcripts turned up 1,205 mentions of the word cyber in the month of January [1995], up from 464 the previous January [1994] and 167 in January 1993." (Time, Spring, 1995 issue. Volume 145, No.12, page6)

to be very little mainstream criticism of the GII as a means by which capitalism can expand at the expense of exploited labour in developing countries, or as a highway upon which only the truly privileged international elite will travel, or as a means by which the information and entertainment “products” of the advanced countries will, once again, be sold to developing countries who cannot compete in the same arena because they are already so far behind in the technology that they will never catch up. That the telephone has never been seen by the majority of the people in the developing world, or that 70% of the world’s population cannot read does not seem to indicate, to the futurists and the technophiles, that the GII project, as it has been promoted by Gore to the WTDC, is bound to fail. That the information most valuable to a country’s development will come with a price tag far too large for most organizations in developing countries to afford, if it is available at all, is not an item on many conference agenda. In fact, the GII/international development relationship has not been discussed much at all precisely because, as the above analysis has tried to show, the GII is not **about** international development; it is about the international expansion of markets and capitalism in general, the continued exploitation of labour in “Third World” and “newly industrializing” countries, the continued power and wealth of an international elite and the world dominance of the United States of America via its electronic trade routes in particular.

In addition to the case made in favour of the hypothesis that the focus of the GII project is not on international development, with some critical historical and analytical research, it has been shown that the Global Information Infrastructure is not going to reach into all of the homes, schools, libraries and hospitals of the world, and that it is not going to bring information, knowledge and opportunity

to all people of the world. Yet, there seems to be an unswerving belief, as evidenced by the amount and the nature of the media coverage on the subject, that the GII is inevitable and that it will, indeed, bring all good things to all people; in other words, it has achieved the status of "Myth." With that belief firmly in the minds of the average "First World" citizen, the GII project can go ahead with the full moral, financial and regulatory support of individuals, businesses and governments. It is our task now to uncover the ways in which this myth is perpetuated. Language, as we have seen in Chapter Two, is the key to understanding myth, and the language of the "Information Revolution" is a particularly persuasive one.

The term "Information Revolution," for example, is itself a good starting point in this analysis. It is an ideological term and is one sign that, together with, and in relation to, other signs in the GII "sign-system," is an integral part of an even larger myth—the myth of Technology. According to Slack, as a concept it obtains meaning only through its relationship with the economic, environmental, political and technological levels of social formation (Slack, 1984: 248). Its meaning both resides, and is effective, in those relationships. This doesn't mean that an information revolution is not happening, but what it is and how it is connected to the various levels of social formation depends upon who is asked. Each perspective is seen through different ideological lenses. "What we are currently engaged in," says Slack, "is an ongoing struggle on the ideological terrain over how the information revolution is to be articulated: how we should understand it, how we should live it and how it should live within us" (Slack, 1984: 248). The struggle, however, is a socially limited one, as Barthes notes,

because the “revolts” against bourgeois ideology come from a small section of the bourgeoisie itself,

from a minority group of artists and intellectuals, without public other than the class which they contest, and who remain dependent on its money in order to express themselves... [however]...what the avant-garde contests is the bourgeois in art or morals...but as for political contestation, there is none.

(Barthes, 1957: 139)

The significance of the terms “information,” “revolution” and “age” lies in the way they are articulated so as to reinforce the existing hegemony and, for Slack, in the opportunities they present for rearticulation.¹⁸ Historical context is key. Slack, too, refers to Althusser, whose definition of ideology as a “system of representations” means the way in which things come to possess meaning in relation to other things. For the “Information Revolution,” as a term, would not mean in quite the same way if it weren’t for previous revolutions such as the French Revolution (political liberation) or the Industrial Revolution (social, economic “progress”). The “Information Revolution,” like the industrial revolution, marks our “progress,” which, Slack notes, means “the development of increasingly sophisticated technologies that are assumed to produce, almost as a bi-product, the liberation of the human spirit” (Slack, 1984: 251). Evidence of this assumption is clearly illustrated in the language of “futurist” George Gilder, who, in an article on the role of interactive television within the new global information and communication network, maintains that, “with the help of

¹⁸ Slack maintains that no articulation is air-tight; leaks exist and any opportunity for rearticulation begins there, at the site of the leak. As we have seen, Barthes would argue that “rearticulation of terms” is the privilege of the minority, and that what they *do* rail against is the language of the bourgeois, not its status (1957: 139). Chomsky, more on side with Slack, believes that, although we are inundated with the propaganda that is generated by the language abuse of the elites, we are able to defend ourselves against it once we are wise to it. Education is key.

interactive television, the human spirit—emancipated and thus allowed to reach its rarest talents and aspirations—will continue to amaze the world with heroic surprises” (*The Economist*, 1994: 2). The connection between “revolution,” “liberation” and “progress” is so strong that they are almost equated. However, it is the technologies that make this particular revolution significant because the technologies themselves are seen to be the sole agents of progress; to progress further, we must use the technologies. This conception of the “Information Revolution” is the dominant one and is very effective in reinforcing the existing hegemony because “it calls to us and encourages us to place ourselves in a particular relationship in it, as particular kinds of entities. That place is the place of a user, not, to provide a contrast, the place of an actor” (Slack, 1984: 252).

As Babe details in his book Communication and the Transformation of Economics, these unquestioned, taken-for-granted notions of progress and [r]evolution, and our reverence for technology have a historical and intellectual grounding that underlies three “Big M” myths that dominate Western culture and that serve the established order quite well. They are the myths of the Market, of Technology (*aka* Machine) and of Evolution (*aka* March of Time), and they have been propagated by neoclassical economists (Babe, 1995: 76).

The myth of Market derives its legitimacy (wrongfully or rightfully) largely from Adam Smith’s Wealth of Nations, wherein he determined that the Market sprung up as a result of man’s natural tendency to “truck, barter and exchange,” (Babe, 1995: 76) and that once the Market was in operation, it would, of its own accord and without the intention on anyone’s part, lead to the wealth of nations. In fact, Smith believed that by pursuing his own economic interests, man would often do

a greater service to society “unintentionally” than he would do if he were to intentionally set out to do society good. Yet Smith also extolled the virtues of benevolence and sympathy, says Babe, and warned that even competitive markets needed to be restrained by these values (1995: 76). Neoclassical economists, on the other hand, have ignored the plea to temper the Market with higher values and have determined that, operating under perfect conditions, the market is a perfect system and will allocate resources fairly. Neoclassical economists then mythologize the Market and do this, first, “by modeling imaginary worlds, populated by:

...archetypically small firms and by calculating individuals, all with perfect knowledge, in which impersonal Market is all powerful (modeling); and secondly by proposing that said market is operative and efficacious also in the phenomenal world (praxis).
(Babe, 1995: 77)

The point to note is that neoclassical economists have been very influential in legitimizing the policies of the elite decision-makers, and this comes as no surprise to Marxist political economy, at least, which views neoclassical economics as “scholarly ideology in the service of hegemonic interests” (Babe, 1995: 75). Perhaps this is so because the neoclassical economists themselves are part of the hegemonic elite, for, if it is the case, as Barthes has argued, that the elite need not name itself because its order is the supposed natural order, then neoclassical economists must be a part of that order; few recognize their “brand” of economics as a brand at all—it is widely assumed that their discipline is “economics,” and that everything else is named apart from, and in relation to, what “just is.”

The myth of Machine derives its strength, according to Babe, from Francis Bacon's works *New Atlantis* (1617) and *Novum Organum* (1620), wherein scientific knowledge ("technologies") was extolled and the scientific method considered the best way in which Nature could be understood and subdued. Scientific knowledge was "true" knowledge in that it was observable, objective and repeatable, removed from the passions of people. Whereas other means to achieving power (i.e., political) were considered by Bacon to be "vulgar" because they were about power by some over others, science and technology were seen as "wholesome" and "noble" because the power that they could achieve would benefit the whole of mankind (Babe, 1995: 78).¹⁹ It is this point, that science and technology benefit everyone, that has lasted through the centuries and that has become a part of the mythology that serves the elite's interests, because, in fact, "scientific knowledge and its technological outworkings can and do permit some to dominate others...Power does not exist in Science or in Technology, but rather with those who control science and deploy technologies" (Babe, 1995:78). Like Smith's "Market," Bacon thought that "Science and Technology" would lead to the betterment of society and, according to Babe, their naive assumptions about these systems are still manifest today in the writings of Daniel Bell, Alvin Toffler and the like.

The processes of Evolution and Natural Selection, described by Charles Darwin (and "proven" by scientific method), have also been co-opted into the language

¹⁹ Bacon probably did not imagine that such a noble undertaking would become commodified, and, thereby, benefit only the already-privileged members of society. A Toronto-based consulting company recently suggested that academic research and development efforts take on a more commercial focus and sell the results of their scientific scholarship. The company's research conclusively shows that "by adopting a business-world strategy toward commercialization of scientific research, not-for-profit research institutions can capture an enormous opportunity to replace diminishing internal budgets." (Investor's Business Daily 30 Dec 96 A6) The electronic availability of these results will, undoubtedly increase this opportunity.

of the elite and have become integrated with the notion of "progress." Babe notes that it was Herbert Spencer who applied these concepts to realms outside the Natural world. For Spencer, ideas, ethics, society and its institutions were entities which could come into being, thrive, compete, and win or lose according to some process of "natural selection" where only the fittest would survive. All were independent of the manipulations of people and therefore of power; if a social institution "died," its fate was meant to be. In this "Progress Principle," part of the phenomenon known as "Social Darwinism," Spencer believed to have discovered a major organizing principle of reality (Babe, 1995: 80). Instrumentalism, "the belief that all forms of human activity are instruments to solve problems, whether individual or social" (Babe, 1995: 80) grew out of Spencer's notion of the evolutionary society, but intentional human activity replaced Natural Selection as the means by which events, institutions and things emerged and dissolved. These instruments were developed by man to solve problems as they arose; technology as an instrument, and the instruments of technology then, became evidence of mans' progress. From this, the notion of Technological Evolutionism was born, the conceptual integration of the myths of Science and Technology and Evolution.

Babe's cursory analysis of these three myths allow us to understand, in a superficial way at least, the historical and "intellectual" foundation of what he calls "neoconservatism," the ideology of the ruling elite, and this myth-supported ideology serves a very specific purpose:

By positing abstract, omnipotent Mechanisms like Market, Technology, and Evolution as being in charge of human affairs, neoconservatism annihilates the pursuit of justice. It also constitutes a mystical apologia for inequity, environmental

degradation, and imperialism. Neoconservatism is then an ideology comprised of mythologies that make appear as inevitable, and hence as good, the sacrifice of the many for the benefit of the few.

(Babe, 1995: 81)

With some understanding of the roots and language of the modern-day myths that serve to naturalize the various manifestations of the existing ideological regime, we can now revisit the documentation and the some of the mainstream media products that support the GII project and the neoconservative or neomodernizationist agenda.

The speech that contains many of the key terms and phrases that were quoted or paraphrased, *ad nauseum*, in countless newspaper and magazine articles on the subject was Al Gore's address to the ITU delegates at the WTDC in March, 1994. Many of the terms he used were rife with elements of one or more of the three "M" myths of which Robert Babe has spoken and of the promises for change that such terms as "Information Age" or "Revolution" denote. The great faith that many Western people place in science and technology to cure all of society's ills, for example, is played up to its fullest in Gore's speech. One of the greatest ills in a society characterized by instrumental activism (the furtherance of economic productivity) is the very loss of that productivity, hence it comes as no surprise to learn that Gore tied the perseverance of this value to the successful development of the GII.

The integration of computing and information networks into the economy makes US manufacturing companies more productive, more competitive, and more adaptive to changing conditions, and it will do the same for the economies of other nations. These same technologies are also enabling the service sectors of the US

economy to grow, to increase their scale and productivity, and to expand their range of product offerings and their ability to respond to customer demands.

(Gore, 1994: 3)

Gore then made this “big picture” of the economy meaningful to the individual by making the success of the new economy dependent on the skill and education levels of each and every citizen. In turn, each individual keen enough to read between the lines was made aware that his or her own financial success would be dependent upon obtaining the necessary levels of education and skill required in the new “information economy.” Thus, the mutually beneficial and dependent relationship between the technology-literate individual and the technology-reliant sectors was established. When Gore stated that “[sixty] percent of all U.S. workers are ‘knowledge workers’—people whose jobs depend on the information they generate and receive over our information infrastructure,” and that eight out of ten new jobs created are in the information-intensive sectors of the U.S. economy (Gore, 1994: 3), he essentially created a self-fulfilling prophecy by placing the very livelihoods of each citizen in the hands of telecommunications and information technology and by making the success of the information economy dependent on each and every individual. The myth that science and technology benefit everyone is perpetuated here and **believed in** because it is, in fact, created through the actions of individuals whose actions are enabled by their institutions, as put forth by Giddens in his theory of the duality of structure .

That Gore was speaking to an international audience mattered little; he needed only to mention matter-of-factly that the “global economy also will be driven by

the growth of the Information Age. Hundreds of billions of dollars can be added to world growth if we commit to the GII" (Gore, 1994: 3). Conversely, to chose not to commit to the GII project in an "Information Age" is to "deny any country or community its right to participate in this growth" (Gore, 1994: 3), and is tantamount to certain economic death. At work here is the myth of Technological Evolutionism—the myth of the inherent good in Technology melded with Darwin's principle of the "survival of the fittest"—applied to whole countries whose ability to survive is directly proportionate to their ability to adapt to the new economic climate which has been brought in by the "natural" evolution of the "Information Age." The intentional application of the instruments of adaptation (in this case, telecommunications technology) will solve problems as they arise and ensure the survival of the country; to deny one's country of their use is to invite that country's demise.

Gore informed his audience that the United States of America was in the process of acquiring the instruments of adaptation in order to prepare itself for the challenges of the "Information Age," and that it was able to do so only by creating the necessary economic and regulatory conditions. The best way to build the GII, he stated, is to leave it up to the private sector and to competition within the industry. This would mean that countries would have to privatize and "liberalize" their state-owned telecommunications operations in order to "obtain the benefits and incentives that drive competitive private enterprises, including innovation, increased investment, efficiency, and responsiveness to market needs" (Gore, 1994: 4). That is, only the market, left up to its own devices without interference by government, could inspire the capital investment in those companies that research and develop the technologies that would make up the

hardware (the physical infrastructure) and the software (operating systems and electronic content) of the GII. Regulation would be established only in order to create an environment that “fosters and protects competition and private sector investments, while at the same time protecting consumers’ interest” (Gore, 1994: 4). Even where the market may have shortcomings—and Gore did state that he recognizes that “marketplace economics should not be the sole determinant of the reach of the information infrastructure”—regulation will not step in.²⁰ International regulation would have to be flexible enough not only to accommodate the burgeoning market, but to “keep up with the ever-accelerating pace of technological change” (Gore, 1994: 4). In these short passages, all three “Big M” myths are present. Because regulation has to support and foster the market and not restrain or shape it in any way, Gore perpetuates the myth of the benevolence of the “Market”—that more unintentional good would occur as a result of man’s unimpeded pursuit of his own economic interests than as a result of intentional and deliberate actions toward that end. By urging that international regulation be flexible enough to “keep up with” the Market, he unites the “March of Time” myth with the myth of “Machine.” Science and Technology are the agents of progress. Therefore, the unrestrained Market, which will give rise to greater technologies, will be the catalyst for progress—and progress is good.

More than any other myth, the myth of Machine, or that technology is a panacea for most of society’s problems, is the most heavily propagated not only in Gore’s speech to the WTDC delegates, but, as we shall see, in numerous newspaper and

²⁰ Gore stated that “positive government action,” will ensure that the information and communication technologies extend to “every classroom, library, hospital and clinic in the United States by the end of the century”(5). It is certain that, in whatever form that action will take, it will not be in the form of regulation.

magazine articles, television talk shows and movies that have touched on the subjects of information technology or the "Information Age" in general or the "Information Highway" in particular. The cures that the new information and communication technologies will bring about range from the preservation of the environment to universal health and education to the prevention of disasters. However, the greatest good that the new technologies will bring is "universal democracy," thereby quashing communism and totalitarianism, the greatest evils, in its wake. Its ability to "spread democracy" is, by far, one of the most popular and repeated "truths" which serve to perpetuate and crystalize the GII myth.

Gore mentions the concept of democracy, in various forms, at least a dozen times in his speech to the WTDC. He begins his speech with a reference to Nathaniel Hawthorne, a great 19th century American writer, who, inspired by the invention of the telegraph, wrote of the great day when "the world of matter [becomes] a great nerve....The round globe is a vast...brain, instinct with intelligence!" (Gore, 1994: 2). Gore goes on to say that people today are aspiring to fulfill Hawthorne's dream of wrapping "nerves of communication around the globe, linking all human knowledge" (1994: 2). This "distributed intelligence" will spread participatory democracy (1994: 2) and, in fact, the building of this globe of nerves itself will be a democratic effort (1994: 2) and the resulting GII "will be a metaphor for democracy itself" (1994: 3). Gore's democratic vision is one which rests on the assumption that "the best way for a nation to make its political decisions is for each citizen—the human equivalent of the self-contained processor—to have the power to control his or her own life" (1994: 3), and the GII will promote the functioning of this kind of democracy "by greatly

enhancing the participation of citizens in decision-making" (1994: 3). In fact, the goal of the U.S. in promoting its GII vision is to bring about a "new Athenian Age of democracy" (1994: 3), a kind of "global conversation in which everyone who wants can have his or her say" (Gore, 1994: 5).

The fact that "everybody having his or say" is a (supposed) right enshrined in the American Constitution and therefore an ideologically-driven concept, is ignored, if even recognized, by Gore, even as he asks his audience to "reach beyond ideology to forge a common goal of providing an infrastructure that will benefit all the citizens of our nations" (Gore, 1994: 1). Nevertheless, and even if it were agreed that this goal is a universal one, the fact that "having a say" will depend on one's having physical and financial access to the technologies casts great doubt on the attainment of that goal. Furthermore, having access and the financial means to use the technologies does not guarantee that one's say will have a bearing on matters of local, national or global economic and political importance.

Nicholas Garnham raised similar doubts when he critically analyzed the democratic opportunity that the new portable video technology was said to offer the average citizen in the United Kingdom (Garnham, 1990: 65). First, there was the fallacy that, by virtue of the technology's supposed affordability and accessibility, the public would gain access to the means of television production. Therefore, portable video equipment "would be a powerful force for democratic participation in television, and, by extension, through television for the democratization of society at large" (1990: 65). However, Garnham warns that:

...[e]ven if in the relatively distant future the distribution method shifts from over-the-air broadcasting to cable, access to that network will be similarly controlled but with the key controlling factor shifting in turn from State control of frequencies to control of economic resources, whether public or private. Access, therefore, to portable video technology in no way alters this situation, any more than access to pen, paper or typewriter has lead to a more participatory or democratically controlled press.

(Garnham, 1990: 65)

As in the case of portable video, it is unlikely that universal access to the GII will change the control over the means of production and, therefore, over the production and distribution of ideas. Therefore, the ideological influence that the ruling elite have over the media of mass communication will not be altered, thwarting the possibility for significant social change. For the point was made in Chapter Two that the ideological framework within which the citizenry of any industrialized nation functions is very much influenced by their cultural and media institutions, and therefore their framework of discussion is often "subconsciously" confined to issues considered relevant by the mass media. If they do not have access to the "larger" media institutions, the amount of influence that individuals can have on social change will be limited. Furthermore, and on a much simpler level, it should be clear from Garnham's example that having the enabling technology for participatory democracy, even if it were universally available, does not guarantee that it will happen. Writing instruments, the telephone and tape recorders have been available to the public for many years and at reasonable costs but have not lead to "the power of the people." Finally, as Garnham points out, there is the very realistic element of "time" which is a factor in any sort of "participatory" activity. Most people, Garnham says, live in societies with a highly developed division of labour, and "provided that they will the ends, they are happy that a specialist should provide

the means" (Garnham, 1990: 65). It is unlikely that, even if everybody wanted to, they would have the time to have their say; having the time to listen to and digest what everyone else has to say is another matter altogether.

These points of refutation of the "universal-access-to-communication-technology-equals-universal-democracy" claim are meant to illustrate just how easily such claims can be countered by common sense and historical observation alone. Yet, because they have not been countered and, in fact, have been supported even by the critical "Left," they serve also to show how deeply engrained in the Western psyche is the myth of Machine. *Time*, that most venerable of all mainstream media news magazines, devoted an entire special issue (Spring, 1995, Vol.145, no.12) to "Cyberspace," in which it stated that "access to the information highway may prove to be less a question of privilege or position than one of the basic ability to function in a democratic society" (Ratan, 1995: 25). Here, the new technology is what enables *any* level of democratic participation—in other words, not having the technology means not participating in a democratic society, even if one had the time, the inclination and access to a pen, paper, typewriter or telephone. This is so, the article continues, because access to the "Information Highway" may determine "how much access [people] have to their government and how they will learn about the critical issues affecting them and the country" (Ratan, 1995: 25). The author's concern is for the "information have-nots" and the article focuses on how government and other organizations are striving to find solutions to the information technology gap, affectionately termed "information apartheid." However, the author does not question the basic use value of any new information technology that is going to render useless all other forms of

democratic participation and widen the gap between the haves and have-nots. Instead, he merely acknowledges the point made by one social critic who declares that “eventual computer literacy and Net access [will not] do much to end the blight of poverty, illegitimacy, rural isolation and urban decay,” and that “[t]here’s always going to be an unequal distribution of income.” This acknowledgement is annulled, however, as the last word is made in favour of the information technology. The author concludes that the technology should, in the least, “unleash all its considerable energies toward the goal of preventing those problems from getting any worse” (Ratan, 1995: 26).

In his analysis of myth, Barthes describes techniques that are used by the mainstream press or by members of the ruling elite in their speeches and interviews which serve to reinforce myth. One such technique is termed “Innocation,” which is an admission by a myth-maker of an “accidental evil” of a class-bound institution, the purpose of which is to conceal the principle evil of that institution. The author of the *Time* article expertly utilizes the Innocation technique in his concluding remarks. With a careful reading, one can determine that what the social critic was **really** saying was that it is not because of the lack of computer literacy or access to the Net that all of the above-mentioned social ills exist; they exist because of a larger systemic “evil”—an imperfect capitalism—which involves a rigid heirarchy of power and an expected and consequent imbalance in the distribution of wealth. The author, as we have seen, avoided the larger question of the “cause” of poverty and other social blights by refocusing his readers’ attention onto the new technology’s ability to contain the “symptoms.” Similarly, when Gore admitted that market economics “should not be the sole determinant of the reach of the information infrastructure,” and

assured his listeners that the government would take positive action in this regard, he was using the same Innoculation technique. In fact, by his careful use of the words “should not” instead of “cannot,” he was not only avoiding the question of whether the market **can**, in pursuit of its own self-interests, allocate resources fairly, but also allowed his audience to consider whether the market **should** be responsible for universal public access, thus admitting, in a roundabout way, that the market **will not** ensure universal public access to the “Information Highway.”

A variation of the Innoculation technique is the air time or column space given to skeptics or “social critics” within the mainstream media whose points of view are not refuted **inside** the space given over to them. By letting them “have their say” without interruption, the media can appear to be objective about a particular subject or even an ideological concept, thereby inoculating the myth that they are propagating against accusations of, say, direct corporate influence. However, because the critical voices are surrounded and overwhelmed by the amount of space given over to the mainstream perspective, they are rendered virtually harmless, even if their subject matter was particularly controversial. Thus, within the pages of the Special “Cyberspace” issue of *Time* appears an article by *Time*’s art critic, Robert Hughes, entitled “Take This Revolution...” in which he criticizes Americans for being fixated on “the cultural benefits of computers and interactive multimedia” and for being “suckers for utopian promises” (Hughes, 1995: 76). Hughes goes on to say that “as the virtual social space of the various networks increases, so will the real social spaces of America decay and implode,” and that along with the promises of being a “democratic agora of opinion” interactivity also “contains an unexplored possibility of social control...[like

Bentham's] panopticon" (Hughes, 1995: 76). Yet, how seriously might one consider Hughes' criticisms when his two-page essay is literally buried amidst nineteen other full-length articles that welcome and extol the virtues of Cyberspace, and nineteen advertisements for the new information technologies and services by Apple Computer, IBM, Xerox and the Beacon Initiative, most of which are two-page spreads themselves?

That the "wired world" is inevitable has already been established by the media. No matter how many (or few) "op. ed." bits there are that raise red flags to our (supposed) over-enthusiasm for the technologies, the general thrust is that the "Information Age" is upon us, and it is good, with the exception of a few "glitches." Since technology cures its own ills, however, the problems that it may cause (and, again, it is the technology that does the "causing," not the larger system which gives rise to the technologies) will be resolved by either social adjustment or by the application of new science and technology.

Another issue of *Time* magazine, published only a few months before its special Cyberspace issue, is a case in point. Its cover story was devoted to the subject of "hyperdemocracy," a term meaning, in fact, too much democracy. The cause: too much access to the information technologies. The article begins with accolades for the interactive technologies that allow voters to break through the traditional buffer that separates Washington's politicians from the citizenry. Electronic town halls, push-button voting and online access to legislative materials are just some of the many advantages that the interactive technology can and does provide. However, the article continues, such a direct democracy contradicts the vision that America's Founding Fathers had for their country. What they envisioned was representative democracy, and they worried that direct political intervention

by the people might unleash “popular passions,” precluding the cool deliberation of issues by elected representatives. Today, “there is cause to worry that America’s inevitable immersion in cyberspace, its decent into a wired world of ultra-narrowcasting and on-line discourse, may render democracy more hyper and in some ways less functional” (*Time*, 23 Jan., 1995: 42). The article goes on to describe these dysfunctions, but within the context already established—one in which the “inevitable” new information technologies are already here and enabling real, participatory democracy to take place. Ensuing social or political problems caused by the technology are necessary evils that must be borne in the name of the greater good caused by the technologies. In any case, they are temporary. Just how temporary they are becomes evident when one considers that this feature article was followed just two months later by *Time*’s Cyberspace issue in which the hyperdemocracy “problem” was completely contradicted by an article titled “Virtual Washington” in which the author states that “the 1990s are witnessing technology’s re-emergence in the healthier role foreseen by Benjamin Franklin and Thomas Jefferson, as an enabler and propagator of democracy” and that “[t]echnology’s new challenge, ideally at least, is to re-empower voters and revitalize democracy through more direct popular representation”(Phillips, 1995: 65). Contradictions aside, the myths of the inherent or ultimate good in technology (i.e., its ability to enable universal and direct democracy) and its inevitable march of progress remain constants, perpetuated and maintained by the mainstream media which are intricately bound up with the ultimate beneficiaries of the fruits of those myths—the ruling and corporate elite.

Beginning in 1993, these mainstream media, newspaper and magazine publishers in particular, issued a continuous stream of special issues devoted entirely to the subject of the new information and communication technologies. *Business Week's* special issue in June, 1994, was entitled "The Information Revolution: how digital technology is changing the way we work and live." The July, 1994, special issue of *Fortune Magazine*, titled "Managing in a Wired World," was devoted entirely to the subject of understanding and taking advantage of the new technologies to manage business better. Toronto's *Globe and Mail* newspaper published a collection of "futurist" Don Tapscott's articles called "On Ramp: Your Guide to the Information Highway." *The Economist* published a 14-page special survey on wireless telecommunications in October, 1993; in February, 1994, a 13-page special survey on interactive television; in July, 1995 a 15-page special survey on The Internet and in September, 1995, a 17-page special survey on telecommunications technology titled "The Revolution Begins At Last." The fact that a publisher or a producer devotes an entire issue to, or creates an additional special issue on, a subject confers upon that subject the status of an "important newsbreak"—something so urgent that the regular routine of news production is virtually stopped in its tracks. The sheer number of these special issues, then, makes the subject matter seem "revolutionary," and indeed, in the case of information and communication technology, that is the message contained within their pages. Add to the written messages the visual impact of, for example, an African tribesman in loincloth and sandals carrying a staff in one hand, a cellular phone in the other (an *Economist* front cover), or a turbaned Indian merchant talking (conducting business) on a cellular phone while riding a donkey down a dusty city road (*Newsweek's* front cover), and the revolution is instantly understood as being a global one. That these are rare and extreme

examples of the new technologies' reach does not matter; again, the photographs are Barthian signs which stand for the spreading and unstoppable march of technology and progress in the great Global Age of Information. Ferguson notes that the "distant other" we see in the advertisements and magazine articles is misleading. We cannot infer from the increasingly interconnected world political and cultural economy that we are headed toward a "homogenized global metaculture" (Ferguson, 1992: 72). To do so:

...would be to ignore the historical role of stratification systems based on caste, class or party, on ethnic cultures defended by bloodshed or kinship traditions linked to religious proscriptions stronger than any claims that might be made for the reductionist power of global media.

(Ferguson, 1992: 72)

Yet, the terms "global" or "globalization" have themselves become Barthian signs signifying not only an emerging world culture but world unity, world understanding and world peace. These concepts are very seductive and comforting in a world besieged by war, famine, ethnic fighting, religious fanaticism, disease, poverty, pollution and so on. They are mentioned in several of the documents produced by the IITF and the GIIC and, of course, by Gore, who plays on their sentimentality several times in his WTDC speech. Gore implored his audience to imagine the world as a "community" or a "great human family," both terms conjuring images of closeness, happiness and peaceful cooperation. This world will be made possible only if each nation invests in the GII project, thereby doing its part to build "a global community in which the people of neighboring countries view each other not as potential enemies but as potential partners, as members of the same family in the vast, increasingly interconnected human family" (Gore, 1994: 6).

Warm feelings aside, Gore's entreaty begs the question: on what grounds do we stand as a family? What do we have in common with each other that will make this family work? But the nature of myth is to prevent us from even asking these questions, as Ferguson notes, because it plays upon and builds on what is already at work, "combining the real with the ideal" and producing "something of an ideal type that stretches beyond what the evidence will show" (Ferguson, 1992: 74). For example, the August, 1991, Moscow 'coup' which led to the disintegration of the Soviet Union was a "real" event, the corollary of which was said to be the end of the Cold War. Probably the most significant outcrop of that event was that it created a perfect foundation upon which the possibility of an "ideal" world could be established. Hence the ideal of a "New World Order" has quickly regained currency, and the ideal concepts "human family," "universal democracy," "shared vision," "shared knowledge," "world community," "global village," and so on, can all be believed in, each a part of a bigger myth, a meta-language that serves to support the GII project and the relatively small number of people whose lives it will truly enrich—even if it may never be fully realized.

Ferguson suggests that "we examine the resurgent economic determinism at the heart of the globalization rhetoric emanating from postmodernists, media imperialists and corporate publicists alike," and ask ourselves whether we are "witnessing not only an historical process and phenomenon but also the emergence of a new determinist philosophy of world history and social change" (Ferguson, 1992: 87). What should be clear, is that globalization is "being promoted both as a means and an end," and is a "teleological doctrine that

promotes, explains and justifies an interlocking system of world trade”
(Ferguson, 1992: 87).

Chapter Five

Promises versus Probabilities

Conclusion

This thesis has tried to show that the Global Information Infrastructure, as a project initiated and promoted by U.S. Vice President Al Gore and carried forward by the Global Information Infrastructure Commission (GIIC), is a more elaborate and costly version of the Maitland Commission's vision of a world in which each and every person has access to some form of communication device, the most basic of which would be a single telephone placed within walking distance of any village. It has also shown that the major difference between the mandates of the two commissions has been in their fundamental understanding of the nature of the relationship between telecommunication and international (or national) development, and the role that private industry, government, development agencies and the people of a nation should play in that relationship. On one hand, the Maitland Commission tried to convey the importance of basic telecommunication infrastructures as one of the essential components of any country's national development program, and how each country could eventually build up its own telecommunications hardware and software manufacturing industries with some initial help from the developed countries' manufacturers, financial institutions and governments. Yet, the Maitland Commission's relatively simple recommendations have not been fulfilled because of a lack of commitment on the part of the banks, industries and governments in the developed world. The thesis suggests that the lack of commitment was due, for the most part, to the low return on the investment

those in the “business” of telecommunications were being asked to make, especially in light of the fact that telecommunications operations in most of the developing countries were (are) either state-owned or government controlled monopolies not open to competition and/or foreign ownership.

In contrast, the mandate of the GIIC is premised on the neo-modernizationists’ and neo-classical economists’ position that it is the development of telecommunications infrastructures that will lead to the economic development of a nation and that will act as a catalyst for other kinds of development—cultural, social and political. At the core of their mandate is the “first principle” of privatization, the conviction that private industry and competition in a free and open market will be the driving force and the only force that will build a telecommunications infrastructure sophisticated enough to transmit and switch the quantities of data required by its primary users—large transnational corporations, banks, financial institutions and international media and communications concerns. I have argued that the GIIC is a commission whose vision serves the interests of large, multinational corporations and, as such, is not overly concerned with the social issues that may arise as a result of the implementation of the communication system that it promotes.

Furthermore, it has been strongly suggested that because the GII is intended to serve corporate interests first, its arteries will most likely be concentrated in the urban and some suburban centers of the developing countries where the branch plants and offices of “First World” organizations are located, leaving by the wayside those rural and remote areas most in need of development and, therefore, development-oriented communication systems. Perhaps most

significant is the argument that the commodification of information will make the cost of the information that is most important²¹ for the real and sovereign development of nations prohibitively expensive for those most in need of it, and therefore too costly to produce, since, again, the return on the capital investment needed for its production and dissemination would be low and longterm. Hence, the information most profitable to produce and convey, and that most likely to be afforded by the wealthier citizens of the developing and newly industrializing countries would be in the form of electronic entertainment and shopping channels.

The point underlined by the thesis is that the GII project has very little to do with a true intent to help nations develop and that it will not have a global reach if “global” means available and accessible by everyone, anywhere on earth.

The second part of the thesis attempts to understand the belief in, and/or the commitment to, the GII project on the part of many people, despite the fact that, with only a superficial examination of the claims made by its spokespersons within a historical, political and economic context, it can be shown to be an unlikely vision indeed. Those in the telecommunication service and computer hardware, software and content industries obviously stand to gain by believing in and pursuing the GII project, but the Al Gore vision seems to appeal to, and be uncritically believed in, by millions of “ordinary” citizens as well. Because of the status it enjoys, the thesis argues that the GII has become a modern-day myth, generated, perpetuated and believed in by wealthy and powerful “elites” and by the media institutions they own and influence. Relying on Roland Barthes’

²¹ e.g. new research results concerning water purification methods, crop disease control or prevention, personal health and hygiene, weather information, political documents, market prices, statistics and so on.

analysis of mythologies, the thesis argues that the language and symbols used in the media and the speeches and documentation of the GII “visionaries” refer to other longstanding myths of Western civilization—the myth of the benevolent and equitable unfettered market, the myth of the natural evolution of technological progress and the natural death of social or cultural institutions unable to compete for survival in this evolutionary process, and the myth of the inherent righteousness of science and technology. The process of structuration, a sociological phenomenon elaborated by Anthony Giddens, is described in the thesis as one effective method by which such myths can become naturalized or “go without saying” because they are, in fact, being “actualized” to a great extent by both the myth-makers and myth-believers. This occurs as a result of the mutual, but skewed, relationship between power-holders and ordinary actors in society who enable the actions of each other because both benefit, albeit in very unbalanced ways, by doing so.

Finally, the thesis analyzes some of the language and techniques used in the mainstream media products and in the speeches and documentation of the GII promoters in an effort to point out the tools of myth-making at work.

With a clearer understanding of the likely outcome of the GII initiative, and an understanding of the linguistic techniques and the media and cultural environments which serve to mythologize the GII and obscure its more likely manifestation, there is cause for concern that policy and decision-makers—especially in developing countries—will feel pressured to make significant changes to their telecommunications policies and operations²² as well as un-

²² On February 16, 1997, an agreement was reached at a World Trade Organization meeting in Geneva in which 60 international negotiators worked out a deal that would “phase out monopolies and restrictions on

precedented investment in the new telecommunications infrastructure, only to discover that, far from becoming less dependent upon their previous colonizers, they are becoming the new or more easily accessible markets for, and the national branch plant operations of, the transnational corporations, financial institutions and governments of the advanced countries. In other words, a new kind of insidious dependency on the advanced nations is the most probable scenario for those countries unwilling or unable to critically assess the impact of the GII project on their nations as they slowly but surely make the adjustments they believe to be necessary to survive in the "inevitable" Information Age.

What alternatives are there for developing countries where telecommunications technologies are concerned? Are there, in fact, choices to be made? Jill Hills notes that, since developments in telecommunication technology have made it possible for large users to provide their own low-cost, private networks, their bargaining power against the national telecommunications operator has increased. Furthermore, because these large corporations require high-speed, high capacity telecommunication systems in order to remain competitive in an increasingly global economy, a nation's inability or unwillingness to upgrade its system can result in the exodus of many companies to more compliant hosts, with devastating results on the national economy of the initial country. Hills notes that

Such migration from the network is potentially disastrous for the national operator in a developing country, where network revenue is likely to be dependent on a few large companies. The income generated by the large users, particularly from international traffic,

competition in telephone companies." Restrictions on foreign ownership of telephone companies was particularly irksome to the U.S. delegates and was on the top of the "phase out" list. (EduPage, Feb. 16, 1997 and Ottawa Citizen, February 15, 1997, E4)

cross-subsidises loss-making services, such as those to rural areas (Hills, 1990: 73).

In small countries, like Fiji for example, the introduction of private international and national networks threatened the very survival of the national domestic network (Hills, 1990:73). Therefore, there are very real and far-reaching implications for those countries in the developing world who do not upgrade their systems with the new technologies or who do not allow for the installation of private networks, whatever their reasons may be.

It may appear that countries have no choice in the matter, after all. However, the GII project need not be accepted as a whole package, nor must the technologies be rejected altogether, and nowhere in the thesis has the suggestion been made that developing countries ought to reject “Western” technology simply because it has been overblown as a panacea for the causes of underdevelopment by self-interested parties. But as a starting point, it would be wise for government officials, policy-makers and analysts, academics, labourers and interested citizens alike to be calculating and critical as they review the proposal for the GII and the various supporting Committee reports, conference proceedings and task force recommendations. In doing so, concerned parties must be aware of the limitations as well as the potential of the new technologies within the context of their own nations’ political ideologies, cultures and future development plans, as well as be cognizant of their past experiences with respect to the economic, political, social and cultural impact of “older” information and communication systems—especially in light of the fact that claims were made for *their* ability to inspire the modernization of poor and underdeveloped nations.

To be critical, however, means to be able to divorce oneself from the mythological environment supporting the GII project. Education is necessary, as Chomsky has pointed out, but as this thesis has tried to convey, critical or dissenting voices are almost drowned out by the chorus of moneyed and well-placed individuals and groups who stand to gain significantly by singing the praises of the new technologies, and whose voices are amplified by the mass media. To separate oneself from the mythology, then, means to be keen enough to know, first, that critical views do exist and, second, where to seek them out.

Making this task more difficult is the fact that even within the academy and the “Left” or “counter-culture” groups and institutions, where such critical perspectives are assumed to be held, (and, therefore, sought out), one will find little piercing criticism, that which questions the whole ideology supporting the GII project or the much-heralded Information Revolution. Instead, the skeptics who are “trained” to seek out the power source behind the generation of propaganda, seem to espouse the new technologies, perhaps because they use them as research tools or to collaborate on projects with distant colleagues and therefore project the benefits of its use onto the world map. It is true that within the “onside” left, not all groups, or members inside of a group, agree on certain issues, but their debate does take place within the parameters of the generally accepted thesis that the Information Age is upon us and that information and communication technologies will change the world for the better. Their voices are given a lot of media attention, as are their points of departure with the “corporate” or “government” vision—the latter being an Innoculation technique—but by doing so, the mainstream media are causing an identification of the corporate world with the normally critical left such that a would-be skeptic

or social critic might hesitate to disagree with the larger premise or may even be precluded from doing so by a kind of subconscious "chill."²³

Part of the answer therefore, might be to seek out the cracks within the mainstream GII discourse which may indicate weak points in the claims made by the technophiles, "futurists," "visionaries" and others in the business of advancing the GII initiative and the Information Society. As Slack proposes, in these "leaks" we may find opportunities to suggest an alternative reality, or, in the least, find alternative uses for the "instruments of change" (Slack, 1984).

At a meeting of the German Informatics Society in October, 1990, sponsored by IBM-Germany, for example, Neil Postman, a well-known social critic whose work revolves around communication technology and its effects on society, offered an alternative view of the new technologies that had probably not been considered or given much thought by the attendees. What he intended to bring to the conference, he said, was the point of view of an "outsider," one whose opinion about the computer might bring a degree of technological modesty to the otherwise smug profession of computer science. His message was that citizens in Western societies are being overwhelmed by a glut of information, the usefulness of which is dubious. People no longer know what information is relevant and what is irrelevant to their lives, owing, in part, to the fact that "we no longer have a coherent conception of ourselves, and our universe, and our relation to one another and our world," and in part because we continue to make machines that "do nothing but increase the supply of information" (Postman, 1990: 6). Because information has increasingly become a commodity that can be

²³ Barthes describes this particularly convincing "Identification" technique as one in which experiences of confrontation between Same and Other are reduced to conflicts of Sameness.

bought and sold, or used as a form of entertainment, the tie between information and action has been severed and we simply do not know what to do with it. Into this situation comes the computer, the most prominent use of which has to do with the storage, retrieval and organization of information. This is a noble use, says Postman, but added, “[i]f children die of starvation in Ethiopia, does it occur because of a lack of information? Does racism in South Africa exist because of a lack of information?” (Postman, 1990: 6). The point underlined by Postman was that the computer cannot and will not solve our problems and make “education better, religion better, politics better, our minds better—best of all, ourselves better....

As things stand now, the geniuses of computer technology will give us Star Wars, and tell us that is the answer to nuclear war. They will give us artificial intelligence, and tell us that this is the way to self knowledge. They will give us instantaneous global communication, and tell us this is the way to mutual understanding (Postman, 1990: 7).

In fact, that is exactly what “the geniuses of computer technology” and communication technology and government did say through the personage of Al Gore four years later at the WTDC conference. Unsurprisingly, Gore’s was a much more quoted and repeated speech, but both men addressed corporate figures and authorities whose business affairs are usually the stuff of mainstream media. Postman was not preaching to the converted through an alternative medium.

Another public forum at which some alternative views were expressed was the International Institute of Communication’s “Digital Media Forum” held in April,

1994. Les Brown, an American author, film maker and activist, made a presentation in which he related the following story:

A few months ago, a member of the [U.S.] administration working on the White House legislative package to facilitate the information infrastructure, attended a policy discussion group in which I participated. When she laid out for us the details of the proposed bill, we were struck by how lightly it touched upon public interest issues. When asked about that she replied that if those issues were to get into the debate early on, consensus would be difficult to reach and legislation would snag. "First you get it built," she said, "then you worry about the social effects. That's how it works in Washington (Brown, 1994: 2).

While he did not question that the Digital Age was upon us, Brown did alert his audience to the following issues he called the "Seven Deadly Sins" of the digital age:

1. Inequality. A widening of the gap between the haves and have-nots. This has also to do with access and affordability.
2. Commercial exploitation and information abuse.
3. Threats to personal privacy.
4. The disintegration of the community.
5. Instant plebiscites and the distortion of democracy.
6. The tyranny of gatekeepers.
7. The loss of public service values and social responsibility.

With respect to the first item on his list, Brown asked (rhetorically), "Who pays to extend the fibre optic line, and provide terminals and other accoutrements, to the urban ghettos and remote farms, to all the places sensible business would avoid?" Brown alerted his audience to the fact that if this is a problem in the United States, then the growing divide between information rich and information poor will also exist "between our northern nations and those of the southern hemisphere. First and Third Worlds stand to grow farther and farther

apart in the information age, one becoming ever more advantaged than the other..."(Brown, 1994: 5). Furthermore, Brown noted that even should the wires and terminals of the Information Highway become available to everyone, the cost of the content would still remain a divisive factor. "This issue is about what empowers people, what may increase their opportunities in life, their status in society, their cultural pleasure, and their wealth....universal service notwithstanding, the gap will surely widen" (Brown, 1994: 5). Other warnings Brown sounded were that while we are being lead to believe that the information highways will bring us information, they will, in fact, make "us" the information; the information we send "upstream" by our consumer behaviour "is extremely valuable to marketing experts. They have never had such perfect psychographic information to work with on such a scale. Whoever we are, we are targets for the marketers by our ages, genders, income levels, tastes, interests, etc." (Brown, 1994: 7).²⁴

More recently, the MacBride Roundtable on Communications, a conference held in South Korea in August, 1996, had as its specific agenda discussions regarding the plans for building an "Information Society" and what this would mean for the developing countries. If the name "MacBride" did not mean anything by itself to communication policy-makers, especially those of the developing countries, the topic by itself should have piqued their interests. At this conference, George Gerbner stated that, while there is no doubting that progress is being made in the building of national information infrastructures in the

²⁴ Educom reports that after a one-time fee of \$29.95, Hyper Net USA's Cyber FreeWay service "offers free unlimited access to residents in San Francisco who are willing to provide their household demographic data. The information is then given to advertisers who target users with online ads, which are segregated in a secondary window on the right side of the screen and change about every minute or so." (Investor's Business Daily, Dec. 26, 1996: A8; Educom, Dec. 28, 1996))

“advanced” countries, or that the technologies do present potential benefits in the development of LDCs, the “insistent and repeated rhetoric of APEC, G7, OECD, EU among others, claiming to affirm the priority of universal service and the need to avoid disparities between the ‘information rich and information poor’ functions only to obscure the absence of any serious attempt to address these issues” (Gerbner, 1996). Furthermore, there is an unwillingness on the part of these organizations to “concede on the centrality of competition in building this ‘brave new world,’ [and] to acknowledge the central role of significant transfers [of technology] to address marginalized communities—often the majority” (Gerbner, 1996). In essence, Gerbner was accusing the minority of international power-holders of harbouring a hidden agenda and added that the media play a central role in keeping that agenda hidden. The repetition of their rhetoric, along with their unwillingness to consider all sides of the debate (or even note that one does exist) will eventually wear down the resistance of those who would otherwise be actively involved in the advancement of the right to communicate, Gerbner said, and he reminded his listeners that if the global movement for media equity and democratic communication structures is genuine, then it cannot afford to exclude any regions or interests. “A debate conducted among the minority with power, even accompanied by claims to be acting on behalf of those excluded, can result in no lasting progress” (Gerbner, 1996).

Postman’s, Brown’s and Gerbner’s speeches presented cracks in the popular view of the Information Highway which might have been, in the least, “food for thought” for those overexposed to the one-sided accounts of the socio-economic benefits of the new information and communication technologies. Hard evidence

of “myth fatigue”—statistics, survey results and reports, for example—has been more difficult to find up until very recently. Yet, the signs are there and they cannot be ignored because they prove, if only one thing, that technology does not act in isolation of people. For example, the Washington Post recently reported that, while the aim of the U.S.’s telecommunications bill passed in February, 1996, was to encourage more competition in the industry, (which, according to modern economists would result in lower prices for consumers), almost a year later, “a few rates are lower than the overall inflation rate (3.3%) but intrastate calls and cable TV prices have significantly outpaced inflation. Percent changes, from Dec. '95 to Dec. '96, for key indicators are: consumer price index for all services, 3.3%; telephone services, 2.1%; telephone local charges, 0.9%; interstate toll calls, 3.7%; intrastate toll calls, 6.1%; cable TV, 7.8%” (19 Jan. 1997, H01).

Not only are the economists wrong in their predictions thus far, but other tremors in the business world give some indication that perhaps, there too, cracks are beginning to form in the facade of Potemkin global village. For example, John Malone, CEO of the largest U.S. cable company, Telecommunications Inc. (TCI), stated that his “widely hailed vision for TCI’s future as a multimedia powerhouse straddling television, telephones and the Internet isn’t working [and that] it was too ambitious, overhyped, and impossible to carry out on schedule” (Robichaux, *The Ottawa Citizen*, Jan. 4, 1997, H3). Not only did Malone come to decide that “the old cable industry is a perfectly good business to be in,” but, according to the *Citizen* reporter, the telephone companies, too, “have retreated as video competitors to focus on long distance business.” Malone’s admission comes as a surprise; he had earned a reputation as “one of the most astute and influential visionaries of how new technologies are transforming the media world” (Robichaux, H3).

Other companies, while perhaps not (yet) recanting on them altogether, are reining in their initial enthusiasm for, and investment in, the Global Information Infrastructure as they take a more sedate look at the feasibility their plans. Teledesic Corp., the \$9-billion satellite communications company which intended to launch 840 satellites into low earth orbit, announced that it is "exploring options" to scale down its system, beginning with the launching of just 288 satellites. A company spokesperson said that the new schedule will only delay, and not alter, its original plans. While no explanation was given for the change in schedule, one can only assume that investors are becoming hesitant as new competitors and new investment opportunities enter into the communications arena. This was the reason why TCI had to change its direction, one investment analyst said, adding that the problem was "an industry problem and not [limited to] TCI" (Ottawa Citizen, Jan. 4, 1997: H3).

Adding to the uncertainty in the market are the results from surveys and actual usage data which indicate that consumers of communication and information services are not as eager to jump onto the Information Highway as government, industry and the media have lead many to believe. A Dataquest Inc. poll of 7,000 U.S. households indicated that 93% of the respondents were not interested in buying an Internet-enabled TV set or set-top box (Investor's Business Daily, Dec. 18, 1996: A6). In Canada, a new high-speed Internet access link using cable TV lines "has done little more than trickle into a small number of Canadian homes" (Ottawa Citizen, Jan. 23, E10), all of which are located in major city centers. This service, costing subscribers \$55 per month for "unlimited and instant World Wide Web surfing" has a penetration rate of only one per cent in some cities such

as Calgary. Analysts said that until the service can be offered anytime, anywhere and at a more reasonable price, the interest level will remain low (Ottawa Citizen, Jan. 23, E10). A recent survey of over 10,000 owners of personal computers (for home use) showed that the PC remained unused 54% of the time after it had been turned on and left to remain idle for 60 seconds, at which time a software program would monitor usage. Of the time that the PCs were in use, the largest percentage of time (29%) was spent "futzing," a word which refers to making color and pattern adjustments to the background desktop screen, rearranging files, setting the clock or changing the blink-speed of the cursor. Word processing and business software use took up 16% of the time and only 12% of the time was used to "surf" the Internet (Wall Street Journal, 28 Feb. 97). In the business world, a Deloit Touche survey of about 1,500 companies located around the world indicated that "the overwhelming majority have no plans to use the Internet for business transactions, and only one in twenty companies polled conduct business via the Internet" (Toronto Globe and Mail, Feb. 18, 1997; Educom, Feb. 19, 1997).

By these and other indicators, it is slowly becoming apparent that the Global Information Infrastructure may not materialize at all or in the manner in which it is being advanced, or be able to "do" all of the things that it had been supposed to do by its promoters. The cracks and leaks developing in the GII discourse are occurring as a result of the torsion brought about by other forces—namely, human beings—who are manipulating the global project in a manner which conforms to their own interests and needs, but which goes against the force of the Information Age as a supposed natural, inevitable phenomenon. Other human beings simply do not want to participate in this particular revolution to

the extent that others had hoped. In the latter case, it is not just the individual consumer who may be less enthusiastic about the technology than envisioned by all those futurists; some whole countries, non-Western countries in particular, are either not interested at all in the GII project or are planning on accepting only some of its concomitant principles. Examples of this are slowly coming into view in various news vehicles, and may be seen as indicators of disagreement with aspects of, or even complete disbelief in, the GII myth.

For example, while China had been hailed as the world's largest untapped market in the new global economy, and, hence, was seen as a particularly lucrative prospect for information commodities, the newspaper *China Consumers Daily* says that China plans to increase its controls over the Internet, which already include the requirement that all present and future Internet users register with the police. "In its war against pornography and 'cultural rubbish,' " an Atlanta newspaper reported, "Chinese police detained more than 47,000 people and seized 320,000 pornographic products in the first ten months of 1996. Chinese authorities use the term 'cultural rubbish' to include anything they consider unhealthy or politically suspect" (*Atlanta Journal-Constitution*, 27 Dec. '96: D3).

In Iraq, the Internet is not accessible at all, and it appears that that it may never be, if one editorial in Iraq's government newspaper gives any indication. According to the Associated Press, the editorial in the newspaper, *Al-Jumhuriya*, says that the Internet is "the end of civilizations, cultures, interests, and ethics." The author also believes that it represents a means by which America can enter into any household in the world, in an effort to become "the only source for

controlling human beings in the new electronic village" (AP, 17 Feb., 1997: Educom, 18 Feb., 1997).

While this may sound, to Western ears, a little extreme, Benjamin Barber foresaw such reaction to the effects of four "globalizing" imperatives, one of which he called the information-technology imperative, in an article (and book) entitled "Jihad Vs. McWorld." It is the software (the content) of the new technology which is more globalizing than are the actual wires and satellite dishes of the GII and to which many of the world's cultural and religious groups object, Barber maintains. "The information arm of international commerce's sprawling body reaches out and touches distinct nations and parochial cultures, and gives them a common face chiseled in Hollywood, on Madison Avenue, and in Silicon Valley" (Barber, 1992: 58). Software supremacy, he suggests, is far more significant than hardware because, in the long term, "culture has become more potent than armaments...

What is the power of the Pentagon compared with Disneyland? Can the Sixth Fleet keep up with CNN? McDonald's in Moscow and Coke in China will do more to create a global culture than military colonization ever could. It is less the goods than the brand names that do the work, for they convey life-style images that alter perception and challenge behaviour" (Barber, 1992: 58).

We have already seen the reaction to the cultural imperialism thought to be promulgated via the mass media; that the new technologies should pose any less a "threat" to those cultures, or that they should inspire development any more than did the technologies of mass communication are almost foolish assumptions when placed in their proper historical context. It is always worth remembering that those who own the technology, hardware or software, also control it. As Les

Brown noted in his speech to the IIC when speaking of the promises for program diversity made by cable television operators in the 1970s, the “limitless channels” that the new technology was supposed to offer the public would “make room for programs from every country in the world...

There were going to be so many channels that we would never have to worry again about the three big gatekeepers of programming: ABC, CBS and NBC. What we wound up with, however, was a single gatekeeper – the company that operates our immediate cable system. All those channels are like the tines of a rake. They meet in a single handle, and whoever controls the handle in effect governs them all” (Brown, 1994: 16).

It will be no wonder, then, if “colonialism” becomes a much more contentious issue in the months and years ahead, especially if, after countries declare “open season” on their information and communication markets, they discover that the Information Highway holds no real potential for the growth and development of Third World countries. As one Indian professor explained in an interview, “Only... our Third World elites will be on-line, talking to their counterparts in the First World. Thus making them even more alienated from society... Supposing in 10 to 15 years all of India gets on-line. By that time it will not be possible to have any significant impact on on the whole Internet world. So the system is designed to treat us exactly the way that colonialism treated the Third World” (Sardar, 1996). In light of the fact that, according to one writer, “fifteen people in [his East London housing cooperative] have more bandwidth than the entire population of India....[excluding] multinational corporations which can put their \$100,000 satellite terminals anywhere they want” (Holderness:1996), one may question whether 15 years is a long enough grace period, even hypothetically speaking.

As the above examples have suggested, there are alternative realities that are “out there” and which are being disclosed through the cracks in the mainstream press. They serve as warning signals or indicators that, perhaps, the promises made for the technologies should not warrant a complete overhaul of any one country’s communication and economic policies. However, if it is generally accepted that there is a link between communication and information technology and development, then, providing that the tools and the plans for their use are in the hands of those in need of development, the technologies can have tremendous potential. As the SITE experiment did prove, apart from the fact that cost is a very real factor in the use of such technology for development purposes, information, “when carefully planned and prepared and when linked to the real needs of rural folk, has been welcomed” (Reddi, 1986: 97). Are there, then, also alternative uses for these “new” instruments of change? Are there alternative instruments of change? In other words, in recognizing the fact that the GII will probably not be realized as a truly “global” project and the principles of open markets, liberalization, de-regulation, competition, transparency and so forth, will probably not “work” in the interests of developing countries, is one rejecting information and communication technology altogether as possible development tools? The answer should clearly be “no.” In fact, even “old” information technology, and modified versions of it, is still useful and need not be discarded simply because some newer technology has appeared on the scene. Developing countries need to assess what it is that they already have, and what newer technologies, if any, would make sense for them given their current sociological, cultural, political and economic situations.

Some are already doing this. At the pre-conference seminar of the International Institute of Communication's annual conference, a number of development workers and policy analysts, academics and researchers gathered to discuss the application of information and communication technologies to development needs. There, participants recognized that, since some countries lacked basic infrastructure (telephone lines) and others lacked the more sophisticated hardware (computers, digital switching equipment etc.), they would have to integrate the new technologies with existing and more widely used technologies. For example, while Bolivia has only two telephones per 100 people, there exists 60 radios per 100, and in Southern Africa, SABANEWS, the radio news service, reaches more than 100 million listeners of public radio stations—more than the total of Internet users in all of Latin America and Africa combined. Participants concluded that efforts had to be made to “identify communications tools which are flexible and easy to interface with other media [and] lobby those developing new technologies and software to ensure ‘backward compatibility’ with earlier generations of tools” (IDRC, 1996). Furthermore, if newer telecommunication technologies are going to be adopted, government, financial institutions, the private sector and ordinary people must be involved in its installation and use if it is to have any relevance at all to development issues. To this end, the infrastructure must not only reach the rural areas, but “the promotion, compilation and development of information [must be] originated by and/or relevant to developing societies” (IDRC: 1996).

The establishment of telecenters—kiosks equipped with computers, fax machines, telephones, photocopiers and so forth—in areas where there is no existing wire or cable infrastructure is one such initiative. While distance

education and training are important aspects of the telecenters, the idea is to promote community development. In Western Australia, for example, there are 31 telecenters which are federally-funded for a two-year start-up period, and funding is available only to broadly-based community groups (government agencies, private companies, individuals, educational institutions and single interest groups are excluded from federal funding). One such center was used, in part, to find part-time data processing work for 30 - 40 people in addition to its other uses. Another center is used for telemarketing the goods of local aquaculture producers. The philosophy behind the establishment of such centers is the belief that "for there to be sustainable rural industries, rural Australia must have well-informed, well-educated and competent rural communities."²⁵

While Australia may have regions in need of development, it is not a developing country per se. Many other developing countries have no support structures which might facilitate services to rural and underserved areas. The countries of Southern Africa, for example, have recognized the difficulties and high costs associated with the provision of any sort of telecommunications services to their remote regions and are currently considering the development of community-owned telephone systems. These cooperatives offer several advantages over traditional service-provision schemes: labour and equity is provided by the local community, profits are reinvested in the community, and local ownership instills a sense of pride and responsibility in the system, thereby reducing problems such as vandalism and non-payment of bills. Whatever the solution, one report says, "service to rural and underserved areas in Southern Africa will require a delicate blend of appropriate technological choices in combination with

²⁵ Found on-line at: netspot.com.au/oltc/olcs/case32.htm.

management and financing mechanisms initiated at the government level, to support the development of rural providers" (Price-Waterhouse, June 1996²⁶). Malaysia has begun to install digital post offices which operate much the same way as the old telegraph office used to; e-mail messages are sent to the village address, printed out, and delivered to the addressee. Other governments and organizations in Mexico and Chile, to name just two, are financing the installation of some of the newer technologies in the "outpost" offices of some non-governmental/non-profit organizations, which, in turn, make them available to members of the local community.

What each of these initiatives have in common is a desire to reach rural and remote regions with old, new, or a combination of both kinds of technology with information and services that are relevant to the lives of the people in the communities and which is, directly or indirectly, contributing to their development needs at a manageable pace and scale. They also involve government, non-profit development organizations, various financing schemes and, most importantly, the very people they are trying to serve.

Political scientist Langdon Winner advocates such community-level involvement in the adoption of any technology, but it may be especially relevant to communication and information technologies, considering what we have discovered, in the course of this thesis, about the relationship between communication and community.

We favor the creation of technologies that are of a scale and structure that make them understandable to the people who use

²⁶ Report found at <http://rtr.worldweb.net/Textonly/rural.htm>

them and are affected by them. We favor the creation of technologies built with a high degree of flexibility so that they do not impose a rigid and irreversible imprint on their users, and we favor the creation of technologies that foster independence from technological addiction and promise political freedom, economic justice and ecological balance. (excerpted from The Utne Reader, March-April, 1990: 53)

Appendix: Definitions

Definitions

New Information and Communication Technologies

Interactive communication and information technologies are networked communication systems which facilitate “real time” digital voice, video and/or textual communication between and amongst any number of individuals over any distance as well as allow for the storage and retrieval of digitized information. In the following pages, the words “new information communication technologies,” “telecommunication technologies,” “The Information Highway” or “the GII” mean national and international networks of *interactive* information and communications technologies. Included in this category are telephones, telex and facsimile machines, and computers linked together by fiber-optic cables, coaxial cables, twisted copper telephone lines, satellites and receiving or relay stations. Although the telephone or the telex machine may not be considered as “new” communication technologies relative to, say, the computer, they will be considered in the group of these two-way or multi-way communication devices because they form a part of the web of interactivity. It is predicted that, eventually, all of the mass communication media—radio, television, film, newspapers and magazines—will be carried over the same system and become an integral part of the interactive web; the intent in this thesis, however, is to discuss those communication and information technologies used now to process and transfer data vital to the economy and the development of nations (transborder data flows).

Developing nations

The term "developing nations" is a misleading one since there are groups of people within *any* country who are suffering from chronic disease, malnutrition, poverty, illiteracy, unemployment and other conditions and afflictions commonly associated with underdevelopment. Likewise, there are groups of people in *any* country who are not at all suffering from or affected by these conditions. What makes a developing country different from a developed country, according to Hedebrø, (1982) is the number of people who are in one or the other category. However, the notion of economic dependency upon the developed countries must also be part of the definition of developing nations, for to ignore this fact would be to ignore the foremost reason why many of these poorer countries are underdeveloped in the first place. In this thesis, the terms "developing countries," "non-industrialized countries," and "underdeveloped countries" refer to those countries in which the majority of the population is suffering from the above-mentioned conditions and which are economically dependent upon the industrialized countries in Europe, North America and Japan. These latter-mentioned countries may be referred to as Western nations or industrialized countries. Passages may include the terms "Third World countries," "the South" or "peripheral countries" to indicate those countries referred to by this author as underdeveloped, and "First World," "the North" "advanced" or "core" countries to indicate those countries referred to as industrialized.

Development

To many, the word “development,” with respect to nations or communities, implies an improvement in living conditions and is often used interchangeably with words like progress, industrialization, growth and jobs. However, these conceptions of development are problematic because:

...they are promoted by elite groups of people who have financial and political power; they benefit relatively few people; they are imposed on or sold to the majority of people, who are invariably told that such “development” is good for them (OXFAM, 1992).

Scholars in the field have been at pains to define “development,” but most agree that development is **not** about the imposition of the systems and values of one group over another. National development, says Luis Beltran,

is a directed and widely participatory process of deep and accelerated socio-political change geared toward producing substantial changes in the economy, the technology, the ecology, and the overall culture of a country, so that the moral and material advancement of the majority of its population can be obtained within conditions of generalized quality, dignity, justice and liberty (in Casmir: 1991: 152).

Elite

The term “elite” is used in this thesis as it is defined by Noam Chomsky. The elite are “those who are in the position to make decisions which affect crucially what happens in the general society...[including] political decisions, decisions over investment, production, distribution, and so on.

Then there are the groups that are in managerial positions with regard to the political and economic institutions, the state managers the corporate managers, and so on. There are also elites with regard to the ideological institutions, the top editorial positions and other positions of control within the media, the journals, etc. These groups, which are not only interconnected and interlocked, but also share a common set of values and associations, belong to the highly privileged class and are generally quite wealthy. They determine the basic framework of what happens in the society based on their power, which ultimately is rooted in economic power, in simple ownership of the basic facilities out of which the society is constituted (Chomsky, in a 1984 interview with David Barsamian, published in Chronicles of Dissent, 1992: 104).

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