

**Guide to Selections from Gene Youngblood's Future of Desire Manuscript:**

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THE FUTURE OF DESIRE

MANUSCRIPT

## PART ONE

### THE COMMUNICATIONS REVOLUTION

"Homer composed the Odyssey; if we postulate an infinite period of time with infinitie circumstances and changes, the impossible thing is not to compose the Odyssey at least once."

-- Jorge Luis Borges.

INTRODUCTION: THREE PROPOSITIONS

This book is about reality, the mass media, and desire. It describes a closed circle: the mass media create the reality that cultivates desire for the reality they create. Understanding the closure of this circle and its consequences is one purpose of this book. Opening the circle and liberating the future of desire is the motivation behind it. The project is, therefore, both political and humanistic.

As a political work, this book is about reality in the special sense restricted to the operations of the mass media. As a work of humanism, however, it's about reality in a much more general sense -- for it contains the first public account of a major scientific revolution that resolves one of the most ancient and profound paradoxes ever contemplated by humanity: What is "to know," and how do we know? In other words, is objective knowledge possible? Biology now answers this question finally and forever with an emphatic No! Objective knowledge is biologically impossible. Consequently, for us as observers, objective reality doesn't exist. In providing the explanation that has escaped the greatest minds since Aristotle, biology offers the grounds for an empirical humanism with profound implications for politics, philosophy, psychology and art.

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At the same time, and in two different ways, this book is also about the mass media. On the one hand, it shows that an historically unprecedented revolution in the structure of the mass media is now possible. I shall use the new biology as a paradigm for understanding the significance of the communications revolution, and for prescribing how and why it must be made to happen. On the other hand, I shall use the new humanism also as a frame of reference for explaining the mass media's negative effect on individual identity, social history, and human evolution. My basic assumption will be that industrial civilization exists today in a state of evolutionary crisis which threatens our liberty and survival, and that analysis of the mass media's role in human evolution can reveal what we must do to prevent the crisis from becoming a catastrophe.

Finally this book is about desire because, in a sense quite different from that intended by Jean Baptiste de Lamarck, desire drives human evolution and orients social history. I shall use the new empirical humanism, on the one hand, to show how the mass media negate and control human desire and, on the other hand, to demonstrate that the communications revolution would enable autonomous individuals to cultivate desire for new and different realities by describing the realities they desire so as to desire the realities they describe. I will argue that learning how to desire another way of life is the supreme challenge of this epoch of human history.

When we ask what is the effect of the mass media on human evolution, we actually are asking an even more general question, namely, what has been

the most important evolutionary consequence of the Industrial Revolution? This is because the mass media are the cultural arm of the industrial order that makes their operations both possible and necessary. The mass media are the technoeconomic foundations of what may be described as the culture industry or consciousness industry, a phenomenon which I regard as the ultimate expression of the industrial equation and as an imminent menace to individual identity, social history, and human evolution. I propose to show that the outstanding consequence of the Industrial Revolution is that, through the rise of the mass media, it has led us into an historical and evolutionary blind alley from which we may be unable to escape.

I propose to show not only that such a crisis exists but that it is perpetuated by the mass media, and that only by totally reconstructing the mass media -- that is, only by completely inverting their structure and function -- can we prevent the crisis from becoming a catastrophe. I further propose to show that although the tool systems necessary for such an inversion now exist, they almost certainly won't be used for that purpose in the absence of a revolutionary political force that would demand it. This is because reconstruction of the mass media will require the participation of the media themselves, yet the primary purpose of their existence is to maintain themselves by maintaining the industrial order which makes their operations both possible and necessary in the first place. Thus, as a result of the intrinsic underlying structure of our society, we may well be caught in an historical and evolutionary double bind, a trapped state.

I want to elaborate upon this basic premise before discussing the New Biology and its relevance to media politics. I shall do so by means of the following three propositions, which are designed to yield a meta-perspective on the human condition at the end of the twentieth century, the twilight of the Industrial Age, and the dawn of a new millennium.

#### The First Proposition: Human Evolution Is Cultural

Step out onto the planet. Look around. This corporeal world once was the common denominator of the incorporeal worlds of its inhabitants. History once was subject to geography. But no longer. It's the symbolic environment, not the material one, that exerts the most significant selective pressure upon evolving humanity. The incorporeal world of culture is now the common denominator of the corporeal worlds of its inhabitants. By this I mean that the biological evolution of the species is subordinated to cultural history insofar as behavior is concerned, that is, insofar as culture orients behavior and behavior orients the pressure of natural selection. We've enclosed ourselves in a symbolic environment of descriptions that encodes our behavior and governs the relations among us, and which, in this measure, selects the biological foundations of the very same behaviors that generate it. For once a cultural domain is established, the subsequent evolution of the nervous system is necessarily subordinated to it insofar

as culture determines the functional validity of any new classes of neuronal activity that may arise through genetic variation.

This is to be clearly understood: no interpretation is intended which is not contained in this statement. I'm not trying to biologize culture or to culturize biology. Indeed, the new biological epistemology demonstrates that biology and culture exist in non-intersecting phenomenological domains: neither one can be reduced to, or deduced from, the other. Moreover, the idea that culture plays a role in human evolution is neither original nor incompatible with the accepted tenets of modern biology. Indeed, it was implicit in Darwin's theory of evolution and is an inescapable conclusion of contemporary genetic theory, as Jacques Monod has demonstrated: "The important point is that...cultural evolution could not help but affect physical evolution; in man more than in any other animal -- and owing precisely to our infinitely greater autonomy -- it is behavior that orients selective pressure. And once that behavior ceased to be primarily automatic and became cultural, cultural traits themselves inevitably exerted their pressure upon the evolution of the genome."<sup>1</sup>

Implicit here is the understanding that selection always occurs in a domain orthogonal to (different from) the domain of that which is selected.

<sup>1</sup> Monod, Jacques, Chance and Necessity, (New York: Vintage Books, 1972) p. 162.

In other words, selection always occurs through behavior, but what's selected is structure, not behavior -- structure that makes behavior possible but doesn't determine it, for human behavior is culturally determined, and learned characteristics (acquired structures) aren't inherited. The responses of an organism to its environment don't affect the genetics of its offspring. Genes learn nothing from the experience of the organism. Yet the organism's experience ~~may well determine its behavior, including that which leads to whether it has any offspring at all.~~ It's in this general sense that, in both phylogeny and ontogeny, behavior determines the evolution of structure. It follows, therefore, that the significant environment in which we live and with which we interact for our survival as human animals is not the biosphere but the symbolic environment, the culture -- for natural selection has been replaced by cultural selection and the evolution of the genome has been subordinated to cultural history.

### The Ecosocial System

This interplay between humanity's genetic potential and our cultural ecology gives origin to an evolutionary process that's distinct in a crucial sense from that which applies to all other living creatures. Other organisms interact only in a biological context whose laws force them to compete for limited resources in finite ecological niches where only the "fittest" survive: they adapt according to the dictates of their environment. We humans, on the other hand, reorganize our environment, making it adapt to us. We cooperatively create our own environment, both material and symbolic, in

which we establish the rules for degree and kind of competitive behavior, and with these we determine who's to survive. Whereas other animals cannot, alter themselves except through changes in their species, we transform ourselves by transforming the world, we structure ourselves by constructing structures. Our genetic pool is exposed to an environment whose architecture results from our own behavior within it. We interact with selecting mechanisms that we ourselves establish in an environment, both physical and metaphysical, that we ourselves create.

Often it's lamented that science and technology carry us farther from nature, and indeed they do seem to make life possible only through more elaborate and complex systems. But in doing so we aren't really carried farther from nature. On the contrary, we've been participating more and more comprehensively in the energy-systems around us, evolving from minor to major components of the biosphere. By our intervening in natural systems down to the subatomic level, the symbiosis of humanity and biosphere has become all the more total, including ourselves in it all the more completely. As a result, nature looms larger today than ever before and includes more fully than ever ourselves, our machines, our networks of communication and currency, our values and ideologies.

Indeed, human culture has become inseparable from the biosphere, influencing its days and its destiny. The biosphere is, if you will, a machine. But in virtue of including ourselves it's partly a mentalized machine with human qualities of mind, actuated by emotions, fears and hopes, dislikes

and love, invention and accident. I shall refer to this symbiosis henceforth as the "ecosocial system." By ecosocial I mean society-plus-biosphere where the "plus" is technology -- the fundamental technology being cultural values embodied in language. The cultural ecology and the biological ecology are integrated through technology, that is, through value-oriented behavior. This behavior must be seen as both cause and effect of the ecosocial system, which both creates and is created by evolving humanity.

#### Extrasomatic Technocultural Evolution

We're the only living species that has completely reorganized its ecological niche and, consequently, we're the only one that has brought its "natural" biological evolution to an end: we've ceased to adjust our bodies to the environment; instead we adjust the environment to our technocultural values. In this sense -- a sense that's only partly metaphorical -- human evolution is extrasomatic: it occurs external to the soma. When we say our evolution is cultural we mean that the process of natural selection by which the human race ascended has been replaced by extrasomatic technocultural selection -- for the evolution of the genome has been subordinated to the history of cultural values implemented through technology. This means that our evolutionary adaptations now occur not in the human soma but in our extrasomatic technocultural systems. "Extrasomatic technocultural evolution" certainly is a mouthful, but it's not intended as an exercise in pseudo-science jargon; it's just the most economical way of articulating the actual process of human evolution.

Some observers, such as the late Jacques Monod, have seen these conditions of "nonselection" or "selection in reverse" as perilous to the species. Monod argued<sup>2</sup> that the mechanisms which used to protect the species from degeneration -- the inevitable result, he felt, when natural selection is suspended -- now function hardly at all. Thus, in Monod's opinion, the biological evolution of the soma is more likely to be degenerative than progressive. For this to become serious, he predicted, would require ten or fifteen generations, or several centuries. The whole premise seems at least debatable, considering possible compensatory effects of our extrasomatic structures. In other words, our future biological evolution may very well be degenerative, but we must not discount the possible intervention of some fortune of the mind. Our intelligence is a new factor in the evolutionary process, albeit a highly unpredictable one at present. We are matter conscious of itself, its rules, its conditions, its history. As self-observing systems we can, at least in principle, modify and guide our own destiny and the evolution of other organic populations. I shall have more to say about this shortly. Meanwhile, whatever the case may be with respect to our long-range future, there are far more grave and more urgent dangers threatening industrial civilization in the present. Paradoxically, these dangers are inherent in what appears to be humanity's most valuable evolutionary trait: our enormous range of adaptability.

<sup>2</sup> op. cit., pp. 163, 164

Human beings are the least specialized and most adaptable of the animal species, and adaptability is essential to survival. Yet, paradoxically, the very fact that we can adjust to almost any set of conditions threatens the quality of life in the present and spells danger for the future survival of our species. The key to this paradox is that the classical meanings of the word adaptation as used in general biology don't apply to the kinds of adjustments that are required in modern ecosocial systems. For the general biologist, Darwinian adaptation implies a fitness that enables a species to function well and increase in numbers in a particular environment. From this purely biological point of view it would appear that modern men and women are remarkably well adapted to life in industrial societies, since our populations continually increase and urbanization and industrialization are spreading rapidly over Earth. From the psychosocial point of view, however, such biological "success" is undesirable, for it threatens the quality of life -- a concept that has no meaning in the domain of biology. In applying the notion of evolutionary adaptation to humanity, therefore, we must search for criteria different from those used in general biology. The main difference in these criteria will be that whereas purely biological survival values refer exclusively to physiological needs, cultural values refer to psychological desires. To live as a human being means much more than merely to survive as a member of the animal kingdom. Insofar as they're independent of biological need-fulfillment, cultural values satisfy not bodily needs but psychological desires and habituations that are cultivated by the very social machinery responsible for satisfying them: the educational system and the mass media, who mediate the closure of the ecosocial system.

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### The Second Proposition: The Mass Media Are The Culture

Sociological investigations are conducted periodically to determine whether the mass media, especially television, have appreciable impact on human behavior. The question seems absurd to me, for that, after all, is their purpose. When we say "media" what we really mean is culture (the word "medium" literally means middle, standing between individual and social reality). And that culture is the single most important factor in the orientation of human behavior -- especially that primary behavior called consciousness -- is beyond dispute. Any anthropologist will agree that reality is a function of the culture in which one lives; this is true on the physiological

level as well as the psychological plane.<sup>3</sup> And in any advanced industrial nation, in any politically relevant sense, the mass media are the culture. That is, the product of their functioning is the common cultural reality.

In other words, when I say "the culture" I mean that domain of descriptions, that symbolic environment, which the mass media themselves create and which wouldn't exist if the structure of the mass media didn't make it necessary. I refer, that is, to a special kind of culture, or rather to special conditions of cultural history and dynamics: a centralized mass culture generated and sustained by centralized mass media. The significance of the mass media lies in their ability to mass produce messages that create mass publics. The audience doesn't create the messages; the messages create the audience. The mass audience is the product of the mass media, its effect, not its cause. No mass audience could have existed prior to the emergence of the mass media, for the concept "audience" necessarily implies the existence of a common frame of reference which defines the audience as such, and which could not have existed before the media created it.

Of course large numbers of people were reached by other forms of message distribution long before the rise of contemporary mass media, but these groups didn't constitute what today is understood as a mass audience. The modern mass public is a heterogeneous social aggregate so populous and so widely dispersed that they can interact as a community only through distant telecommunications facilities. The members of such a population necessarily have little

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Segal, Marshall H., Campbell, Donald T., Herskovits, Melville J.,  
The Influence of Culture On Visual Perception (New York: Bobbs-Merrill, 1966).

or nothing in common except the messages they share, messages that emanate from central sources for commercial and political reasons, and which therefore express only the lowest cultural common-denominator of ideas compatible with the purposes of the industrial system that makes the messages both possible and necessary in the first place. Since this frame of reference is the only one the population shares in common, it's the only thing that can be described as "the culture" with any significance for a politically relevant number of people. It's the only politically relevant frame because it's the only common frame. There's no other common frame, hence no other foundation for collective thought and action. Thus, for most people most of the time, in any politically relevant sense, the mass media are the culture.

In a centralized mass culture individual citizens or primary groups have no power to influence the descriptions of reality and models of behavior that govern the relations between them. Nowhere has this phenomenon reached such magnitude as in the United States, where the industrial principle of social organization has been carried to its ultimate expression -- total subordination of individual values to the values of the industrial society insofar as they're incompatible with the maintenance of the industrial order. Never before have so many people in so many places shared so much of a common system of meanings, values, and models of behavior while having so little power to specify or to define them. Never before have so many receivers been at the mercy of so few senders. It's as though only one purpose exists and it's not ours. This ultimate consequence of the centralized mass culture I shall describe henceforth as nonadaptive perceptual imperialism.

### The Mass Media

Obviously, the mass culture is created through many different message systems other than television. Indeed, by "mass media" I refer not only to television but also to radio, newspapers, and theatrical cinema. The term mass media refers, in other words, to any structure characterized predominantly by centralized mass production and one-way mass distribution of symbolic messages to a captive mass audience. Although other message systems (magazines, books, recordings) are frequently used to cultivate mass audiences, they're used far more frequently to cultivate special-interest audiences, whose total volume is far greater than that of their mass-audience applications (approximately fifteen-hundred books and magazines are published every day in the United States alone). For this reason I don't include them under the category of mass media, which refers exclusively to the structure and function of television, radio, newspapers and cinema -- the only message systems characterized predominantly by their use in cultivating and maintaining a centralized mass audience.

However, the cultural effect of television is so total, its power so absolute, its voice so all-consuming, that the symbolic content of the other three mass media has become subordinated to it. Their content (with the exception of radio music) almost exclusively is a response to, and is therefore dictated by, that of television. In this sense television is paradigmatic of the principle of mass communication: it creates the frame of reference, cultivates the system of values, specifies the agenda of issues, which together provide the cultural context for the operations of the other three

mass distribution media. Their role in preserving the centralized mass culture is to supply the necessary level of redundancy that's required for the stability of that cultural system understood as a homeostatic mechanism that maintains constant the cognitive domains of the population.

### The Videosphere

For this reason, and out of poetic license, I sometimes refer to the centralized mass culture as the videosphere. Admittedly, a neologism like this smacks of cosmic futurism rather than political reality. I've invented it because it characterizes most succinctly the actual nature of the symbolic environment with which we interact for our survival, and for which there's no suitable label to be borrowed from existing vocabularies of social analysis. Derived from the Latin, *videosphere* means "I see the whole." Insofar as the mass media imply culture and culture implies consciousness, "*videosphere*" characterizes the power of the media to determine consciousness in the observer, and through that consciousness to determine the observer's reality. This [redacted] places the centralized mass media, especially television, at the very heart of human evolution both cultural and biological, for the media orient the culture that orients behavior that orients the pressure of cultural selection: the circle is closed.

There's an important lesson to be learned from the success of video evangelists like Billy Graham, Oral Roberts, Kathryn Kuhlman -- that television is an evangelical medium whose gospel is the culture and whose crusade is human evolution. The culture is a carrot on a string. Natural selection is the decision to follow. Evolution is what happens when we do.

As music is what awakens in us when we're reminded by the instruments, so thought is what awakens in us when we're reminded by the videosphere. We move through the incorporeal geography of the videosphere taking cultural dictation like Cocteau's Orpheus monitoring an immortal frequency on his car radio. The messages we receive orient our behavior and our behavior, reorganizing the biosphere down to the subatomic level, orients the vectors of human evolution.

The minerals of the lithosphere, the organisms of the biosphere, the water of the hydrosphere, the various gases of the atmosphere -- all are contained within the ghostly demarcations of the videosphere. The videosphere pervades the whole ether with a purpose enclosing all. From the first days of the world evolution has been blind and purposeless like the wind that promotes drift in random directions. But it hasn't been without purposeful results. Through billions of years of blind mutation, microbes finally emerged as human beings. Now evolution need no longer be blind. Its course has been altered by the heroic intervention of humanity. Our presence transforms Earth into a self-observing system, matter conscious of itself and thereby capable of controlling its own evolution; for the entity that's the object of its own reflection can learn from its past and invent its future.

By creating the environment that creates us, we establish the foundation for conscious control over our own evolution. Since human evolution is cultural, conscious control over it is not only possible but essential. Since the videosphere has replaced the biosphere as the environment that shapes

our destiny, conscious purpose must replace blind chance as the logic upon which our destiny depends. Since cultural selection has replaced natural selection as the engine that drives evolution, so teleology must replace teleonomy as the arbiter of that selective process: goals must orient the development of the world. When we say that evolution in the biosphere is deterministic rather than causal we mean that it's structure-determined rather than goal-determined. Except, that is, for the influence of humanity. Only men and women have goals, and only men and women can work toward them.

Teleology is the logic of manifest intent, ecology the logic of manifest survival. The extent to which environment is intentional is the extent to which survival is enhanced. The extent to which energy is expended in adapting to our own unintentional influence is the extent to which survival is threatened. We've relinquished by our actions the right to remain innocent observers of an evolutionary process whose whole momentum we have generated, and which brings us now under ever more profound consequences of our own behavior. We have no choice in the matter, just as we had no choice in our transcendence of the material world which now makes consciously-controlled evolution both possible and essential. We're ~~still~~ obliged to specify goals for ourselves and for the biosphere, and to regulate the entire eco-social system toward attainment of these goals. Just as the emergence of human consciousness enabled matter to become aware of itself, so a decision by society about our goals would provide a plan or purpose for at least our

part of the universe. Evolution has been a descriptive science; now it can and must be a predictive one.

This principle of evolution by choice rather than chance must be recognized if we're to survive, for we're shaping our destiny, both cultural and biological, whether or not we're aware of it. Consciously or unconsciously, our evolution is what we make it. Evolutionary change must not be viewed as the work of some cosmic engine separate and independent of us, but rather as a change in the nature of change: change that's caused by us but not controlled by us -- for human evolution as yet remains a trial and error process, as blind and purposeless as random mutations. Having elevated ourselves from the vagaries of blind nature we've become the victims of blind actions on our own part. We've not lived by our own volition. We've been lived by a force we call culture. We've been the slaves of our own empire and the technologies it permits, victimized by the drift of incidents to which we accustom ourselves as to the weather. We can't continue along this path much longer without disastrous results.

### The Third Proposition: The Ecosocial Crisis

I write these words against a background of seemingly ungovernable crisis. It's the age of the apocalypse, for no one any longer can say whether humanity can survive. The world's leading scientists in the relevant fields seem agreed about this: we've created for ourselves a set of

political and military crises, a set of technological and environmental crises, a set of sociocultural crises, which may prove impossible to contain. Repeatedly we attack dysfunctions in our social structure while the symptoms continue to worsen. The institutions we've built to secure our liberty and survival have grown into an industrial colossus which seems not so much protective as ~~is~~ actually threatening. We're captives of gigantic systems beyond our control, systems which seem to produce exactly the reverse of desired results, actually contributing to the problems they're designed to correct.

As a result, the long-expected breakdown of political authority has begun. Almost overnight we've lost confidence not only in our major institutions but also in the miracle prescriptions of our would-be crisis managers, for the structural contradictions between stated purposes and effective results of industrial institutions have become publicly obvious. Large institutions suddenly have lost their respectability, their legitimacy, their reputation for serving the public welfare. No longer are they capable of defining values such as education, health, welfare, or news, because people have recognized them as illusions. We've known what the Greeks did not: uncertainty. In the last two decades uncertainty has become endemic, for there's universal doubt whether the whole apparatus of industrial civilization actually works any longer. No longer do we lie down at night with a sense of security and get up in the morning confident that the great machinery of organized society is ready to carry us on. The spectacle is appalling. A marauding paranoia insinuates itself everywhere, and we're convinced there's no remedy available, even to those who'd use it.

What causes the helpless feeling is the inadequacy of old forms of thought to cope with an historically unprecedented situation. We can't even think about finding solutions without correctly recognizing the problem, and it's now commonplace to pose our problems incorrectly. I submit that attempts at social reform in the United States or any other industrial nation will continue to fail because we've been programmed to deal conceptually with a world that exists only on television. We're operating with

obsolete ideas about the nature of social problems and what must be done to correct them.

We go into any problematic situation armed with a model which presumably embodies the laws and applies the mechanisms that are operative in that situation. A model is a set of basic assumptions, postulates, or beliefs about the nature of the problem; it determines what questions are asked and how answers are sought. Questions that aren't meaningful in a given model tend not to get asked. Accordingly, my purpose is not to answer existing questions but to show that completely different questions must be asked. My purpose, in other words, is to articulate the problem of individual liberty and social survival in such a way as to provoke politically effective questions -- for the ecosocial crisis has reached its present magnitude primarily because the correct leading questions aren't being asked in public forum, in legislative bodies, in the educational programs of the schools.

We look through a window, the window of the mass media, especially television, and we see all these problems. Problems so tediously redundant that it would be embarrassing to enumerate them here. Let me just characterize them -- simplistically, it may seem at first -- as problems which exist because of our inability to describe, hence to desire, a world without them. The point I wish to make, however, has to do not so much with those problems as with the frame through which they're observed. For we tend to dissociate

the problems from the frame. We tend to focus on what's seen rather than on our way of seeing. I submit that our problems aren't what's seen through the window, they are the window itself; not what's seen but our way of seeing. I will argue that instead of focusing on how we produce and consume we must focus on how we conceive and perceive and on how we communicate.

We stand on the brink of ecosocial disaster because we think we've got physical problems when in fact our problems are metaphysical, that is, they are problems of the symbolic environment that is the centralized mass culture. Behind the pollution, waste of resources, extinction of animal species, disruption of ecosystems, and human alienation, injustice and oppression lie the meanings, values, and models of behavior that constitute the centralized mass culture -- for they cultivate in us the corresponding beliefs, desires, and patterns of behavior that orient social history and human evolution in ways that are now beyond our control.

The origins of the ecosocial crisis are cultural, not technological, for technologies merely implement cultural values. Although physical tools may properly treat the obvious symptoms of ecosocial dysfunction, any long-term equilibrium in the ecosocial system depends on conceptual tools that are compatible with the demands of the biosphere and with the maximum autonomy of men and women. It's the culture, not the physical geography, that we must purposefully design in order to make conscious and controllable those evolutionary processes which, although products of our own behavior, are yet unconscious and uncontrollable. We've no choice but evolution by

choice. We've no alternative but to consciously control our own evolution by cultivating explicitly the frames of reference and systems of values that specify the kind of world in which we want to live, defined according to our desires (bare maximum) not merely our needs (bare minimum).

In other words, by ecosocial crisis I mean all social problems understood as communication problems and as evidence of a condition of uncontrolled or runaway evolution -- an evolutionary process generated by industrial society but not controlled by industrial society, and which therefore threatens the very survival of industrial society. This state of uncontrolled evolution produces the entire spectrum of contemporary problems from the energy crisis to economic ~~■~~ instability to human tyranny and oppression. To solve them we must literally reconstruct our society, for the myriad problems which constitute the global ecosocial crisis are evidence of a fundamental breakdown of the industrial civilization, its technology, its economics, its government. It's a fundamental structural dysfunction resulting from society having evolved far beyond our structural capabilities for communication and control, that is, for self-regulation.

The ecosocial crisis, in other words, is a systemic crisis. It's a crisis of the very logic behind the industrial society. It's a crisis of, not merely in, the industrial principle of social organization itself as an evolutionary adaptation that's ceased to possess survival value and whose technocultural manifestations have become antihomoeostatic and nonadaptive. If civilization exists today in a state of imminent catastrophe it's because

its internal organizational structure is inherently unstable. Our own self-destruction is built into our social organization. The various symptoms of the ecosocial crisis aren't epi-phenomena, they aren't blemishes, accidents, or mistakes. They're the intrinsic outputs of an antihomeostatic and nonadaptive social organization which is incipiently unstable -- on the verge of catastrophic breakdown.

When we say that life has become increasingly complex, we mean that variety has increased exponentially in recent history. A dynamic system is in constant flux; the higher its variety the greater the flux, hence the greater the need for communication to maintain stability. Stability depends on the capacity of the system to restore its net state to equilibrium following some antihomeostatic perturbation. The time required for the system to return to stability following the perturbation is called its relaxation time. All societies are potentially high variety systems and all have finite relaxation times; yet all are subject to constant perturbations which arrive at increasingly shorter intervals. Civilization exists today in a state of uncontrolled or runaway evolution because the explosive rate of change produces antihomeostatic perturbations at intervals shorter than the relaxation time of the social homeostat. The result is that the system has become permanently unstable. Since permanent instability feeds on itself (because there's no recognizable stable condition on which to base learning and adaptation) the effect is inevitable: existing instability must become more unstable, thus turning mere instability into catastrophe.

Thus, we may define the ecosocial crisis as the behavior of a dynamic system in a trapped state of autocatalytic degeneration (a vicious circle) created by the positive feedback circuits that serve the purposes of the industrial order. Like any other dynamic system with distributed sensors and effectors, society can become trapped in states of uncontrolled positive feedback in which the cause aggravates the effect and the effect aggravates the cause in a self-accelerating vicious circle. The pain produced by the neural pinch of a slipped disc tightens muscles that increase the pinch which tightens muscles even more; unless the positive feedback is aborted and the vicious circle broken, the organism endures ever-increasing pain that terminates in convulsion and exhaustive coma.

Several such vicious circles not only are operative in modern industrial societies but are protected by institutionalization. An economic system that must inflate the cost of products to keep them in demand, an educational system designed to produce in its students the need to become the products of an institutional ~~process~~ process, a communication system that cultivates the demands for output that give it authority to cultivate demands for more output -- these are examples of a society in a trapped ~~minimally~~ state. Common in these degenerative processes, whether they occur in societies or in organisms, is an increasing specialization of the system's sensors and effectors, the former narrowing their range, the latter extending their size and power. Consequently, any attempt to change the characteristics of the system as a whole by attacking its power structure with opposing force is

bound to fail, leaving the system after its successful exercise with increased strength and further reduced vision (backlash). Since the effectors are immune to forceful ~~alteration~~ alteration, it's the sensors and the extension of their range of sensing to which we must pay attention in order to break the positive feedback cycle and lead the system out of its entrapment.

This means that the only solution for the ecosocial crisis is to invert the basic structure of the industrial society as manifest in the structure of its major subsystems, tools, and institutions. But to do this we must first invert the structure of the mass media, for only through its implementation in the structure of the media is the industrial organizing principle preserved in the rest of society. As the cultural arm of the industrial order that makes their operations both possible and necessary, the mass media can only generate cultural conditions compatible with the maintenance of that order. It's in this sense that all social problems are communication problems, they can be understood only as communication problems, and can be solved only as communication problems -- that is, only through total inversion of the structure and function of the centralized mass media.

In other words, the ecosocial crisis, understood ultimately as a crisis of uncontrolled evolution, is perpetuated by the mass media as arbiters of that same evolutionary process. This means that the principle of mass audience communication itself as currently practiced in all industrial nations -- regardless of content and regardless of the technoeconomic apparatus through which it's implemented -- is the most destructive force in the world today, supporting as it does the murderous logic of industrial heteronomy upon which all modern nations are founded. To restate this, perhaps more clearly: the principle of broadcasting itself, as the operational structure underlying the centralized mass culture, is intrinsically threatening to

[REDACTED] individual liberty and social survival, regardless of the content that's broadcast, regardless of political ideology, regardless of the machinery through which the broadcasting is implemented.

The industrial organizing principle of centralized, one-way, mass-audience distribution of messages -- that is, the principle of broadcasting -- has reached its pinnacle in the United States because of our national character and because of the highly-developed level of industrial technology upon which our society is founded. However, the same principles are intrinsic to all industrial structures wherever they may be, under whatever political circumstances they may operate, and shall bring any society to the same historical and evolutionary impasse unless they are explicitly rejected. Until this is recognized our attempts at social reform will be hopeless, for we'll be dealing only with symptoms without ever having penetrated to the fundamental cause of the ecosocial crisis -- the industrial principle of social organization itself.

~~INSERT HERE  
WORKED IN A  
TIME LEISURELY  
AGE....  
UTOCATARTIC~~

Behind the reformist approach to social problems lies a supposition: that all questions about first principles have been answered and that change is needed only at the edge, not the center. Our institutions have proven their viability, the reformist argument goes, and we can be confident they'll continue to adapt to change. If our society is threatened by too rapid or too radical change, the solution is to reinforce the social rules, strengthen our institutions, tighten up the criminal, social, and moral laws, and endure the test of our viability. Unfortunately, we've moved far beyond the point

at which mere modifications of the social superstructure would have been adequate. The change that's needed now can occur only in first principles. The organizational principles that underlie the identity of our society must be transformed.

Throughout the Western world there's a rising tide of revolt against "the system" as more and more corporate-capitalist industrial institutions come under attack. But to tear down a factory or to revolt against a government, or to take over a TV station is to attack effects rather than causes; and as long as the attack is upon effects only no true change is possible. If institutions really are to be changed, their fundamental logic must first be expunged, for the true "system" is the prevalent construction of systematic thought itself as embodied in the logic of industrial heteronomy. Changes that don't affect the logic of industrialization can lead only to the adaptation of that logic in continuing to reproduce itself. If a factory is torn down but the logic that produced it is left standing, that logic will simply produce another factory. If a "revolution" destroys a government but the patterns of thought that produced that government are left intact, then those patterns will repeat themselves in the succeeding government. The only way to change the world is to challenge successfully the very logic of industrial heteronomy upon which our civilization is based. The revolution has to be made at the roots. And the only way to expunge the murderous logic of industrial heteronomy is to completely invert the structure of the centralized mass media whose ultimate purpose is to preserve that logic.

PRT

USE THIS AS LEAD-IN  
TO REVIEW EPIDEMIOLOGY ...

.... COMM REVOL comes BEFORE  
ECOSOCIAL CRISIS

### The Communications Revolution

The potential now exists for an historically unprecedented revolution in the structure and function of the mass media. This potential is both technological and economic, by which I mean that in each of these domains conditions for realization of the revolution are currently favorable. The purely technical aspect of this potential is embodied in six tool systems which currently are developing as separate industries. They are:

1. Optical fiber communication networks implemented through the telephone system or the cable television industry.
2. Domestic communication satellites.
3. Home computers and information utilities.
4. Portable video recording equipment.
5. Movie publishing systems such as video disc and video cassette technologies.
6. New information display devices for the home, such as large-screen TV displays and facsimile printout terminals.

These are to be understood as generic categories, not as particular companies, industries, or products. They represent the minimum set of tools which are both necessary and sufficient to realize the communications revolution. In other words, the potential for the revolution lies exclusively in these six categories of technology and in no others. Additional technologies may certainly

enhance and amplify the qualitative possibilities of the revolution, but they cannot by themselves precipitate it or realize it.<sup>1</sup> Only these six classes of technology hold the potential for actually creating the revolution by enabling us to create the revolutionary institutions that would embody it. This potential becomes clear if we consider these tools not as independent entities but as components of a single integrated, nationwide telecommunication system which would subsume, invert, supplement, and in some instances replace the functions now performed by the present mass media. I shall refer to this hypothetical system henceforth as the National Information Utility.

Obviously, some of these tools contribute more decisively than others to the possibility of the revolution happening at all. In this respect optical fiber communication networks are more essential than display devices. However, all six must nevertheless be regarded as essential for realization of the revolution's basic potential; if we remove any one of them, the impact of the revolution will be diminished accordingly. Therefore, these tools represent the necessary and sufficient minimum criteria for the possibility of cultural revolution in any industrial society.

<sup>1</sup> I refer to such things as earth resource or "planet analysis" satellites video synthesizers, optical character-recognition and voice simulation devices, and so on. Many of these may be regarded as sub-categories of the headings listed above, and thus as implicit in them.

The changes that have occurred in mass communication systems up to now have been changes of degree rather than kind. But the revolution that could theoretically be realized through proper integration and organization of the new video tools would represent a difference of both degree and kind, for it would ~~not~~ implement a principle of organization exactly inverse of that which is today the source of the mass media's structural and functional identity. We may characterize ~~not~~ this inverse principle as the cybernetic organizing principle.

<u>COMMUNICATIONS REVOLUTION</u>	
<u>HETERONYM</u>	<u>AUTONOMY</u>
<u>INDUSTRIAL ORGANIZING PRINCIPLE</u>	<u>CYBERNETIC ORGANIZING PRINCIPLE</u>
<ul style="list-style-type: none"><li>* Centralized</li><li>* One-Way</li><li>* Mass Audience</li><li>* Nonadaptive</li><li>* Message Distribution</li></ul>	<ul style="list-style-type: none"><li>* Decentralized</li><li>* Two-Way</li><li>* Special Audience</li><li>* User Controlled</li><li>* Feedback Communication</li></ul>

Implementing this inverse principle of organization would mean replacing the processing of centralized output with the processing of decentralized input as the chief functional characteristic of the mass media, that is, the primary purpose of their existence. This in turn would make possible public access to information specified by the user and public access to communications channels controlled by the user. The important words

here are "specified by the user" and "controlled by the user." Those criteria make the premise significantly different from traditional notions about "public access" which don't assume structural inversion of the institution being accessed. Indeed, the notion of public access as presently defined by those claiming to represent "counter-culture" or "alternate video" movements is perfectly compatible with the values of the industrial society. The current understanding of public access assumes that control of the system remains centralized: part of the meaning of control is the power to control access. But a true structural inversion of the mass media would mean public control, not merely public access: not access to tools controlled by others so as to maintain the hierarchical structures of social oppression, but control of tools through which that power structure could be inverted.

Those who seek to reform the mass media today ask for equal treatment within the context of the industrial organizing principle; they demand recognition of their right to participate equally in the outputs of the industrial society -- the "output" in this case being access to the mass public that's created by the mass media. When rebels take over a television station, when political candidates demand equal time, when advertisers buy space or time, what's sought is access to the mass public which the mass media have created. The mass audience is a product of the industrial society; seeking access to this audience through the very tools which create it is to validate rather than abolish the industrial organizing principle.

Invariably, the mass media and even most of the specialized print journals characterize the communications revolution as making heteronomy more efficient, that is, maximizing the efficiency of the industrial way of life. Usually this is put in terms of the "delivery of social services." We're told that, through the new channels of distribution, there will be more widespread and equitable distribution of medical and legal services, consumer services, education, and so on. Important as this may be, I think it misses the point entirely. For what's at stake in the communications revolution isn't so much the delivery of services ~~but~~<sup>as</sup> the power to define those services as such, that is, to specify them qualitatively. The ~~power~~ the power to define the practice of medicine and its~~s~~ goals, the power to define laws and the manner of their~~enforcement~~ enforcement, the power to define education and what it means to be educated -- this is the real significance of the communications revolution: IN SHORT, THE POWER TO CONSTRUCT SOCIAL REALITY.

# N.I.U.-COMMUNICATION-VS-CONVERSATION

we DON'T REALLY WANT TO TALK BACK TO  
OUR TV SETS; we WANT TO TALK WITH  
PEOPLE. we DON'T WANT INTERACTING  
INSTITUTIONS; we WANT HUMAN INTER-  
ACTION, THAT IS, CONVERSATION...

1.

Communication is contextual and supra-personal. It defines a shared and common space. It implies a kind of pre-adaptation or pre-understanding. To communicate is to say or to show that which the witness already understands. If I say something you don't understand, we're not communicating. So sender and receiver always occupy a single structure, a common ~~one~~ context. They define a reality-community. It follows that communication can't lead to new ~~one~~ contexts and new realities. It can only keep the interlocutors in the same preexisting context, continually validating the same reality. In this sense, and regardless of what's said, communication is always trivial: it requires no change in the structure of the context that defines it as communication in the first place. By definition, communication is always non-creative. The creation of new contexts, hence of new realities, requires something more than mere communication. It requires conversation, literally ☺ "to turn around together." Conversation is the pure principle of creativity. I say something you don't understand and we interact in a non-trivial manner until we've created a structure that didn't exist before the conversation began. During our ~~one~~ conversation there's no communication as such. But we increasingly approximate it until we achieve the consensus that defines a common context and mutual understanding. At that point we begin to communicate and our interactions become trivial once again. The act of creation is always a non-communicative process that leads to new reality-communities and hence to the possibility of communication. This is why the mass media are dangerous: they can only communicate. They can only speak a common language that describes a common world, a world the mass audience already understands. For this reason no use of the mass media can legitimately be characterized as creative. Mass communication can't

create alternative realities. It can lead only to trivial permutations within the preexisting reality-community that is the centralized mass culture. The limits of our language are indeed the limits of our world, and mercenaries have invaded the language. They occupy every image and every word, turning the common world in upon itself. The circle is closed, and we can't step out of it using the very same words and images that create it.

The process of communication (that is, of publishing) is structured technologically by one of two systems, by a broadcasting system or by a networking system. In the network structure the channels of communication intersect at many points, and these points are

is inherently democratic. On the other hand, in the broadcasting structure the channels of communication irradiate from one central point toward many peripheral ones, the central point being the place of emission of the message, the peripheral ~~are~~ ones the places of its reception. Thus the principle of broadcast publishing is equivalent to discursive communication in which there is only one ~~is~~ voice talking; it is non-participatory and therefore inherently totalitarian.

In the dialogical structure of network publishing, messages are exchanged among users for the purpose of elaborating or synthesizing new information through dialogue. There is a sense of active participation in the elaboration of information by all ~~the~~ participants in the process. Moreover, dialogical communication permits an intersubjective relationship among participants, having both intellectual and existential dimensions. Being linked both intellectually and existentially the participants in such a process form a true "polis" and are no longer alienated. In other words, if used dialogically in closed feedback loops, television would allow all of us to elaborate new epistemological, ethical and esthetic information.

CABLE COMMUNICATION NETWORKS

On the other hand, in the discursive process of broadcast publishing, the messages that are emitted by the "sender" for mass distribution to millions of "receivers" are regarded not as raw material to be manipulated in order to elaborate new information, but rather as finished products to be consumed because they encode the maintenance of the industrial apparatus that makes those messages necessary in the first place. Consequently there's a sense of passive consumption of information by all participants in the process except the sender.

In other words, in discursive communication public information is distributed to the private citizen whereas in dialogical communication private information is made public. In consequence dialogue is closely linked with democracy (radical politicization) and discourse with totalitarianism (radical invasion of the private domain by the public domain). In such a time as ours there's an imminent danger of a totalitarian society in the making, one that is poor in the elaboration of information (alternatives) and strong in the distribution of existing information (the absence of choice).

2.

NATIONAL INFORMATION UTILITY

I think it would be good if one could address someone, but it is also nice if you just broadcast, "I want to talk to someone," and someone can say, "Ok, I'm willing to answer to your talk." So this is what i would like. Now, I have to ask myself, how could this be obtained.

5.

NATIONAL INFORMATION UTILITY

Television ought to be a decentralized, two-way, user-controlled, special-audience, feedback communication system for interpersonal interaction. The purpose of the system -- the primary purpose of its existence -- must be to reveal on a real-time basis the actual real-time needs, desires, changing moods and realities of every single individual. To reveal it and make it visible to all the other individuals who are interacting with and through the system and, further, to allow some means of synthesizing what is revealed into a common purpose insofar as possible.

On this channel we would remove the time structures which apply to television and just let it run. And then there would be choice but the choice would have to be sought. In that way I see some hope that the masses could learn to become selective and assert their own identities on the society and the culture and discover valid directions for themselves.

NATIONAL INFORMATION UTILITY

It's practically impossible to imagine an alternative to the existing mass media. What would such a system be like? How would it function? What would be the consequences of its operation? ~~use, apart from total chaos?~~ The interesting thing is that very few of us can answer these questions. That to me is one of the crises of our time: that we can't imagine an alternative. But of course: that's the purpose of the existing mass media -- to make certain that we can't imagine an alternative to it. I have here a proposal. I don't claim that it'll ever happen. Indeed, our experience tells us the opposite. My proposal:

The system exists first of all to process decentralized input from free and autonomous individuals. That's the primary purpose of its existence. Yet, it must also serve social cohesion and maintenance of social order. Therefore the question becomes, how can we assure maximum individual autonomy while maintaining and serving collective goals? That question leads to a meta-level question, namely, how are we to synthesize a reality which will be stable, and therefore result in the maintenance of the system while at the same time not subordinating individual reality to the ~~large~~ large r reality? in any way that violates the liberty of the imagination? To ~~me~~ me there's only one ~~next~~ possibility

Every channel would be an access channel to the extent that every single channel on the system would be dedicated to a subject or class of subjects, and everyone would have the opportunity to program that channel insofar as they address themselves to the subject or subjects to which that channel is dedicated. Everyone, from you and me all the way up to "professional" CBS crews could program that channel so long as we made our program about that subject. The purpose of the channel, then, would be opposite the purpose of existing programming, which is to redundantly reinforce the existing system; the purpose of programming that channel would be to offer alternative ways to doing that thing better -- say economics, resource utilization, education, whatever...the purpose of looking at TV would not be so much to see "what is" but to see "what could be." That's a fundamental notion we must think about. Because "what is" is a function of the total set of "what could be." Therefore what's interesting, what's real, is "they way it could be." And in an alternative mass media the reason for watching would be to learn "how things could be." The principle, in other words, would be game theory. The theory behind the programming would be a game, in which everyone proposes an alternative model of how to do that thing better (more with less). These channels will be called

National consensus channels. There'd be local, regional and national consensus channels. At the end of a week of programming of the local consensus channel Xs -- about, say, the educational system and alternatives to it -- through the subscriber response terminals you'd have ~~some~~ vote: "Of the various alternative models proposed this week on the educational channel, which seemed most desirable to you?" You vote. Then the "winners" of the local channel would become the content of the regional consensus channel, having been synthesized from all the localities around the nation. Another meta-level of voting would occur, from which those selected would become the content of the national consensus channel, having been synthesized from the local through the regional, and another meta-level of voting would occur, and out of that would emerge the "reality: that would determine our behavior with regard to that particular subsystem of our society. A reality far more adaptable to far more people than the reality now being synthesized by the centralized nonadaptive mass media.

I'm in no way saying that this is what actually is evolving with the growth of cable television, etc. I'm saying only that I personally can't think of a system that would be more democratic, adaptive, flexible, and acceptable to the masses of people.

## DEFINITION OF NATIONAL INFORMATION UTILITY

When we think of radio and television networks today we think of industrial corporations organized to produce and distribute particular programs. The concept of network is associated with content, that is, with the idea of products. In designing a National Information Utility the term "network" refers not to products but to processes conducted through common-carrier conduits. Broadcast television is an advertising industry. The National Information Utility would be a service industry. The only service the existing mass media perform is that of publishing models of behavior that are compatible with the maintenance of the industrial structures which make those models both possible and necessary in the first place. The National Information Utility would serve completely different purposes as a public utility whose function would be to provide public access to information specified by the user and public access to communications channels controlled by the user. It's a communications and information processing service industry: a demand information system in which a user requests, receives, and pays for information and/or information processing services not now available.

## COMMON CARRIER PUBLIC UTILITY

Cable communication systems meet many historical test for classification both as common carriers (telephone and television systems) and as public utilities (water, gas, electricity), and should be regulated according to the same statutory.

Common carrier status is assigned to services that are considered vital to the well being of the public and which are inherently de facto monopolies. Common carrier designation generally qualifies the carrier as a public utility, and with utility status comes eligibility for public financial support as well as rate regulation, including regulation of fees to users of the service. Public utilities are regulated by the federal government and, locally, by the state Public Utility Commission (PUC) or Public Service Commission (PSC). These agencies protect the public against discriminatory practices, inadequate service and excessive charges. They establish rate bases and rates of return, assuring the private investor a reasonable return (usually about 6.7 per cent) on monies invested in public services. The operator of a common-carrier public utility accepts regulation in exchange for a monopoly position, thus benefiting from a maximum number of customers rather than being tempted to create an artificial shortage in order to raise prices.

## COMMON CARRIER PUBLIC UTILITY

Services provided by a common carrier must be made available at standard rates to ~~to~~ every member of the public on a nondiscriminatory first-come first-served basis. The carrier has absolutely no discretion to choose among users. An airline can't say "We don't want you because you're gay!" The telephone company can't say "You can't sell dope or talk revolution on our lines!" The carrier's neutrality is assured by laws which limit its authority exclusively to operation and maintenance of the physical transmission system. Regarding cable communication systems this means that Congress must enact legislation stipulating that ownership and operation of the cable network must be completely separate from any power to decide what the network is to transmit and who is to transmit it. The role of the cable operator must be restricted exclusively to leasing channels to others, exerting no control over content. ~~The operator~~ must have no more ~~control~~ control over the use of channel time than the electric company has over appliances plugged into household outlets. Laws must stipulate that the operator may not refuse to lease channels for the carriage of any type of signal, nor demand to preview, censor, delete or otherwise interfere with any material a channel lessee or potential lessee intends to transmit, nor otherwise exercise any form of content control. On the other hand, neither shall the cable system operator be held civilly or criminally liable in any court for the cablecasting of material by any user, who alone shall be held liable for such offenses.

A clear distinction should be made between the communication service being offered (access to information and to communications channels) and the physical transmission and processing media which provide the service (the two-way cable network and computers). Free-enterprise competition should be allowed in [REDACTED] the provision of services but not in installation<sup>1</sup> of the physical transmission system. It's only the transmission plants that tends to be a monopoly,<sup>s</sup> not the communication service, whatever it may be. The right of users of the service to attach terminal equipment [REDACTED] (computers, video recording equipment) should be protected. This is similar to the Carterfone case in which the Supreme Court drew a clear distinction between terminal equipment (data communication modems) and the common carrier (the switched telephone network).

Congress must legislate both economic and operational separation of hardware manufacturers, cable system operators, and program originators.

COMMON CARRIER PUBLIC UTILITY

Cable communication systems meet every historical test for classification as common carriers and as public utilities, and should be regulated according to the same statutory schemes. First, they [REDACTED] provide services -- access to information and to communications channels -- that are essential to the ~~well-being~~ <sup>Health</sup> ~~society in general and to individual liberty in particular.~~ of the ~~public~~. Second, they are inherent de facto monopolies since two transmission plants cannot effectively operate in the same geographical territory (for this reason franchises always are exclusive). Third, these services are provided in a manner which brings them within the definition of "common carrier" in Section 3(h) of the Communications Act of 1934 -- for example, cable channels and production facilities are leased to the public by the hour, day, week or month just as the telephone company or rapid transit systems lease space and time on their facilities.

Subscribers to pay-cable services are charged on a per-program or per-channel basis as one is billed by the phone [REDACTED] company on a "per-program" (per-call) basis. However the phone company's rates are fixed for <sup>CLASSES</sup> [REDACTED] of service without regard to the fact that a particular application may have greater or lesser value to the user. The cable television industry currently practices "value-of-service" pricing, a device to maximize returns in a monopoly situation (competitive situations tend toward cost-related pricing). Yet value-of-service pricing is forbidden when, as with telephone service, any call or circuit is equally effective for the user, that is, the unit of service is not differentiated. This characteristic of the telephone model applies equally to cable

COMMON CARRIER PUBLIC UTILITY

communication systems where channels are leased part-time or full-time and where charges are made for single-service message units such as inquiry into a data bank.

They are legal monopolies, meaning that the public will not benefit from competitive free enterprise in the marketplace; duplicated electric, gas and telephone service, for example, would be wasteful and expensive.

The telephone carrier has nothing to do with message content and this not only from the standpoint of privacy of communication but applies to charges as well.

COMMON CARRIER PUBLIC UTILITY

Cable communication networks must not be regarded as broadcasting systems in which the cable operator is arbiter of the public's information intake, but rather as common-carrier channels for lease to the public who will send and receive messages of their own devising: the public utility model. Television must not be regarded as a means of expression but of transmission only. As long as it's considered to be a medium of creative expression it will be operated as an industry, as private enterprise. But if it's considered purely a means of distribution of a vital resource, a common carrier of information, it will be operated as a public utility.

Modified common carrier status for National Information Utility would force operator to carry national ~~and~~ consensus channels and allocate given number of local channels to specific content, and would provide operator with one channel to run himself. All other channels would be leased to public for flat standard fees; operator could not charge a share of revenues or a percentage of profits. Functional classification of users can be established, with different regulated fees for such users. The cable operator would discriminate against some users without such ~~discriminatory~~ provisions, as in some cases he might be able to obtain 50% of the profits and would avoid educational, low-income or nonprofit users.

It is clear that the term "public access" is meaningless if that access must be purchased at rates beyond the means of the general public within the community in question. Hence cable television must be operated as a public utility, economically available, through federal subsidy, to all citizens of the United States, just as telephone, telegraph, postal and other utilities.

For feedback systems to function as evolutionary tools they must be unhampered and neutral, regardless of the displacing effect they may have on the present society. They must be public utilities.

INFO UTL  
An electronic bill of rights: (1) cable television must be a public utility, available to everyone; (2) In order to guarantee access to the ~~■~~ studio for everyone who wishes to put his message on television, cable TV must also be operated as a common carrier. This means that people may cablecast on a first-come first-served basis at reasonable nondiscriminatory rates, which could be as low as \$1 per minute. (3) In order to further guarantee that no one is left out who wishes time on the cable, channel capacity must always be ~~■~~ maintained in advance of reasonably foreseeable demands.

The FCC has suggested that cable systems operate as though they were common carriers without actually imposing the status of Title II Common Carrier upon them and thus requiring approval of their rates. The FCC has concluded that "cable systems are neither broadcasters nor common carriers within the meaning of the Communications Act. Rather, cable is a hybrid that requires identification and regulation as a separate force in communications..."

N.I.U.  
COMMON-CARRIER

In this system, a clear-cut

division is made, first of all, between the technical infrastructure of television, its production and broadcasting facilities on the one hand, and the planning, making and editing of programs on the other. A service center taking care of the hardware is established by Act of Parliament. Just as the Post Office is not supposed to interfere with whatever people may wish to write to each other, the television service center has no authority whatsoever over, and no responsibility for the programs emitted with the help of its technicians.

work is in the region of 100,000. Still, it is a setup which gives a certain amount of real power to the audience. It offers solid guarantees to minorities, and it is logically consistent with democratic principles. In this respect, it is unique.

By "National Information Utility" I mean a nationwide system of interconnected local cable communication networks in which all channels are dedicated to specific subjects or classes of subjects and in which ~~programmatic~~ <sup>The production of "programs" or messages</sup> would be left to local initiative and control. All channels would be regarded as "public access" channels in the sense that every one from individuals to major production companies would have equal opportunities to produce messages for distribution over the dedicated channels. Each local information utility -- consisting of a two-way cable network, computer controlled, portable video recording equipment and program retrieval systems -- would be interconnected with all other local information utilities both collectively and individually, by domestic satellite. In other words a nationwide integrated telecommunication system.

Closely related to these concepts is the question of creating a complete picture of reality only by making all the possible experiments. This is ~~in~~ Bohr's theory of complementarity. In it he expresses the idea that there are no phenomena per se but there are all the ways in which experiments interact with the physical world. Every experiment represents a transformation of negentropy into information. The results of all the experimental situations becomes the description of physical reality within the boundaries of the given conditions. The mind is a tool which can know reality only statistically and never actually understand a given phenomenon per se. The value, then, of decentralized user-controlled information tools is access to a full spectrum of perspectives on a single subject or event. We will find that the subject or event is multiplied by the number of its observers. There's the Black Power perspective, the Womens Lib perspective, the Young Republicans perspective and so on (integrate with information theory, variety, reality, etc).

WITH CONSENSUS CHANNELS  
CONSENSUS CHANNELS

NATIONAL INFORMATION UTILITY

A true functional inversion of the organizing principle of the mass media, replacing centralized output with decentralized input, necessarily leads us to the concept of national consensus channels. In my design for a National Information Utility there are no national networks as we know them today, identified by their ~~their output~~ content. An inversion of the functional organization of the mass media specifies national networks regarded as open communications conduits over which many different kinds of messages can flow. There would be many dozens of national networks or consensus channels, each dedicated to a particular subject or class of subjects. The purpose of these channels would be to ~~solve~~ <sup>resolve</sup> one of the supreme problems confronting modern societies, ~~that~~ how to achieve individual autonomy in the context of collective goals. ~~At the moment and indeed throughout most of history we have~~ ~~sacrificed individual autonomy to the achievement of collective goals, and that's why we're living in " " today, not tomorrow.~~

The function of national consensus channels would be to synthesize the content of all the local and regional channels, in order to reflect the input of the population appropos to the various subjects to which the channels would be dedicated. Their purpose would be to synthesize a consensus of what is to be called "reality" for each of these subjects. After all we do need a mass communication system to maintain social coherence and order and collective action. It is simply that our present means of achieving those goals is bio-

NATIONAL INFORMATION UTILITY

TWO

logically invalid and a menace to our survival. Because the definitions of reality, of what is important and what is not, what is real and what is not, what we should and should not be discussing -- all these are specified by the functional organization of a communication systems that is nonadaptive. It is not open to input from the sensors of society -- individual men and women -- and therefore cannot possibly reflect a reality that is in any way relevant to the experience of the individuals who are the sensors of society.

## NATIONAL POLICY

As a condition of survival we need more than these tools can give us as they're presently being organized. We need a political program for new tools in which their potential for social reconstruction would be made explicit as a matter of national policy and enforced by political and legal decree. If appropriate engineering is required and funded by law, ~~so~~ the cable, computer, and satellite industries could make available within a decade communications and information processing services that are now inconceivable.

Forced growth must be imposed on the cable television industry as part of a national telecommunications policy. There's a national policy commitment to telephone service for everyone, and electricity and libraries and highways. There must be a commitment ~~to~~ establish a National Information Utility. We must begin at once spelling out in detail a technical, economic, ~~and~~ political and philosophical plan for inversion of the mass communication subsystems of our society

### ~~Allocating spectrum usage~~

The electromagnetic spectrum is regulated by the government on behalf of the public. A large portion of the spectrum has been assigned to television and could be withdrawn by government in a phased transition from airwave to cable television. There is legal precedent for such ~~some~~ action.

NATIONAL POLICY

~~television and could be withdrawn by government in a phased transition from airwave to cable television. There is even legal precedent for such seemingly radical action.~~

In 1969, in the Red Lion Broadcasting case, the Supreme Court opened the Constitutional door to radical inversion of the mass communication subsystems of the United States. Upholding the "equal time" and "fairness" doctrines against the claim that they infringed on the broadcaster's freedom of expression, the court laid down the basic principle: "It is the right of the viewers and listeners, not the right of the broadcasters, which is paramount." Under this doctrine the structural organization and operating principles of our nation's public communications media could be completely inverted. Instead of granting a monopoly to a single broadcaster for each channel, the law could provide that operators of cable communication networks act as agents of the public, granting access to all comers on equal terms. In other words, the mass media could be operated as common-carrier public utilities.

The ~~■■■~~ Communications Act of 1934 created the FCC and directed it to "make available so far as possible to all the people of the United States a rapid, efficient, nationwide and worldwide wire and radio communication service with adequate

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facilities at reasonable charges." Today nothing less than universal public access to information specified by the user and to communications channels controlled by the user is "adequate." And ~~the development of~~ new electronic information processing and telecommunications systems makes <sup>THIS</sup> practical at reasonable cost ~~the construction and implementation of National~~  
~~public television system that actually~~  
~~serves the masses~~

The existence of these new tools represents the potential for constructing a ~~communication system that actually~~  
~~serves the masses~~ public television system that actually could serve the public as an information utility. Television cannot be truly public until it is operated as a common-carrier public utility. Only then could every citizen be guaranteed the right of access to both the input and output terminals of the dominant medium of public communication, <sup>AND</sup> Every citizen ~~must~~ must be guaranteed access.

We must declare a national policy of switchover from our present radiated system of television to a ~~radiated~~ <sup>videophone</sup> system integrated with peripheral devices and terminal equipment for generating, storing, processing, retrieving, and displaying every conceivable type of information, every class of message, in a completely decentralized manner under full control of the user. This inte-

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SERVING INDUSTRY  
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grated system shall be designated a National Information Utility  
whose ~~communications, computer facilities, and~~ ~~TERRESTRIAL~~  
~~ORBITING~~ ~~satellites~~ shall be supported by public funds and operated  
as common-carrier public utilities. They shall make available  
to every citizen, at standard rates, access to information spec-  
ified by the user and access to communications channels controlled  
by the user. Governmental agencies -- federal, state, local --  
shall regulate only the physical distribution and retrieval sys-  
tems, not their content. Content shall be regulated only to the  
extent of specifying classes of information and communications  
services to be made available to the public as essential minimum  
requirements while proscribing no class of information nor any  
kind of communication service that ~~any~~ users of the system may  
deem necessary or desirable, <sup>BASIC</sup> so long as it doesn't infringe the rights

~~This proposition poses the acute paradox of looking to~~  
~~the government for subsidy and guidance while simultaneously~~  
~~prohibiting government control. The very nature of a public~~  
~~utility means that government interference with content is for-~~  
~~bidden and government regulation of traffic must be held to a~~  
~~minimum. Thus not only would government be subsidizing~~  
~~communications, it would oppose its own policies and act~~  
~~alone; it would be subsidizing the development of a system of~~

of  
an other use.

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Imagine a nationwide telecommunication system incorporating the broadcasting, news publishing, library, telephone and postal services of the nation together with teaching, automatic process control operations, and professional services such as medical and legal aid, each evolving in its own right. Such a system would outstrip in magnitude and importance any industry or collective endeavor in which men and women previously have been engaged. It would generate annual gross revenues in the hundreds of billions of dollars. This should be enough to tempt even a conservative banker or investment house; it should be enough to persuade even a cautious electronics manufacturer to seek out the areas of need and to develop hardware having the capability and the price tag necessary to realize the potentials of a vast new consumer market.

Yet, upon further consideration it seems highly unlikely that the radical potential of the new video tools will be fully exploited. So deeply could they penetrate into the power structure of our nation, so profound are their economic and political implications, so devastating the displacements they could generate, that one scarcely can imagine government allowing industry to develop them even if industry were willing or able, which isn't likely.

## INTRODUCTION TO BIOLOGICAL MODEL

There is nothing in our experience to indicate that the cable television industry will serve the public interest if left to its own initiative. Under the free enterprise system there's no effective way to prevent under-financing and under-engineering of cable systems. Industry is neither willing nor able to support the kind of research and development that will be necessary to wire the nation properly. Even assuming the availability of long-term federal loans with principal and interest paid off over a period of time, the cost of equipment and installation will be prohibitive. At this moment a National Information Utility is little more than a dream. Cable television is just beginning to come into urban areas where management is faced with finding new services and programs to appeal to subscribers who already receive substantial numbers of TV signals. Vast cash outlays will be required, with limited guarantee of success and certainly an appreciable period of time before profits are realized. Whereas a great deal of the ~~equipment~~ technology exists, much is experimental and some too expensive for immediate commercial viability.

imperialist mass media. Investments will be made only in major-market areas with the highest profit potential, leaving rural areas and central cities unserved. Lowest-quality hardware will be used and cable systems will not be standardized. This is now spreading into the largest cities and could preempt a later alternative of installing fully switched video communications networks.

## NATIONAL POLICY

Left to laissez-faire entrepreneurial development the new video tools almost certainly won't have the impact on our society that they're capable of having. Their potential for inverting The STRUCTURE ~~the social organization~~ of the mass media -- thereby precipitating an historically unprecedented cultural revolution -- almost certainly won't be realized in time to avoid ecosocial disaster. Since there's a large investment in the present cable plant it can be expected that any "revolution" will occur very slowly, taking account of amortization costs and various economic displacements. Moreover, we may expect government and the broadcast industry to militate rigorously against any attempts to accelerate the evolution of cable communication networks at the expense of established institutions -- and they've been doing precisely this, with great success, since the mid-1960s. For these reasons we must assume that, if present trends continue, the basic technological foundations of a National Information Utility as defined here will not be installed before 1985 at the earliest and that any "revolution" would occur, if at all, sometime after 1990. But a basic premise of this book is that present trends must not continue, for we don't have that much time in which to avoid ecosocial disaster.

The process of implementing the new strategies will be one of augmenting present systems, not immediately replacing them with new ones. The necessary new systems will grow out of the augmentation process, with gradual changes in consciousness occurring parallelly.

Nations are formulating communications policies regarding what inventions to stimulate, what technologies to underwrite, which social needs to legitimize. But because there's no coherent philosophy uniting the many disparate aspects of the problem, fragmented and shortsighted policies are being advocated successfully by powerful political lobbies. Indeed, our government has failed miserably in its obligation to come forward with a national telecommunications policy. Since we haven't the slightest idea where we're going we shouldn't be surprised that we don't have a very clear idea how to get there. We dance to the music of hard times in a world forever without a plan. We must give plan and purpose to the development of new tools. The growth of cable communication networks can't be left to corporate-capitalist "free enterprise" and entrepreneurial marketing strategies based on cultivated consumer demand. This simply cannot be permitted to happen. It is ecosocial suicide. If government laissez-faire continues we may be assuring that media history repeats itself, and it's unlikely that we can survive another generation of perceptual imperialism.

We must redesign the system so that its outputs no longer are unstable. To do this we need much faster communications inside the machinery, and these are readily available. It means using telecommunications properly, in high-variety, real-time broadband circuits available to all. To be available, they may very well need to be free of charge, like the other vital resources upon which [redacted] our survival depends. I see this large expenditure as quite proportional to the threat we have to meet, and far less absurd than equivalent expenditures on which we needlessly [redacted] but cheerfully [redacted] embark.

Advances in ~~electronic~~ technology make it possible to realize ~~a biological organization for society~~ <sup>NOW</sup> ~~A BIOLOGICALLY VALID SOCIAL ORGANIZATION.~~ Parallel developments in the harnessing of energy, rapid transportation and improved mass production techniques render this kind of organization essential. For without ~~a metastable organization~~ the mere ability to use up energy, move ourselves about [redacted] rapidly, or to manufacture many commodities, is antihomoeostatic and a menace to survival. It follows as a necessary condition of survival that we must construct an extrasomatic cybernetic system that possesses properties which humanity either can't have or doesn't yet have but which we now need. The technocultural equivalent of a biological nervous system, different in quality and greater in capacity than its biological counterpart, is essential to help us test for conditions and to detect order and meaning in events which we regard as merely chaotic

~~cessed~~ Now the store can control that variety either by attenuating it -- that means diminishing it, that means making certain states virtually impossible -- or it can absorb the variety by matching the potential variety of all those customers with an equal amount of structural/organizational variety.

That's what's meant by control and it doesn't necessarily carry a negative connotation if we mean control by absorption. If you absorb variety you're a benevolent controller. You're allowing the variety to exist because you can handle it. It doesn't get beyond your ability to absorb it.

~~Civilization operates through a set of institutions with a particular organisation. This organisation appears to be an exochronism.~~ It worked well enough in a more leisurely age; but now its relaxation times no longer match the rate of perturbation. Therefore these systems are actually designed to have unstable outputs. There's evidence that the outputs really are unstable, a fact which tends to confirm the hypothesis; and there is no cybernetic regulation in the design to stop the instability feeding on itself to the point of catastrophe.

CRISES

## THE DILEMMA OF DESIRE

In other words, the ecosocial crisis is a crisis of consciousness. By definition the solution to it isn't rooted in the worldview most men and women understand. Indeed, thanks to the mass media's exploitation of anxiety, fear, and alienation, it's perceived as a threat to the only worldview they do understand. In other words, the system of nonadaptive perceptual imperialism that's destroying us is able to destroy us only as long as we believe in it and subscribe to its values -- only as long as we're psychologically dependent on it. And there's the dilemma, for we're habituated, and it appears that attitudes and values will change only after we free ourselves from nonadaptive perceptual imperialism and start creating and inhabiting another history. Only in a society in which the mass media have been functionally inverted will it be possible to invent and institutionalize forms of life that would be both personally liberating and compatible with the demands of the biosphere. Only then will our intuition begin drinking in the new principles of reality -- like relativity after Einstein or the shape of Earth after Columbus. The magnitude of those transformations of consciousness was no greater than that which is now essential for individual liberty and social ~~survival~~ survival.

The world teeters on the brink of a clamity that only a complete revolution of consciousness can prevent, yet the very source of our consciousness must resist the transformation, must deny the contingencies which it has itself created. With each signal they radiate into the videosphere the mass media delay the revolution of consciousness that's essential for human survival while reinforcing the perceptual imperialism that is the chief threat to that survival. Surely there's nothing so noble as the human mind which alone is capable of conceiving nobility. But the culture from which our conceptual systems spring is the work of perceptual imperialists whose science is desparir, who publish doubt and call it knowledge, who are always questioning but never capable of answering. We're bound by the will of perceptual imperialists who practice a science of illusions, who spread the feverd of doubtful news and establish thereby a mood so fixed it's become a manner of the

## THE DILEMMA OF DESIRE

2.

mind. The imagination of humanity is ~~is~~ seriously enfeebled.

Because so much of what we think is based on our everyday logic and how we see, it's almost impossible to imagine another way of thinking and seeing. Yet it's essential that we change our modes of perception and conception if we're to generate, for the sake of survival, a new and different society. The history of science shows that how we see is far more important than what we see, for we find that what we accepted as reality in the past was determined strictly by how we had observed. Things seen are things as seen. As the eye is formed such are its powers. The mind ~~adapts~~ <sup>is structurally coupled</sup> to the symbolic environment; we need only reform the symbolic environment to reform the ~~the~~ mind. That which is perceived changes as value systems change. If we need to generate new value systems we need new communication systems. The architecture of cybernetic systems ~~can~~ can transform the architecture of

In other words the transformation of consciousness that is essential for human liberty and survival will be enormously difficult to achieve in the brief time in which evidently it must be accomplished. Making the transition from our present society to a nonhierarchical society capable of controlling its own evolution will be at least as difficult as adjusting to the idea that light can be both waves and particles, or that a curve gets you more quickly from star A to star B than Euclid's straight line, or that energy and mass are different ways of saying the same thing, or that time might contract and expand. Just as these concepts are inaccessible to "common sense," so survival consciousness is hidden behind the cultural blinders of perceptual imperialism.

## CULTURAL POLITICS

Thus the ecosocial crisis and the potential communications revolution are intimately linked: the ecosocial crisis was caused by the present system of mass communication and can be resolved only through the use of another system of mass communication which would be structurally and functionally inverse to ~~the present system~~. In other words, the existence of the ecosocial crisis and of the new video tools makes both possible and essential the emergence of a new kind of radical politics which I'll call cultural politics. The ultimate purpose of the new cultural politics is to precipitate the imminent communications revolution -- to make it happen.

As workers in the new cultural politics our task is to cultivate a general climate of opinion calling for reconstruction of the mass media. To establish this question as the supreme political issue of our time in the mainstream of political debate would be to pull a thread that would ~~unravel~~ unravel the very fabric of modern civilization. Once such a climate of opinion has been established and the politically correct demands have been effectively expressed, our task will be to monitor the formulation of a National Telecommunications Policy calling for reconstruction of the mass media.

DECENTRALIZATION NOTES

Ironically, to maintain our preservation as a unit we must decentralize and differentiate the undifferentiated chaos that now passes for unity. The National Information Utility will allow us to decentralize those central cities whose streets are paved with destruction and to build in their place republics without histories. We can cultivate lifestyle environments, ~~growing in the open air, eating and sleeping with the Earth.~~ New lands will be found in the old empire. ~~Heretic nudity:~~ The ever-growing communes of brothers and lovers can integrate their own decentralized feedback communication systems into the nostalgia of the huge timbers of old-fashioned houses and barns. Republics without histories can write their own histories in real time on videotape as we move through the videosphere interacting with information. There's going to be a renaissance in this country and ~~up~~ people are going to build beautiful gardens and homes and there'll be ~~lots of hashish and beautiful women~~ much joy and ~~happines~~ happiness. Heroic nudity. And video will become as much a part of the new lifestyle of the 1970s as rock music was to that of the 60s. Truckin across the geography of the fatherland with video packs and cassette banks. We will decentralize the energy sources of humanity now agglomerated ineffectively in the cities, and we will <sup>MICRO-</sup> people the forests with ~~micro~~ computers, nest fusion reactors in the canyons, light the caves with lasers, purify the waters with a new consciousness of harmony achieved through the evolutionary technologies that nature permits.

Trucking across the geography of the fatherland with video packs and cassette banks, creating republics without histories...

Evolutionary workers in the alternate video movement see themselves as "video guerrillas" involved in "cybernetic guerrilla warfare," employing "cybernetic guerrilla tactics" in the formation of alternate information structures, functioning as catalysts for the alternate video movement and facilitators who are trying to develop a support system to expand the use of video as a tool in the development of alternative lifestyles. They see themselves as anthropological "media mediators" using video to define communities by issue rather than by geography. Gay Lib, Women's Lib ~~and the Black and Chicano movements~~ are examples of social communities identifiable only in terms of the issue they represent in a cultural context.

Those in the alternate video movement speak in almost religious terms about portable video systems. They speak of passing around a portapak being like passing around a joint; they say that giving video equipment to ghetto children is like giving guns to the Indians. The work is on two fronts: first, establishing community-oriented video resource centers, accessible to anyone in need of hardware, advice or technical instruction. Second, they're establishing ~~information~~ distribution networks, usually around "alternate video directories," printed lists of tapes along with the producers' addresses. Such a directory published in 1972 by Vancouver's Image Bank included more than 300 listings from around the world. Some grups serve as clearing houses for others' ideas experiences and tapes...

guerrillas. They show the students how to use the equipment. Several videotape distributions offices are being established. The schools produce tapes which the alternate exchanges buy from them and in turn sell them tapes from other schools, communes and access centers around the country.

While the American exp-

erimenters are by far the most active and productive, others in Western Europe, Canada and Japan are busy at their own studies and regularly exchange insights with their American COUNTERPARTS. Through publications ~~like Radical Software~~ all of the video groups are able to maintain contact with each other for the exchange of insights, intuitions, and technical advice. As a result there is now a loosely structured network, nationwide and worldwide, in addition to scores of video clubs at colleges, high schools and elementary schools that have purchased portapaks.

alternate video groups using VW vans as mobile units, establishing alternative video exchange networks using the mails or driving or flying these tapes around the world, amongst universities and communes and public access centers. There are several hundreds such groups around the world, more than 300 of them in the United States and Canada alone. They ~~are~~ program distributors. So far they've been making ~~tapes~~ and exchanging tapes and loaning equipment to radical groups --

No been very successful, as there ~~is~~ is no market to sustain the middleman. It has been more efficient to print lists of tapes along with the producers' addresses; they can still easily deal with requests as they come in. Most people are doing their own lists.

Alternate video groups are in the process of resolving needs for outlets. Some of the earlier groups have begun to serve as clearing houses for others' ideas, experiences and software. Thus Raindance Corporation started "Radical Software," Video White Light has begun "Magnetoscope," Pacific Film Archives organized "Tapes from all tribes," The Minneapolis College of Art and Design organized the "First National Videotape Competition and Festival" in 1972, the Vasulkas set up "The Kitchen," in Canada, Challenge For Change's "Access" and Societe Nouvelle's "Medium Media" are evolving from house organs to journals for other groups using media for social change. SAC?  
their product has found its way to audiences via the public access channels of CATV systems; the many videotheques ~~such as~~ Global Village, The Kitchen; videotape banks such as Open Channel in New York, Video Free America in San Francisco, Image Bank in Vancouver; closed-circuit systems in high schools and colleges; apartment building MATV systems; and art galleries and museums.

They talk about establishing decentralized indigenous data bases around video image banks, a kind of "video Whole Earth Catalog" offering alternative lifestyle models not acceptable to the centralized perceptual-imperialist media..