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M ☆ E ☆ D ☆ I ☆ A

AND THE AMERICAN MIND

From Morse to McLuhan

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sively at children inevitably degenerate into a parade of scientific experts testifying for either the "exaggerated" or "proven" effects of the media.

Thinkers outside of the mainstream of American culture have looked for alternatives to the ruling behavioral model of communications research because it proved deficient for exploring the spheres of meaning and the relationship between communication and the social order. The Frankfurt school's fitful attempts in this direction reflected the deep alienation of cultural outsiders from American mass media and mass culture. A similar alienation prompted two Canadian thinkers, Harold Innis and Marshall McLuhan, to pursue theoretical studies into the nature of communications media. In their case, however, the brute reality of cultural imperialism, spearheaded by the proximity of American media, seemed to threaten their nation's very cultural identity. Innis and McLuhan, rejecting the behavioral model and eschewing the standard empirical techniques, advanced versions of the most holistic and radical media theory yet propounded.

CHAPTER 6

Metahistory, Mythology, and the Media: The American Thought of Harold Innis and Marshall McLuhan

For the most radical and elaborate American media theory, one must look to the work of two Canadians, Harold Adams Innis and Marshall McLuhan. They represent two wings of a body of speculation that locates the formal characteristics of communications media as the prime mover behind the historical process, social organizations, and changing sensory awareness. Innis's work on communication began at least in part as a conscious Canadian attack on the burgeoning American cultural and economic hegemony in the postwar world. This critical perspective was prominent in the works of the early McLuhan as well, although his negative appraisal of American civilization had somewhat different roots from that of Innis. As Canadians, both men were less constrained by the behavioral tradition of communication studies dominant in the United States. Innis, an economic historian, and McLuhan, a literary critic, came to communication studies late in their careers, and they brought with them fundamentally new ways of analyzing media.

Throughout their work the brute and seemingly irreversible fact of American power, particularly American technological power, served as a key referent. In the works of Innis and the early McLuhan, American media and American society loom as spectral threats to Canadian culture; in the mature works of McLuhan, they are exalted. Their writings reveal close affinities with several

American intellectual traditions. Strongly influenced by Thorstein Veblen's dichotomy of industry and business, Innis's forays into media theory near the end of his life may be viewed in part as an attempt to construct an intellectual bridge between technology and the price system.

McLuhan's later works and his enormous popular vogue remind us of the continuing powerful attraction of the "rhetoric of the technological sublime," as Leo Marx has phrased it. Both Innis and McLuhan espoused varieties of technological determinism strongly reminiscent of the work of Charles Horton Cooley and Robert Park. McLuhan's stress on media as the basis for organic unity recalls not only Cooley but also the popular excitement surrounding each new development in communications technology. Whereas so much of American social thought in the nineteenth and twentieth centuries has focused on the upheavals wrought by extraordinary advances in American material production, Innis and McLuhan sought tools in media studies for addressing the concurrent problems of consumption, leisure, and the industrialization of the mind.

Innis's work in communication remains largely unknown, except through his influence on McLuhan, and McLuhan's adaptation of Innis was a highly selective and distorted one. Though McLuhan was a self-proclaimed disciple of Innis, a vigorous and lonely voice against American media imperialism, his enduring legacy may well be his role in legitimizing the status quo of American communications industries and their advertisers. Innis's excursions into media theory were tentative and incomplete, yet full of rich suggestions for future research and analysis. McLuhan, despite protestations that he merely made "probes," fashioned a more closed and static theory of media than is generally realized.

The thought of both men needs to be evaluated historically, because it emerged from and was shaped by shifting intellectual, political, and moral perspectives. In McLuhan's case, however, it is somewhat difficult to separate his ideas from the historical phenomenon of his persona. As the most advanced communications theorists, both Innis and McLuhan must be assessed historically, but they must also be judged on the continuing relevance of their contributions to the understanding of present and future media.

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On initial viewing, the career of Harold Adams Innis appears to encompass the work of two very different thinkers. The first Innis was a renowned economic historian and economic theorist, a central

figure in the construction of a distinct Canadian political economy between the two world wars. This Innis combined prodigious research in primary materials, a thorough firsthand knowledge of Canadian geography, and imaginative synthesizing to produce a unified approach to Canadian history: the so-called staples thesis of economic growth. By contrast, the later Innis immersed himself in the history and political economy of communication from the ancient world through the present. His flights of speculation, as much philosophical as historical, required a full-scale redirection of thinking into uncharted territories. The later Innis is of primary concern here, but it is necessary to trace at least the outlines of his early work because several themes unite the economic and communications studies.

Born in 1894 in rural southern Ontario, Innis spent his early years on the small farm of his strict Baptist parents. Hoping that he would enter the ministry, his family scraped together money for schooling; young Innis not only refused to study for the ministry, but refused baptism as well. Nonetheless, throughout his life he retained the strong sense of individualism in matters of conscience and the deep belief in separation of church and state inculcated by his pious parents. He was hungry for education; at fourteen he began to commute twenty miles each way to attend the nearest collegiate institute. In 1912 he entered McMaster University in Toronto. For a time he also taught in remote prairie public schools in Manitoba, an educational pioneer getting a firsthand look at the Canadian West. After completing his B.A. degree in 1916, Innis immediately enlisted in the Canadian army and shipped out to the French front. He was badly wounded shortly thereafter and returned to Canada. He took his M.A. in economics at McMaster in 1918 and decided to plunge ahead for the doctorate at the University of Chicago. He completed his Ph.D. in 1920, writing a dissertation on the history of the Canadian Pacific Railway.[1]

At Chicago, Innis first encountered in absentia one of the key intellectual influences of his life: Thorstein Veblen. Although Veblen had left Chicago some years earlier, his towering presence lingered among the younger faculty. Innis was part of that younger generation of students profoundly moved by Veblen's iconoclastic attacks on the received doctrines of neoclassical economics. Innis's war experience left him something of an angry young man, dissatisfied with university life; it also intensified his Canadian nationalism and a belief that standard economics were thoroughly inadequate for explaining the Canadian situation. His intense involvement

with a Veblen study group at Chicago exposed him to the full range of Veblen's exciting and heretical works.[2]

Veblen's assault on neoclassical economics challenged the notion that economic laws were universal: timeless and true for all places. He accused the neoclassical thinkers of constructing a mere "taxonomy" of economic concepts and never questioning the moral and political implications behind the current distribution of wealth. Veblen objected to the orthodox view that the economic situation possessed an intrinsic tendency toward "normal equilibrium" and was guided by the operation of the market place as rational coordinator of economic agents. For their psychology of human motivation, the neoclassicists relied on a simplistic "hedonist calculus" of rationalism: the assumption that men always act rationally to avoid pain and achieve happiness. In short, they took for granted the very things that Veblen thought needed to be explained.

Veblen sought to recast economics as an "evolutionary science" concerned with tracing the complex development of human institutions and habits over time. He paid particular attention to the stages of technological growth, which derived ultimately from the "instinct of workmanship." In Veblen's schema, advances in technology, from handicrafts through machine industry, produced more goods for the subsistence and comfort of men. The modern machine process operated under a systematic, disciplined, and reasoned procedure; it enforced these habits among those who worked with machines. Its parts were standardized and interdependent, adding up to an integrated and efficient method of production. But it was operated by businessmen whose aim was simply to make a profit measured in terms of prices. Toward that end, businessmen encouraged habits opposed to the rational workings of industrial production—conspicuous consumption, speculation, wasteful competition. The resulting contradictions precipitated severe depressions and kept the level of production far below its capacity in order to maximize profits.[3]

The young Innis was inspired by Veblen's departure from neoclassical orthodoxy and the alternative approaches he suggested. In 1929, the year of Veblen's death, Innis published an article in which he reviewed Veblen's work and suggested possible applications of his theories. Innis was strongly attracted to the scientific side of Veblen, the Veblen who "insisted upon the existence of laws of growth and decay of institutions and associations. . . . Veblen has waged a constructive warfare of emancipation against the tendency toward standardized static economics which becomes so dangerous

on a continent with ever increasing numbers of students clamoring for textbooks on final economic theory."

At the center of Veblen's work Innis saw an elaborate argument documenting the impact of machine industry and the industrial revolution. He argued that Veblen's concern sprang from the post–Civil War environment in which the terrific efficiency of American machine industry gave rise to the problems of overproduction and conspicuous consumption. Veblen himself had "lived through one of the economic storms of new countries." A generation later, Canada endured the throes of an economic storm similar to that of Veblen's post–Civil War Middle West.

The Canadian Innis viewed with dismay the conflict between the inert economics of a long and highly industrialized country such as England and the needs of the recently industrialized nations. The key for understanding the dynamics of economic growth and the "wealth of nations" lay in analyzing the application of changing technologies to abundant resources. This was especially true for frontier areas such as Canada, which were relatively free from the constraints of obsolescent institutions. Specific economic histories of these nations had to be written and integrated with a dynamic economic theory. Innis spent the better part of his early career framing a Canadian economic history and growth theory along these Veblenian lines.[4]

When he began to teach at the University of Toronto in 1920, Innis found it necessary to start virtually from scratch in courses on Canadian economics and economic history. Over the next fifteen years he formulated his own approach to these subjects. The "staples thesis" showed how the modern Canadian nation had descended directly from colonial trade in staple commodities such as fish, fur, and lumber. In his classic *Fur Trade in Canada* (1930), Innis traced Canadian economic growth from the trade in beaver pelts in the sixteenth century through the formation in the 1870s of the giant Northwest Company, the geographical and economic forerunner of the Canadian nation itself. He advanced a general argument about the mutual demands exerted by economically advanced and underdeveloped civilizations:

> The fur trade was the line of contact between a relatively complex civilization and a much more simple civilization. The complex European culture had reached a stage industrially in which technological equipment essential to specialized production had been accumulated. Ships capable of undertaking

long ocean voyages, a manufacturing system which demanded large quantities of raw materials, and a distributing organization which absorbed the finished products without difficulty were typical products of European civilization. The heavy overhead cost of long voyages limited the trade to commodities which were highly valuable, to commodities demanded by the more advanced types of manufacturing processes of that period, and to commodities available on a large scale. The fur of the beaver was preeminently suited to the demands of early trade. [At the same time,] the pull of a relatively simple civilization on the resources of a complex civilization may be regarded as of paramount importance. No monopoly or organization could withstand the demands of the Indian civilization of North America for European goods. The task of continuously supplying goods to the Indian tribes of North America, of maintaining the depreciation of those goods, and replacing the goods destroyed was overwhelming.[5]

Early North American development depended on water transport from Europe. It accentuated dependence on European manufactured products and on European markets for staple raw materials. The most promising source of early trade had been coastal fishing, especially cod. Later, beaver replaced cod, bringing about interior penetration and trade with the Indians. With the depletion of the beaver, lumber became the leading staple. Following the rise of machine industry, agricultural products (particularly wheat) and minerals completed the staples cycle. After the fur trade study, Innis wrote two other staple histories, *Settlement and the Mining Frontier* (1936) and *The Cod Fisheries* (1940); he also projected a fourth on the paper and pulp industry.

Innis believed he had thus explained the crux of the Canadian historical experience. "The economic history of Canada has been dominated by the discrepancy between the center and the margin of western civilization. Energy has been directed toward the exploitation of staple products and the tendency has been cumulative. . . . Agriculture, industry, transportation, trade, finance, and governmental activities tend to become subordinate to the production of the staple for a more highly specialized manufacturing community." The Dominion had emerged not in spite of geography but because of it, along lines largely determined by the fur trade. The trade in staples, characteristic of an economically weak country, placed Canada at the mercy of highly industrialized areas—first western

Europe, later the United States. It had also been responsible for various peculiar tendencies in Canadian development: maintenance of close cultural connections with Europe, greater tolerance among her people, and a balance between government ownership and private enterprise.[6]

In the early 1930s Innis also turned his attention to the nature of the price system, the institutional structure that communicates a consensus about the relative value of goods and services. The severe dislocations of the depression forced political economists to focus on questions of current policy, particularly problems concerning greater government intervention in the Canadian economy. Innis argued that the price system was no universal, static order, as Adam Smith and the neoclassical economists had held. In Smith's time, perhaps, it had operated more efficiently and could explain more about the nature of economic relations. But historical study of the price system itself, its widely diverse tendencies varying with each nation's situation, was critical for more realistic appraisal of the economic malaise in the 1930s.

As Innis attempted to get behind the price system and to examine what made it differ in various times and places, he started to move away from strictly economic considerations. For he began to perceive that "the penetrative powers of the price system" were but one aspect of the penetrative powers of communication. He began a long and difficult trek into new and uncharted intellectual territories, reaching beyond standard economic approaches toward a new synthesis centering on the strategic importance of communication.[7]

By 1940 Innis drastically reoriented his reading and research, beginning an intensive study of the history of printing, journalism, advertising, censorship, and propaganda. He seems originally to have had in mind another staple book on the Canadian pulp and paper industry, but he never wrote it. Instead, he pursued the subject of communication as a factor hitherto virtually ignored by economists. "The character of the competition," he asserted, "varies with the communicability of knowledge. The sensitivity of economic life and the possibilities of disturbance to equilibrium are dependent to an important extent on the press."[8]

The first fruit of his work in this period was an article on "The Newspaper in Economic Development." The newspaper as an institution played a leading role in accelerating the speed of nineteenth-century communication and transportation; speed in the collection, production, and dissemination of information lay at the core of newspaper growth. The advent of the telegraph, which increased

the supply of news and rationalized its gathering, made the press a far more efficient advertising medium. Power presses raised the space capacity of newspapers and, coupled with the demands for more advertising space, forced a conversion from relatively scarce rags to wood pulp as the new raw material for newsprint. As a result, American newspapers and paper companies launched an intensive drive to control the Canadian pulp and paper mills, thus forcing a sharp decline in the price of newsprint. Here Innis documented a classic case of "cyclonic" economic development. From the Canadian point of view, the expanding American press of the post–Civil War era possessed an economic dynamic of its own, which was editorially reinforced with demands for lower tariffs in this staple industry.

The newspaper, which exploited certain types of news and was subservient to advertisers, contributed significantly to the diffusion of the price system, both horizontally over space and vertically as "a spearhead in penetrating to lower incomes." As a trailblazer in techniques of mass production, distribution, and marketing, the newspaper proved to be a harbinger of department stores and the modern consumer economy. Between 1875 and 1925, a great increase in space for features and advertising accompanied the decline in space for news and opinion. Large-scale organizations built up goodwill through press advertising, and the oligopolistic position of the newspaper became closely allied to that of business firms. Large users of advertising concentrated on the creation of effective selling techniques, whereas newspapers were compelled to develop marketing research organizations.

But Innis ended his piece cryptically: "Finally, this paper is designed to emphasize the importance of a change in the concept of the dimension of time, and to argue that it cannot be regarded in a straight line but as a series of curves depending in part on technological advances. . . . The concepts of time and space must be made relative and elastic and the attention given by the social scientist to problems of space should be paralleled by attention to the problems of time."9 With its insistence on immediacy and speed, both in published news and as an economic enterprise, the newspaper had severely altered our concepts of time and space. Here we find a prologue to Innis's theoretical work in communication.

In his final ten years, Innis moved beyond the discussion of communication as a motor force behind the market to an exploration of communication as the axis upon which all history turned. The word *exploration* is crucial because Innis's writing on communication,

taken as a whole, is incomplete, repetitious, and thoroughly lacking in closure. It presents not a set system of doctrine, but a sweeping and suggestive metahistorical effort at understanding the development and decline of civilizations. Innis did enormous amounts of primary research and travel for his Canadian economic studies, but he relied almost totally on secondary sources to construct a history of communication from 4,000 B.C. to the mid-twentieth century.

Systems of communication, that is, modes of symbolic representation, were the technological extensions of mind and consciousness. They therefore held the key to grasping a civilization's values, sources of authority, and organization of knowledge. Obsessive as the communication writings appear, Innis did not offer a monocausal theory of historical change; he made frequent references to legal, political, economic, and religious institutions, as well as to geographical influences and various forms of technical change. But the lack of attention previously given to communication by social scientists as a whole required an intensive, close-up view of this neglected factor.

Innis's later work clearly bore the stamp of his Canadian treatises, although not as deeply as some have argued.10 Even as he despaired of the state of modern political economy, he continued to rely on economic metaphors and categories of thought, such as "monopoly," "equilibrium," and "bias." He exchanged a staples approach to economic history for a staples approach to cultural history; instead of beaver, cod, lumber, and minerals, he now examined such communication staples as speech, writing, clay, papyrus, and printing. Just as he had studied the staples of Canadian history to comprehend its contemporary situation, he looked now to ancient forms of communication as an aid to understanding the implications of modern media. Innis's deep commitment to Canadian nationalism spurred him on as he became more alarmed by the latest imperial incursions into Canadian society, namely, the cultural imperialism of American advertising and broadcasting.11 America had replaced France and Great Britain as the empire seeking to conquer Canada. The steady jumping back-and-forth between ancient empires and current events reveals that Innis used the past as a historical laboratory for the contemplation of modern dilemmas.

There is an overall sense of roughness and incompleteness about his later work. The style is often so impenetrably dense and eclectic that it exasperates and frustrates the reader. Sometime in the 1940s Innis wrote a thousand-page unfinished manuscript, "A History of Communication." It remained unpublished, though it served as the

basis for much of the published material: *Empire and Communications* (1950), *The Bias of Communication* (1951), and *Changing Concepts of Time* (1952). These were essentially collections of oral presentations and essays rather than unified books. Nowhere does Innis present us with a coherent, clean statement of his position. He demands an adventurous reader who is willing to bring imagination and fortitude to bear on Innis's galaxy of insight and erudition.

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According to Innis, the rise and fall of civilizations and the cultural changes within an individual civilization may be understood primarily as functions of the predominant media of communication. All civilizations exist by controlling areas of space and stretches of time. They can therefore be appraised in relation to territory and duration. The "bias of communication" is the spatial or temporal tendency in media that establishes the parameters for the dissemination of knowledge over space and time.

> Media that emphasize time are those that are durable in character, such as parchment, clay, and stone. The heavy materials are suited to the development of architecture and sculpture. Media that emphasize space are apt to be less durable and light in character, such as papyrus and paper. The latter are suited to wide areas in administration and trade. . . . Materials that emphasize time favor decentralization and hierarchical types of institutions, while those that emphasize space favor centralization and systems of government less hierarchical in character. Large scale political organizations such as empires must be considered from the standpoint of two dimensions, those of time and space, and persist by overcoming the bias of media which overemphasize either dimension.[12]

Monopolies of knowledge develop and decline partly in relation to the medium of communication on which they are built; these monopolies feature restriction to one medium, limitations on certain forms of knowledge, and tight control by a small power group. In cultural terms time represents a concern with history, tradition, and the growth of religious and hierarchical institutions. Space implies the growth of empire, expansion, concern with the present, and secular political authority. Temporal culture is one of faith, afterlife, ceremony, and the moral order. Spatial culture is secular, scientific, materialistic, and unbounded. Obviously, in any culture both sets of

values are operative, one dominantly and one recessively. Innis saw the rise and fall of civilizations, especially empires, in terms of a dialectic between competing monopolies of knowledge based on the temporal or spatial bias.[13]

Only at rare intervals had a civilization managed to achieve a balance between time- and space-biased media, for example, classical Greece, Renaissance Italy, and Elizabethan England. Western civilization was now in terrible danger of disintegration because of its failure to confront the problems of duration. Innis set up a series of ideal dualisms or, more properly, continuums in the history of communication to illustrate the historical dialectic of monopolies of knowledge based on competing media. The experience of past civilizations clearly held a lesson for the present; the understanding of a civilization's media bias was necessary, if not sufficient, for the survival of that civilization.

The contrast between oral and written modes of communication provided a paradigm for all later media. An oral tradition is one of consensually shared standards and sacred beliefs. The achievement of Greek civilization, for example, reflected the power of the spoken word. "Continuous philosophic discussion aimed at truth. The life and movement of dialectic opposed the establishment of a finished system of dogma." Innis made no secret of his own bias toward the oral tradition and the necessity for recapturing some of its spirit, particularly in the modern university. "The oral dialectic is overwhelmingly significant where the subject matter is human action and feeling, and it is important in the discovery of new truth but of very little value in disseminating it. The oral discussion inherently involves personal contact and a consideration of the feelings of others, and it is in sharp contrast with the cruelty of mechanized communication and the tendencies which we have come to note in the modern world."[14]

The appearance of writing caused a shift away from the oral tradition and toward secular authority, with the resultant emphasis on spatial over temporal relations. Writing at first simply recorded the oral tradition, petrifying it and thus eliminating the essence of oral dialectic. In a culture based on written tradition, knowledge is based on the administrative and technical needs of the present and future empire, rather than on the traditional time-based codes of oral culture. In ancient Egypt and Babylonia small groups of priests originally established monopoly control over complex systems of writing such as hieroglyphics and cuneiform. These monopolies

were gradually destroyed by simpler writing systems, which greatly enlarged the class of scribes and facilitated government administration over larger areas.

Development of a highly flexible phonetic alphabet, which first appeared among the commercial Phoenicians, further propelled the spatial bias. In Greece, the spread of papyrus and writing based on a phonetic alphabet at first brought a magnificent balance to Greek culture, culminating in tragedy and the writings of Plato. Eventually, however, writing contributed to the collapse of Greek civilization by widening the gap between city states and by ossifying the philosophical method of the oral tradition.

The Byzantine empire also developed on the basis of a blending between organizations reflecting different media biases, "that of papyrus in the development of an imperial bureaucracy in relation to a vast area and that of parchment in the development of an ecclesiastical hierarchy in relation to time."[15] Just at the point where a medium created a monopoly of knowledge, a new medium subversively broke through, usually on the outer fringes of a society. Parchment, biased toward time, was adapted by monasticism and contributed to the growth of a powerful ecclesiastical organization in western Europe. It invited competition from paper, which favored space. Italy's near monopoly of paper production in fourteenth- and fifteenth-century Europe coincided with its strength as a commercial center ("keeping books"), the emergence of professional writers, and the revival of learning.

Printing became the dominant medium of Western civilization and remained so pervasive that one can hardly comprehend the environment it created. Printing represented the birth of a machine process based on uniform repeatability; as such, it provided a model for subsequent developments of mass production and for the standardization of goods and knowledge. It reversed the Greek maxim "nothing in excess" by ushering in a civilization that might be described as "everything in excess." By the seventeenth century, it had successfully challenged the time bias of the medieval church, whose authority was based on parchment manuscript. Printing accelerated the spatial bias of paper and fostered the rise of nationalism, vernacular languages, and the extension of political bureaucracy.[16]

Printing achieved its most complete monopoly of knowledge in America. There, "the modern obsession with present-mindedness" stemming from printing's space bias found protection in the U.S. Constitution, which supported the rapid growth of the newspaper industry. "The overwhelming pressure of mechanization evident in

the newspaper and the magazine has led to the creation of vast monopolies of communication. Their entrenched position involves a continuous, systematic, ruthless destruction of permanence essential to cultural activity. The emphasis on change is the only permanent characteristic."

The power of the American newspaper industry enabled it to monopolize the Canadian pulp and paper trade and to force low tariffs—this was economic monopoly. But a growing cultural monopoly troubled Innis as well. For the finished products derived from pulp and paper consisted largely of advertising and reading material exported back into Canada, a cultural bombardment that threatened Canadian national life. "Canadian publications supported by the advertising of products of American branch plants and forced to compete with American publications imitate them in format, style, and content. Canadian writers must adapt themselves to American standards. Our poets and painters are reduced to the status of sandwich men."

In its drive to conquer space and new markets, the press transformed our notions of time. Modern press associations turned news into a commodity, which could be sold in competition and monopolized like any other. "Lack of continuity in news is the inevitable result of dependence on advertisements for the sale of goods," hence the emphasis on excitement, sensationalism, and capriciousness in news. Innis's study of the press suggested that time had been spatialized into "a uniform and quantitative continuum" obscuring qualitative differences. "Advertisers build up monopolies of time to an important extent through the use of news. They are able to take full advantage of technological advances in communication and to place information before large numbers at the earliest possible moment. Market changes in the speed of communication have far reaching effects on monopolies over time because of their impact on the most sensitive elements of the economic system."[17]

Innis made only tentative attempts to extend his analysis into the realm of newer media such as radio and television. He suggested that radio, with its appeal to the ear, signaled a return to the consideration of problems of time, as reflected in the growth of government planning and the welfare state. He noted, for example, that Franklin D. Roosevelt, architect of the New Deal, depended heavily on the radio to win approval of his policies.[18] But radio presaged a return to oral tradition only in a shallow sense. If one extends Innis's thinking here, it appears that broadcasting was actually stepping up the spatial bias of the modern era. Radio and television receivers are

light and easily transportable; electromagnetic waves are far more ephemeral than newspapers. Broadcasting ignores national boundaries and has thus conquered space with electricity, a process begun by the electric telegraph. Furthermore, the principle of paid advertising underlies American broadcasting. Radio and television function by literally "selling time," thereby radically extending the spatialization process.

Although Innis failed to apply his own analysis to the emergence of broadcasting, he nonetheless understood the implications of the latest communications technology for both the economic and cultural expansion of American vested interests. The proximity of Canada's largest population centers to American broadcast facilities extended "the omnipotence of American commercialism," making it "inevitable that the United States should dominate English culture." Even with Canada's own broadcasting system, the American influence was pervasive. Indeed, in 1957 the Royal Commission on Broadcasting found that, of the total television fare on the English-language Canadian television stations, American-produced programs composed 53 percent of the total as compared with 44 percent Canadian-produced shows. Of the total program output of all Canadian television stations, 49 percent was produced in Canada, 48 percent in the United States.[19]

To Innis, Canada seemed to be an embattled cultural island, a last bastion of the oral tradition. To a great degree, his communication studies dovetailed with his trenchant criticism of America's cold war policies, internal and external. Innis waged a lonely battle against the enormous pressures on Canadian politicians and intellectuals to follow the American line in foreign relations and its crackdown on "domestic subversion." Fear of depression during the postwar reconversion period meant an American emphasis on military expenditures to ensure full employment. Canadian political life was in danger of becoming distorted by the constraints of American foreign policy. "Americans," Innis noted, "are the best propagandists because they are the best advertisers."

American foreign policy, which was largely determined by public opinion whipped up by a sensationalist press, represented a "disgraceful illustration of the irresponsibility of a powerful nation which promises little for the future stability of the Western World." Innis held out a vague hope that Canadian autonomy might be preserved by alliance with a third bloc of neutral countries. But his realism and dismay about America's great advantages, especially those of advanced communications technology, inclined him toward

despair: "We may dislike American influence, we may develop a Canadian underground movement, but we are compelled to yield to American policy. We may say that democracy has become something which Americans wish to impose upon us because they say that they have it in the United States; we may dislike the assumption of Americans that they have found the one and only way of life—but they have American dollars."[20]

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In the final few years before his untimely death in 1952, Innis's thought moved into more unorthodox and speculative regions than perhaps even he realized. His switch from the consideration of material staples to that of staples of the mind pushed him toward the beginnings of a philosophy of history. He employed a dialectical method to explain the rise and fall of civilizations. Whereas Hegel focused on nation states and Marx on modes of production, Innis substituted communications media to identify the great epochs. The growth of the Egyptian, Babylonian, Greek, Roman, and British empires depended largely on their ability to extend control over time and space by balancing competing monopolies of knowledge. Each of these monopolies had been based on a specific medium—speech, complex writing (phonetic alphabet on papyrus and paper), or print.

Yet Innis saw not cumulative progress but a steady disintegration toward the end of Western civilization, literally, the end of time. Earlier communications theorists such as Charles Horton Cooley and Robert Park had portrayed advances in communications techniques in terms of linear advance, a prerequisite to the forward march of civilization. For Cooley, contemporary innovations in communications technology ensured at least the mechanical conditions that must precede the organic society. Each historical advance in communication, from primitive gesture through broadcasting, contributed to the ceaseless progressive evolution of the social order.

Innis's vision seemed to be moving toward a rather radical pessimism. It had more in common with the ironic stance of Henry Adams than with the Progressive tradition represented by Cooley. Adams had centered his final speculation about the ultimate direction of history around the concept of energy degradation. In juxtaposing the second law of thermodynamics (physics) with Darwinism (biology), Adams offered a vision of evolution as a downward process. He noted the paradox between modern society's tremendous capacity to exploit energy and the latest advances in physical theory,

which suggested that this merely reflected the tendency of the universe toward entropy. From the physicist's point of view, "Man, as a conscious and constant, single natural force, seems to have no function except that of dissipating or degrading energy."[21]

For Innis, communication rather than energy served as the operative principle. Any final philosophy of history he might have worked out would surely have been closely intertwined with a philosophy of knowledge, namely, how changes in communication affect the way we think. Innis wondered if all the improvements in communication had in fact worked against man's understanding, particularly his understanding of the timeless problems of Western culture. The political economy in Adam Smith's *Wealth of Nations* embodied general and universal principles; such an approach deteriorated when it was subordinated to mathematical abstraction, science, and obsession with the price system and problems of the moment. The spatial bias of the modern press and the demands of advertising had turned economics and the social sciences toward specialization and fixation on short-run problems.

> Enormous compilations of statistics confront the social scientist. He is compelled to interpret them or to discover patterns or trends which will enable him to predict the future. With the use of elaborate calculating machines and of refinement in mathematical technique he can develop formulae to be used by industry and business and by governments in the formulation of policy. But elaboration assumes prediction for short periods of time. Work in the social sciences has become increasingly concerned with topical problems and social science departments become schools of journalism. The difficulty of handling the concept of time in economic theory and of developing a reconciliation between static and dynamic approaches is a reflection of the neglect of the time factor in Western civilization.[22]

"Industrialization of the mind" and "mechanized knowledge" threatened the traditional role of the university, making it subservient to the military, the vested interests of business, and the state bureaucracy. The university, where an individual once learned to assess problems in terms of time and space, to acquire a sense of balance and proportion, and to decide how much or how little information he needed, was rapidly declining.

Innis's concern paralleled that of Robert Park, who wrote an influential piece on physics and society in which he wondered if sci-

ence, "in awakening the vast energies that are resident in the material world, brought into existence forces which science cannot hope to control?" Because of the destruction of the time bias, the problem for both the modern university and modern civilization was how to create moral forces to counterbalance the forces unleashed by the physical sciences.[23] Unlike Park, though, Innis did not regard modern communication as a means of achieving scientific reporting in the press. Nor did he share the Progressive hope that new media would contribute to an objective social science.

Innis held little expectation that twentieth-century civilization could escape the monopolies of knowledge built up through the bias of modern communication. He emphasized the "extraordinary, perhaps insuperable, difficulty of assessing the quality of a culture of which we are a part or of assessing the quality of a culture of which we are not a part." In the modern West, "we are perhaps too much a part of the civilization which followed the spread of the printing industry to be able to determine its characteristics." America, where the full impact of printing accrued through the Bill of Rights, now threatened the survival of that civilization. America's strongest tradition was her lack of tradition. The problem of getting outside of America's space-oriented bias appeared insoluble.[24]

The revulsion against mechanized knowledge, anguish over the decline in university life, and pleas for recapturing some of the oral tradition of the Greeks all echoed rather familiar sentiments held by a large fraction of twentieth-century intellectuals. Combined with the Canadian perspective on American power, Innis arrived at a most gloomy position by the end of his life. His greatest mission at that point seems to have been playing the prophet, reminding us of the fate of all empires (including America's) determined to blindly ignore the biases of their culture.

As a historian of communication, however, Innis may ultimately provide a clearer understanding of modern media, even though he warned of the difficulties of escaping their biases. One recalls that he began his communication studies by applying the tools of economic history to media and by treating media as he did economic staples. Intensive study of the physical characteristics of staple resources and of the technological changes and market influences that gave them economic significance served as the focal point for analyzing a total economic situation.

In one sense, Innis's work in communication represented an attempt to overcome the Veblenian dualism of business and industry and to locate the crucial link between these two tendencies of the

modern economy. Advances in communication technology were closely tied to the pressure for market expansion, which was necessary for greater profits. Whereas Veblen concentrated on new technologies of production, Innis focused on advances in communication as new technologies for consumption. As America led the advance of industrial production, so it pioneered new technologies of consumption. Innis originally followed this approach in showing how the American press and advertising matrix directly impinged on the Canadian economy. And here was the takeoff point for his metahistorical flights.

As with his philosophical speculations on media, Innis's historical method holds rich possibilities as a guide to further research. The rise of broadcasting may again serve as an example. Although the technology of the modern newspaper emerged several centuries after the first printing press, that of broadcasting appeared only sixty years after James Clerk-Maxwell's mathematical prediction of electromagnetic waves. Wireless telegraphy and wireless telephony both developed with the crucial aid of corporate research facilities and government sponsorship. The demands of military strategy cannot be neglected in any history of radio *technique*. However, radio *technology*, a fully integrated and public system of communication, arrived after World War I in the form of radio broadcasting. From the first, radio broadcasting performed a marketing function; it originated as a stimulus to the sale of surplus radio equipment stockpiled by the large electrical corporations. But with the rise of commercial broadcasting in the mid-1920s, radio soon served this function for the entire economy. It produced no product as such, but greatly enlarged markets for all consumer goods.

The great geniuses of radio and television have been marketing geniuses. Broadcasting became the most space-biased of all modern media. It centralized and intensified the advertising and marketing functions performed by the nineteenth-century press. It accelerated the redefinition of time into pecuniary units. The penetration of radio and television into every household was unprecedented. Modern communication thus provided outlets for the greatest productive capacity (industry) ever, laying the foundation for the greatest marketing machinery (business) in history.

Innis's legacy, then, is a complex one reflecting the tension between the economic, moral, and metahistorical meanings of communication. His early pursuit of the economic implications of communication led him to interpret the media from the perspective of a moral critic of modern civilization. His historical researches were

not enough, however; he felt compelled to consider communication outside its historical development, to probe the way new media altered our notions of time and space. The importance of confronting the many levels of Innis's contribution is reinforced when one considers the direction taken by his most prominent disciple, Marshall McLuhan. For with McLuhan, the subtleties of "Inniscence" disappeared into the mists of mythology.

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Writing about Marshall McLuhan, one faces a bundle of paradoxes wrapped in a central contradiction. McLuhan speaks in at least two distinct voices; he is a Janus-like figure whose public adventures have contributed to the confusion surrounding the meaning of what he has to say. He wants desperately to elevate his media theory to the level of science. He insists that he is a clinically detached observer who scientifically analyzes the impact of communications media on the mind and society. At the same time, he proclaims that he is readily willing to discard anything that he has ever said, that he has no desire to defend past statements, and that he must rely on the method of "insight" since cause-and-effect reasoning is obsolete. This second McLuhan operates something like a Renaissance fool, punning and blustering along in a rollicking intellectual slapstick.

Not surprisingly, McLuhan's pretensions to scientific discourse and objectivity, as well as his encyclopedic and highly selective appeals to authorities from many fields of knowledge, leave him highly vulnerable to technical attacks from various quarters. There have already been numerous devastating critiques on nearly every facet of his theory.[25] He has certainly been discredited as a "scientist." Both his mature speculations and their wide popularity appear to have been singular phenomena of the 1960s. Only a short time later, much of his writing already has the quality of a period piece, curiously quaint and outdated.

Yet technical critiques of McLuhan are somewhat beside the point. How does one logically attack a court jester, a man who declares the end of linear logic? McLuhan's analysis of modern media has profoundly transformed our perceptions of twentieth-century life, particularly for the generation born after World War II. When the French coined the term *mcluhanisme*, they were referring not only to the man but also to a new cultural stance, a commitment to the serious examination of popular culture. If nothing else, McLuhan's efforts instilled an urgent awareness of the media environment as a basic force shaping the modern sensibility.

A post-McLuhan writer thus faces the vexing problem of severing himself from the intellectual milieu created by the subject itself, of somehow correcting what Innis might have termed the "McLuhan bias." This problem parallels McLuhan's own attempts to get outside of the media environment surrounding us in order to understand it. A historical approach to McLuhan may perhaps seem premature at this point, but it offers one route out of this impasse. McLuhan's spectacular notoriety during the 1960s resembled the arrival of a streaking meteor from outer space, and the public McLuhan did everything possible to reinforce the notion that he came from nowhere. In fact, he came from several places. Notwithstanding the claim that he had no point of view, very real (though shifting) moral, psychological, and political beliefs can be discerned throughout his development.

McLuhan's career may be roughly divided into three periods: his early years as a traditional literary critic, ending with the publication of his first book, *The Mechanical Bride* (1951); a transitional phase in the 1950s during which he adapted the work of Harold Innis, immersed himself in cultural anthropology, and edited the journal *Explorations*; and the mature stage of the 1960s, when he published his theories in *The Gutenberg Galaxy* (1962), *Understanding Media* (1964), and several lesser works.

For a very public figure, little is known about McLuhan's private life or early years. He has been deliberately vague and even misleading on the subject of his own biography. One can reconstruct only the bare outlines. He was born in 1911 in Edmonton, Alberta, the son of a Methodist insurance salesman and a Baptist actress. He studied engineering at the University of Manitoba, where he received his B.A. and M.A. degrees in 1933 and 1934. A growing zeal for English literature eclipsed his original desire to be an engineer. He enrolled at Trinity Hall in Cambridge University in 1935, completing an M.A. and eventually his Ph.D. in 1942; the subject of his doctoral dissertation was the Elizabethan writer and educator, Thomas Nashe. McLuhan began his career as a teacher at the University of Wisconsin in 1936. At some point in the late 1930s he converted to Roman Catholicism. He taught literature at two Catholic schools, St. Louis University (1937 to 1944) and Assumption University in Windsor, Ontario (1945 to 1946). After 1946 he served as professor of literature at the University of Toronto; in 1963 he became director of its Center for Culture and Technology.[26]

McLuhan pursued a sedate career as teacher and critic for some twenty years, publishing numerous pieces on a wide variety of

writers from the medieval period through the modern era. At Cambridge, McLuhan was deeply influenced by the methodology and moral temper of the so-called New Critics, particularly I. A. Richards and F. R. Leavis. Richards, drawing on the latest work in behavioral psychology and philosophy, sought to construct a science of criticism by examining how literature produces certain psychological states. In works such as *Principles of Literary Criticism* (1925) and *Practical Criticism* (1929) he extended the scope of philosophical empiricism to embrace the logical structure of meaning itself. He insisted that a work's merit was separate from both the author's own intentions and from any biographical influences. Leavis, editor of the influential journal *Scrutiny*, emphasized criticism based on the unity and formal structure of the work itself—the text is all. He held that the critic must focus on the internal relationships between various parts of the text and must explicate all its layers of meaning, ambiguity, and paradox. Interpretation could only be accomplished through the structure of a work's own language; literary theory, philosophy, and history were irrelevant.

Politically and spiritually the New Criticism, and most of the writers associated with it, expressed deep antagonism to modern industrial civilization. It celebrated instead the lost organic unity of agrarian Christian culture. Significantly, McLuhan's first published essay in 1936 resounded with praise for G. K. Chesterton, "for seeking to re-establish agriculture and small property as the only free basis for a free culture." Chesterton's *What's Wrong With the World* (1910) apparently had an important role in McLuhan's Catholic conversion, an act that meshed neatly with his literary interests of that period.[27]

Through his own literary criticism, McLuhan expressed a personal variant of the Tory, neo-Catholic, antimodern tradition flourishing on both sides of the Atlantic. His vigorous promotion of modernist writers such as Pound, Eliot, Joyce, and Yeats derived largely from their critique of what Eliot labeled the "dissociation of sensibility," a feature of modern secular civilization. Yet McLuhan's essays on American writers and his reading of American history reveal most clearly the aesthetic, political, and moral position of these early years.

McLuhan posited an underlying split in the American mind and society, one that reflected an old struggle over the nature of education and learning. He championed the "Southern quality" in American letters, the passionate, historical, and tragic sense of life exemplified in the works of Poe, Twain, Faulkner, Cabell, Tate, and oth-

ers. In McLuhan's view, southern culture stood as a modern manifestation of the Ciceronian ideal of "rational man reaching his noblest attainment in the expression of an eloquent wisdom." According to McLuhan, ever since Socrates used dialectics against the rhetoric of his sophist teachers, a continuing quarrel had raged over whether grammar and rhetoric on the one hand or dialectics on the other should prevail in organizing knowledge. The debate continued among medieval and Renaissance authorities, with the Schoolmen insisting that one part of the trivium be the superior method in theology (dialectics) and the humanists insisting on the others (grammar, rhetoric). As the quarrel heightened in seventeenth-century England, representatives of both parties migrated to America—the Schoolmen to New England and the quasi-humanist gentry to Virginia.

In America, McLuhan argued, the two radically opposed intellectual traditions developed on new soil and were geographically separated for the first time. Nourished by the agrarian estate life of the South, the Ciceronian ideal reached its flower in "the scholar statesman of encyclopedic knowledge, profound practical experience, and voluble social and public eloquence." It produced, among other things, the most creative tradition in American political thought, a tradition that stretched from Jefferson to Wilson. It advocated an agrarian society with every man as aristocrat and subordinated knowledge and action to a political good. On the other hand, the New England mind afforded a sharp contrast. Based on the Ramist application of dialectics to theological controversy, it embodied a thoroughly different tradition: "For this mind there is nothing which cannot be settled by *method*. It is the mind which weaves the intricacies of efficient production, 'scientific' scholarship, and business administration. It doesn't permit itself an inkling of what constitutes a social or political problem . . . simply because there is no method for tackling such problems." McLuhan thus reduced American history to an internal debate within the medieval trivium. Southern literature's stress on passion versus the northern concern with character, the Civil War, and the educational debate at Chicago over the "Great Books" program all reflected the intellectual struggle of the humanist against the technological specialist.[28]

McLuhan left no doubt where his own sympathies lay. His affinity with the southern Agrarian movement of the 1920s and 1930s is striking. McLuhan, the Catholic and provincial Canadian, joined John Crowe Ransom in celebrating the South as the true inheritor of the humanist tradition, "unique on this continent for having

founded and defended a culture which was according to the European principles of culture."[29] In opposition to it, McLuhan lumped together northern business civilization, the gospel of progress, urban decadence, "social engineers," John Dewey, and a crude caricature of Marxism. Slavery was dismissed as merely the one main condition of aristocratic life present in the South and absent in the North. Although physically defeated in the Civil War, the South remained spiritually sound and was the best hope for the perpetuation of the Christian humanist tradition in North America.

In *The Mechanical Bride* (1951), his first full-scale analysis of modern media and popular culture, McLuhan combined the exegetic techniques of the New Criticism with the moral perspective expressed in the early literary essays. This was an important work in McLuhan's evolution. It was an attempt to apply a literary technique to a new subject matter in order to preserve the humanist values so central to his writing. *The Mechanical Bride* contains a sharp tension between McLuhan's clear desire to criticize the "collective trance" induced by modern communication (especially through advertising) and his movement toward a strategy of "suspended judgement," of considering the forms of media content on their own terms as aesthetic wholes.

In the preface he identified his method with that of Edgar Allan Poe's sailor in the story "Descent into the Maelstrom": "Poe's sailor saved himself by studying the action of the whirlpool and by cooperating with it. The present book likewise makes few attempts to attack the very considerable currents and pressures set up around us today by the mechanical agencies of the press, radio, movies, and advertising." McLuhan hoped to set the reader at the center of the media maelstrom for the purpose of an objective study:

> Poe's sailor says that when locked in by the whirling walls
> and the numerous objects which floated in that environment:
> 'I must have been delirious, for I even sought amusement
> in speculating upon the relative velocities of their several
> descents toward the foam below.' It was this amusement born
> of his rational detachment as a spectator of his own situation that gave him the thread which led him out of the Labyrinth. And it is in the same spirit that this book is offered as an
> amusement. Many who are accustomed to the note of moral indignation will mistake this amusement for mere indifference.[30]

McLuhan offered several dozen short meditations on a wide assortment of texts: advertisements, comic strips, radio shows, pulp

characters, magazines, and recurring themes in the "folklore of industrial man." Like the psychoanalyst interpreting the dream images of his patient, McLuhan argued that everyday popular culture held a rich source of data for diagnosing the "collective trance" or "dream state" into which industrial society had fallen. Ads seemed to be "a kind of social ritual or magic that flatter and enhance us in our own eyes." American advertising consistently proclaimed freedom of choice as the foundation of the American way of life, but glossed over questions of power and control. "Let the people have freedom, and let others have the power. Especially the power to tell them that they are free and that they are consumed with the spirit of rivalry and success."

For McLuhan, "freedom, like taste, is an activity of perception and judgement based on a great range of particular acts and experiences—Whatever fosters mere passivity and submission is the enemy of this vital activity." He scoffed at merely "reforming" the media industries through changes in policies of entertainment and control. Instead he proposed to educate the individual sensibility and to break the hypnotic attraction of the media through the tough-minded evaluation of "unpleasant facts under the conditions of art and controlled observation." Popular culture was a valuable index of the guiding impulses and dominant drives in society precisely because it resembled the psychoanalytic data yielded by individuals or groups involuntarily, in moments of inattention. McLuhan tried to beat the ad agencies and market researchers at their own game by probing the collective unconscious to which they appealed.[31]

What are the central images and myths in this industrial folklore? An unrelenting diet of sex, death, and technological advance, ingeniously interwoven in cluster patterns designed to sell merchandise. We get the car as sex object, the female body reduced to dissociated mechanical parts, and the equation of sexuality with power. We read the ghoulish appeals to violent death in the press and pulps. Images of hectic speed, mayhem, violence, and instant death imply that sex is no longer the ultimate thrill. With the high-powered techniques of applied science, market research, and polling behind them, the modern ad agencies have usurped the ancient Ciceronian claim for eloquence as the way to power and influence. The "eloquence" of commerce today attempts to keep the consumer and citizen from ever questioning the naturalness of these cultural themes. "Far from being a conscious conspiracy, this is a nightmare dream from which we would do well to awaken at once."[32]

Finally, *The Mechanical Bride* was an argument for a new kind of

education and a plea for the development of critical intellect by using the very sources that manipulated, exploited, and controlled the public with unprecedented power. During the 1940s McLuhan vigorously defended the "Great Books" program at Chicago and humanist programs of general studies.[33] With his first book, however, McLuhan argued that formal education of any type could not hope to compete with the unofficial education people received from the new media. "The classroom cannot compete with the glitter and the billion dollar success and prestige of this commercial education. Least of all with a commercial education program which is designed as entertainment and which by-passes the intelligence while operating directly on the will and the desires."

Like a modern-day Erasmus, McLuhan proposed a wholesale shake-up of our educational priorities. Robert Hutchins called the media barrage a "constant storm of triviality and propaganda that now beats upon the citizen"; McLuhan thought it could be controlled only by critical inspection. "Its baneful effects are at present entirely dependent on its being ignored." To McLuhan, the unofficial commercial culture reflected the true native culture of the industrial world. "And it is through the native culture, or not at all, that we effect contact with past cultures. For the quality of anybody's relations with the minds of the past is exactly and necessarily determined by the quality of his contemporary insights."[34]

The Mechanical Bride proffered an essentially literary study of media content, an explication of the literature of everyday life. It marked a real turning point in McLuhan's career, the beginning of his own descent into the maelstrom of media studies. Perhaps it is worth recalling that Poe's sailor, although able to save himself by means of an extraordinary curiosity, was powerless to save his two brothers on the ship. He escaped his fate only after he gave up hope. "I positively felt a wish to explore its depth, even at the sacrifice I was going to make; and my principle grief was that I should never be able to tell my old companions on shore about the mysteries I should see." Indeed, his old mates who eventually pulled him up out of the sea could not even recognize their friend—his hair now turned white, his whole countenance changed. They refused to believe his tale.

After this book, McLuhan moved away from the interpretation of modern myth toward the construction of his own mythology, and many of his old mates found it difficult to believe his tale. But two crucial influences helped shape his thinking at Toronto during the 1950s. One was his exposure to Harold Innis. The second was his

involvement in the culture and communication seminar; its short-lived journal *Explorations* thoroughly immersed him in cultural anthropology. As a result, his work took a decisive turn toward the glorification of neoprimitivism and away from what he jeeringly began to call the "single point of view."

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McLuhan borrowed from Innis the tools with which to extend an aesthetic doctrine into an all-encompassing theory of social change. Innis's historical and economic studies provided the intellectual legitimacy for McLuhan's grand leap from investigating the forms of transmitted messages to the forms of transmission themselves. Innis's extension of the analysis of economic staples to an exploration of communication forms and media biases paralleled the New Critical method that McLuhan absorbed at Cambridge: in a work of art the form is the content and the only valid criterion for judging a work. Or, as McLuhan wrote in an early piece on the relationship between economics and communication, "it is the formal characteristics of the medium, recurring in a variety of material situations, and not any particular 'message,' which constitutes the efficacy of its historical action."[35]

McLuhan declared in *The Gutenberg Galaxy* that Harold Innis was "the first person to hit upon the process of change as implicit in the forms of media technology. The present book is a footnote of explanation to his work."[36] This was a rather disingenuous accolade, but it squared with McLuhan's overall simplification and mystification of Innis's accomplishments. McLuhan read Innis's contribution to communication studies as a purely methodological one, pursued by a man with no motivation save the desire to break out of the "single point of view" and into the realm of "insight." For McLuhan, the single point of view characteristic of Innis's traditional historical work (and of all print culture) was a severely limited way of *looking at* something. Insight, however, was the sudden awareness of a complex process of interaction, the technique of discovering by juxtaposing multiple aspects of a situation.

McLuhan thus described the later Innis as inevitably adopting "a discontinuous style, an aphoristic, mental camera sort of procedure which was indispensable to his needs. . . . He juxtaposes one condensed observation with another, mounts one insight or image on another in quick succession to create a sense of the multiple relationships in process of undergoing rapid development from the impact of specific technological changes. . . . It is an ideogrammic

prose, a complex mental cinema." Although this type of writing does appear in Innis, this passage is a more accurate account of McLuhan's own style. In McLuhan's paeans to Innis we catch a glimpse of his own self-image: "The later Innis had no position. He had become a roving mental eye, an intellectual radar screen on the alert for objective clues to the inner spirit or core of our times."[37]

McLuhan chose to ignore Innis's political and moral position on communication, his Canadian nationalism, and his critique of American media. He preferred to view Innis as a poet or artist, but at the same time he condescendingly lamented Innis's deficiencies in the use of artistic analysis. He compared Innis's patterns of insights to symbolist poetry and modern painting. That is to say, in order to avoid the lineality of print and to present a dynamic model of history, Innis presented a rapid montagelike shot of events, a mosaic structure of insights. The primacy of aesthetic categories in McLuhan's thought forced him into this narrow reading of Innis. Once again, it is difficult not to see McLuhan's own wish fulfillment in operation here.[38]

From 1953 to 1955 McLuhan chaired an ongoing interdisciplinary seminar on culture and communication at Toronto; the seminar was sponsored by the Ford Foundation. Along with anthropologist Edmund Carpenter, McLuhan started and edited *Explorations*, a lively quixotic journal designed to give seminar members an outlet. The purpose of this journal was to go beyond the literary concepts of media study, beyond the limitations of content analysis. Its basic premise held that changes in communication modified human sensibilities as well as human relations. Print technology, the basis of American educational and industrial establishments, was on the verge of being superseded by the electronic revolution in communication. By means of the journal, McLuhan and Carpenter hoped to develop an awareness of the role of print and literacy in shaping Western society and to investigate implications of the newer configurations of electronic media. Because literary and literacy biases were so deeply rooted, how could one step outside of them for objective explorations?[39]

The answer in large part was a radical shift toward studies of the language and communication systems in primitive societies. In one article, Dorothy Lee analyzed the speech of Trobriand islanders. She argued that no past or present tenses and no causal or teleological relationships existed in their language. They did not perceive lineal order as a value. They avoided seeing patterns as connected lines; lineal connection (cause and effect) was not automatically made in

their language. Edmund Carpenter also found similar characteristics in the thought and speech of Aivilik Eskimos. In another article, Siegfried Giedion claimed that ancient cave paintings could not be understood from the space perspectives of today. These primitive artists saw things without any relation to the self. Their conception of space revealed the psychic realities confronting prehistoric man; their art does not seem rational to a twentieth-century individual because it lacks a sense of the horizontal and vertical.[40]

McLuhan and Carpenter postulated polarities between the sensory lives of preliterate and literate societies, between ear-oriented and eye-oriented cultures. In preliterate culture "acoustic space" prevailed; perception was keyed to the ear, but involved the simultaneous interplay of all senses. Tribal art served as a means of merging the individual and his environment, not as a means of training his perception of that environment. On the other hand, the "visual space" characteristic of literate man focused on the particular and abstracted it from a total situation; hence "seeing is believing." Both men held that the eye operates in isolation, perceiving a flat continuous world and favoring one thing at a time. The transition from spoken word to writing and printing elevated the sense of sight to a paramount place, truncating one sense from the cluster of human senses. This detachment allowed great power over the environment by fragmenting fields of perception. But the alienation from all senses except sight also produced emotional detachment, a declining ability to feel, express, and experience emotions.[41]

During the *Explorations* period, McLuhan moved toward an explicit analogy between preliterate and postliterate cultures. New forms of electronic media seemed to have reversed the sensory fragmentation of visual space, thus foreshadowing a psychic return to the tribal situation. Like art forms, they magically transformed the environment around us. In 1955 he wrote: "The new media are not bridges between man and nature; they are nature. . . . By surpassing writing, we have regained our Wholeness, not on a national or cultural, but cosmic plane. We have evoked a super-civilized sub-primitive man. . . . We are back in acoustic space. We begin again to structure the primordial feelings and emotions from which 3000 years of literacy divorced us."[42]

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McLuhan's mature theory rests on a new version of the Christian myth, enabling McLuhan to concentrate on elaborating a psychology

and ecology of modern media. For Eden, the Fall, and paradise regained, McLuhan substituted tribalism (oral culture), detribalization (phonetic alphabet and print), and retribalization (electronic media). Unlike Innis, who was interested mainly in the relationship between communication and social organization, McLuhan's argument primarily concerned the impact of media technology on the human sensorium.[43]

The Gutenberg Galaxy presented a protracted meditation on the sensory and cultural results of phonetic literacy and printing. Relying heavily on quotations from scientific authorities and literary favorites, McLuhan fleshed out the psychology merely hinted at in the *Explorations* period. Technological tools, such as the wheel or the alphabet, became mega-extensions of human sense organs or bodily functions. Each new media technology possessed the power to hypnotize because it isolated the senses, which in tribal man presumably existed in perfect symmetry. A division of faculties and a change in sense ratios occurred when any one sense or bodily function was externalized in technological form.

> Those who experience the first onset of a new technology, whether it be alphabet or radio, respond most emphatically because the new sense ratios, set up at once by the technological dilation of eye or ear, present men with a surprising new world, which evokes a vigorous new "closure," or novel pattern of interplay, among all of the senses together. But the initial shock gradually dissipates as the entire community absorbs the new habit of perception into all of its areas of work and association. But the real revolution is in this later and prolonged phase of "adjustment" of all personal and social life to the new model of perception set up by the new technology.[44]

The phonetic alphabet made the first critical break between eye and ear, between semantic meaning and visual code. Unlike pictographic or syllabic forms of writing, the phonetic alphabet assigned semantically meaningless letters to semantically meaningless sounds. By extending and intensifying the visual function, it diminished the roles of the other senses of hearing, touch, and taste in literate cultures. Following Innis, McLuhan pointed to the Greek myth of King Cadmus, who introduced the phonetic alphabet to Greece. He was said to have sown the dragon's teeth that later sprang up as armed men. The alphabet meant power and authority, especially because it provided a means of controlling military structures at a distance. Combined with papyrus, it spelled the end of

priestly monopolies of knowledge and power and, by implication, the destruction of nonalphabetic cultures. "By the meaningless sign linked to the meaningless sound," McLuhan asserted, "we have built the shape and meaning of Western man."[45]

The invention of movable type completed the process of alienating man from his original tribal state of a participatory, "audile-tactile" way of life. "The invention of typography confirmed and extended the new visual stress of applied knowledge, providing the first repeatable commodity, the first assembly line, and the first mass production." As such, print differed markedly from the phonetic literacy expressed in written manuscripts. Compared to printed books, medieval manuscripts were of low definition; they were usually read out loud and thus required some interplay of the senses. The printed book mechanically intensified the effects of the phonetic alphabet, further fragmenting sensory life by heightening the visual bias. It made reading a more private and silent activity. The book's portability also contributed to a new cult of individualism. By turning the spoken language into a closed visual system, print created the uniform and centralizing conditions necessary for nationalism. When the assumptions of homogeneous repeatability were extended to other concerns of life, they "led gradually to all those forms of production and social organization from which the Western world derives many satisfactions and nearly all of its characteristic traits."[46]

The Gutenberg Galaxy is a great synthetic work, a tour de force of humanist scholarship. McLuhan's own contribution to it rested largely on his interpretations of Renaissance authors; he invariably reduced their works to sophisticated comments on the impact of print in their time. As artists, Shakespeare, Pope, Marlowe, Swift, Rabelais, and More were the only contemporaries capable of understanding the traumas brought on by the new print technology.

McLuhan saw the present age as a new Renaissance, a new sensory galaxy ushered in by electronic media that are capable of jolting our sensibilities as sharply as the printing press did earlier. The present is the "early part of an age for which the meaning of print culture is becoming as alien as the meaning of manuscript culture was to the eighteenth century." Ironically, America, which has the largest backlog of obsolete technology, now leads the transition into the electronic era. It thus suffers the most severe pains of conversion. "The new electric galaxy of events has already moved deeply into the Gutenberg galaxy. Even without collision, such coexistence of technologies and awareness brings trauma and tension to every living person. Our most ordinary and conventional atti-

tudes seem suddenly twisted into gargoyles and grotesques. Familiar institutions and associations seem at times menacing and malignant."[47]

If *The Gutenberg Galaxy* stood as McLuhan's history of the disturbances ensuing from literacy and print, *Understanding Media* (1964) was his educational guide for easing the psychic conversion into the new age. In fact, the book first appeared as a mimeographed report, commissioned by the U.S. Office of Education, on how to teach the effects of media in secondary schools. It is the work that made McLuhan a household name and stirred the greatest controversy both in and outside of the schools. It is also his least substantial and most dated book. Its subtitle, "The Extensions of Man," reflects the increasing importance McLuhan placed on his psychology as well as on his role as a pioneering scientist.

According to McLuhan, the new electric technology is "organic and non-mechanical in tendency because it extends, not our eyes, but our central nervous systems as a planetary venture." He was by no means the first to employ the analogy between media and the central nervous system. While seeking a government subsidy for his research in electromagnetic telegraphy in 1838, Samuel Morse wrote in terms that uncannily presaged McLuhan. Six years before the completion of the first American telegraph line, Morse thought it not too visionary "to suppose that it would not be long ere the whole surface of this country would be channelled for those *nerves* which are to diffuse, with the speed of thought, a knowledge of all that is occurring throughout the land; making, in fact, one *neighborhood* of the whole country."[48] But McLuhan elevated this metaphor into a psychological and biological principle at the center of a rigid technological determinism.

The effects of media technology occur not on the conscious level of opinion and concepts, but on the subliminal level of sense ratios and patterns of perception. His famous phrase, "the medium is the message," refers to the change in scale or pace or pattern that any extension of communications technology introduces into human affairs. Each extension, however, brings with it a numbness or narcoticizing effect that blinds people to its real meaning. McLuhan claimed, "I am in the position of Louis Pasteur telling doctors that their greatest enemy was quite invisible, and quite unrecognized by them. Our conventional response to all media, namely that it is how they are used that counts, is the numb stance of the technological idiot. For the 'content' of a medium is like the juicy piece of meat carried by the burglar to distract the watchdog of the mind."[49]

McLuhan repeatedly referred to the "numbness," "trance," "subliminal state," "somnambulism," and "narcosis" induced by the new electronic media. He attached great significance to the Greek myth of Narcissus, just as Freud placed the myth of Oedipus at the center of his psychology. The "Narcissus narcosis" parallels Freudian repression, serving as self-protecting numbing or anesthetizing of the central nervous system.

> The youth Narcissus mistook his own reflection in the water for another person. This extension of himself by mirror numbed his perception until he became the servo-mechanism of his own extended or repeated image. . . . Any invention or technology is an extension or self-amputation of our physical bodies, and such extensions also demand new ratios or new equilibriums among other organs and extensions of the body. . . . To behold, use, or perceive any extension of ourselves in technological form is necessarily to embrace it. To listen to radio or to read the printed page is to accept these extensions of ourselves into our own personal system and to undergo the "closure" or displacement that follows automatically. It is this continuous embrace of our technology in daily use that puts us in the Narcissus role of subliminal awareness and numbness in relation to these images of ourselves. By continually embracing technologies, we relate ourselves to them as servomechanisms. That is why we must, to use them at all, serve these objects, these extensions of ourselves, as gods or minor religions.[50]

McLuhan embraced a species of determinism that might be labeled *technological naturalism*. He argued that in his normal use of technology, man is perpetually physiologically modified by his own inventions. "Man becomes, as it were, the sex organs of the machine world, as the bee of the plant world, enabling it to fecundate and to evolve ever new forms. The machine world reciprocates man's love by expediting his wishes and desires, namely, in providing him with wealth."[51] The new media are not bridges between man and nature; they *are* nature.

Technological naturalism is the ecological partner to McLuhan's psychology. That is to say, he identified the changes associated with the new media as environmental and invisible to people in the way that water must be invisible to fish. Hence McLuhan's insistence that he operated like a scientist, clinically detached for survival purposes: "One must begin by becoming extra-environmental, putting

oneself beyond the battle in order to study and understand the configuration of forces. It's vital to adopt a position of arrogant superiority . . . without the detached involvement, I could never objectively observe media. . . . So I employ the greatest boon of literate culture: the power of man to act without reaction—the sort of specialization by dissociation that has been the driving motive force behind Western civilization." There is a great irony here. McLuhan announces that electronic media portend a return to the "seamless web of tribal kinship in which all members of the group existed in harmony," a richer and more passionate world than Gutenberg's. Yet he must fervently invoke the potent image of scientist, the ultimate product of literacy, in order to legitimize himself.[52]

There is a persistent strain as well between passive acceptance and the pragmatic urge to control. He argued that we are within conceivable range of a world automatically controlled to the point where we could say: "'Six hours less radio in Indonesia next week or there will be a great falling off in literary attention.' Or 'We can program twenty more hours of TV in South Africa next week to cool down the tribal temperature raised by radio last week.' Whole cultures could now be programmed to keep their emotional climate stable in the same way that we have begun to know something about maintaining equilibrium in the commercial economies of the world." McLuhan simply tosses off objections to this monstrous vision as useless and distracting moralizing. "Computer technology can and doubtless will program entire environments to fulfill the social needs and sensory preferences of communities and nations. The *content* of that programming, however, depends on the nature of future societies—but that is in our own hands."[53]

Television is the crucial new communications medium in the retribalization process. It is a "cool" medium, by which McLuhan means that it has low definition and therefore demands greater participation on the part of its audience. Like other cool media, such as cartoons, hieroglyphics, and manuscripts, television requires the audience to complete the picture, to fill in the gaps. "Hot" media, such as photographs, prints, movies, and radio, extend one single sense in high definition, leaving little to be filled in. The television image is not a photo in the usual sense but a "ceaselessly forming contour of things limned by the scanning finger. The resulting plastic contour appears by light *through*, not light *on*, and the image so formed has the quality of sculpture and icon, rather than of picture. The TV image offers some three million dots per second to the receiver. From these he accepts only a few dozen each instant, from

which to make an image." Although McLuhan is correct in noting the difference between electromagnetic and film images, his argument is certainly not scientific. There is no evidence for his hypothesis; it is difficult to see any difference between the automatic, filling in of the television picture and the "persistence of vision" phenomenon that makes motion pictures possible. Each of these occurs automatically, without conscious thought by the viewer. In addition, the quality of the television image has improved enormously over the past fifteen years with color and the new solid-state and cable systems.

McLuhan's pseudoscientific description of television's sensory impact centered on the supposed tactility of the image. "The TV image requires each instant that we 'close' the spaces in the mesh by a convulsive sensuous participation that is profoundly kinetic and tactile, because tactility is the interplay of the senses, rather than the isolated contact of skin and object." For McLuhan, the sense of touch represented the sum of all human senses, the long lost *sensus communis* of the tribal man. Television is thus the practical means for recovering the shattered psychological unity in the modern world.[54]

In the last analysis, McLuhan offered us a trick of vision, not a true social theory. Either one sees it or one does not. Formerly, only the artist could accurately foresee and comprehend the violent psychic changes accompanying new media technology. Today, the instant speed of electric information permits easy recognition of the patterns of change. The transcendental leap is now possible for all. "If adjustment (economic, social, or personal) to information movement at electronic speed is quite impossible, we can always change our models and metaphors of organization, and escape into sheer understanding. Sequential analysis and adjustment natural to low speed information movement becomes irrelevant and useless even at telegraph speed. But as speed increases, the understanding in all kinds of structures and situations becomes relatively simple."

McLuhan substituted mythology for history by ignoring or distorting the real historical and sociological factors that shaped media institutions. "It is instructive to follow the embryonic stages of any new [media] growth," he wrote, "for during this period of development it is much misunderstood."[55] In his role as mythmaker, McLuhan argued deterministically that our media of communication had to evolve the way they did. His technological naturalism made media biological rather than social extensions of man. Although he purported to trace the cultural development of man through communications media, his history is curiously devoid of real people.

The obsession with his own image as a clinically detached scientist stemmed from his need to exploit the prestige enjoyed by scientific explanation in the modern era. Behind the flashy scientism, McLuhan actually transformed the history of communication into a seductive allegorical narrative, which preaches that we must first submit before we can be saved.

The plain fact that so much of McLuhan's later works already seems dated reveals him as a distinctive phenomenon of the 1960s. He may very well be remembered more for his analyses of content than those of form, even though he has repudiated *The Mechanical Bride* as obsolete since television. The great attention given to the generation gap, youth revolt, and university protest in *Understanding Media* and the later picture books (*The Medium is the Massage, Counterblast*) seems particularly naive today. His enormous popularity no doubt accounted for the ferocity of some of the attacks made upon him by the literary and university establishments; he reserved his greatest scorn in interviews for the traditional literary critics.

His vogue and the reaction to it clearly met a need. The sixties will be remembered, among other things, as the decade in which television came of age as the dominant medium of communication. Television had saturated America by 1960, with at least one set in virtually every home. Daily national network news arrived in 1963. McLuhan both reflected and encouraged the growth of media awareness in American society. He also identified correctly the extremely incestuous trend among the media themselves; an extraordinarily high percentage of media content consists of items concerning other media forms. Today, all entertainment, news, political events, and advertising coexist equally as multimedia affairs.

Along the way to his popular breakthrough, however, McLuhan smoothed out any of the critical edges he had exhibited in his thinking. He certainly abandoned the critical context that had been so crucial in the work of his alleged mentor, Harold Innis. Stripped from the public McLuhan were any Innisian vestiges of moral and political concern with American media imperialism, Canadian resistance, the power of advertising, or the growing hegemony of space over time bias in Western culture. In his focus on the primacy of forms of transmission, McLuhan borrowed freely from Innis; but with McLuhan, Innis's despairing warnings about the direction of new communications technologies were transformed into a celebration of the "inevitable."
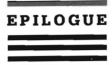
McLuhan's glorification of television slid very easily into an

apology for the corporate interests that controlled the medium. The McLuhan cult on Madison Avenue was very real in the sixties, as the advertising industry leaped to embrace a college professor who told ad men that they were creative artists. "People are looking all the time for an intellectual explanation of the work they are involved in," wrote one advertising executive in 1966. "They have for many years . . . revolted from the idea that advertising was mysterious, a sort of 'black art.' They wanted to know why and how it worked. I think in many ways McLuhan has had more to say for us to solve these problems than anybody previously."[56] McLuhan's frequent appearances on television helped turn him from knowledgeable sage into a mere pop idol grateful for the chance to glorify the medium giving him so much free exposure.

McLuhan's corporate multimedia newsletter, *Dew Line*, as well as his various consulting deals with advertising and media conglomerates, made it hard to swallow his continual public stance that he *personally* abhorred the changes he described. Yet one need not accept his personal mythology or his ties with the corporate world to acknowledge his contribution to a general shift in perception in American culture.

McLuhan's impact ought to be set in the context of the broader trend toward synchronic analyses of language, communication, myth, and expressive forms of all types. The post–World War II intellectual breakthroughs in structural anthropology, linguistics, and semiotics[57] all had certain affinities with the New Critical literary tradition in which McLuhan had originally been trained. Indeed, McLuhan himself may be viewed as a "medium" who popularized these approaches by applying their techniques to the analysis of American media fare. He made these esoteric disciplines relevant to the public imagination; in the process, he greatly enlarged the range of "legitimate" areas for cultural study.

McLuhan's penchant for exaggeration and outrage, for the pun and the probe, no doubt detracted from his status as a serious social theorist. The man who once appeared as a learned, obsessed, and even inspired prophet succeeded in getting just enough of his message across to be reduced to just another entertainer. His recent death made front-page news, putting him once again in the media spotlight from which he had receded. But the obituaries generally treated him as a quaint oddity from the mythological sixties, the quintessential product and creator of that media-haunted decade.

EPILOGUE

Dialectical Tensions in the American Media, Past and Future

We may think of the post-McLuhan era as one characterized by a deeper and more sophisticated consciousness of the enormous role played by modern communication in everyday life. But the semantic ambiguities once associated with the word *communication* now seem to have regrouped around that increasingly opaque term, *the media.* Much of the discourse about the media, in learned journals as well as informal conversation, suffers from fuzziness, lack of clarity, and a jumble of definitions. Think, for example, of the ways in which the noun *media* finds growing expression as an adjective, as in "media event," "media people," or "media hype."

Think, too, of the various usages of the noun form. The modern sense of the word dates, interestingly enough, from its use in advertising trade journals of the 1920s, as in the phrase "advertising media." But today the term is used interchangeably with the press or the journalistic profession, especially in the sense of investigative reporting. At the same time, *media* is often used to distinguish nonprint forms of communication, such as film and broadcasting, from print. It may connote the larger realms of entertainment and show business. Denunciations of the media as too liberal, too permissive, too conservative, or too manipulative invoke the term as a moral or political category. Most everyone engages in damning the media for glorifying, exaggerating, or even causing some particularly odious feature of modern life.

Confusion of the singular and plural forms, *medium* and *media,* surely reflects a popular perception of the incestuous relations

among the various mass disseminators of words and images. Media content is remarkably reflexive; each medium is filled with material from and about other media. Over the past twenty years, a virtual fusion of the techniques, style, and subjects of entertainment programs and news programs has taken place. On the level of public awareness, this superheated reflexiveness takes some curious forms. Television rating wars between the networks are now treated as hard news; film and broadcasting executives enjoy an exalted status as celebrities, cult figures, and creative auteurs in their own right.

The bourgeois commercial nexus at the center of the American film, broadcasting, and press industries clearly encourages this situation. It also promotes the media as a total, unchanging, "natural" part of modern life. Indeed, the everywhere-ness, all-at-once-ness, and never-ending-ness of the media are powerful barriers to understanding, or even acknowledging, their history.

The diverse meanings evoked by the term *media* represent a linguistic legacy of the contradictory elements embedded in the history of all modern means of communication. For each medium is a matrix of institutional development, popular responses, and cultural content that ought to be understood as a product of dialectical tensions, of opposing forces and tendencies clashing and evolving over time, with things continually giving rise to their opposite. Broadly speaking, these contradictions have been expressed in terms of the tension between the progressive or utopian possibilities offered by new communications technologies and their disposition as instruments of domination and exploitation.

One finds parallels or refractions of this dialectic in the thought of American communications theorists. Within the tradition as a whole, Harold Innis and the later McLuhan represent opposite poles. Charles H. Cooley and John Dewey shared affinities with McLuhan's more utopian outlook, although they started from quite different premises. The emphasis among the Frankfurt group on the media as primary agents for maintaining the dominant monopolies of knowledge and power echoed the profound pessimism of Innis, but from quite another political and cultural vantage point. To varying degrees, several individual thinkers, notably Robert Park, encompassed these tensions within their own work. And the career of Paul Lazarsfeld, key figure in the empirical and behavioral tradition, exemplified the intellectual dialectic, for the refugee who survived by juggling market research contracts also gave T. W. Adorno his first job in America.

What I would like to stress here is the need to recover the histori-

cal elements of an as yet uncompleted dialectic in order to further understand the present configuration of American media, to suggest avenues for future research, and to perhaps make sense of the upheaval currently being wrought by new cable, video, and satellite technologies. What follows is a historical sketch of some dialectical tensions in American media as viewed from the three related standpoints of early institutional developments, early popular responses, and the cultural history of media content. Examples are taken mainly from the three media whose histories have already been discussed: the telegraph, motion pictures, and radio.

If the schema presented below seems to have naively favored the utopian side of the dialectic, I can only point to the present dearth of knowledge. We need to redress an imbalance in our historical thinking, to recover a hidden side of media history. At the same time, I have suggested a few nodes on the grimmer side that might prove fertile territory for investigation, areas where the media operate as the excrescence of commercial capitalism.

Finally, I have offered some thoughts on how the historical perspective may help us gain some insight into the latest rash of technological breakthroughs. Here I am less interested in presenting a static, grand theory than in stimulating discussion and action concerning the new fields that are now opening up in three main areas: decentralized distribution networks, greater individual control of hardware, and opportunities for innovative programming.

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Considered as an institution, each medium that evolved from the work of individual inventors and entrepreneurs was later subsumed into larger corporate or military contexts. The key roles played by small concerns and amateurs in the early history of new communications technologies are too often forgotten. Yet the importance of corporate and military settings for technological progress and of the accompanying support by large capital investments and highly organized research teams clearly intensifies the closer one gets to the present.

Samuel F. B. Morse's perfection of a practical electric telegraph was a lonely and poverty-stricken venture. For six years after the 1838 demonstrations of a workable instrument, Morse failed to obtain any government or corporate subsidy for his work. Congress finally authorized a thirty-thousand dollar appropriation to build the first telegraph line in 1844. However, in refusing Morse's offer to buy him out, Congress thwarted his wish that the government con-

trol future telegraph development. The ensuing twenty-five years of wildcat speculation and construction, both fiercely competitive and wasteful, finally ended with the triumph of Western Union, the first of several communications monopolies owned by private enterprise.

In the case of motion pictures, one finds a larger group of individual inventors and small businessmen acting as prime catalysts for technological innovation. The variety of cameras and projectors used in the early years reflected the contributions of numerous inventors from around the world. In the early industry, capital investment as well as creative energy came largely from Jewish petit bourgeois immigrant exhibitors and distributors. They were eager to invest in the new business that was beneath the dignity of traditional sources of capital. With roots deep in the urban thicket of commercial amusements, motion pictures found their first audiences mainly in the ethnic and working-class districts of the large cities.

Each early attempt to standardize or license equipment, films, and distribution was undermined by successive waves of independents. The Motion Picture Patents Company, heavily capitalized and dominated by the Edison interests, looked invincible when formed in 1909, but it lasted only a few years. The Hollywood film colony, later the symbol of authority and rigid control, was originally founded by independents seeking to escape the grip of the patents company. The fluidity of the movie industry congealed after the introduction of sound in the late 1920s. "Talkies" helped solidify the hold of a few major studios as the technological complexity of sound production precluded the sort of independent activity characteristic of the early years.

Individual inventors and amateurs figured prominently in the first years of radio as well. Pioneers such as Marconi, De Forest, and Fessenden laid much of the foundation for wireless technology in small, personal research settings. The technological sophistication required for wireless telephony, as well as the needs of the military in World War I, encouraged more systematic and heavily financed research and development. Still, it is worth remembering that an important part of the strategy of large corporations such as A T & T and GE involved buying out and intimidating individual inventors, the most famous case being the notorious dealings of A T & T with Lee De Forest.

World War I had encouraged a boom in radio research, with close cooperation between A T & T, GE, Westinghouse, and the federal government, and it had led directly to the creation of RCA. But the

emergence of broadcasting in 1920 came as a shock. Virtually no one had expected broadcasting, the sending of uncoded messages to a mass audience, to become the main use of wireless technology. By 1926 corporate infighting in the radio world resolved itself, leaving in its wake the basic structure of today's commercial television. A T & T agreed to abandon direct broadcasting and sold its station WEAF to RCA. A T & T then won RCA's assurance that it would drop plans to build an independent long-line system of wires. In addition, RCA, GE, and Westinghouse set up the National Broadcasting Company to exclusively handle broadcasting and contracted to lease the A T & T web of wires. NBC, with this powerful corporate backing, began to offer the first regular national broadcasting over two networks based in New York.

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The dream of transcendence through machines is an ancient one, and the urge to annihilate space and time found particularly intense expression through new communications media. Overcoming the old constraints of time and space implied a great deal more than mere advances in physics. Generally speaking, popular reactions to dramatic improvements in communication emphasized the possibilities for strengthening a moral community and celebrated the conquering of those vast social and cultural distances that had traditionally kept the large majority of people isolated.

An especially strong utopian cast marked contemporary responses to the telegraph and the wireless. The public greeted the first telegraph lines of the 1840s with a combination of pride, excitement, sheer wonder, and some fear. As telegraph construction proceeded quickly in all directions, doubters, believers, and curious bystanders in dozens of cities and towns flocked to get a firsthand look. In 1844 Alfred Vail, Morse's assistant, reported that at the Baltimore end of their experimental line crowds besieged the office daily for a glimpse of the machine. They promised "they would not say a word or stir and didn't care whether they understood or not, only they wanted to say they had seen it." The first telegraph offices had to take these excited crowds into account. Walling off inquisitive onlookers with glass partitions, an early Pittsburgh office announced: "Ladies and Gentlemen, visiting the room merely as Spectators, are assigned ample space, as the most Perfect Order is desirable for the convenience of the public as well as of the Telegrapher."[1]

Successful completion of the first Atlantic cable in the summer of 1858 inspired wild celebrations around the country. Such intense

public feeling about a technological achievement appears rather strange to us now; certainly it is difficult to envision such a reaction today. Bonfires, fireworks, and impromptu parades marked the occasion across the nation. New York City held a huge parade, which was described as the city's largest public celebration ever. Over fifteen thousand people, from working men's clubs, immigrant societies, temperance groups, and the like, marched in a procession that revealed the strength of the telegraph's hold on the public imagination.

A widely evinced sentiment held that "the Telegraph has more than a mechanical meaning; it has an ideal, a religious, and a prospective significance, far-reaching and incalculable in its influences." The subtle spark of electricity, one of the fundamental, if dimly understood, creative forces of the universe, was now at man's disposal. The telegraph applied that "marvellous energy to the transmission of thought from continent to continent with such rapidity as to forestall the flight of Time, and inaugurate new realizations of human powers and possibilities." The divine boon of the telegraph allowed man to become more godlike. "It is the thought that it has metaphysical roots and relations that make it sublime." Such paeans rhetorically united the technological advance in communication with the ancient meaning of that word as common participation or communion. They presumed the success of certain Christian messages; but they also suggested that the creation of a miraculous communications technology was perhaps the most important message of all.[2]

One can discern a direct link between the more spiritually toned early responses and the boom in electronic revivalism today. There seems no doubt in the minds of contemporary evangelists about the answer to Morse's query, "What hath God wrought?" The most effective and avant-garde use of the latest communications technologies is probably being made by the various evangelical preachers who regularly "thank God for television" as they broadcast revivals over vast cable and satellite hookups. As Bishop Fulton J. Sheen, a pioneer in the field, once remarked: "Radio is like the Old Testament, hearing wisdom, without seeing; television is like the New Testament because in it the wisdom becomes flesh and dwells among us."[3]

There were secular prophets as well, equally awed by the transforming potential of instantaneous communication. "I see the electric telegraphs of the earth/I see the filaments of the news of the wars, deaths, losses, gains, passions of my race," sang Walt Whit-

man in "Salut Au Monde" (1856). We know, of course, that those telegraphs ultimately were appropriated by the corporate power of Western Union and the Associated Press. But perhaps Whitman used "filaments" in a double sense, including its traditional meaning as part of the reproductive organs of a flower. If so, he conjured a potent predictive insight. For the telegraph, which we might take as a historical synecdoche for all the electronic media that followed, did more than carry the news. It helped create novel ways of chronicling, reporting, and dramatizing the "wars, deaths, losses, gains, passions" of the society. Our historical knowledge of these forms and their internal relations—from wire service reports and syndicated columns through tabloids, newsreels, and network news—remains surprisingly skimpy.

A more privatized type of utopian response greeted the first wireless devices of the 1890s and early 1900s. In the writings of scientists, amateur enthusiasts, and trade publications, one finds repeated projections of how wireless technology would soon be tailored to fit the personal needs of operators. Many observers of the rapidly advancing scene believed "we shall talk with our friends at sea or from sea to land, or from New York to Peking almost as freely as we now talk to our neighbors in the next block. An opera performance in London or Berlin will be caught up by this new transmitter set about the stage and thrown into the air for all the world to hear . . . it may be that no farm or fireside will be without one."[4]

Today we think of radio as synonymous with broadcasting, but in the first years after the earliest broadcasts the amateur wireless community scoffed at the idea that radio ought to be dominated by a few big stations. The activity of wireless amateurs from around 1905 through the late 1920s is too often neglected as a factor in the history of radio. The "hams" provided a crucial demand for wireless equipment, supplying the original seed capital and audience for the radio industry. They bought radio equipment and kept up with the latest technical advances before and after the first broadcasting. This group numbered perhaps a quarter of a million around 1920, including some fifteen thousand amateur transmitting stations.

Throughout the 1920s radio mania remained an active, participatory pastime for millions. One had to constantly adjust and rearrange batteries, crystal detectors, and vacuum tubes for the best reception. For numerous radio fans of all classes, the excitement lay precisely in the battle to get clear reception amidst the howling and chatter of the crowded ether. The cult of "DXing," trying to receive the most distant station possible, remained strong for years. In 1924

one newly converted radio fan wrote, not untypically, that he was not especially interested in the various programs. "In radio it is not the substance of communication without wires, but the fact of it that enthralls. It is a sport, in which your wits, learning, and resourcefulness are matched against the endless perversity of the elements. It is not a matter, as you may suppose, of buying a set and tuning in upon what your fancy dictates."[5]

By the end of the 1920s, however, the ascension of corporate-dominated commercial broadcasting radically curtailed this sort of radio activity. Broadcasting, originally conceived as a service by manufacturers for getting people to buy surplus radio equipment, eventually shoved aside the very people who had nurtured it. In its mature state, radio succeeded not in fulfilling the utopian visions first aroused by wireless technology, but rather in incorporating those urges into the service of advertising. First in radio and then in television, commercial broadcasting became the cutting edge of a technologized ideology of consumption. Consumer goods promised to make one happy by returning what had vanished. "Nostalgia," originally a painful melancholy caused by absence from one's home or country, has acquired a primarily temporal sense since the rise of broadcasting. One has nostalgic, bittersweet longings for earlier, "simpler" times, and these times are most frequently signified by a "golden age" of radio, movies, popular music, and so forth. Commercial broadcasting wedded the advertiser's message to older popular cultural forms that were transferred to the new home environment of radio.

Today, the advertising and marketing axis that grew up with radio has made audience demographics the crucial template for the production of most of our culture's symbolic forms of expression. The term *life-style* best captures the essence of the current version of this ideology of consumption. A catchall description for everything from one's clothing, work, or furnishings to preferred leisure pursuits, entertainments, and inebriates, this phrase already seems to have achieved saturation. It reduces all life to a style, equating how one lives with what one consumes. The post–World War II perfection of demographics as a predictive science and as a producer of crucial cultural maps is a story that remains to be told.

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The cultural history of modern media, that is, the evolution of their content and the relation of that content to the larger popular cul-

ture, reveals another set of contradictions at work. To the extent that popular culture may be equated with the popular arts, modern media have operated mainly as business enterprises intent on maximizing profits. Especially within the broadcast media, the authority of advertising has been paramount in the establishment of cultural parameters and in the promotion of the consumption ethic as the supreme virtue. But this hegemony has never been as complete and total as it seemed on the surface. The media have not manufactured content out of thin air. Historically, the raw materials for media fare, as well as its creators, have been drawn from an assortment of cultural milieus.

The cultural histories of American film, radio, and television, particularly in their early years, could arguably be written entirely from the point of view of the contributions of "the others," immigrant, ethnic, and racial minorities in particular. The critical part played by immigrant audiences and Jewish immigrant entrepreneurs in the rise of the movie industry is well known. Slapstick comedy, raucous, vulgar, and universally appealing, was the first style to pack audiences in. It was also the first style to be identified as uniquely American around the world. Only in Hollywood could a Fatty Arbuckle be transformed in three years from a semiskilled plumber's helper into a comedy star making five thousand dollars a week. When the Warner brothers made the great leap into the sound era in 1927, it was not by accident that they chose *The Jazz Singer*, starring Al Jolson, as their vehicle. Its story of how a cantor's son renounces his father's religion for a career as a popular singer encapsulated both the history of the movie industry itself and the rapid secularization of Jewish life in America. The early film industry was energized in large part by a projection of the powerful urge toward collective representation so prominent in Jewish culture. The Jewish moguls reinvented the American dream in the course of creating the Hollywood mythos.

In the case of broadcasting, the exigencies of advertising demanded that programming present an aura of constant newness. Yet the content relied heavily upon traditional forms. Variety shows, hosted by comedians and singers, became the first important style on network radio. Drawing heavily upon the vaudeville format, these shows remained quite popular through World War II; many of the stars continued their success on television. The master of ceremonies served as a focal point for activity and as a means of easy identification with a sponsor's product. Most of the variety stars had long experience in earlier stage entertainment; ethnic and regional

stereotypes, dialect stories, and popular song, all staples of vaudeville and burlesque, easily made the transition to broadcasting. So too did the pre–Civil War form of minstrelsy. The characters in radio's first truly national hit show, "Amos n' Andy" (1928), were direct descendants of blackface minstrel show figures.

These entertainments, and radio in general, seemed to have played a significant mediating role for certain audiences. There is intriguing fragmentary evidence suggesting that, in the early years of radio at least, children of immigrants, particularly in cities, were more likely to own radios than any other group. The census of 1930 revealed that 57.3 percent of the children in families of foreign or mixed parentage owned radio sets, as compared with 39.9 percent in families of native parentage. Among urban families, the figures were 62.8 percent (highest of any group) and 53.2 percent, respectively. The historical relation between "media mindedness" and "cultural otherness" is still largely unexplored, beyond a facile notion of "Americanization."[6]

The history of American popular music in this century offers perhaps the clearest example of how media content has been continually invigorated and revitalized by forms, styles, entertainers, and artists from outside the mainstream. The growth of radio broadcasting and the recording industry in the 1920s hastened the cross-fertilization of popular (but hitherto localized) musical forms. America's rich racial and geographical diversity of authentic folk musics—country, "mountain music," blues, jazz—became commercialized and available to much broader audiences. The new media allowed audiences and artists exposure to musical forms previously unknown to them. The post–World War II rise of rock 'n' roll, closely allied to the more general phenomenon of youth culture, reflected a vital new amalgam of white country music, black blues, and traditional Tin Pan Alley show music.

Recent infusions of Third World musics such as reggae, ska, and salsa point to the growth of an international, multicultural style in popular music. Beneath all its glitter and flash, the disco boom is fundamentally based on the popularization of Latin dance rhythms, spiced with the urban gay sensibility. The power of the recording and radio industries to standardize and exploit popular music, to hype stars and trends, ought not to be ignored or minimized. But denial of the authenticity at the core of much popular music grossly simplifies the complex tensions existing within our popular culture.

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Before I discuss several of the latest developments in communications technology, it might prove instructive to cast a fleeting look backward at two early media dreamers, Edward Bellamy and Hugo Gernsback. In 1889 Bellamy, America's preeminent utopian, elaborated an idealized vision of future communications in his short story "With the Eyes Shut." He described the dream of a railroad passenger suddenly transported into a whole new world of media gadgets. Phonographed books and magazines have replaced printed ones in railroad cars. Clocks announce the time with recorded sayings from the great authors. Letters, newspapers, and books are recorded and listened to on phonographic cylinders, instead of being read. With a slide-projecting phonograph, one can even listen to a play while watching the actors. Everybody carries around an indispensable item, a combination tape recorder and phonograph. Bellamy seems most concerned that the sense of hearing threatens to overwhelm that of sight. But what stands out in his fable is the limitless choice of programming available to the individual in a private setting.

Whereas Bellamy's fantasy spun images of inexhaustible "software," Hugo Gernsback, science-fiction writer and wireless enthusiast, was captivated by the radical potential of radio "hardware." In the early 1900s Gernsback tirelessly promoted amateur wireless activity in his own magazines and others. The culmination of this work came in his book *Radio For All* (1922), which projected "the future wonders of Radio" fifty years hence. Gernsback predicted the coming of television, videophones, telex, and remote-controlled aircraft. He managed to think up some devices we seem to have missed: radio-powered roller skates, radio clocks, even a "radio business control" console. As the frontispiece to Gernsback's book shows, he envisioned a future where an individual's radio equipment would be at the very center of business and social life.

Atavistic expressions of the utopian urges given voice by Bellamy and Gernsback appear all around us today. Only now, with the advent of new satellite and video technologies, their fantasies have a firmer material base. Of course, Bellamy's "software socialism" and Gernsback's "hardware socialism" hardly appear to be lurking around the corner; corporate capital has enormous resources invested in the expansion of that material base. The press is filled with stories detailing the maneuvers of RCA, Warner Communications, MCA, SONY, and all the rest in the scramble to get a piece of the new action. No one can deny the central position of big capital in

the new advances. But the recent developments may still promise in essence what they appear to deny in substance.

The accelerated evolution of media hardware and software has been fueled largely by the persistence of utopian urges in the population at large. With the impending spread of cheap video hardware to large numbers of people—video cameras, cassette recorders, video disc players, and home computers—the potential exists for individuals and collectives to become producers as well as consumers. The historical gap in broadcasting between the oligopoly of transmission and the democracy of reception may thus be drastically reduced. It is important to see the interaction between the corporate giants and the deep and genuine desire on the part of people to gain more direct control over the means of communication and the content of communications. The recent revival of the cable television industry is a good case in point.

The decentralizing capacity of cable television has long been recognized, if not actually realized. Indeed, by the early 1970s, the "blue-sky" predictions that ended nearly every discussion of cable in the 1960s seemed laughable. The cable industry was in a great depression, with very little wiring of communities taking place. All the talk about public access channels, two-way hookups, video telephones, home computer terminals, and so forth seemed quite hollow because scarcely any cable companies could get financing to wire homes. Even in New York City, potentially the most lucrative market, both cable franchises were losing millions each year. But two new factors added to the scene in the last five years or so have rejuvenated the industry and freed venture capital.

First, the rise of pay cable services such as Home Box Office (HBO) and Showtime revealed an extensive latent demand for alternative programming. These channels charge a premium each month above the basic cable rate. HBO, owned by Time-Life and the dominant force in pay cable, began with a simple formula of old movies and live sports. It is now moving rapidly toward providing more original programming, such as entertainment specials, comedy shows, plays, and even something it dubs "docutainment," which sounds rather like a modern version of the old "March of Time" newsreels.

Second, the success of RCA's and Western Union's communication satellites has created viable distribution networks for the cable companies. Earth station receivers, costing anywhere from two thousand to twenty thousand dollars, allow cable operators to "get on the bird." Programmers are now busily putting together new

networks and pay services aimed at reaching the growing cable audience. The availability of new and specialized programming in turn has stimulated a new demand for cable systems in various communities. Presently, about fifteen million American homes are wired for cable; some industry analysts think the figure could be 80 percent of all television homes by 1990.

Insofar as the power of commercial network television is based on its ability to deliver mass audiences to advertisers, its strength may soon be challenged by the decentralizing trend in cable. Several new networks aimed at specialized audiences have been created already: children, Hispanics, senior citizens, sports junkies. Cable and its attendant new video technologies will, at the very least, mean the decline of mass market television, breaking the thirty-year-old grip of the three commercial networks. The potential for eventual direct satellite transmissions to homes, bypassing local stations and cable systems alike, is also very real. The technological stage is now set for the postbroadcasting era.

Many cable programmers hope to profit in much the same way as special interest magazines, by precisely targeting a well-defined fraction of the population that certain advertisers wish to reach exclusively. The concept is known as "narrowcasting." One might legitimately ask what is so promising about these developments; the specter of "demographic" cable programming is rather depressing. For the present, however, one could argue that the revival of the cable industry itself has been a positive development, spurred by the push and pull between people who want alternative programming and programmers who want to see a greater cable market before they invest. There is no doubt that the hardware is now far ahead of the software. The crucial question has become, Can imaginative and innovative programming be created to take advantage of the new technologies?

The key point is that all of the independent program developers, artists, and political activists, who for years have been thwarted by the current system and could never get on the networks, now have a potential way to reach large audiences. A show that reaches twenty million people over network television today is considered a failure; this sort of standard will of necessity change. The new networks of distribution provide possible entry points for independents to reach viewers. Perhaps the most promising new nodes will be local cable and video discs.

Local cable companies all provide a surfeit of channels, including public access and leased channels. For a very small fee, public

access channels allow total freedom for live, local programming. Most cable systems also have channels that can be leased by local groups who have lined up sponsors for their program. This whole area is currently in an embryonic state of development, although some communities are farther advanced in exploiting the potential for grass-roots programming.

There are still large unanswered questions about the video disc, which has just begun to be mass marketed. Video discs represent a more passive activity than video cassettes in that one will not be able to make one's own discs; video disc is to video cassette as phonograph records are to tape. The advantage of video disc, however, is said to be its superior quality of picture and sound and its lower cost. The big guns in the field have invested heavily in the home video market of nonbroadcast television. RCA's Selecta-Vision system reportedly represents its largest investment ever in a single product; it has also made a long-term deal with CBS to provide additional disc software. Similarly, N. V. Philips, the Dutch conglomerate, has contracted with MCA to provide software for its Magna-Vision home video center. These kinds of arrangements are likely to increase, but the outlook for software supply, as all concerned agree, leaves more room for independent activity. Local and national networks for video disc rental, sales, and production are already being formed.

Despite all of the high-powered market research and corporate wheeling and dealing, no one is quite certain how the video disc phenomenon will evolve. Incredibly, RCA projects a $7.5 billion video disc market by 1990, but capital could be wrong. Two crucial jokers in the deck are the incompatibility of various disc systems and, more importantly, the increasingly shaky state of the American economy. Will new communications hardware be affordable?

Given the nature of the continuing energy crisis, one could argue that in a broad sense communication must gain primacy over transportation in our society. An awareness of the dialectical tensions within the American media may explain why it is possible to criticize the worst tendencies of modern media—banalization, encouragement of the commodity fetish, the urge toward global hegemony—but at the same time to hold out real hope for future promise. It is less important to curb futurist fantasies than to continually attempt to expose the hidden political and social agenda attending technological progress. The recovery of historical perspective, bringing the contradictions within American media into sharper relief, can perhaps help us to remember the future of modern communication.

Notes

CITATION OF SOURCES

This book was written to appeal to the general reader as well as the historian. Accordingly, the scholarly apparatus has been kept to a minimum, and the documentation is presented as simply as possible. To keep the text uncluttered, the sources for quotations and other items are often summarized in notes covering several paragraphs. Sources in each note are generally given in the order in which the information being documented appears in the text; by matching text and notes, the reader should be able to discern the source for any particular item.

CHAPTER 1

1. Joseph Henry quoted in C. T. McClenachan, *Detailed Report of the Proceedings Had in Commemoration of the Successful Laying of the Atlantic Telegraph Cable* (New York: E. Jones and Co., 1859), p. 227. See also Marshall Lefferts, "The Electric Telegraph; Its Influence and Geographical Distribution," *Bulletin of American Geographical and Statistical Society* 2 (January 1857): 242–64. Some thirty years earlier, the Harvard professor Jacob Bigelow reintroduced the term *technology* into the language, by which he meant to describe "the principles, processes, and nomenclatures of the more conspicuous arts, particularly those which involve application of science, and which may be considered useful, by promoting the benefit of society" (*Elements of Technology* [Boston: Hilliard, Gray, Little, and Wilkins, 1829], p. v).

2. Alexander Jones, *Historical Sketch of the Electric Telegraph* (New York: G. P. Putnam, 1852), pp. 7–12; Carleton Mabee, *Samuel F. B. Morse: The American Leonardo* (New York: Alfred A. Knopf, 1944), pp. 190–92.

3. Samuel F. B. Morse to Sidney Morse, 13 January 1838, in Edward L. Morse, ed., *Samuel F. B. Morse: Letters and Journals*, 2 vols. (Boston: Houghton Mifflin Co., 1914), 2:73. The best account of Morse's struggles in these years is Robert L. Thompson, *Wiring a Continent: The History of The Telegraph Industry in the United States, 1832–1866* (Princeton: Princeton University Press, 1947), pp. 3–34. On the public demonstrations in early 1838, see *New York Journal of Commerce*, 29 January 1838, and Morse, ed., *Letters and Journals*, 2:77–82. The *Congressional Globe*, 21 February 1843, reported on the House debate attending Morse's appropriation; this is reprinted in Morse, ed., *Letters and Journals*, 2:193–95. Figure for telegraph mileage from "Telegraphs," in U.S. Census Office, *Seventh Census, Report of the Superintendent of the Census* (Washington, D.C.: Robert Armstrong, 1853), pp. 106–16.

4. Samuel F. B. Morse to Alfred Vail, 8 May 1844, and Samuel F. B. Morse to Sidney Morse, 31 May 1844, in Morse, *Letters and Journals*, 2:220–21, 224; Alfred Vail to Samuel F. B. Morse, 3 June 1844, quoted in Thompson, *Wiring*, p. 25; Mabee, *American Leonardo*, pp. 276–79.

5. *Rochester Daily American*, 20 May 1846; *Philadelphia North American*, 15 January 1846. For a detailed description of the operations of the original experimental line, including illustrations and relevant reports of Congress, see Alfred Vail, *The American Electro Magnetic Telegraph* (Philadelphia: Lea and Blanchard, 1845).

6. *Cincinnati Daily Commercial*, 6 August 1847; *Zanesville Courier*, 17 July 1847. These and other contemporary press accounts may be found in the Henry O'Rielly Collection, First Series, vol. 1, and Journalistic Series, vols. 1–2, New York Historical Society, New York, N.Y. O'Rielly was the most important of the early telegraph entre-

year in Hollywood studying it just as she would a South Sea island aboriginal society. Her aim was to "understand and interpret Hollywood, its relationship to the dreams it manufactures, and to our society" (p. 11). "Hollywood," she argued, "is engaged in the mass production of pre-fabricated daydreams. It tries to adapt the American dream, that all men are created equal, to the view that all men's dreams should be made equal" (p. 39).

34. Robert S. Lynd, *Knowledge For What?: The Place of Social Science in American Culture* (Princeton: Princeton University Press, 1939), p. 120.

35. C. Wright Mills, "Abstracted Empiricism," in *The Sociological Imagination* (New York: Oxford University Press, 1959), pp. 67, 71–72. See also Mills's essays, "Two Styles of Social Science Research" (1953) and "IBM Plus Reality Plus Humanism = Sociology" (1954), both in Irving Louis Horowitz, ed., *Power, Politics, and People: The Collected Essays of C. Wright Mills* (New York: Oxford University Press, 1963), pp. 553–76. For a critique of "scientism" in communications research, see also Dallas W. Smythe, "Some Observations on Communications Theory," *Audio-Visual Communication Review* 2 (Winter 1954): 24–37. Smythe's analysis paralleled Mills's in his questioning of the "assumption that the only evidence worthy of credence must come from the laboratory blessed with statistical measures of variance" (p. 28). Smythe attacked what he saw as the dominant stance of communications researchers: "they will accept as 'knowledge' only what has been demonstrated through 'controlled experiments'" (p. 26).

36. The best introduction to critical theory in English is the selected essays of Max Horkheimer, *Critical Theory*, trans. Matthew J. O'Connell et al. (New York: Herder and Herder, 1972), especially "Traditional and Critical Theory," pp. 188–243, and "The Latest Attack on Metaphysics," pp. 132–87. The standard intellectual history of the Frankfurt School is Martin Jay, *The Dialectical Imagination: A History of the Frankfurt School and the Institute of Social Research, 1923–1950* (Boston: Little, Brown, and Co., 1973). Also valuable is Jay's article, "The Frankfurt School in Exile," *Perspectives in American History* 6 (1972): 339–85.

37. Leo Lowenthal, "Historical Perspectives of Popular Culture" (1950), in Bernard Rosenberg and David M. White, eds., *Mass Culture: The Popular Arts in America* (Glencoe: Free Press, 1957), pp. 52, 56. See also Lowenthal's Introduction to his *Literature, Popular Culture, and Society* (Englewood Cliffs: Prentice-Hall, 1961). Lowenthal also produced one of the best examples of research into mass communication that combined a critical perspective with empirical methods, "Biographies in Popular Magazines," in Lazarsfeld and Stanton, *Radio Research, 1942–1943*, pp. 507–48; here he noted the general shift from "idols of production" to "idols of consumption" between 1900 and 1940.

38. T. W. Adorno, "Scientific Experiences of a European Scholar in America," in Bailyn and Fleming, eds., *Intellectual Migration*, pp. 343, 347. See also Adorno's articles, "The Radio Symphony," in Paul F. Lazarsfeld and Frank N. Stanton, eds., *Radio Research, 1941* (New York: Duell, Sloan, and Pearce, 1941), pp. 110–39, and "On Popular Music," *Studies in Philosophy and Social Science* 9, no. 1 (1941): 17–48.

39. Max Horkheimer and T. W. Adorno, "The Culture Industry: Enlightenment as Mass Deception" (1944), in *Dialectic of Enlightenment*, trans. John Cumming (New York: Herder and Herder, 1972), pp. 120–67; Max Horkheimer, "Art and Mass Culture," *Studies in Philosophy and Social Science* 9, no. 1 (1941): 290–304. Concerning the Frankfurt influence on David Riesman and Dwight Macdonald and the mass culture debate, see Jay, "Frankfurt School in Exile," pp. 365–75, although his argument here is not entirely convincing. Rosenberg and White's *Mass Culture* contains the widest spectrum of contributions to that debate, including works by Riesman and Macdonald.

40. Paul F. Lazarsfeld, "Remarks on Administrative and Critical Communications Research" (1941), in Lazarsfeld, *Qualitative Analysis*, p. 160.

CHAPTER 6

1. Biographical information was taken from Donald Creighton, *Harold Adams Innis: Portrait of a Scholar* (Toronto: University of Toronto Press, 1957), chaps. 1–2; and Robin Neill, *A New Theory of Value: The Canadian Economics of H. A. Innis* (Toronto: University of Toronto Press, 1972), chap 1.

2. Harold Innis, "Autobiography" (unpublished), p. 8, cited in Neill, *New Theory of Value*, p. 12.

3. Thorstein Veblen, *The Instinct of Workmanship and the State of the Industrial Arts* (New York: Macmillan Co., 1914), especially "The Machine Industry," pp. 299–351. Veblen considered this his most important work. See also his essay, "Why is Economics Not an Evolutionary Science?" (1898), reprinted in Thorstein Veblen, *The Place of Science in Modern Civilization and Other Essays* (New York: Macmillan Co., 1919). I am indebted in this discussion to Michael E. Starr, particularly for two chapter drafts from his uncompleted dissertation, "The Political Economy of American Institutionalism": "Veblen: Death Penalty for a Nation" and "The Overdeveloped Society." See also David Seckler, *Thorstein Veblen and the Institutionalists: A Study in the Social Philosophy of Economics* (Boulder: Colorado Associated University Press, 1975), especially pp. 52–67.

4. Harold Innis, "A Bibliography of Thorstein Veblen," *Southwestern Political and Social Science Quarterly* 10, no. 1 (1929): 67, 68.

5. Harold Innis, *The Fur Trade in Canada: An Introduction to Canadian Economic History* (rev. ed., Toronto: University of Toronto Press, 1956), pp. 15–16.

6. Ibid., p. 385. See the masterful conclusion to *Fur Trade in Canada*, pp. 383–401, as well as the conclusion to *The Cod Fisheries: The History of an International Economy* (New Haven: Yale University Press, 1940), pp. 484–508. See also Harold Innis, "Transportation as a Factor in Canadian Economic History," *Papers and Proceedings of the Annual Meeting of the Canadian Political Science Association* 3 (May 1931): 166–84, and "Significant Factors in Canadian Economic Development," *Canadian Historical Review* 18 (December 1933): 374–84. For recent assessments of the staples thesis, see Melville H. Watkins, "A Staple Theory of Economic Growth," *Canadian Journal of Economics and Political Science* 19 (May 1963): 141–58; Kenneth Buckley, "The Role of Staples Industries in Canada's Economic Development," *Journal of Economic History* 18 (December 1958): 439–50; W. A. Mackintosh, "Innis on Canadian Economic Development," *Journal of Political Economy* 61 (June 1953): 185–94; W. T. Easterbrook, "Trends in Canadian Economic Thought," *South Atlantic Quarterly* 58 (Winter 1959): pp. 91–107.

7. Harold Innis, "Penetrative Powers of the Price System," *Canadian Journal of Economic and Political Science* 4 (August 1938): 299–319; Harold Innis, "Economic Nationalism," *Papers and Proceedings of the Annual Meeting of the Canadian Political Science Association* 6 (1934): 17–31. See also W. T. Easterbrook, "Innis and Economics," *Canadian Journal of Economics and Political Science* 19 (August 1953): 291–303; Neill, *New Theory of Value*, pp. 50–61.

8. Harold Innis, review of *The Newsprint Industry* by J. A. Guthrie, *The Background and Economics of American Papermaking* by L. T. Stevenson, *Canada Gets the News* by C. M. McNaught, *AP: The Story of the News* by O. Gramling, and *News and the Human Interest Story* by H. M. Hughes, in *Canadian Journal of Economics and Political Science* 7 (November 1941): 583. Starting in 1940, Innis began contributing numerous reviews such as this to the journals.

9. Harold Innis, "The Newspaper in Economic Development," *Journal of Economic History* 2 (Supplement, December 1942): 1–33.

10. This seems to be the position of Neill's book, *New Theory of Value*, which reduces Innis's entire output to a one-dimensional working out of various intramural disputes in Canadian economics.

11. See Daniel Drache, "Harold Innis: A Canadian Nationalist," *Journal of Canadian Studies* 4 (May 1969): 7–12.

12. Harold Innis, *Empire and Communications* (1950; reprint ed. Toronto: University of Toronto Press, 1972), p. 7.

13. On the cultural implications of time and space biases, I am indebted to James W. Carey's excellent essay, "Harold Adams Innis and Marshall McLuhan" (1965), reprinted in Raymond B. Rosenthal, ed., *McLuhan: Pro and Con* (New York: Funk and Wagnalls, 1968), pp. 270–308.

14. Innis, *Empire and Communications*, p. 57; Harold Innis, *The Bias of Communication* (1951; reprint ed., Toronto: University of Toronto Press, 1971), p. 191.

15. Innis, *Empire and Communications*, p. 115.

16. Harold Innis, "A History of Communications," chaps. 5–6 of an incomplete and unrevised manuscript, microfilmed for private circulation, University of Toronto, Toronto, n.d.; Innis, *Empire and Communications*, pp. 116–48.

17. Innis, *Changing Concepts of Time* (Toronto: University of Toronto Press, 1952), pp. 15, 16, 108.

18. Innis, *Empire and Communications*, p. 170; Innis, *Bias of Communication*, p. 189.

19. *Royal Commission on Broadcasting Report*, 2 vols. (Ottawa: E. Cloutier, 1957) 2:69–70. The dangers of American communications media also dominated the conclusions expressed in the *Royal Commission on National Development in the Arts, Letters, and Sciences*, 2 vols. (Ottawa: E. Cloutier, 1951); see especially 1:11–65, as well as two articles in the second volume: B. K. Sandwell's "Present Day Influences on Canadian Society," 2:1–11; and Wilfred Eggleston's "The Press of Canada," 2:41–53.

20. Innis, *Changing Concepts of Time*, pp. 127, 128. See especially the two essays, "Military Implications of the American Constitution," pp. 21–45, and "Roman Law and the British Empire," pp. 47–76.

21. Henry Adams, "A Letter to American Teachers of History" (1910), in his *Degradation of Democratic Dogma* (New York: Macmillan Co., 1919), p. 212.

22. Innis, *Bias of Communication*, p. 86. See also Harold Innis, "Industrialism and Cultural Values," *American Economic Review* 41 (Papers and Proceedings, May 1951): 201–9. Innis had written in a similar vein in his article, "On the Economic Significance of Culture," *Journal of Economic History* 4 (Supplement, December 1944): 80–97: "Concentration on the price system, driven by mathematics, involves neglect of the technological conditions under which prices operate. The rise of liquidity preference as a concept in the study of economic history emphasizes short run points of view acceptable to the price system rather than long run points of view which necessitate perspective. An equilibrium of approaches to the study of economic phenomena becomes exceedingly difficult to achieve with the insistence on short run interests and the obsession with the present" (p. 83).

23. Robert Park, "Physics and Society," *Canadian Journal of Economics and Political Science* 6 (May 1940): 147. See also Harold Innis, "Political Economy in the Modern State," "A Plea for the University Tradition," and "The University in Modern Crisis," in his *Political Economy in the Modern State* (Toronto: University of Toronto Press, 1946); Innis, "Adult Education and Universities," app. 2 in his *Bias of Communication*, pp. 203–14.

24. Innis, "Industrialism and Cultural Values," pp. 209, 202. See also Innis's last address before his death, unfortunately titled "The Decline in the Efficiency of Instruments Essential in Equilibrium" (unfinished presidential address), *American Economic Review* 43 (March 1953): 16–25, with additional comments by his son, D. Q. Innis.

25. The most important of these are: Donald F. Theall, *The Medium is the Rear View Mirror: Understanding McLuhan* (Montreal: McGill-Queens University Press, 1971). Theall, who wrote his doctoral dissertation under McLuhan at Toronto, offers a critique of McLuhan from an essentially literary perspective. Jonathan Miller's *Mar-*

shall McLuhan (New York: Viking Press, 1971) is part of the Modern Masters Series edited by Frank Kermode. It is short but extremely useful, especially for the discussions of McLuhan's ideas on language and television. John Fekete's "McLuhanacy: Counterrevolution in Cultural Theory," *Telos*, no. 15 (Spring 1973): 75–123, is a full-scale attack on McLuhan from a neo-Marxist perspective. Fekete makes several important arguments, particularly on the affinity between McLuhan and Thomism, but his piece is marred by the often impenetrable post-Frankfurt critical theory style of writing that characterizes *Telos*. Although they somewhat overlap, there are two important collections of short essays on McLuhan's work: Rosenthal, *McLuhan: Pro and Con*, and Gerald E. Stearn, ed., *McLuhan: Hot and Cool* (New York: Dial Press, 1967), which also contains a rebuttal by McLuhan to his critics.

26. Biographical information is taken from Rosenthal, *McLuhan: Pro and Con*, pp. 15–22; and from the "Introduction" in Stearn, *McLuhan: Hot and Cool*, p. xv–xviii.

27. Marshall McLuhan, "G. K. Chesterton: A Practical Mystic," *Dalhousie Review* 15 (1936): 457. See also F. R. Leavis, *For Continuity* (Cambridge: Minority Press, 1933); Miller, *Marshall McLuhan*, pp. 9–32.

28. See McLuhan's three essays, "Edgar Poe's Tradition" (1944), "The Southern Quality" (1947), and "An Ancient Quarrel in Modern America" (1946), which are reprinted in Eugene McNamara, ed., *The Interior Landscape: The Literary Criticism of Marshall McLuhan, 1943–1962* (New York: McGraw-Hill Book Co., 1969).

29. John Crowe Ransom, "Reconstructed But Unregenerate," in *I'll Take My Stand* (New York: Harper and Brothers, 1930), p. 3. Other essays in the volume are relevant to understanding the early McLuhan's position, especially those by Donald Davidson, "A Mirror For Artists"; John Gould Fletcher, "Education, Past and Present"; and Lyle H. Lanier, "A Critique of the Philosophy of Progress."

30. Marshall McLuhan, *The Mechanical Bride: Folklore of Industrial Man* (1951; reprint, Boston: Beacon Press, 1967), p. v.

31. Ibid., pp. 21, 113, 50.

32. Ibid., pp. 98–100, 42, 128.

33. See, for example, McLuhan, "An Ancient Quarrel in Modern America."

34. McLuhan, *Mechanical Bride*, pp. 72, 45.

35. Marshall McLuhan, "Effects of the Improvement of Communications Media," *Journal of Economic History* 20 (December 1960): 568; Theall, *The Medium is the Rear View Mirror*, pp. 80–81.

36. Marshall McLuhan, *The Gutenberg Galaxy* (Toronto: University of Toronto Press, 1962), pp. 63–65.

37. Marshall McLuhan, "The Later Innis," *Queen's Quarterly* 60 (Autumn 1953): 389, 392. See also McLuhan's introductions to the reissues of Innis's *The Bias of Communication* (1971), pp. vii–xvi, and *Empire and Communications* (1972), pp. v–xii.

38. McLuhan, "The Later Innis," pp. 385–94; McLuhan, Introduction to Innis, *The Bias of Communication*, pp. vii–xvi; Marshall McLuhan, "Innis and Communication," *Explorations*, no. 3 (August 1954): 96–104.

39. See the opening statement in *Explorations*, no. 1 (December 1953); Introduction to Marshall McLuhan and Edmund Carpenter, eds., *Explorations in Communication* (Boston: Beacon Press, 1960), an anthology collection of articles from the journal.

40. Dorothy Lee's "Lineal and Nonlineal Codification of Reality" and Siegfried Giedion's "Space Conceptions in Prehistoric Art" are reprinted in McLuhan and Carpenter, *Explorations in Communication*. For Carpenter's work on the Eskimos, see "Eskimo Space Concepts," *Explorations*, no. 5 (June 1955): 131–45, and *Explorations*, no. 9 (last issue, 1959), which was entirely devoted to Eskimo culture. See also Dorothy Lee, "Linguistic Reflections of Winti Thought," and Jacqueline Tynwhit, "The Magic Eye" (on ancient Indian architecture), also reprinted in *Explorations in Communication*.

41. Marshall McLuhan and Edmund Carpenter, "Acoustic Space," reprinted in

Explorations in Communication, pp. 65–70. See also Edmund Carpenter, *Oh, What A Blow That Phantom Gave Me* (New York: Holt, Rinehart, and Winston, 1973), Carpenter's critical reflections on his involvement with bringing modern media to aborigines in New Guinea.

42. Marshall McLuhan, "Five Sovereign Fingers Taxed the Breath" (1955), in McLuhan and Carpenter, *Explorations in Communication*, p. 208. See also Marshall McLuhan, "Notes on the Media as Art Forms," *Explorations*, no. 1 (December 1953): 6–13.

43. This distinction between Innis and McLuhan is the central thesis of Carey, "Harold Adams Innis and Marshall McLuhan."

44. McLuhan, *The Gutenberg Galaxy*, p. 33. For a critique of this position see Miller, *Marshall McLuhan*, pp. 84–110.

45. McLuhan, *The Gutenberg Galaxy*, p. 65.

46. Ibid., pp. 153, 176.

47. Ibid., pp. 165, 330.

48. U.S. House, Committee on Commerce, *Electro-Magnetic Telegraphs*, 25th Cong., 2d sess., 1838, H. Rept. 753, app. C., p. 9; Marshall McLuhan, *Understanding Media: The Extensions of Man* (New York: New American Library, 1965), p. 136.

49. McLuhan, *Understanding Media*, p. 32.

50. Ibid., pp. 51, 54, 55.

51. Ibid., p. 56.

52. Marshall McLuhan, "Interview," *Playboy* 16 (March 1969): 158.

53. McLuhan, *Understanding Media*, p. 41; McLuhan, "Interview," p. 74.

54. McLuhan, *Understanding Media*, pp. 272–73; see the "Television" chapter, pp. 268–94. For a useful technical critique of McLuhan on television, see Miller, *Marshall McLuhan*, pp. 112–19. On McLuhan's neo-Thomism, see Fekete, "McLuhancy: Counterrevolution in Cultural Theory."

55. McLuhan, "Effects of the Improvement of Communications Media," p. 575; McLuhan, *Understanding Media*, pp. 221, and see also 304–6.

56. S. R. Green, chief executive officer, Lintas International, in Barry Day, *The Message of Marshall McLuhan* (London: Lintas, 1967), p. 15. See the bibliography of the Day volume for samples of the scores of articles on McLuhan in advertising and business trade journals in the 1960s.

57. I cannot possibly offer a treatment of these fields here, but I can at least note the importance, for my own thinking, of the work of Claude Levi-Strauss, Noam Chomsky, and Roland Barthes. For a short but useful review of these and other thinkers in the structuralist tradition, as they relate to the study of modern media, see Varda Langholz Leymore, *Hidden Myth: Structure and Symbolism in Advertising* (London: William Heinemann, 1975), pp. 1–17.

EPILOGUE

1. Alfred Vail to Samuel F. B. Morse, 3 June 1844, quoted in Robert L. Thompson, *Wiring a Continent: The History of the Telegraph Industry in the United States, 1832–1866* (Princeton: Princeton University Press, 1947), p. 25; regulations posted in Pittsburgh office of the Atlantic and Ohio Telegraph Company, in the Henry O'Rielly Collection, First Series, vol. 1, New York Historical Society, New York, NY.

2. Charles Briggs and Augustus Maverick, *The Story of the Telegraph and the History of the Great Atlantic Cable* (New York: Rudd and Carleton, 1858), pp. 21, 14; *New York Times*, 9 August 1858.

3. Bishop Sheen quoted in Michael E. Starr, "Prime Time Jesus," *Cultural Correspondence*, no. 4 (Spring 1977): 21.

4. Carl Snyder, "The World's New Marvels: The Wireless Telephone," *Collier's Weekly* 52 (25 October 1913): 23.

5. Howard V. O'Brien, "It's Great to Be A Radio Maniac," *Collier's Weekly* 74 (13 September 1924): 16.

6. U.S. Bureau of the Census, *Fifteenth Census of the United States, 1930*, Population, vol. 6, *Families*, p. 33.