

CONVIVIALITY:  
A CONCEPT FOR THE INDIVIDUAL IN THE INFORMATION SOCIETY

by

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Conviviality: A Concept for the Individual  
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## ABSTRACT

In his Tools for Conviviality (1973), Ivan Illich defined "conviviality" as an attribute of the social tools that could be fashioned to help people live compatibly in a complex social system. Social institutions, he argued, are social tools but many institutions have become unconvivial. Illich's solution to the problem of developing conviviality was to create a supervising institution, such as government, which would make other institutions convivial.

This thesis examines and assesses Illich's work and in particular his arguments for the achievement of conviviality. It does so from a perspective developed from a reading of materials on the information society and from personal experience with the development of information systems.

Chapter one introduces the thesis and chapter two explicates Illich's concept of conviviality and the arguments he offers for its achievement. Chapter three argues that despite the fact Illich defined conviviality as an attribute of tools, he was unable to avoid redefining it as a concept applicable to individuals. Chapter three also examines the historical development of tools that society has deemed beneficial to the achievement of conviviality. Chapter four analyzes two "watersheds" that Illich considers to be significant in the evolution of institutions, and takes up as well the concepts of monopoly and "radical" monopoly. Chapter five defines the concept of information interfaces and locates associated factors that influence conviviality. In chapter six the thesis concludes by identifying a new conviviality factor.

The thesis argues that Illich was wrong in advocating a socio-political solution to the problem of developing conviviality. It concludes, from historical information drawn from H.A. Innis' Empire and Communications, that society has been

fostering for some time the development of information tools that enhance conviviality. The thesis further concludes that, with the development of modern electronic systems, these tools have reached the ultimate stage in their technological development. The definition of one non-technological factor, information organization for retrieval, should make these systems powerful tools, capable of giving individuals social power and control over their own conviviality.

# CONVIVIALITY: A CONCEPT FOR THE INDIVIDUAL IN THE INFORMATION SOCIETY

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## CHAPTER 1

### INTRODUCTION

Ivan Illich, priest, philosopher, and socio-political activist, prodded some modern institutions into angry reactions with his attacks on the institutional establishments in a series of writings published over the last two decades.\* He castigated institutions for becoming the primary causes of many of the social problems which beset society. The angry reactions were, I believe, as much a result of the realization that his premises had some validity as of his anti-establishment, socio-political arguments supporting his approach to the achievement of a "convivial" social system. The purpose of this thesis is to reach an understanding of what Illich claimed the institutions have done to inhibit the achievement of "conviviality" and to determine whether the socially-disruptive actions he advocated were the only ones that society could take in order to achieve "conviviality".

This thesis concludes that he was right in focussing his attentions on institutions but he was wrong in advocating political actions as the only "tools" society had which were capable of eliminating the institutional impediments to the achievement of conviviality. He was wrong because society had already chosen the "tools" which would help people, particularly individuals, achieve "conviviality" thousands of years ago. Moreover, society has been successfully directing the fashioning of these tools in spite of the efforts of articulate, impatient demagogues, such as Illich, with an emotionally-appealing socio-political philosophy to sell or the inertia of institutional managers unable to keep their ponderous organizations from becoming pathologically mortified.

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\*See Bibliography

In support of these conclusions, the thesis develops arguments using information from three primary sources:

1. Illich's published work, particularly Tools for Conviviality;
2. H.A. Innis' historical work Empire and Communications;
3. personal experience with the development and applications of systems for the storage, retrieval, and dissemination of information.

The analysis will:

1. separate Illich's valid premises from his socio-political arguments;
2. identify his concept of "conviviality" as a non-political objective that society has been inexorably moving towards throughout history;
3. indicate how society has directed the development of "information tools" which help the achievement of "conviviality";
4. show that one of these tools, probably the most important, already exists as a result of the unrestrainable development of the technologies of information processing and telecommunications;
5. define historical factors not dependent on any socio-political philosophy which have been the primary influences in the shaping of these "tools for conviviality";
6. suggest that the specification of a final factor will signal the re-emergence of individuals and not institutions as the primary forces controlling social directions and goals.

The thesis claims that Illich's coining of "conviviality" was one of two creative contributions that he made to the definition of social goals and to the analysis of institutional impediments to the achievement of those goals. His second contribution was the definition of two critical stages in the development of modern institutions. He called them "Watersheds". Most of the rest of the information he packaged and disseminated, though based on historically verifiable events, can be described as the work of a sensitive priest with a precise political leaning and a mind



strapped within the confines of traditional thought. In support of that judgement and as the first step in the separation of his valid premises from his socio-political arguments, the discussion of Chapter 2 will explicate his definition of "conviviality" together with his character, his roots, and his arguments as they emerge from his and other writings.

Though most articulate, Illich did not create any original arguments nor did he meet his own criteria for the work he set himself. He was not original in claiming institutional activities as the causes of social ills, nor was he consistent in, for example, the application of his formal definition of conviviality. In support of these contentions, the discussion of Chapter 3 will offer evidence to show that:

1. institutional impediments to social developments leading to conviviality are well documented in the historical record and Illich contributed nothing new to the debate except to place those impediments in a modern context;
2. his arguments often ignored his own definition of conviviality and redefined it as a condition to which individuals should aspire and not as an attribute of social tools as he intended.

The discussion of Chapter 4 will show that the institutional events he called the First and Second Watersheds were major social events indicative of more than the grabbing of social power by institutions as he preferred to interpret them. At the First Watershed, society gave the institutions the freedom to pursue those activities which society had deemed beneficial to social developments. At the Second Watershed, the institutions reversed their relationships with society which they were designed to serve and assumed the responsibility of telling society what it should do to develop beneficially. In other words, institutions started to direct social developments rather than follow society's directions. The passage of the institutions through the Second Watershed was not necessarily the fault of the institutions but more the result of the way that society viewed institutional successes in satisfying the social purpose of institutions.

In his analysis of these watersheds, Illich inferred but never declared what he considered the purpose of institutions to be. Yet, without such a definition his arguments had no reference. To establish a reference and a definition of the social purpose of institutions, an analysis of another information source besides that of Illich was necessary. A relevant information source proved to be Empire and Communications, a historical work containing information packaged by H.A. Innis. Innis developed a theme not unlike that attempted by Illich but in a much more scholarly way. Although Innis did not concern himself with the "purpose" of institutions, an analysis of the information in Empire and Communications indicated the following:

The social purpose of institutions is to generate and disseminate information of use to society.

Illich appeared to concur with this definition in his description of the activities of institutions in between their two watersheds.

The historical dates he chose for the occurrence of both watersheds provides evidence to show that his work can be viewed as a polemical continuation of Innis' historical record. The analysis of Innis' information indicated the following:

Major social events followed or occurred at approximately the same time as innovative changes in the technologies of information processing and in the methods of disseminating information.

The two information technology changes which occurred at about the same times as the two watersheds resulted from the invention of the radio transmitter and receiver in the first decade of the 20th century and from the invention of the transistor at about the mid-part of the century. With the development of radio telecommunications, individuals were able to start disseminating information at close to the speed of light independently of the communications systems controlled by the institutions. With the development of the transistor and consequently the silicon chip, individuals today have the same capabilities for accessing, retrieving, assessing,

manipulating, and transmitting information as had the institutions with their massive information processing organizational hierarchies.

At this stage, the thesis arrives at the following secondary conclusions. First, Illich and the historical record appear to agree that institutions are most useful when they function as "information systems" for the society in which they operate. Second, Illich appeared to agree with one of the premises of this thesis which is that institutions are a necessary part of a social system. Third, Illich's solutions to social problems would serve only counter-evolutionary socio-political forces and destroy much of what society has developed institutions to do. Fourth, if institutions are to be objectives of social reform then their reformation should be concerned primarily with the way they function as social information systems and with the factors which tend to make them social control systems.

The final two chapters, therefore, will examine the notion of institutions as information systems. If the source of their power over social developments is the information they generate and disseminate, the first requirement is to determine how and why society allows them to reach the point where they can wield that power over society. The discussions will show that one of the ways institutions control social developments is by disseminating only that information which the institutional managers consider society should know. But, they do so not, apparently, with any machiavellian intent. They do so because recent experience has shown that society is unable to absorb all the information which the institutions could disseminate. In other words, the institutions have been extremely successful in fulfilling their social purpose.

The analysis of the final two chapters will identify information-system factors which influence conviviality and indicate how modern information and telecommunications systems have the capability of eliminating the influence of all but one of these factors. This last factor is the relationship between the retrievability of information and its organization. The relationship is not necessarily dependent on the

development of system technologies, though the technologies had to reach the level of development they have in order for the factor to become increasingly evident. The relationship depends more on the understanding of how traditional information organization techniques, developed for specific purposes, can influence thinking and innovation.

In this thesis, the term "information" incorporates the concepts of "data" and "inferences". Data are the equivalent of "hard numbers" reproducible exactly by others besides those who originally produced the data. For example, data would be equivalent to the answers produced by a group of people who were asked to respond to a set of identical questions, or the temperatures at which certain chemical reactions were said to have occurred. Inferences are subjective conclusions about what the data might mean. Very often, the inferences are influenced by variable factors such as the objectives of the individual or group who made the inferences. With "information", people have the facility to agree or disagree with inferences made by the originators of the data and to produce, if they wish, different "information" incorporating their own inferences from the same data.

## CHAPTER 2

### ILLICH, HIS ARGUMENTS, AND HIS CONVIVIALITY

Ivan Illich captured an elusive concept when he coined the word "convivial" to describe the essential attribute of an equitable social system. In the search for what he means by "convivial", the dilemma is to separate the ponderings of the priest from the ponderings of the philosopher from the ponderings of the politician: for Ivan Illich was all three poured into one man. From the point of view of an information analyst seeking an understanding of his "conviviality", to ignore any one of these three facets of Illich's character and personality borders on the impossible because Illich, the individual, projects with disconcerting sharpness from the writing.

The dilemma grows from the realization that Illich is powerful in all three facets of his character. Not one of them dominated either of the other two. He demonstrated in all his writings that he was capable of making his arguments from any point of view: politician, philosopher, or priest. To start, therefore, the search for Illich's meaning without incorporating all three points of view in the exposition would be without reason.

Furthermore, to ignore the three characters in order to avoid a confrontation with Illich, an individual of broad vision and understanding, would also result in the denial of a fundamental message his writings disseminate: more people are going to have to acquire a working knowledge of more and more of the social, technical, and moral energies which keep a social system operating if the same people are to be capable of making reasoned decisions about the effects of those energies on the viability of the social system. Whether Illich meant to make this message or not is not evident in the words he used or in the threads of his arguments. Yet, without his understanding of technological and industrial strategies, and political and social

systems, as well as religion and philosophy, his writings might have become vague sermons exhorting people to be kind to each other. People in his convivial society will have to acquire a broad knowledge base similar to his, and probably broader, if they are to be capable of adapting to the rapid changes which will become the norm and, at the same time, continue to be integral members of society.

The need to achieve conviviality is a theme common to all his published work. Though he defined and underlined the theme in one book only, Tools for Conviviality, his other books, notably Energy and Equity, Deschooling Society, and Limits to Medicine, contain the detailed arguments which lead to the development of his concept and of his methods for achieving conviviality. This chapter will start with an outline of his arguments as his three characters developed them, continue with an interpretation of his concept of conviviality, and conclude with critical discussion of both arguments and concept.

The conclusions will suggest that conviviality is a concept only an individual can define because it can only exist in the mind of an individual. This suggestion is not necessarily in disagreement with Illich when he focused his dissertations on the social conditions which can make people physically and emotionally autonomous. It is in disagreement with Illich when he defined conviviality as an attribute which societies or social tools should have.

### ILLICH'S ARGUMENTS

Illich's arguments revolved around his concern for people and the frustrations they experience in adapting to social changes and in seeking solutions to the problems those changes trigger. He based his arguments on a premise incorporating a fact of life: people achieve happier emotional states if they solve their problems in their own way. The sources of frustrations, he averred, were the social institutions which have chosen to ignore that fact of life in their zeal to provide more and more goods and services for people.

The keyword in the premise is "emotional". His arguments continually stressed the fact that the majority of people who live on Earth live a technologically-simple lifestyle in autonomous societies which were stable because people were emotionally stable. He claimed that social and emotional instability was becoming the norm and that the creators of the instability were the managers of the institutions who manipulated social conditions for institutional profit.

Over many generations, he argued, the majority had developed customs, traditions, and social procedures for solving problems which had worked well in the past to keep the social systems integrated and compatible places for people. The people had learned who they were, what they could do, who they could talk to to help them seek their own solutions to their problems, and, probably, more important, they knew of virtually every problem they might encounter in their lifetime. If a new problem arose in their society, they had the time to analyze the problem and seek its solution in the traditional ways. They achieved an acceptable measure of emotional stability because they knew they could solve their problems by themselves, using their own emotional and physical energies. They were content. Their physical well-being was not as critical to their contentment as was their emotional well-being.

In his persistent pleas on behalf of the majority, Illich was the priest. His compassion appeared to be deep and honest. He had seen and understood the frustrations of people suddenly confronted with problems so new and foreign to their social systems they had no memories or traditions capable of analyzing the problems. Not only were the problems new, the solutions thrust upon them by technologically-advanced foreigners were equally new and bewildering. Furthermore, the majority may not have considered the "problems" as problems until the foreigners came to tell them that they had problems. Moreover, the solutions the foreigners suggested often created more problems than were solved.

Illich did not argue that the foreigners should not have made the effort to disseminate the fruits of their technical and industrial achievements. What he

quarreled with was the way they were doing it and the reasons he perceived for the magnanimity\*. The foreigners belonged to social groups who constituted a minority of the people living on Earth, but they had been fortunate enough to have been able to develop a technical and industrial capability which could be of great benefit to the majority who did not enjoy the same material benefits that capability gave to the minority. Illich claimed that in disseminating the fruits of that capability, the minority also planted the seeds of social instability because they did not take the time to find ways of adapting the capability to the lifestyles of the majority. He became incensed when he deduced that the minority were not acting to help the majority but were simply using the capability to extract the maximum economic profit from the majority: profit which was intended solely to keep the minority's institutions functioning.

Of importance to the arguments are two concepts inherent in the use of the words "majority" and "minority" to define two groups of people living today. The majority does not incorporate only those people who live outside the national boundaries of the countries which are known as industrially-or technically-advanced. Within the boundaries of such countries live large numbers of people who experience the same problems experienced by people living in the countries which are known as underdeveloped. For example, the Puerto Ricans who live in New York might belong to the majority despite the fact that they live in one of the most industrially - and technically-advanced countries on Earth. Illich, in fact, started to articulate his ideas while he was practicing as a Roman Catholic priest among the Puerto Ricans\*\*. Moreover, many people, though they may be few as a percentage of the people who live in a social system, and though the social system belongs to a nation identified as

\*Ivan Illich, Celebration of Awareness

\*\*Francine du Plessix Gray, "Mendez Arceo and Ivan Illich: The Rules of the Game", Divine Disobedience



underdeveloped, enjoy the fruits of technological developments quite compatibly and could easily lay claim to belonging to the minority.

Hence, social systems could mean small self-contained societies which exist within the larger systems. The larger systems could be less developed or more developed than the smaller ones. Illich did not make these distinctions clear. Yet, they are important to the understanding of the inconsistencies in Illich's arguments and to the understanding of Illich, the accomplished politician and moral philosopher. When he expressed outrage at the reasons he saw for the plight of the majority, he was the compassionate priest and humanist philosopher.

When Illich began to analyze some of the reasons for the frustrations of the majority, he found exploitation of people, insensitive institutions, and money-hungry industrialists. In developing solutions to the problems, he assumed the personalities of politician and moral philosopher. If people take him to be non-political, they are right, but only in the sense that he appeared to espouse no practicing political philosophy. He attacked all practiced philosophies, from capitalism to communism, with arguments that claimed that the same social problems existed in most of today's social systems whether the institutions of those societies were run under the banners of private enterprise or public enterprise. Yet, Illich did declare himself to be a believer in a socialist political philosophy.\*

The solutions he sought to social problems and the methods he averred would develop those solutions were all based on a socialist philosophy which draws on the guidelines for living given in the Sermon on the Mount by Jesus Christ some 2,000 years ago. He believed that we are all our brothers' keepers. He believed that every member of the human race was equally responsible for the maintenance of the

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\*Ivan Illich, Tools for Conviviality, Page 12, 2nd Paragraph.

ecosystem, both as a physically viable system and an emotionally viable one. His moral vision was broad, but it was clouded by his political bias.

He laid the blame for the problems of people on the misappropriation of the purposes of social institutions. His definition of institution included any large organization which offered people services or manufactured goods. He claimed that the institutions lost their sense of social purpose sometime in the 1950's, a time he called the "Second Watershed".\* At that time, the primary purpose of the institutions became to sustain themselves. They ceased to operate with the objectives of producing goods and services for people and began to function simply to keep themselves functioning.\*\*

With the service institutions such as the social welfare institutions; most of the energies people used to interface with the institutions as well as to work within the institutions was dissipated on bureaucratic procedures which had very little to do with the services offered by the institutions. The energies were consumed by the energy requirements of the operating machinery of the institutions. People became frustrated in seeking the help of the institutions to solve their problems. The frustrations resulted primarily from expectations that took a long time to satisfy and when the help did come it was of the kind that did nothing to satisfy the real, emotional needs of the people seeking the help.

With other service institutions such as those designed to provide health care and education, two changes occurred to mark the Second Watershed\*\*\*. One was manifest when the institutions began to provide more than they were intended to provide, and the second when the institutions began to create new problems after applying what the institutions perceived as solutions to the problems they were originally instituted to solve.

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\*Ibid., Chapter I

\*\*See, for example, Ivan Illich, Limits to Medicine

\*\*\*Ivan Illich, Limits to Medicine and Deschooling Society

In medicine, for example, the medical institutions began to force people to seek medical help for every physical or emotional ailment and to dissuade people from helping themselves in the traditional ways. This they did, so Illich said, through government institutions which passed legislation disallowing anybody but people who had been trained by the medical institutions to cater to the health requirements of the people. If legislation was not possible, the medical institutions would ridicule those who would apply non-scientifically proven remedies to the ailments of people, even though the remedies proved successful. The result was that people could not help themselves any more. They had to attend medical facilities which were run like production lines designed to produce machines rather than healthy people.

In education, the institutions began to produce people who were not introduced to life skills, as Illich would have it, but were trained to fit into their perceived place in the institutional systems, be they industrial or service. The institutions passed laws which penalized people if they did not attend the educational institutions. The goals of the graduates of those institutions became the maintenance of the institutional systems and not the creation of societies where people could relate to each other and learn from each other as they had done by tradition.

The problems these institutions created were, to Illich, traumatic and unprecedented. The desire of the medical institutions to take control of, and cure, every ailment, emotional or physical, known to man, created diseases which were at one time completely unknown to man. These diseases Illich called "iatrogenic diseases". Illich said that the medical institutions justified their claim to being the only arbiters of health problems by pointing to their discovery of these new diseases. Furthermore, they began to make great demands on the economic resources of society in order to pay for the search for cures to these new diseases\*. The desire of the

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\*Ivan Illich, Limits to Medicine

educational institutions to produce more and more graduates to feed the increasing demands of the institutions resulted in the phenomenon of "drop-outs". Drop-outs could not satisfy the machine-like standards of the production lines the educational institutions had become, and as a result, they were dubbed outcasts: misfits whom the society of institutions considered abject failures.

With the institutions built around industrial operations, the objectives became not the satisfaction of people's needs but the creation of those needs. The objectives of the production systems were to produce more and more goods. The systems design required people to want those goods without limit if the systems were to survive. The industrial institutions therefore had to create an environment in which people would be obliged to demand those goods if the people wanted to survive. To illustrate the argument, Illich chose to dissect the development and operation of the transportation industry\*.

His attack on transportation focussed on the way the industry had engineered the travelling environment. The engineered environment forced people to do all their travelling using the systems and goods produced by the transportation industry. People, Illich said, could not move anymore on their own. They had to be moved by machines because the avenues of travel allowed travel by machines only.

What stung Illich to moral outrage was his discovery that the minority were taking their technological developments to the majority for one reason: the industrial institutions had to have new customers for their ever-growing production of goods. Whether the majority needed the products, or whether they knew how to use the products, did not appear to matter to the minority and their institutions, as long as the production lines of the industrial institutions were kept operating and the managers of the institutions made a healthy profit for the institutions.

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\*Ivan Illich, Energy and Equity

Illich found more fuel for his outrage in the way the educational and medical institutions disseminated the fruits of their developments. Emissaries of the educational institutions were developing schools which trained people to function in an institutional environment in social systems where no institutions existed. The result was a complete disruption of traditional lifestyles and conflict between the institutionalized graduates and the stable social structure. Doctors trained by the medical institutions were trained to use techniques the majority could not afford to pay for. As a result, Illich found, only the rich of the majority could enjoy the fruits of the advances in medical technology.

In doing all this, Illich concluded, the minority destroyed the dignity of the majority. They became disoriented and bewildered. Their social systems began to disintegrate, making them more disoriented and bewildered, and emotional frustrations became the major social problems.

In completing these analyses, Illich persistently concluded that the solutions to all these problems must be based in political action. What he means by that is not clear except in Tools for Conviviality. In one paragraph\*, the only statement he makes which defines precisely his political objectives, he is unequivocal about the ultimate purpose he has set for his work: he wants to change whatever political system prevails to that of socialism, whatever he means by socialism. Without socialism, he maintained, the restructuring of the institutions so that social and technical tools available to people could be made convivial was impossible.

### ILLICH'S CONVIVIALITY

Illich approached his concept of conviviality from many angles. All converge on what he called "tools". That is, his conviviality must be inherent in the tools people

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\*Ivan Illich, Tools for Conviviality, Page 12, 2nd paragraph

use in the operations and interactions of societies. The tools take on many dimensions. They are machines. They sometimes take the form of ideas. They include institutions. They manifest themselves in words. He saw tools in every aspect of life: at times they were concrete and at times they were intangible; he switched from one to the other at will in his identification of them. He said he had purposely chosen to use the word and concept as a descriptor of tools rather than people in order to avoid any confusion in the interpretation of conviviality. As a consequence, his formal definition of the concept requires some unravelling.

Illich first defined "convivial" as a descriptor of the society he was seeking. He called a society convivial if, in that society, "modern technologies serve politically interrelated individuals rather than managers..."\* Stripped of two words, the definition would be relatively easy to understand in light of the detailed analyses he undertook to underline what he saw as the real problems of modern societies. The two words are "politically interrelated". Without them, his definition outlined a society in which the fruits of man's collective mind, that is, the technological advances and industrial developments of modern societies, would be fashioned to serve the needs of people rather than the emotionless corporate objectives of modern social institutions: objectives which seek to continuously improve the productivity of machines and increase the output of goods rather than to enhance the freedom of people from material and emotional want.

Illich used the two words "politically interrelated" to bound the attributes of individuals who would operate and live compatibly in his convivial society. The two words lead to a host of interpretations of what he expected the characters of the individuals would be and of how the structure of the society would look. One obvious interpretation is one which would describe a society in which all individuals espouse

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\*Ibid., page xii

the same political philosophy. Thus, if that were a valid interpretation, a convivial society is one in which individuals would espouse only a capitalist philosophy, or only a communist philosophy, or only one single meld of other philosophies. Somehow, the interpretation seemed too simple in light of the criticisms Illich aimed at all existing societies and political philosophies.

A preferable interpretation, and one in keeping with the complexity of his analyses, domiciles "politically interrelated individuals" in a single worldwide social system containing smaller, autonomous social systems which work in harmony with each other. The "political interrelatedness" refers both to the individuals and the social systems. The social systems should be allowed to develop in a way best suited to the individuals living in each social system without interference from other social systems. But, social systems should still "interrelate" with each other despite beliefs in opposite social and political philosophies. Furthermore, should one social system be fortunate enough to develop a "good idea" into a practical social tool which enhances the lives of individuals, the first "developed" social system should make the tool available to another social system without expecting the second social system to change its social and political philosophies to those of the first. Such an interpretation would account for his concern for the ethnic minorities who operate within a social system whose stability rests on traditions and customs foreign to the people who are a majority living in close social contact with the minorities. The Puerto Ricans in New York and the native Indians in Canada who operate distinct social systems within the larger system of North America would become perfectly acceptable entities in his convivial system.

Thus, Illich's first definition could mean the following. Managers must become people and use their skills with technology to fashion systems which produce goods and services which would enhance the chosen lifestyles of different peoples. The examples which follow will illustrate the meaning.

Managers of the industrial institutions should not be seeking to sell freezers to Eskimos but should be using the technology that may have developed the production systems for freezers to produce the tools which would make the traditional lifestyle of the Eskimo less hazardous without destroying that traditional lifestyle. Managers of the medical institutions should not be seeking more research funds to develop cures for ailments which the institutions have created but should be developing the simple tools which would allow people to use the advances in medical science to cure themselves in the traditional ways. Managers of the transportation industry should not be seeking to blanket the world with transportation systems which deny people the freedom to travel any other way except by energy-voracious machines. Managers of the educational institutions should not be producing graduates trained only to survive in an institutionalized environment but should also be training people in the traditional skills which can be used to guide other people through the upheavals caused by social and technological change. Managers of all social institutions should not be seeking to upset non-industrial social systems enjoying stable traditions and customs but should be developing technologies which will allow pre-industrial peoples to evolve into the post-industrial societies without having to experience the environmental pollution and social traumas which the industrialized societies have experienced.

Managers must do all without disrupting traditions and customs which work to stabilize the social system. If, Illich said, such conditions prevailed, then and only then would the world-wide post-industrial society be convivial.

For his first definition of convivial, Illich donned the cap of politician because the definition was primarily a political policy statement with a reasonably concrete meaning. For his second definition, Illich donned the caps of priest and philosopher and his meaning became less tangible. He still used convivial to describe a



society but this time he saw the society as a "modern society with responsibly limited tools"\*. The keywords are "responsibly" and "limited". Each has a meaning on its own and each needs the other for a third meaning. Much of his dissertations are expositions of what he meant by both words.

Illich said that he chose "convivial" to be a technical term. The assumption (or presumption) is that "technical" will make people take his meaning of convivial to be suitably precise and have no connection with the modern English meaning of "tipsy jolliness". Furthermore, its application as a descriptor of tools and not of people, he explained, will ensure a complete disconnection between the modern English meaning and his intended meaning.\*

Illich's intention, however, reached much further than simply disconnecting conviviality from tipsy jolliness. With "responsibly" he also included the meaning of "austerity" in the way Aristotle and Thomas Aquinas might have given meaning to the word. Austerity, to Aristotle and Aquinas, was the enrichment that allowed friendship to grow and flourish. Those who sought to make friendships flourish must practice austerity as a virtuous form of self-denial by which they voluntarily denied themselves those pleasures which might impair the friendship. A person who sought a friendship would refrain from acting in certain ways or participating in certain activities if the desired "friend" either did not like the way the first person acted or did not have the same opportunity to participate in the activities.\*\*

The concept of austerity also applies to the friendship of individuals with themselves. That is, individuals must also voluntarily refrain from actions or activities which would disorient their own personalities. Thus, if a freezer salesman finds himself in the Arctic amongst some Eskimos, is assured of a sale, knows in himself that the Eskimos do not need the freezer, and sees them scraping pennies they

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\*Ibid., first line, Page xiii

\*\*Ibid., Page xiii

cannot afford together in order to pay for the freezer, then he should refuse the sale and remain friends with his "self". The salesman, Illich might have said, was acting "responsibly" with "austerity".

Next to convivial, probably the most powerful word Illich used in his definition was "limited". One of the objectives of all his work was to lay the groundwork for a general theory of industrialization which would prescribe a defensible method for indicating when an industry had reached its "limit".\* In using the word, he did incorporate the concept of "limits to growth" in terms of the ultimate capacity of the Earth's eco-system, but he meant more than simply limits prescribed by the availability of natural resources. To Illich, "limited" also incorporated a practical concept for modern management to ponder: the concept of efficient size.

At what size does an institution cease to function in the mode it was intended to function is the question Illich sought to answer. The limits are more than those which would prescribe the size at which an institution delivers the best profits in economic terms. The limits are also those which prescribe the size at which an institution ceases to deliver benefits to people. This concept of limits is not unlike that suggested by the formal cost/benefit analyses undertaken today to determine the social costs and benefits accruing to a society from new or old industrial developments. Illich sought a formal method of applying this concept in a very general way to limit the powers of institutions, service and industrial, over people.

One of the thrusts of Illich's attack on the health and education institutions was powered by this concept of limits. In terms of practical economic costs, he noted that at some time in the development of the institutions (his Second Watershed), incremental social benefits resulting from the continued growth in the activities of the institutions began to exact tremendous economic costs. He argued that those

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\*Ibid., Pages x, xi, and xii

incremental benefits were not benefits to people but to the institutions. Furthermore, those benefits drained society of emotional resources as well as economic resources. The cost of dying, for example, included two sets of costs: one was the cost of hospital equipment and the other was the cost of people who began to lose the use of emotional resources.

Illich said that the medical institutions had forced people to die only in a hospital environment surrounded by very expensive and unnecessary equipment. The equipment was developed by medical institutions whose primary concern became the development of "gadgets". Because the gadgets were there, the institutions began to insist that they use it on dying people. People, sometimes in the belief that they could help their dying avoid pain, took them to the institutions. In so doing, the people deprived themselves of the human experience of caring for a loved one who had reached the end of life. In depriving themselves of the experience, they began to lose touch with an emotion which was a necessary life tool they needed to help them relate to people who were less fortunate than they were. People were losing or had lost their sense of compassion and the loss should be assessed as a cost parameter in determining the limits to institutional growth and activities.

In the context of the second definition of convivial and its subsequent facetting with the austerity of Aristotle and Aquinas, "responsibly" and "limited" have reasonably precise humanistic meanings. The meanings intended are those which would occur to the minds of a disciplined philosopher and compassionate priest. In his analyses, Illich was vague about what individuals could do to help in the development of a convivial society by themselves, but he left no uncertainty in his belief that political action would be the only way "responsibly limited tools" could become a reality\*.

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\*See, for example: Ivan Illich, Energy and Equity, page 6 and 47, Medical Nemesis, page 270, Tools for Conviviality, Chapter V.

He laid the blame for the social aberrations experienced squarely on the shoulders of the managers who ran the institutions. He believed that only through the use of another institution, politics, would society be able to "invert" the existing institutions and pull them back to the point before the Second Watershed when they still functioned to benefit people.

Illich's convivial society was, then, a society in which people cared for each other, in which the institutions operated to serve people, in which individuals had freedom of choice both in terms of material benefits and emotional benefits, and in which one institution, politics, controlled the "responsible limitations" of the convivial tools developed for the use of individuals in society. In his convivial society, one institution would determine when people had stopped caring for each other, when the subsidiary institutions had ceased to serve people, and when individuals had lost their freedom of choice.

### CONVIVIALITY - A CRITIQUE

A discussion of Illich's concept of conviviality and his convivial society can progress only if it starts with a distillation of his ideas. For this thesis, the distillation process produces two sets of ideas: those on the concept of conviviality and another set on the methods he suggested society should or would have to follow in order to create the conditions which would allow a convivial society to evolve. Such a distillation would appear to be quite logical since the development of those two sets of ideas were apparently the primary objectives of his works. He was very careful to emphasize that he had no intention of developing a "blueprint" for some nirvanic society which he and his readers could identify as convivial\*.

\*Ivan Illich, Tools for Conviviality, page 15

Most of his work concerned itself with identifying those aspects of present day societies which make them unconvivial. The unconviviality manifested itself in many ways. He saw people frustrated with their lives partly because of the changes which were thrust upon them and partly because the social or institutional structures which existed deprived them of dignified, personal autonomy. People could not, for the most part, do anything for themselves anymore and, as a consequence, were losing the creativity to draw on their own resources for solace in times of need. They were, Illich said, losing their humanity.

Further evidence of the unconviviality comes in the form of environmental pollution, exhaustion of the Earth's natural resources, the inequitable distribution of what resources were available, and man's callous exploitation of man. All, he claimed, had been perpetrated in the name of a philosophy known as the industrial mode of production.

The industrial mode of production was a philosophy whose objective was to devise the conditions which would allow the production of ever-growing amounts of material and service goods. The conditions were both technical and emotional. The technical ones were those which would allow the unrestricted development of machines which would mass produce goods because one of the tenets of the philosophy stated that mass producing goods would make more available at ever-cheaper prices to the largest number of people. The emotional conditions were those which created in people the desire to possess more and more of the goods whether the people needed them or not. Everything - from man's humanity to the balance of the Earth's ecosystem and resources - was to be considered a concern subordinate to that of satisfying the unlimited demands of the philosophy and those who believed in the philosophy. Those who believed in the philosophy were managers of the machines which operated in the industrial mode of production.

Illich named the perpetrators of this state of Earth's affairs. They were the institutions. To illustrate how the institutions had created Earth's problems, he detailed the restrictions imposed on the physical and emotional autonomy of people by modern transportation in Energy and Equity, by the education institutions in Deschooling Society, and by the medical institutions in Medical Nemesis. Transportation represented the industrial institutions in the unremitting way modern industry practiced the tenets of the industrial mode of production both in the ever-increasing production of goods of one type and in the shaping of the social and physical environment to force people into a position where they had to consume or use those goods. Education and medicine represented the service institutions and their thoughtless belief that, because of the successes of the industrial mode of production, they could apply the same philosophy to shaping the minds and satisfying the emotions of people.

Despite Illich's persistent attacks on the philosophy of the industrial mode of production, he did admit to the fact that it had had some successes. He did not want to eliminate it all together.\* He wanted to use the industrial mode of production where it benefitted people most and he wanted to use the traditional ways of people where the traditional ways achieved the best results in solving people problems. Everything should be subordinated to the requirements of people living in any social system, large or small, majority or minority. He wanted to use that which is "Caesar's" in the best way possible and he wanted to use that which is "God's" in the way God intended, to paraphrase a great man. When all that had been achieved, people would be living in a convivial society and the tools of the society would have been made convivial.

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\*Ibid., Page 24 and 25, 81, as examples, and Ivan Illich, Energy and Equity, Page 68, for another example

He insisted that society could achieve conviviality in two ways only. One was to "invert" the institutions and the other was by political action.\* The institutions he saw as hierarchical structures where the managers living at the top of the structures had lost sight of the needs of the people who formed the base of the structures and who, because of the overbearing ponderousness of the structures, found themselves expending all their energies supporting the structures rather than living their lives and enjoying the fruits of the institutions which society had created to serve people. The framework of the structures, originally designed to be flexible enough to accommodate the changing needs of people, had been mortified by the cement of the industrial mode of production, cement applied by unthinking machines he called managers. By inverting the institutions, people would then be able to occupy the top positions in the structures and control, to the benefit of the people, all they surveyed. The success of the inversion would be assured by political action.

Illich was not very clear on what he meant by political action. He may have meant political action in the way of revolutionaries of all political persuasions who seek the surgeon's knife to sever, in one stroke, what they perceive as the gangrenous parts of the social body in traumatic social upheavals... the operation was a great success but the patient died. Or he may have meant political action in the way of peaceful, but vigorous, protest by people seeking to remodel the institutions of society into convivial structures.

Illich's arguments were most persuasive. His illustrations were sharp. Few people could refute the arguments or accuse him of fabricating the events he illustrated the arguments with. Taken out of the context of his arguments, his concept of conviviality was beautiful. The thrust of his arguments, however, and the strength of his style belied the beauty of his concept.

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\*Ivan Illich, Tools for Conviviality, Page 17

He was most careful to avoid identifying what or who would take the political action and what or who would decide the boundaries within which such philosophies as the industrial mode of production would be allowed to flourish after the birth pangs of his convivial society had subsided. He was careful to avoid the trap that the unfortunate Karl Marx apparently fell into by refusing to offer a blueprint of his convivial society as did Marx after Capital.

His attacks on institutions and institutions only as the cause of modern social problems and his reluctance (cowardice?) to nominate the crusading entity which would invert the structures of the presently institutionalized society suggested that he knew of only one solution: the creation of another institution. Only with the creation of another institution could he hope to achieve what he wanted to achieve. And that was where Illich was wrong.

A humanist who is emotionally honest (ethical?) and not simply intellectually capable, as Illich was, must concede that people create institutions. People run the institutions. Only people allow the institutions to do what they do. By claiming that a faceless concept such as an institution is the cause of all social problems is emotionally dishonest (unethical?). People cause the problems, the very people Illich sought to help, whether they stand, overburdened, at the bottom of the institutional structures or whether they sit, ulcer-ridden, behind antique desks at the top of the structures.

By blaming the institutions, Illich had taken the easy approach and at the same time overreached the bounds of his good ideas. The managers of the institutions did the same thing when they, and the people who permitted the institutions to grow, allowed the institutions to exceed the limits Illich sought. Illich had taken the easy approach by applying the concept of conviviality to things instead of people.

Conviviality could not be an attribute of societies or of tools. It is a concept that can only exist in the minds of individuals. Only an individual can determine that which is or which is not convivial. Only an individual can decide whether a car is more



convivial than a bicycle or a walk. When society has a problem, only an individual can decide whether the solution is convivial to the physical and emotional circumstances of the individual.

Illich was right when he said that people must live with due respect for the needs of fellows. But Illich was wrong in claiming that the tools of modern society were the causes of social ills. If the tools were bewildering and frustrating, they were bewildering and frustrating because people lacked the knowledge of how to use those tools. Individuals would achieve a convivial lifestyle when they began to understand what makes the tools work and how to use the tools to their best advantage.

Considering the complexities of the knowledge people will have to absorb in order to live compatibly in the post-industrial society, the volume of that knowledge, and the natural lifespan of the individual, the solutions to many social problems will become part of "tradition" when society develops methods which will help people absorb in as short a time as possible as much information as possible about everything that affects the operation of social systems. The methods will allow people to make the information part of their "tradition" in the time needed for human beings to reach biological adulthood. People need not only education in the traditional sense, but also information they can use to assess changes as and when the people desire that information.

The organization of the information will play an important part in achieving the conditions which will allow a convivial society to develop. If the institutions continue to structure information in the way the people who run the institutions believe other people "should" be given the information, then unconviviality will prevail no matter how many inversions the institutions experience. If people can retrieve information they want at the time they want it without having to decipher institutionally derived codes designed to organize information in the way it "should" be organized, then conditions for a convivial society could be set. Only then will people feel free enough to believe that they are not being manipulated by one of Illich's ungodly institutions or, for that matter, by people like Illich.

### CHAPTER 3

#### WHAT IS CONVIVIALITY?

Illich has shown himself to be an articulate and persuasive advocate of his cause. As the discussions in Chapter 2 have indicated, he was not always certain what his cause should be or what stance he should take in support of it. His solution to the social problems he identified was certainly a political one, justified and softened with some religious and humanitarian arguments which helped keep the solution separate, though not entirely divorced, from doctrinaire politics. His approach gave his solution a much wider acceptance as a socio-political one, meaning it was or sounded more pragmatic than dogmatic as a strictly political solution would be. Explicating that solution in order to come to some understanding of how his convivial society might function, thus giving some concreteness to his notion of conviviality, would not serve the purpose of this thesis, since a premise of the thesis is that arguments for or against socio-political philosophies as a means of achieving conviviality became specious, if not entirely irrelevant, with the end of the era signalled by the invention of the transistor and the development of the silicon chip.

Nevertheless, Illich's work could be considered most relevant, because he gave two historical social problems a modern cast. The first was the problem of the overdevelopment of institutional relationships with society and the second was the problem of determining what would help people make the most efficient use of their institutions. In a most innovative way, he had prompted a fresh look at the problems by seeking their solutions in a social condition he creatively called "conviviality".

The purpose of this chapter is, therefore, to investigate the concept of conviviality. The first part of the chapter will define another meaning Illich gave to conviviality, despite his intricate, convoluted definition discussed in Chapter 2. The discussion will show that Illich's conviviality is a new package for a very old social

ideal. The second part of the chapter will identify characteristics of historical "information system" developments which people, through their recorded social actions, have indicated are necessary if they are to feel convivial in the social system they choose to live in, whatever socio-political ideology prevails.

The intent of this chapter is to focus the search for concrete examples of conviviality in information system developments. The subsequent chapters of this thesis will therefore avoid socio-political nuances of the Illich kind.

### CONVIVIALITY: WHAT ILLICH INTENDED IT TO MEAN?

The decision to search for another meaning for conviviality in Illich's work even though he devoted considerable effort to defining what he wanted conviviality to mean resulted from a sense of discomfort with the logic of his discourses. He was saying something which made his conclusions and solutions to the social problems he identified unconvincing.

This discomfort led to a first conclusion that Illich himself was not convinced of his own arguments. Further analysis, however, resulted in the discarding of that conclusion because he was entirely consistent, at least with the objectives of his arguments, throughout his work. Whether he attacked the educational and medical institutions, as in Deschooling Society, and Limits of Medicine, or the energy, transportation and industrial institutions, as in Energy and Equity and Shadow Work, or the social institutions in general, as in Tools for Conviviality, the development of the arguments, the identification of how each institution caused the same social problems, and his solutions to each were, in general, similar.

The decision to undertake another analysis of Illich's work was based on the proposition that if Illich was indeed saying something which was inconsistent with his arguments, then what he was saying could probably be taken out of his context, have incontestable meaning inside and outside of his discourse, and at the same time appear

to fit into any other discourse. Such a proposition was full of the dangers of misinterpretation and misrepresentation of words and thoughts taken out of context. With Illich, the proposition was still more dangerous since he was very specific about defining his terms. In fact, he was so specific, the need throughout the analyses of his work was the need to refer back constantly to his formal definition of conviviality, and there lay the cause of the discomfort.

As was shown in Chapter 2, Illich wanted conviviality to be a descriptor or an attribute of social "tools". The tools he proposed should be made convivial were social institutions. By reconstructing the institutions into convivial entities, his aim was to restore individual freedom and autonomy as he said they were before the institutions cascaded through their "Second Watershed" and took control of the directions of socio-political developments. The method he proposed would achieve this objective was to create another omnipotent institution which would make the lesser institutions convivial.

The problems with his logic started to become apparent as soon as he developed his arguments. In his arguments, he appeared to ignore his formal definition of conviviality. He claimed, for example, that his "convivial reconstruction" could be accomplished if people were given the tools that "...enhance each person's range of freedom." His solution, he said, would allow "autonomous" individuals to "enlarge their contributions" to the functioning of society. He considered "conviviality to be individual freedom realized in personal interdependence..."

His logic broke down completely when a person living in his convivial society has to determine, in light of his attacks on institutions, how life as an "autonomous" individual in "freedom" was possible in a society dominated by one institution which would have to have absolute controlling power over society if it was to determine what other institutions would have to be convivialized, what level of convivialization would be appropriate at any given time in a social development, and when convivialization

would be achieved. In other words, his dominant institution would have to have all the overbearing attributes which he was attacking the existing institutions for having.

The quotations came from Tools for Conviviality. Similar statements, however, appeared in all his other work. Almost all of them appeared as parenthetical statements, lost in his polemics. They are offered as evidence of the meaning he was unable to avoid giving to conviviality, despite his formal definition. He appeared to use these statements as justification for implicitly-expressed non-convivial actions which would have to be taken by his convivial institution.

Analyzing the concepts the statements contain would suggest that he also intended conviviality to mean the following:

Conviviality is individual freedom and autonomy realized in personal interdependence in a society whose social tools enhance each person's range of freedom within boundaries circumscribed by another person's range of freedom.

That definition is considerably different to the one Illich formally gave to the concept, yet he used the parenthetical definition, by implication, more often than the formal one. The definition is also consistent with the thoughts of Aristotle and Thomas Aquinas which he used as part of the argument justifying his formal definition.

Note that the quoted words and the thoughts they contain can be taken out of his context without affecting his arguments and without danger of misinterpretation. They have precise and incontestable meaning, but only in the minds of individuals; each meaning is dependent on the particular circumstances in which each individual functions at any particular time in any particular social system.

For example, a person impressed as a galley slave in ancient Rome might give a meaning to "individual autonomy and freedom" much different to that given by a person living in the late twentieth century with enough money in a bank to earn an interest greater than the money needed to live a comfortable life without need. For that matter, a Roman soldier living and working under similar disciplinary restrictions as those of the galley slave would probably give the words yet another meaning.

Whichever definition Illich intended, the concepts contained in either have probably been used, in one form or another, by every demagogue and propagandist seeking to sell a special brand of social system. The information content of the concepts in the minds of individuals can excite the imagination enough for them to join the "cause" and battle to eradicate that which they have been told is perpetuating their servitude.

Whether or not Illich was a demagogue or propagandist for his particular socio-political ideology is not important. What is most important is that he was able to identify in a very dramatic way and in a modern context one of the historical obstacles to the achievement of conviviality: the "radical" monopoly of institutions. Note that the obstacle is the "radical" monopoly and not necessarily the monopoly of institutions. The concept of institutional monopolies and how they become "radical" will be part of the discussion of Chapter 4.

The resolution of what conviviality is, however, still requires some discussion. The concept is still a concept even though it may have a number of precise but intellectual definitions. Without concrete evidence of what people perceive as social conditions which are necessary for the achievement of conviviality, the concept will remain a concept. Since people have been trying to achieve conviviality for millenia, the evidence, if it exists, must be available from the record of history.

If the evidence is to be universally acceptable, then the examination of the historical record must have the objective of identifying only those non-political social conditions people would appear to seek in the quest for conviviality. Any other approach must admit to the possibility that conviviality is a function of some socio-political ideology. This thesis rejects such a premise since ideologies tend to be formed and developed in one individual's mind and sold to other individuals using concepts such as those of conviviality which are interpretable in as many ways as the number of individuals which exist at any one time. Furthermore, the social conditions must show some historical continuity. That is, as each historical event occurs, it must

show an evolutionary development of identifiable characteristics associated with the social conditions. The identification of those characteristics, together with their evolutionary development, could provide the concrete evidence which would give some real meaning to the concept of conviviality.

#### CONVIVIALITY: TWO NON-POLITICAL CONDITIONS FROM HISTORY

One analysis of our global village's historical record of the past, say, hundred years would suggest that revolutions, both bloody and peaceful, are the ways people have chosen to achieve conviviality. Revolution here means the upsetting of one system and its replacement with another which is considered, at least by the revolutionaries, more convivial than the one upset. Generally, the replacement process is undertaken by force of some kind: military, economic, or philosophical. That means that for some people, the revolution did not achieve conviviality at all since they were probably quite satisfied with the system which was upset. Such an analysis must lead to the conclusion that revolutions are not the way to conviviality unless, of course, the revolution affects only those who seek it.

An observation from the analysis indicates that the institutions are the systems which are very often the first targets of revolutionaries. For example, in Spain recently, a group of dissidents lead by the military attempted to take over the law-making institution as the first step in their revolution. As another example, dissidents in Africa and South America took control of the telecommunications institution as one of the first steps in their revolutions. Examples of more peaceful assaults on institutions are those in which dissidents form political movements and eventually gain enough credible support from the people to take control of the government institutions. The historical evidence would further indicate that one of the first actions the revolutionaries take is to demolish or restructure, in Illich's way, the "lesser" institutions. The pertinent conclusion from this observation is that, after

the revolution and, in turn, the social system have reached some equilibrium, people appear to recreate the same institutions which were initially upset.

If the conclusion is valid, then the continual destruction or reconstruction of institutions cannot be a social condition compatible with the achievement of conviviality. In continually recreating the same institutions, people could be saying that any kind of demolition of their institutions, as destruction or reconstruction imply, is not the way to conviviality. This hypothesis would suggest that some other events which had occurred at approximately the same time as the attacks on the institutions were the real indicators of social conditions people have considered compatible with the achievement of conviviality. Evidence to support the proposition would have to come from an acceptable record of history, particularly one that does not treat history as a linear series of one-dimensional events but juxtaposes historical information and reveals associations of events which might indicate certain social but non-political conditions people have considered to be compatible with the achievement of conviviality. Such a record exists in H.A. Innis' Empire and Communications.

Though Innis did not directly identify them, his information reveals two, among many, intriguing historical coincidences. One is the coincidence between the development of monopolies of knowledge closely held\* by institutions and the decline of the social systems in which the institutions functioned. The other is the decline of dominant social systems, say empires, and the technological development of information systems with at least one of the following three characteristics: (1) the newer systems were cheaper than the ones they replaced; (2) the newer systems were capable of disseminating information at greater and greater speeds; (3) the newer systems were capable of disseminating information to wider and wider audiences. Information system means any physical device which stores or transmits information.

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\*In modern terms, the "closed shops" of trade unions or the "old boy" networks of managerial ranks. Chapter 4, "Illich's Watersheds", will include a discussion of how these concepts developed and the logic of their development.



These coincidences indicate that significant social changes occurred at about the same historical time, or soon after, as developments in information systems technologies such as the development of: (1) papyrus as a substitute for stone and clay as the system for recording and disseminating information; (2) paper as the substitute for parchment; or printed books as substitutes for hand-written manuscripts; and (3) landline and radio-telegraphy to disseminate information, almost in an instant, across continents. The developments made the newer systems cheaper than the older ones, thus allowing more and more individuals to own one, or they made them more portable, thus allowing more and more individuals to see and read the information for themselves, rather than relying on oral transmission, or they made them capable of transmitting information to more and more individuals in different social systems at the same time, thus allowing more and more individuals to receive the information at the same time. Each development may have improved on more than one of these characteristics.

For example, as information systems, printed books were superior to hand-written manuscripts in at least two of the three characteristics. First, the books were cheaper to purchase than the manuscripts, mainly because the printing machine was able to produce many books quickly, thus reducing the unit cost; hand-written manuscripts could not be produced as rapidly or as cheaply. Second, since each book was identical to other books produced in the same printing run, more people as individuals and in private were able to read the same information presented in the same way at about the same time. With manuscripts, the scribes, both lay and priestly, did not always transcribe information as accurately as they might have done and the information in manuscripts was often transmitted orally to groups of people, thus forcing people to wait for an "orator" with a manuscript to appear.

Whether or not a direct relationship exists between social system changes and the developments in information system technologies may not be provable in any rigorous way. Nevertheless, the coincidence of the two events in Innis' analysis would

make the inference of a relationship too strong to be ignored. Such a relationship may be a clue to discovering what people have perceived as one set of social conditions necessary to the achievement of conviviality and, hence, what conviviality is. One possible relationship is as follows.

As holders of the monopolies of knowledge, the institutions also controlled the dissemination of the information contained in the knowledge. The reasons they were able to develop these monopolies is not important to the argument of this chapter but will be discussed in Chapter 4. The important fact is that they could control the dissemination process because only members of the institutions had the capability for accessing or were permitted to access the knowledge. With the control, they were able to disseminate only that information which would support, say, an argument in favour of a social development which the institutions perceived was best for the social system, presumably after they had carefully analyzed all the knowledge available. This practice is not uncommon today and Innis' record gives no indication that it would have been different in the historical past.

The reasons the institutions give for justifying the practice are many. Three are as follows: (1) the volume of information was too large to publish in enough copies; (2) the information was too "technical" for non-members to understand; (3) only members of the institutions were capable of analyzing the information logically.

With the development of cheaper, more portable information systems, the same knowledge became available to people outside the institutions. These people, after their own analyses, came to conclusions different from those of the institutions. If the non-institutional arguments and conclusions were as logical as the institutional ones and the institutions refused to reconsider their own conclusions, revolutions would have been the only recourse open to the people. As a result, they ceased to trust the institutions and, without that trust, absolute control over social developments was

impossible, unless the institutions resorted to some method of eliminating the dissenters.

When dissenters were few in numbers, the institutions could have eliminated them quite easily without too much social fuss. With the development of information systems capable of disseminating information faster to more people than before, the number of dissenters grew. More people were able to undertake their own analyses and take action against, if they so chose, the social development before it had the time to acquire the sometimes onerous burden of tradition. As we have seen in recent years, this capability for intervention before social developments can begin has seen modern institutions become more and more impotent in initiating and controlling the developments. The information in Empire and Communications indicates that the institutions of the past also acquired the same impotence.

Innis' record does not, however, indicate that the institutions ceased to exist as they lost control over the social system; people simply bypassed them and sought the further development of their society in locations where the previously dominant institutions had little or no influence. History identifies this social action as the fall of one empire and the rise of another centered on another location.

"Reconstructed" institutions soon developed in the new social centers but, in time, acquired negative characteristics similar to those of the previous institutions which had matured in the older centres. Eventually, the development of new, faster, more pervasive technologies for storing and disseminating information signalled the beginning of a new social movement. Existing institutions were challenged and people again sought a new center for their social development.

Such inferences from the coincidences evident in Empire and Communications would suggest that conviviality is the freedom to shift social developments to centers where institutional monopolies do not exist and have not reached the stage, say, of Illich's Second Watershed, where the institutions start to impose their control over social developments. This relocation or migration with the

objective of establishing new societies is most compatible with the concept of conviviality from two points of view. First, those who seek social change have the freedom to move to a "virgin" location where they will be able to develop what they would consider to be a social system in which they may live in conviviality. Second, the migrators would allow those who consider their social system quite adequate the freedom to enjoy their conviviality without harassment from a group of frustrated dissenters.

In fact, in today's social environment with the state of development of telecommunications and computer-based information systems, the migrators might be able to achieve their concept of conviviality much faster than was possible before 1945. The technological capability for information gathering and analysis and the speed with which the communications systems disseminate the information would allow the new society's developers to shift social courses very quickly as soon as historical social traps and stagnation became evident. Today's migrators could make their society the first to take full advantage of historical information and consign to folklore the adage that those who do not learn from history are doomed to repeat it. With modern information systems, the retrieval of specific information pertinent to the solution of a social problem could be so rapid, the new social development would not have time to acquire the inertia only a revolution could sunder.

Though completely compatible with the concept of conviviality, shifting the centers of social developments may not be possible today. In our shrinking global village, finding new centers to develop social ideas would be extremely difficult since every known habitable location is occupied and probably controlled by its own institutions. If, moreover, a location were available, the communications and information systems which could help the new societies achieve success would also probably result in their failure. The speed and pervasiveness of the systems would allow the established but unwanted institutions to discover the new developments very quickly and, using the excuse of seeking to help the new societies, cast an ominous

shadow over them before they had the time to develop undisturbed. Since time is critical, the new societies would be foolish not to take advantage of the ready availability of historical information if the wasted time needed to "reinvent the wheel" is to be saved. Thus, the influence of the shadow would be difficult, if not impossible, to avoid.

The relocation and redevelopment solution to the problem of how to achieve conviviality would appear, therefore, to be unworkable in our global village as it exists today. The village is the only one we have and no other planet in our solar system has yet been found to be habitable. Hence, relocation and redevelopment is not today a practical way of achieving conviviality even though it might have been considered so in the past.

Other possible inferences from the coincidences point to the development of the technologies of information systems as another way to achieve conviviality. An examination of existing technologies, however, would show that systems have probably reached the ultimate in their capabilities for speed of information dissemination and for reaching larger numbers of people. The systems can transmit information at the fastest known speed, the speed of light. The systems can also transmit the information to every individual, if necessary, in any part of our global village. The probability of improving these capabilities, as was done in the past, would appear to be infinitesimally small. Costs of the systems could possibly be improved but not significantly enough to be as apparently influential on social change as the improvements identified by Innis appeared to be in the past. As it is today, millions of people have already been able to purchase, for personal use, some of the most powerful information systems ever devised.

Portability of information systems might be a technological improvement freeing people of dependence on fixed institutional systems, but even that appears to have reached a limit. Systems the size of thumbnails and smaller exist today and are in use. If we can believe some reports, the systems are small enough to implant in

people's bodies. How much more portable they can get is probably a question only an inventor in some isolated lab is pondering today.

If the relationships inferred from the historical coincidences are tenable, then the message people have passed down from history contains concrete evidence of what conviviality is. From that message, conviviality is freedom of access to all the knowledge, and freedom from information control by institutions. This more concrete definition of conviviality is completely compatible with any of the more philosophical definitions given by Illich.

Illich, however, sought the social conditions which would allow the exercise of the second freedom: the freedom from control by institutions. Innis' work suggests that Illich's solution leading to the establishment of a dominant institution and the reconstruction of the existing institutions would be futile since the information in Empire and Communications confirms the observation that people create the same institutions to undertake the same social functions in all societies developed around any of the known socio-political philosophies. Illich's solution, then, would simply set the whole historical wheel turning again in another endless cycle. The same can be said of any other argument advocating a socio-political route to the achievement of conviviality.

In terms of historical social conditions associated with information systems, our society is radically different from those identified in Innis' record. Our information systems are at or close to their ultimate technological capabilities. We are, nevertheless, according to Illich, far from conviviality. Some other factors, therefore, seem to be involved.

A hint of what these factors might be comes from Illich himself. He agreed that freedom of access to information is a social condition which is necessary for the achievement of conviviality. He indicated his agreement by identifying the public libraries as examples of his concept of a convivial system\*. He was, for the most part, right. Theoretically, a public library is an ideal social institution. He failed,

however, to note that he was well trained in the use of traditional libraries and because he, personally, could obtain easy access to the information in libraries, he considered them convivial. Other people have found libraries as time consuming in providing information and as frustrating as the institutions which served the New York Puerto Ricans were in providing assistance to destitute people. Hence, institutional conviviality is a matter for argument and dependent on individual circumstances and training or indoctrination.

Illich and Innis, however, agree that the institutions have been primary factors in the creation of societal problems. Yet, Illich's desire to establish a dominant institution as the controlling force in his convivial society would appear to infer that he believed that some form of institutional structure was necessary for the efficient functioning of society. Also, the continual recreation of institutions after social changes, as Innis' historical record shows, would suggest that an analysis of how and why people create institutions is the logical step in the search for further societal conditions which could lead the way to conviviality.

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\*Ibid.

#### CHAPTER 4

### THE INSTITUTIONAL WATERSHEDS

Illich maintained in his Tools for Conviviality that modern institutions cross two watersheds in their development as societal tools. He considered the watersheds as climactic stages during which the institutions undergo two metamorphoses. The first results in the emergence of societal tools which can enhance the operation of the social system, while the second re-fashions the tools into implements which tend to debilitate the system.

The claim "Illich maintains that modern institutions can cross two watersheds..." needs justification. He actually said, after discussing the problems of the medical institution, that "Other industrial institutions have passed through the same two watersheds"\*. In the "industrial" category, he includes the institutions which have evolved around medicine and education. The conventional or traditional sense of the word "industrial" would indicate that its more general use would be as a descriptor of a manufacturing industry producing consumer products such as steel or cars or electronic equipment. In that sense, the medical and educational institutions are not industrial. Hence, his concept of industrial must have some other meaning. The assumption is that Illich's meaning has some correlation with changes which institutions experience during the second metamorphosis.

A more precise way of identifying those institutions would probably be to name them as those which have undergone "industrialization": that is, the institutions have passed through a process which makes them (or their members) practitioners of a

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\*Ibid., page 7 and 8



philosophy Illich called the industrial mode of production. One premise of this philosophy results in the specification of an institutional "output" as simply a mechanical production parameter which can be optimized for economic profit without regard for the consequences to the social system. If the assumption and interpretation are reasonable, then what Illich was saying was that any of the social systems' institutions can become industrialized and that some institutions, his public libraries for example, have not (yet) undergone the industrialization metamorphosis.

Since the first watershed results in a beneficent metamorphosis and the second one a pernicious one, the period in between the two would appear to be the time when the institutions exhibited those attributes which Illich would consider as convivial. Unfortunately, he did not spend too much time or effort focussing his discussion on the in-between period. As a consequence, the institutional structures and activities before the second watershed are somewhat nebulous. Nevertheless, he did give some feeling for what those structures and activities were. The watersheds translate, in effect, into what might be called "conviviality boundaries".

In his development of the concepts of the watersheds, he focussed his discussion on the passage of the medical institution over the watersheds. Since he claimed that other institutions have or can pass through the watersheds in the same way as medicine did, then identifiable characteristics of the medical events signalling the metamorphoses of medicine could be generalized into characteristics which are common to the metamorphoses of all institutions.

The purpose of this chapter is to identify common characteristics of the convivial boundaries, the two watersheds, within which institutions, according to Illich, should operate if they are to be tools which enhance social conditions which, in turn, people would consider also enhance conviviality. The discussion will show that in creating the concepts of the watersheds, he defined the purpose of institutions and the social forces which create the institutions and drive them over both watersheds. The

definitions were implicit, like his redefinition of conviviality\*; they were lost in his polemics and made his claim to an objective, non-political intent again suspect.

The discussion will conclude that the primary purpose of institutions is to gather information and that their primary function is to disseminate the information for use by individuals in the social system in which the institutions operate. The institutions cross the first watershed when the social system legitimizes or institutionalizes them and charges them with the responsibility for gathering information about a specific social activity. The institutions cross the second watershed when they begin to tell the social system what information should be gathered and what information should be disseminated. In crossing the first watershed, the institutions become with the blessing of the social system, a socially-beneficial monopoly. In crossing the second watershed, the institutions become, primarily because of the information-gathering efficiency of the institutional "structure", a socially-pernicious "radical" monopoly.

### THE FIRST WATERSHED

Illich chose 1913 as the year in which the practice of medicine reached the first watershed. As he indicated, the precise year was not critical to his argument\*\*. More important were two sets of events which occurred around and after that time: the first set signalled the approach and crossing of the first watershed, and the second characterized the period between the first watershed and the approach to the second watershed.

Illich did not actually say that these events were "more important" than any other. He mentioned them primarily as a device which allowed him to spring into his polemics on medical practice and on industrialized institutions in general. From the

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\*See Chapter 3

\*\*Ibid, pages 1 and 6

point of view of this thesis, they are more important because they provide clues to the answers of how and why medicine became a social institution and what these answers indicate are the activities which institutions in general should confine themselves to if they are to give people the opportunity to achieve conviviality or, in Illich's terms, if they are to be considered as convivial social tools.

The first sign that the practice of medicine had approached the first watershed was the appearance of information which substantiated the work some doctors were doing. Illich described this event as the "emergence" of medical practice into "an era of scientific verification of its results".\* Illich suggested that up to that time medical doctors did not have very much success in curing the sick. He further suggested that before the appearance of the information, people had as much "trust" in other practitioners of the healing arts as they had in medical doctors. The other practitioners included shamans and herb doctors and, by implication, anybody who claimed to have special capabilities in the curing or healing of sick or injured people.

At the crest of the first watershed, "medical science" rather than medical practice became the critical factor in the development of health care. Medical scientists rather than doctors began to produce data which verified or refuted beliefs in the causes of illnesses and in the cures practiced not only by doctors but also by the other practitioners as well. Furthermore, the information resulting from the interpretation of the data showed that medical doctors were right in their approach to the treatment of illnesses and in their suspicions about the causes of illnesses more often than any of the other practitioners.

The period in between the first watershed and the second watershed was noteworthy for two developments which were not socially or politically controversial. First, medical science sought and found solutions to "clearly stated" health problems.

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\*Ibid, page 6

Second, health care "tools", data, and information became available for use by people other than medical doctors\*.

By "clearly stated", Illich is assumed to mean the following. Medical science was able to define the health problems it wanted to solve in terms which were understandable to people other than those who were scientists or members of the medical fraternity. The problems were clear because they were obvious: that is, society as a whole, not just the medical fraternity, could see the need for solutions and for supporting the effort to produce the solutions. Examples of such problems were public health problems resulting from dirty water and poor sanitation. Furthermore, the problems were those whose solutions would benefit the greatest number of people.

The health care tools which were developed during the period were primarily those which individuals could use in the care of their own health and whose proper use did not require long periods of sophisticated training. As examples, Illich gave toothbrushes, Band-Aids, condoms, aspirin, and quinine.

The observations which Illich made about the period are critical to any argument about conviviality, including his. Illich noted that the improvement in public health during the period or the development of health care tools was not necessarily the result of medical practice but more the result of the use non-medical people made of the information produced by medical science. He claimed:

The spectacular decline in mortality and morbidity was due to changes in sanitation, agriculture, marketing, and general attitudes towards life. But though these changes were sometimes influenced by the attention that engineers paid to new facts discovered by medical science, they could only occasionally be ascribed to the intervention of doctors\*\*

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\*Ibid, pages 6 and 7

\*\*Ibid, page 2

and

People began to understand the relationship between health and a balanced diet, fresh air, calisthenics, pure water and soap\*.

Stripping from his words the information which appears to brand him with a paranoia about doctors who practice medicine, the information which remains describes what Illich considered to be the primary "convivial" function of the medical fraternity. That function was to research health problems approved by society, produce the information which identified the causes, and disseminate the information to society. One "convivial" aspect of this period was the fact that the social system and the medical fraternity were able to examine the data and, at the same time, infer the same information from the data.

#### THE SECOND WATERSHED

Illich chose 1955 as the year the medical fraternity passed the second watershed. As with the first watershed, the actual year was not critical to his argument but, unlike the events signalling the first watershed, the events identifying the approach, crest, and passage of the second watershed were not as well defined. The signs were indicators of people-attitudes towards the medical fraternity and the tools medical science helped develop.

One of the first signs of the approach to the second watershed was, Illich claimed, the growing insistence of medical doctors to be the ultimate manipulators and controllers of the tools\*\*. This growing insistence resulted from the belief generally held by both medical doctors and the people that doctors were the only ones capable of deciding what constituted "health" and that doctors provided better health than any other people could. Doctors, therefore, sought to exclude all non-medical

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\*Ibid., page 7

\*\*Ibid., page 2

personnel from attending to a patient's requirements. All health care, they insisted, was to be undertaken by medical professionals in the sterile environments of hospitals\*.

Another sign was society's increasing demands for more and more doctor-operated medical services. These demands not only increased the costs of health care but also created a shortage of people trained in medical practices. This, in turn, forced people to seek help in hospitals, the centers where the medical fraternity had concentrated what was considered to be the best skills and facilities capable of processing the requirements of people identified by the medical fraternity as in need of care for their sicknesses.

Yet another sign was the steeply rising costs of medical research and practice. One of the reasons for these rising costs was the medical fraternity's control over the objectives of medical research. More and more was aimed at finding cures for illnesses which the doctors themselves had created, "iatrogenic" illnesses, or which were so rare, only a few people could benefit from the results of the research\*\*. Illich claimed that the "marginal utility" of increasingly esoteric medical work declined. What he meant by "marginal utility" is: the net profit measured in terms of people's health as a result of the massive financial investment in medical work became smaller and smaller as the medical fraternity approached the second watershed closer and closer.

The medical fraternity reached the second watershed when doctors redefined their responsibility as being primarily to keep sick people alive rather than to help people keep healthy. They fulfilled this responsibility by concentrating their efforts on the development of tools which kept people from dying. "More people," Illich claimed, "survived longer months with their lives hanging on a plastic tube, imprisoned in iron lungs, or hooked to kidney machines."\*

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\*Ibid., page 7

\*\*Ibid., pages 2 and 7

The medical fraternity passed the second watershed when the "marginal disutility" of the work of the fraternity began to increase. By "marginal disutility" Illich meant: the more the fraternity got involved in providing health care, the less healthy or the more sick people became; in other words, the people were incurring a loss in health profit as society invested more and more in doctor-controlled health care. The fraternity began, without justification from any other source except its members, to set its own standards as measures of its progress in its social activity. It justified its decisions to continue with esoteric research by proclaiming every addition to the stock of medical knowledge as an "advance" in the social system's control of people's health. It solicited the social system's acceptance of its decisions by releasing only that information which outlined the advances and suppressing that information which detailed the total social costs of previous and future "advances".\*\*

One result was that medical research directed its work towards the development of medical tools which were fashioned to prolong the life of a few people rather than to improve the health of the greatest number of people. The tools became so complex and costly to operate, only people trained by the medical fraternity in lengthy training courses could use them.

In terms of the convivial factors of the period between the two watersheds, the passage of the second watershed was characterized by the following conditions. First the medical fraternity ceased to produce tools which could be used by lay individuals in the social system. Second, people were psychologically conditioned to seek the help of a medical doctor every time they felt the slightest bit unwell rather than to try to cure themselves. Third, the medical fraternity did not disseminate all the information they had researched in a way that would allow many more people besides those in the medical fraternity to understand all the implications of medical work, nor did the fraternity "clearly state" the problems they were seeking to solve.

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\*Ibid., page 3

\*\*Ibid., pages 6 and 7

For these "unconvivial" conditions, Illich laid the blame almost entirely on the doorstep of the medical fraternity. As the discussion in the next section will show, the blame...if blame is the right word...was as much the social system's as it was the medical fraternity's. The discussion will show further that the watersheds are inevitable results of a necessary social process designed to define the limits of institutional responsibilities.

### INSTITUTIONALIZATION: MONOPOLIES AND RADICAL MONOPOLIES

Although Illich was inconsistent in his application of his formal definition of conviviality, he was consistent in his advocacy of the "restructuring" of modern institutions as a solution to social problems and as the way to conviviality. He did not, however, make any attempt to formally define what he considered to be the socially-beneficial structure of an institution: in fact, he was specific in his refusal to define it.\* Since his "restructuring" implies the change of one structure into another more convivial than the first, how the concept of structure fits into the Illich arguments for conviviality is a question that needs an answer.

Illich used the concept of structure both in a physical and in an intellectual sense.\*\* He used it, for example, to describe the physical characteristics of buildings, tools, and people to illustrate what he perceived as the senility of advanced industrial societies. This thesis considers Illich's use of the physical sense of structure as trivial and another example of the way Illich used words and concepts as a demagogue would.

In its intellectual sense, Illich used structure to denote the organizational structure of institutions and, consequently, the purpose of institutions in general since the organization would be structured to fulfill that purpose. This purpose or, more appropriately, common social function of institutions was what Illich seemed to want

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\*Ibid., page 15

\*\*Ibid., page 16



to clarify in all his writings. Unfortunately, as was shown in Chapter 2, he got himself entangled in his own socio-political bias.

The key to conviviality is in the understanding of the common function of institutions. The specific purpose or activity or function, as say medicine or law or government, is subsidiary to the common purpose. Illich hinted at the social function of institutions and the specific purpose of any one institution when he suggested that the watersheds represented development stages any institution could pass through\*.

Since Illich used medicine only and not any other institution to illustrate what happens during the two watersheds, the medical events which Illich said occurred before, between, and after the watersheds must have characteristics which can be related to the "watershedding" of other institutions. These characteristics should indicate what the common purpose of institutions is and, as a consequence, what restructuring appears to be necessary to achieve conviviality.

Illich said that at the time of the first watershed patients of medical doctors "began to have more than a fifty-fifty chance" of being cured by the practice of medicine\*\*. He also said that up to that time "shamans and herb doctors...had equal or better results." On the passage of the first watersheds, medicine became the dominant practice in the healing arts. The questions that first need answers are how and why medicine became the dominant practice and who made medicine the dominant practice.

Illich did not answer the "who" question directly but preferred, for reasons of his own, to suggest that the medical fraternity was the primary force in making medicine the dominant practice. He was wrong. People made medicine the dominant practice by institutionalizing the practice. People did it because medical science had produced verifiable data indicating that medical beliefs in the cause of illnesses were truer more often than those of shamans and herb doctors. People institutionalized

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\*Ibid., page 7

\*\*Ibid., page 1

medicine because they could see that, at the time of the first watershed, the application of medical beliefs resulted in much less suffering from illnesses than had ever been experienced before. People could use some of the results produced by medical science on themselves and prove to themselves that medical science was right by curing themselves or alleviating themselves of the discomfort of some common illnesses. People then gave the medical fraternity the "monopoly" to develop the healing arts by institutionalizing medicine. This means that after the first watershed the medical fraternity did not have to compete with other practitioners of the healing arts. By institutionalizing medicine, people gave those who advocated the practice of medicine a blank cheque to develop more medical cures and answers to the problems of the health of the people who live in the social system.

With this monopoly, the medical fraternity, relieved of the burden of proof previously demanded by the social system, fulfilled their social function honourably. Illich concurred: "The positive contribution of modern medicine to individual health during the early part of the twentieth century can hardly be questioned."\* From the events that characterized that early part of the twentieth century, the period in between the two watersheds, the social function assigned to the medical fraternity was to investigate health problems, record data, verify it, and disseminate the information and the data which people could use in the care of their own health. Fortunately, for the medical fraternity, the people were able to check the data and arrive at conclusions similar to those of the medical fraternity. The fortune of this particular event was probably a result of the fact that the medical fraternity, still smarting because of the distrust of medicine Illich implied people had, made sure that what they researched and proved was "clearly stated" to the people.

Medicine's successes or, more correctly, the rapidly increasing rate at which medical science produced verified and verifiable medical information, created the

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\*Ibid, page 7

first problem. People could not assimilate the data and information fast enough to make the information part of their own mental information stores. The application of the information, futhermore, appeared to demand more and more previously-assimilated medical knowledge. As a result, people began to rely more and more on medical practitioners for advice on the applicability of any particular piece of medical information to their particular circumstances. As people found the advice, when followed, worked for them without their having to understand the medical aspects, they surrendered all responsibility for their health to the medical practitioners and "exhorted" the medical institution "to provide increasingly 'better' health..."\*

At this point, the second watershed appeared. The medical institution "read" correctly the people's inability to assimilate all medical information and took upon itself total responsibility for health. The institution stopped disseminating information and acted as sole interpreter of the data. The institution filtered the information to the point where it began to tell people when they were sick and when they were not sick. The people did not question the institution because past experience had shown that the practitioners of medicine were invariably right. The successes of the medical institution had been and appeared still to be very high.

Very soon after the second watershed had passed, information from other sources...Illich, for example...began to trickle through to the people, primarily as a result of the development of very rapid communications systems since the turn of the century. People began to realize that the illnesses the medical institution was "succeeding" in curing were actually caused by the medical institution and that the practice of medicine was not necessarily providing them with "better health" anymore. In other words, the people began to realize that they had allowed the medical institutions to acquire what Illich called a "radical" monopoly over their health. The

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\**Ibid.*, page 6

"radicalness" of the monopoly means that the institution had overstepped the bounds of the "convivial" monopoly assigned to it by society.

The answers to the question of how and why a particular social institution such as medicine, becomes a socially-powerful force would probably read something like the following: How?... the promoters of the particular social activity prove that their activity is beneficial to the development of the social system by developing and disseminating verifiable data and information on the activity. Why?... people begin to trust the activity.

The answer to who makes the social activity an institution is...the people do. By institutionalizing the activity, people give it a monopoly to pursue the activity unhindered. People also allow the institution to become a radical monopoly by trusting the practitioners of the activity too much.

When to institutionalize a beneficial social activity and when the resulting institution becomes "radical" are questions whose answers depend on the experience with the institution of each individual in the social system. In socio-biological terms, the experience is a necessary "evolutionary" experience each individual has to understand in order to assess when the "radical" label is to be applied to a particular institution; that is, one person's "radical" institution can quite easily be another person's perfectly convivial one. Having another institution, Illich's omniscient and omnipotent one, delimit those bounds is not the way to conviviality since conviviality means that each individual should have the choice of using the services of the institution in or out of the amorphous shadow of the "radical" umbrella. The social function of institutions is, therefore, to provide people with the information which will allow them the freedom of choice.

Illich would probably not quarrel too much with most of those conclusions. He did, after all, separate the activities of research and practice. At least, he separated them by not criticizing medical research as much as he did medical practice. If "restructuring" means the separation of research done by a social

institution from the control of the practitioners who belong to the institution, then he had a good point.

The present organizational structure of institutions has, however, been extremely efficient investigating problems, no matter how esoteric, and recording solutions. The physical separation of research from its involvement in practice would very likely create more problems than it would solve. This is not an unreasonable conclusion when considering the historical evidence discussed in Chapter 3. The problem of "restructuring" becomes, therefore, one of how to make research data and information available to any person, practitioner or non-practitioner, who seeks them. As will be seen in the next chapters, this problem is concerned with the "structure" of information interfaces and the way information is organized for retrieval.

CHAPTER 5INFORMATION INTERFACES - CONVIVIALITY FACTORS

Illich's argument for restructuring institutions to achieve conviviality cannot be sustained in light of the fact that, if institutions create conditions that enhance conviviality when they are doing research and disseminating information as Illich indicated, then they have fulfilled and continue to fulfill that purpose most effectively. In the last three decades alone, the institutions have produced what many people call an "information explosion". They have achieved this tremendous output using organizational structures which have evolved to the point where the primary control on the directions of institutional research was the information feedback from practitioners rather than society in general. Illich used this event to develop the argument which would have his readers believe that the practitioners wrested this control from society by machiavellian machinations of society. As was shown in Chapter 4, he based his argument on an analysis in which he chose to ignore the import of some pertinent events which helped push institutions over their second watershed.

The acquisition of institutional control by practitioners was more the result of society's delegation of the responsibility for overseeing and directing the activities of the institutions to the practitioners. Society delegated this responsibility for two reasons: (1) the information produced by the institutions reached volumes and complexities which required more time to fathom than non-practitioners (and even some practitioners) had available, and (2) people discovered that at one time, particularly at the beginning of an institution's life after the first watershed, they could rely on practitioners to direct institutional activities into research aimed at the interests of society in general. By doing so, people allowed the practitioners to control the communications channels between the information gathering activities of

the institutions and the people.

As Illich observed, allowing practitioners to be the sole controllers of institutional activities proved eventually to be both financially expensive and socially unconvivial. Since, however, the close connection between practice and research has proved to be most productive, even though the information produced after the second watershed may have been esoteric and of little consequence to the majority of the society, severing that connection would be counter-productive.

What would appear to be much more productive is to introduce other communications channels into the institutional structure to allow nonpractitioners to have a say in the direction of institutional information-generating activities. The channels would have to be two-way channels which would allow people to access information in order to assess the conviviality or non-conviviality of what the institutions would like to do. This concept is not a new one and such channels already exist.\* Their effectiveness is dependent on the information interfaces devised to allow communications between the people and institutions. As Illich has insisted, practitioners have become the most biased of interfaces.

Any device designed to allow or help people retrieve information from information stores such as the institutions is an information interface. Information interfaces have been a necessary part of communications technology ever since people recognized the need for social communications. Two of the earliest devices were speech and writing. Both allow individuals to retrieve or transmit specific information from the many items of information stored in individual memories. When the language of communications is common to both receiver and transmitter, speech and writing provide people with the techniques capable of helping them create social conditions which they would consider convivial.\*\*

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\*Some practitioners (e.g. doctors in B.C.) are beginning to complain that they have little influence on the activities of the institutions today.

\*\*If the filtering aspects of speech and writing were impossible to develop and everybody had free access to all the information in everybody's memories, con-men, demagogues, and politicians would have difficulty surviving.

This chapter will identify and examine types of interfaces and comment on their characteristics. The discussion will suggest that society today has allowed the development of many types of interfaces offering access to a wide, if not full, variety of information. In fact, a frequent complaint today is one bemoaning the confusing array of information available and actually disseminated. Fortunately, the development of the technology of information systems, if left unrestricted, can help in the muting of that complaint not by eliminating the cause, that is the volume of information, but by improving retrieval selectivity.

If freedom of choice is the first criterion for the achievement of conviviality, then individuals today have, technically, unrestricted access to information through a wide variety of interfaces. If Illich was correct in believing that conviviality still does not exist, then the availability of a wide variety of interfaces is not the only factor which influences conviviality. Other factors are in need of definition. The discussion will identify those factors and will conclude that the influence of all but one of them can be controlled by any individual who cares to make the effort.

### TYPES OF INTERFACES

People have invented many devices for use as interfaces since the development of speech and writing. Examples of these devices are:

- books
- radio stations
- subject catalogues
- indexes
- computer terminals
- television stations
- public relations groups
- periodical publications

As social tools, they are used as ports into information stores and function as two-way filtering devices which pass only that information needed or requested at any particular time. Their purpose is to make access to specific information in a store as simple as possible by allowing questioners, i.e., people seeking information, to identify



and retrieve only specific items of information from many items of information in the store.

### THE DESIGN AND OPERATION OF INTERFACES

Within two extremes, interfaces can have many design and operating variations. At one extreme, the operators of the interfaces are responsible for searching for, retrieving, and disseminating information in response to questioners. While at the other extreme, questioners are responsible for searching for and retrieving their own information. At the first extreme, questioners interact entirely with human operators, while at the other, questioners interact entirely with mechanical devices in the search process. In between these two extremes, interface designers offer questioners combinations of operators and mechanical devices to help in the search and retrieval process.

Examples of the first extreme are public relations groups. Questioners seeking information through public relations groups will expect the members of the group to interpret questions, search for the information which will answer the questions, package the information retrieved\*, and disseminate it to the questioners. Such groups do not generally allow questioners to search the groups' information stores directly. Hence, the relevance of the information retrieved is entirely dependent on the groups' understanding of the questions and on how much information the groups are prepared to retrieve and disseminate.

Examples of the second extreme are computer terminals which are connected electronically to one or more computer storage devices containing information. Through the terminal, questioners can search the information stores directly and retrieve information on the same terminal. Users of these types of interfaces do not

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\*To package here means to assemble and organize the information perceived as relevant to particular questions. The concept of packaging includes "editorializing": i.e., organizing information so that information detrimental to the groups' purpose is either omitted or made to sound of no consequence.

have to interact with another person, may search the store in complete privacy, and retrieve information in its original form without packaging. The relevance of the information retrieved is dependent on how well questioners understand the intellectual devices for organizing information that the designers develop to aid questioners in the search and retrieval process.

All interfaces incorporate at least one of three intellectual devices as aids for search and retrieval. One is an index; a second is an information hierarchy; and a third is a text. Each requires designers to develop or choose from established systems intellectual organizations for the information accessible through their interfaces. Which to develop or choose is generally a function of who the interfaces are intended to serve or what information is accessible.

An index is, in its simplest form, a list of terms or words which are mentioned in one or more stored documents and which, collectively, describe the information content of the store. The intellectual organization of the concepts defined by the words, commonly called keyterms, is alphabetical and is primarily intended to facilitate locating a particular keyword together with an identification of the document which contains the keyterm or the page number of the document in which the keyterm is mentioned. More complex indexes may identify the information content of documents by assigning keyterms which may not be mentioned in the documents but which describe concepts developed in the documents. Some indexes, such as the Readers Guide to the Periodical Literature, require trained people who follow precise indexing rules and who choose keyterms from thesauruses or catalogues of prescribed keyterms which describe any concept expected in the literature indexed. In general, the more complex an index, the more it approaches the form of an information hierarchy.

An information hierarchy is an organization of information which shows relationships between different items of information. The organization results in an intellectual structure divided into primary and subordinate levels which represent

primary and subordinate concepts and which identify historical, derivative, or other relationships between the information assigned to each level. At the top level of the hierarchy, a term describes the concept which includes all the subordinate concepts of the hierarchy. At each lower level, other terms describe the subordinated concepts. Each lower level may itself have subordinate levels which show more divisions in the hierarchy and which may result in a physically-long, intellectually-complex, sometimes arbitrary series of sub-hierarchies embedded in the main hierarchy. Formal hierarchies of information such as the Dewey Decimal Classification system have been in use for more than 100 years and have strict rules for classifying the information content of documents. In general, the more formal and established the hierarchy, the more rigid are the rules for assigning an item of information to a hierarchical level and the more difficult changes in rules or hierarchical ordering become with discoveries of new information. Long periods are required to train people in the use of established information hierarchies such as those used in library classification systems.

Text is probably the oldest search and retrieval aid. It allows questioners to access information stored in an author's mind. The organization of the information in the text is unique and represents one individual's perception of the relationships between items of information at any particular time in that individual's life. The organization of the information in the text is generally hierarchial. The text may include information retrieved from information stores other than the author's mind. Once published, the organization of the information in a text becomes as rigid as any established hierarchy. The same information may be reorganized by the same author at some later date to show different relationships between the information\*. Hence, each text is at once a unique information store, an interface to other stores, and a search and retrieval aid.

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\*This allows the study of the intellectual development of people from their published work.

An important note to make about these three devices is that each requires some measure of information organization to aid questioners in the search and retrieval process. Simple indexes are organized in a way requiring the least intellectual interpretation from questioners, while information hierarchies and texts are organized in a way requiring relatively strenuous intellectual interpretations from questioners before they can retrieve any information. The implications of this observation have, as the next section will argue, a primary influence on the relationship between interfaces and conviviality.

### INTERFACES AND CONVIVIALITY

The relationship between interfaces and conviviality is a function of two factors: the editorial policies of the interfaces and the ease of access to information stores through the interfaces. The editorial policy determines what information people are allowed to access through a particular interface and how it is delivered to them or packaged. The ease of access is a function of the physical distances questioners have to travel to use the interfaces and of the intellectual aids designed for search and retrieval of information through the interfaces.

Each interface will have an editorial policy. The policy can be as narrow or as broad as the designers and operators of the interface care to make it. Public relations groups, for example, tend to have the narrowest policy and restrict information accessible to that which will make the institutions (or clients) which the groups serve appear to be forces contributing to the enhancement of conviviality in any society to which the institutions may belong. Public libraries tend to have the broadest editorial policies and maintain relatively large information stores containing a wide variety of information which is accessible by anybody who wants to use the libraries.

The influence of editorial policies on conviviality in a particular society is not so much a function of the policies themselves as it is a function of the numbers of

interfaces with distinctly different policies. A society which has all its interfaces following only one editorial policy tends to develop social conditions which can result in the least conviviality since, by definition, conviviality implies that a wide choice of information be made freely available to any individual living in that society. Specific editorial policies are not necessarily relevant to conviviality since, again by definition, the designers and operators of interfaces should be free to develop any editorial policies they wish providing the execution of those policies does not infringe on the conviviality of others. Thus, the largest number of interfaces offering access to the widest range of information should result in the most conviviality. Least or most conviviality means the smallest or largest number of people who can experience conviviality.

The assumption is that in any society, particularly those which have survived since the Second World War and the expansion in world-wide communications, only a minority of people would not question the bias of information accessible through interfaces which have the same editorial policy. This assumption is not historically defensible. For example, in Germany during the Second World War, the majority of the people did not apparently question the bias of the information accessible through the wartime interfaces which were all controlled by the Nazi Party and which followed one editorial policy. After the war, many Germans had great difficulty accepting the fact that their information interfaces withheld or editorialized as much information as they had\*. The majority of Germans did not have a suspicion of, as an example, the atrocities their government had been perpetrating. The Nazis had packaged the information they disseminated most effectively.

The relationship between conviviality and ease of access is a function of two factors: one is physical and the other, intellectual. Both are multifaceted with

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\*This is true of all the nations who participated in the War.

aspects which are common to both factors, yet offer differing views of the relationship depending on which factor has the vantage. Their influence on the relationship is most often dependent on the training and experience of the individuals who want to use the interfaces.

The primary physical factor is the distance between the questioners and the interfaces. If the interfaces are far enough away from the questioners to require them to make a considerable physical effort to reach the interfaces, then they often have little difficulty convincing themselves against making the effort. Though many people succumb to the avoidance arguments, the reason is not entirely because they do not want to make the physical effort: an intellectual factor is more often than not the primary reason.

Questioners solve the problem of distance in two ways. They create their own interfaces or they rely on other people for the information they need. These other people have become known as "influentials", particularly to members of the advertizing community.

The creation of individual or private interfaces is very common. Two examples of such interfaces are desk-drawer or personal files and corporate libraries.\* The desk-drawer files are probably more popular than corporate libraries and their great numbers owe their existence, in part, to the "information explosion" of the past few decades. The explosion has not always produced new information. Much of the new information was older information repackaged in a way which was of interest only to specialist groups. Hence, many people keep the original information as long as it represents an adequate distillation of the current information, enough to satisfy their own needs at the time they perceive the needs. More than enough creates what I will

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\*I am now working for a client whose librarian considers the time lost in a 10-minute walk to the Vancouver Public Library enough of a reason to justify an expense of some \$10,000 a year for the floor space along to store periodicals, texts, and reference works all available and easily accessible in the public library.

call "mindnoise". Mindnoise results from unwanted information which crowds memories, even though temporarily, and which forces questioners to keep making a physical and intellectual effort to "keep their minds" on their quest. It results from exposure to more information than is needed at any particular time.

This problem of mindnoise is also one of the reasons "influentials" have become important interfaces for many people. Lawyers, accountants, professional engineers, and consultants of a variety of disciplines are influentials who have acquired their information in formal training and subsequent study of "new" information. Other influentials gather information informally through hobbies and general interest reading of, say, consumer magazines and other periodical publications. The latter will respond to questions from friends and advise them on the consumer products they should or should not buy. Hence, the interest of the advertizing community in them. The popularity of influentials results from their ability to give answers to questioners succinctly, satisfying clients' information needs at the time they need it without the potential mindnoise resulting from checking information which may be related to the information requested but which is not relevant to the answer required for a particular question.

What makes most of the private interfaces valuable to the designers and operators is not only the proximity but also the intellectual associations the same designers and operators create between the different items of information. These associations are often unique enough to be original and designers take elaborate precautions to guard against anyone else using the interfaces. Much of the information accessible through the private interfaces is not necessarily proprietary; that is, it is generally available to others through public interfaces such as those of public libraries or professional journals. The new associations, however, do in a sense, constitute new information (at least, in the minds of the designers) because the inferences from data contained in the stored information may be different from those of the originators of the data. The organization schemes devised for the private

interfaces will often indicate these new associations.

The new information organization schemes may be based conceptually on established schemes such as the hierarchical systems but they are often different enough in detail to make the interface unusable to others without considerable training in the intellectual associations created by the designers. People seeking information require the frequent intervention of designers (or well-trained operators) to make particular interfaces produce specific answers to different questions posed at different times.\* That is one of the reasons why many interfaces designed for the use of more than one person are not used as often as they could be. The information organization schemes for "public" interfaces, public and corporate libraries are examples, are most often quite rigid and static. Questioners most often have to "translate" their questions into a form compatible with the way the information is organized in the public interfaces. Many librarians spend a great part of their working lives simply answering questions about "where" information may have been filed. Hence, how the information is organized in any particular interface is probably the most important question people have to answer before they can retrieve information from a store rather than whether the information is available.

The influence on conviviality of all but the information organization factor can be fairly well controlled by an individual in need of information in today's society. If distances between the questioners and the interfaces are the problems, then questioners have the option of installing computer terminals capable of communicating with and accessing distant information stores through the telecommunications channels terminating right beside their desks at homes or in work places. If editorial

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\*Many people who have worked in offices have experienced the difficulties of retrieving information from files intellectually organized by others without their help. Five corporate lawyers working for one company have in the last 10 years (the length of time I have been associated with the company) not been able to agree on the way their legal files should be organized in order to make the information accessible to each one of them. They have constantly disagreed on where or under what subject heading in their hierarchy information should be filed.



policies are the problems, then questioners have available today literally thousands of interfaces espousing editorial policies incorporating virtually every nuance of social, political or other philosophies\*.

Despite the availability of these interfaces, individuals still have a strong tendency to create their own private interfaces. The only factor which could account for this phenomenon today is the information organization factor which influences retrievability. This factor is the subject of discussion of the next and concluding chapter of this thesis.

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\*In Canada alone more than 10,000 "public" interfaces exist.  
Source: 1981 Canadian Almanac and Directory, Editor: Susan Walters, Copp Clark Pitman Toronto 1982

## CHAPTER 6

### THE NEXT STEP FOR CONVIVIALITY?

The package comprising the first five chapters of this thesis contains the following pertinent information:

1. The one institutional activity which Illich identified as enhancing conviviality is the activity of generating and disseminating information. The activity creates the most conviviality when the information is freely accessible to individuals who use it themselves. Conviviality is that social condition which allows individuals the freedom...physical, emotional, and intellectual...to choose their own lifestyles with the sole restriction that the chosen lifestyles do not infringe or impair the lifestyles chosen by other individuals.
2. Innis' historical record indicates that the Earth's social system allows societies whose institutions restrict the free movement of information to atrophy and become impotent. The argument in favour of this contention flows from the fact that major shifts in the centres of social developments have been associated with the development of information systems which can disseminate information to larger and larger numbers of people at faster and faster rates. Furthermore, each system development has given individuals more and more autonomy and freedom to gather information, assess it, and act on the conclusions of their assessments in complete privacy.
3. Since the invention of the transistor and the development of the silicon chip in the early 1950's, the technology of information systems has reached close to the ultimate development stage. The systems can store and disseminate

massive amounts of information at rates close to the speed of light to any individual in any corner of the social system on Earth. The systems are also developing in a direction which will enable any individual to own and operate one and to access any information store. This technical capability is giving individuals the social power to direct social developments in opposition, if necessary, to social institutions which have passed their Second Watershed and which have considered the wielding of that social power their sole prerogative. If the institutions are to survive, they must restrict their activities to those originally assigned: the generation and dissemination of information which the social system decides is useful to its own development. This development is in keeping with that indicated by Innis' historical record.

4. Despite these developments, Illich believed and he provided evidence to show that the social system is not yet in a state of conviviality. This thesis has argued that with reference to the accessibility of information as a determinant of conviviality, the social system is closer than it has ever been to conviviality and that the influence on conviviality of only one factor is in need of definition. That factor is information organization for retrieval.

#### THE RELEVANCE OF INFORMATION ORGANIZATION

Despite the arguments of the previous chapter, the existence of a relationship between information organization and conviviality is still only an assumption and needs more proof than subjective, experiential observations and packaged arguments can provide. If a relationship does exist, the question that needs an answer is whether the relationship has enough relevance to justify further analysis. Without further analysis, an answer must be as tenuous as the real meaning of conviviality. Nevertheless, some illustrations might demonstrate the possibility of a concrete answer. The subject of the first illustration is Illich himself and how

information organization might have influenced his view of conviviality.

Up to the time of the publication of Tools for Conviviality, Illich's lifestyle was controlled predominately by an established religious organization and the "educational" environment. In that time, he had earned a suite of religious and academic qualifications. To acquire those qualifications he must have spent considerable amounts of time in a religious or university library to gather the information he needed to satisfy the requirements for his qualifications. Most libraries, particularly those of the church and universities, organized the information they stored using hierarchical classification schemes. His entire experience, therefore, in the learning process forming his mind and the ideas it contained was influenced by information organization schemes which prescribed a precise order to everything that was known. The organization of each scheme had an indisputable logic of its own, a logic which has persisted since the time of Aristotle. The logic insisted, and many examples from the natural world supported this insistence, that for everything that was known to man, an order of hierarchy existed; that is, something has to be at the "top" (the originator, the controller) overseeing and giving birth to all that came lower in the hierarchy. Couple that influence with the fact that he belonged to both the church and academia, two institutions which few people would disagree represent the ultimate in hierarchically-rigid organizations, no wonder his only solution to the problems of achieving conviviality was the creation of an unnamed, omnipotent institution to control and govern all other institutions in the hierarchy of institutions.

Yet, he correctly diagnosed that many critical social problems were a direct result of the power over social change that the institutions had acquired and were wielding indiscriminately. Moreover, he himself rebelled against the institution that had nurtured him when it attempted to control his actions and activities. The hierarchical systems he was exposed to throughout his learning years (and after) must have had such a profound influence on this thinking that he was able, at once, to

advocate the destruction or reconstruction of the existing institutions to achieve his conviviality and, to maintain that conviviality, the creation of an institution identical to those he was castigating.

Of course, more "psychology" was involved than the influence of information organization on his thinking. He was, for example, obviously political in a subtle but not very innovative way. Yet, that in itself is an example of the way the organization of information can influence the outcome of the task. He gathered certain factual information and organized it in a way which was to achieve a specific purpose. This thesis took most of the same basic information and organized it in a way which was to achieve a different purpose. If people are to be able to make up their own minds and do things for themselves, then they are going to have to have access to information without the biases imposed on that information by the people who organize the information in any particular package of the same information or society must provide a sufficient number of packages with competing information.

Before the advent of computer-based storage systems and world-wide communications, only certain types of individuals (and the institutions) had the time, the inclination, or the resources to search for basic data in order to argue for or against a packaged point of view. One of the characteristics of these individuals was (and still is) patience, enough to dig through layers of packaging to reach the basic data. Their minds had (and have) to be rigidly disciplined to avoid (if they wanted to) the thought influencing characteristics of the information organizations of the designers of each package. They had to be capable of ignoring other extraneous information as they searched each package for information they were seeking.

The electronic systems offer individuals a technical capability for searching through great volumes of information in a very short period of time, very much shorter than that required to do conventional information research before the advent of the systems. In theory, the technology has given individuals the capability of locating precisely, on their own, basic information without having to experience the distracting

problems of searching through other information. In practice, questioners most often have to channel their information requirements through other individuals who have been trained in the use of the systems. The type of training these individuals obtain is significant.

The first part of the training is in the manual skills of operating the system equipment in order to establish technical communications with the information stores. That training is similar to that required to learn how to dial a telephone or start a car. Most people, with a minimum of exposure, would be able to learn how to "switch-on" the system equipment very quickly.

The significant training is in the techniques needed to question the systems and obtain relevant information from them. The training is similar to that professional librarians obtain and is primarily in the intellectual organization of the information in the systems. This training is necessary because system designers have most often chosen organization schemes based on conventional or traditional systems and simply transferred the organization of "hard copy" files into the electronic systems. The result is that questioners are required to use the same type and amount of intellectual energy they had to use in searching, say, traditional card catalogues. As the discussion in Chapter 5 suggested, the intellectual effort is one of the reasons people create their own interfaces and their own information organization schemes.

But the creation of private interfaces is not a cause of the lack of conviviality in today's society. The private interfaces are merely a symptom of the problems associated with the institutional interfaces, since people should be free, within the bounds of conviviality, to do what they wish with the information they are able to retrieve from the institutional information systems. As Illich has said, people should not have to undertake rigorous, long-winded training courses in order to learn how the institutional systems work or how to extract information from them. Hence, despite the physical freedom and speed of retrieval the technology is capable of giving people searching for information through large information stores, the primary problem is the almost pathological acceptance of traditional information organization

schemes as the bases for designing organization schemes for information intended for any purpose.

### THE PURPOSE OF INFORMATION ORGANIZATION SCHEMES

People who devised the traditional information organization schemes may or may not have intended to influence social thought. The assumption here is that people from Aristotle onwards through history who devised information organization schemes were attempting to resolve philosophical problems associated with discovering an "order of things". Up to the time of the publication of Darwin's Origin of Species, many philosophers, Francis Bacon was one of them, appeared to feel free to modify different organization schemes to suit their own purposes. With the invention of the printing press, organization schemes based on subjects of books became necessary to help people to search lists of books and choose one to buy. Those organization schemes were primarily intended as selling tools.

Dewey, a few years after the publication of the Origin of Species, devised the first (probably) formal information organization scheme with his development of the Decimal Classification system. The reason Dewey undertook the work was to introduce some order to the growing number of books held in libraries. Why Dewey chose to organize his scheme in the hierarchical way he did is not clear. His choice was probably influenced by the organization of the extensive book catalogues publishers were issuing or, more likely, by the very powerful logic of Darwin's organization scheme showing how species fit into the evolutionary hierarchy. A reasonable assumption is that Dewey might have considered information to have the same precise order as the evolutionary hierarchy, particularly if he coupled Darwin's theories with historical theories of classical philosophers who insisted that an order to everything must exist and everything had a precise, prescribed place in the order of things.

Dewey's purpose in developing his scheme was not very clear. He might have intended it primarily as a scheme which would allow the storage of documents in some

sort of logical order or as a scheme which would help people retrieve the information or the documents easily. The documents he was concerned with were those associated with learning institutions. Thus, his intention could have been to develop a scheme which would help students and teachers in their work. The likelihood is that he devised the scheme with students and teachers in mind and his classification was devised to assist the learning process.

His scheme and all the others derived from similar hierarchical organization theories are not particularly efficient at helping people retrieve information as the discussion in Chapter 5 indicated. The concept of conviviality suggests that people should have the facility to retrieve specific information at the time they want it in the way they want it. Hence, for conviviality outside the learning environment, information organization schemes should have as their primary purpose: the retrieval of information and not learning or the storage of documents.

The form of the information organization scheme which would make ease of retrieval universal is what needs determination. If it is to serve conviviality, then the form should be such as to allow anybody to retrieve information without the need to engage in intellectual detective work aimed at simply uncovering what subject the information may be associated with. Devising the information organization structures intended to show relationships between different items of information after questioners have retrieved the information is their prerogative. The point is that the original information should always be retrievable in a form which has not already been "editorialized" into a structure, no matter how "learned", which reflects the biases and perceptions of the designers at the time they devise the schemes.



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