Marshall McLuhan: No Prophet without Honor

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> I am resolutely opposed to all innovation, all change, but I am determined to understand what's happening. Because I don't choose just to sit and let the juggernaut roll over me. Many people seem to think that if you talk about something recent, you're in favor of it. The exact opposite is true in my case. Anything I talk about is almost certainly something I'm resolutely against. And it seems to me the best way to oppose it is to understand it. And then you know where to turn off the buttons.[i][1]
>
> —Marshall McLuhan, 1966

Perhaps no figure is more emblematic of both the triumphs and trials of popular academics in the media age than Marshall McLuhan, who arrived on the scene like a comet in the mid-'60s and blazed across the skies, drawing both inordinate praise and inordinate disdain.[ii][2] No comparable academic figure before his time comes readily to mind, for the few that preceded him either came before the age of electronic celebrity, or were notorious not for their ideas, but for falling from grace for political or ethical reasons, such as Alger Hiss and Charles Van Doren. While others, like Mark Van Doren, Dwight Macdonald, and Alfred Kazin, may have achieved the status of America's house intellectuals (mostly in the houses of other intellectuals), McLuhan was probably the first to have achieved the possibly dubious distinction of becoming a pop icon whose name for a time was on almost everyone's lips—a figure whose ideas and persona were recognizable by a large proportion of the public, both those interested in intellectual matters and those who were not.

But the case of Marshall McLuhan as a popularizing academic is fraught with ironies, the greatest of which is that his reputation as a thinker is tied to a medium—television—whose effects he thoroughly mistrusted and even decried. Many (though not all) supporters and critics alike have mistakenly seen him as a television "guru," a proselytizer for the electronic faith whose attitude towards electronic media was akin to that of drug guru Timothy Leary, with whose philosophy his was sometimes confused: "Turn on, tune in, and drop out." Indeed, it may well be that without McLuhan's celebrity for writing and talking about television in the particular way that he did, Leary might never have come up with quite the same formulation for his proselytic slogan, nor might it have achieved quite the cachet that it did. When we examine the entire range of McLuhan's thought about the impacts of media on society, we come to realize that the image of electronic boosterism associated with him could not be farther from the truth.

McLuhan once said to his friend and colleague Tom Langan, while watching television, "Do you really want to know what I think of that thing? If you want to save one shred of Hebrao-Greco-Roman-Medieval-Renaissance-Enlightenment-Modern-Western civilization, you'd better get an ax and smash all the sets."[iii][3] And he was no more accommodating to the electronic beast in his advice to his son Eric regarding one of Eric's daughters in a 1976 letter: "Try not to have Emily exposed to hours and hours of TV. It is a vile drug which permeates the nervous system, especially in the young."[iv][4]

This irony has two major aspects. First, McLuhan found it necessary to use TV as a means of spreading his message, as a concomitant of the very analysis he was

presenting. Like Johannes Trithemius, the Abbot of Sponheim Abbey, who in 1494 had his tract *In Praise of Scribes* printed,[v][5] McLuhan had to use the most advanced technology available to reach the widest possible audience, despite the seeming contradiction. When his first book, *The Mechanical Bride,* was published (1951), it was widely reviewed and caused somewhat of a stir among people interested in advertising as a mirror of society, but it came along before television was the theater in every home, and it confined its discussion to the contents of print advertisements. Eleven years later, when his second major work, *The Gutenberg Galaxy,* was published, the only stir it caused (whether positive or negative) was mainly among other academics. Certainly this result was partly the consequence of the book's use of erudite sources, as a reflection of the years of scholarly research that went into its creation. Even though McLuhan wrote the book in what he characterized as a "mosaic" style[vi][6] meant to reflect the multilinear mode of awareness fostered by electronic technology, his intent was resolutely oriented toward saving the inherited values of print culture:

> We now live in 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. "We are the primitives of a new culture," said Boccioni the sculptor in 1911. Far from wishing to belittle the Gutenberg mechanical culture, it seems to me that we must now work very hard to retain its achieved values.[vii][7]

The publication of *Understanding Media* in 1964 achieved the kind of blockbuster status every author and publisher dreams of and catapulted him into the public arena. For several years his two main ideas dominated the public discussion about the impact of media, for which they are largely responsible in starting. The first, "The medium is the message," was soon misconstrued as saying that the content of any message is meaningless, and that we should simply groove on the medium itself. The second, the notion of an "electronic global village," was likewise rendered into self-parody by his detractors, who accused him of peddling the snake oil of a Utopian electronic paradise to the masses.

The second ironic aspect of McLuhan's fame is a natural consequence of the first: once his use of the televised interview achieved a kind of critical mass (Joycean readings of that phrase are encouraged), McLuhan thence became a denizen of the very medium whose effects he wanted to counteract, an example of Daniel Boorstin's definition of a celebrity: "a person who is known for his well-knownness."[viii][8] The apogee (or nadir) of this status was probably reached when McLuhan became the subject of a Henry Gibson "poem" on the quintessential television program, *Rowan and Martin's Laugh-In*: "Marshall McLuhan, what are you doin'?"[ix][9] The title of the 1969 *Playboy* interview — "Marshall McLuhan: A Candid Conversation With the High Priest of Popcult and Metaphysician of Media"[x][10]—over and above the fact that he was chosen to be interviewed at all, is emblematic of his "elevation" (unlikely for a tweedy, donnish Professor of English at the University of Toronto) into the pop pantheon peopled by such paragons as Leary and his sidekick Richard Alpert (later to become Baba Ram Dass), the Beatles, the Maharishi Mahesh Yogi, Peter Max, Mary Quant, Twiggy, Roy Liechtenstein, and Andy Warhol.

The New Media Age

The reasons for this apotheosis are many and varied, but the most essential one is that, simply by addressing the concept of the effects of media on culture, and taking seriously the forms of popular culture as the true mirror of the times, McLuhan tapped an underground well of energy that had been building up for more than a decade, since television's invasion of the home after W.W. II. Previous commentators had not touched this wellspring, partly because of their school-ma'amish tut-tutting about the harm being done by television's content, encapsulated in Newton Minow's "vast wasteland" speech. In avoiding the moralizing stance of other critics and adopting the role of a neutral observer exploring media's effects, McLuhan seemed to imply that it was all right to appreciate television in its own right. Thus, mistakenly, his aphorism "The medium is the message" was taken as a rallying cry, or an advertising slogan, for television itself.

These events occurred at a time when television was just coming into its own in defining, promoting, and disseminating the pop culture of the post-W.W. II generation, an explosion of energy that was breaking the bonds of the bow-tie-and-crinoline sensibilities of the Eisenhower-era youth. By the time *Understanding Media* was published, the appearances of Elvis Presley and the Beatles on *The Ed Sullivan Show*, the Kennedy–Nixon debates, and Kennedy's funeral had attracted huge television audiences and brought them together in common, emotionally charged experiences as never before. As a consequence, the concept of an "electronic global village" was already a matter of felt experience by the time McLuhan announced it in *The Gutenberg Galaxy* and amplified it in *Understanding Media, The Medium Is the Massage* (1967), and *War and Peace in the Global Village* (1968).

Naturally, as McLuhan's comet shone, he was bound to attract many critics as well as supporters.[xi][11] He was asked to be interviewed not just on the earnestly intellectual shows on the CBC and the BBC, but also by such popular figures as Dick Cavett and Tom Snyder; Jack Paar was likewise an early devotee. While he was championed by the glitterati, particularly Susan Sontag and Tom Wolfe, as well as more obscure intellectuals like George Steiner and (initially) Jonathan Miller, his ideas soon drew the scorn of other more public intellectuals such as Dwight Macdonald, Malcolm Muggeridge, and Christopher Ricks, and probably more disdain than support among the academic establishment.

The possible consequences of the reaction in the academy could have been much more severe than they turned out to be, and such reaction is emblematic of the problems inherent in an institution whose foundations reach back to the Middle Ages. The university not only survived the transition from manuscripts to print but throve in the new environment, feeding off of the energy released by the printing press and redefining itself as the conservator of the new print canon. But the pressures of the challenge wrought by the new electronic media have been not only intense but extremely challenging to the self-definition of the academy, and so anyone like McLuhan appearing to preach the new gospel of the electronic faith would seem to them not only an apostate but the incarnation of Satan himself. As a result, both individual and concerted efforts were brought to bear in trying to suppress McLuhan's new doctrine and to stanch its spread. At the University of Toronto in particular, the reaction to McLuhan's celebrity was most intense. It got to the point that McLuhan warned his graduate students to erase any trace of his work in

their theses and dissertations for fear of reprisals by their review committees.[xii][12] According to Eric McLuhan, "there were at least two concerted efforts (quiet ones, of course) to collect enough signatures to have his tenure revoked."[xiii][13] Such efforts would seem to put the lie to the shopworn contention of the academy that the rationale for the institution of tenure is the protection of freedom of thought; in reality, there is no more hidebound *apparat* devoted to thought control than the self-perpetuating survival of the medieval guild known as the academic tenure committee.

Much of the criticism seemed validated in the minds of McLuhan's critics by several characteristics of his approach that went decidedly against the academic grain. The fact that McLuhan developed, or intensified, these characteristics specifically as part of his point that traditional modes of learning were dead served only further to madden his detractors. One of these characteristics was the peculiarly gnomic nature of his pronouncements, formed specifically in imitation of the aphoristic style of Francis Bacon in probing the contours of any question, as distinguished from adopting a fixed point of view and proceeding linearly from there. A second was his often blithe attitude toward strict factual accuracy; as he once stated to Richard Kostelanetz, "If a few details here and there are wacky,…[i]t doesn't matter a hoot."[xiv][14] Another was his refusal to explain himself any further than his original pronouncement; he was often taken to say to a objector, "OK, if you didn't like that one, here's another one."[xv][15] There also may have been reaction against McLuhan's apparent lack of concern with social justice and the impacts that media were having on people's rights, which McLuhan parried by asserting that if people allowed themselves to be manipulated by media, then they had no rights left worth talking about.[xvi][16] McLuhan felt that it was enough to make people aware of media pollution and fallout and to give them some tools for recognizing their effects—the rest was up to them.

During the '70s and '80s, despite a cameo appearance in Woody Allen's *Annie Hall*, McLuhan's comet seemed to fade from our ken, especially in the United States, as Watergate, the two oil shocks, the Iranian hostage crisis, a major recession, and the engineering of an economic boom drew people's attention to matters other than media in themselves. In fact, it could be said that McLuhan's ideas became so well known that they were eventually taken for granted, with MTV seeming to have the last word. Such an impression might have been reinforced by the fact that from 1968 onwards all of his books were co-authored with people unfamiliar to the public and in diverse fields,[xvii][17] which may have diffused the focus on him as a figure in his own right. An eventually salutary, but posthumously published, foray into cognitive science (brain hemisphere research) and modern physics as validations of his original insights took him into areas of thought even more recondite for the average reader than his prior ones. Although this collaboration with his son Eric on *Laws of Media*, published in 1988, represented a brilliant capstone to his intellectual career, the book was not widely understood or appreciated,[xviii][18] being aimed primarily at an academic audience and returning to the highly intellectual mode that characterized *The Gutenberg Galaxy*. By the time *Laws of Media* appeared, hardly anyone was paying attention any more. In fact, upon his death in 1980 most reactions seemed more along the lines of "Whatever happened to…" rather than the felt loss of a contemporary figure.

But since the entrance of the Internet and the World Wide Web into the public's consciousness, McLuhan's reputation has experienced an astounding upsurge. The main

reason for this renascence of interest is that both the Web and the creation of global television networks such as CNN have made manifest to anyone with eyes and ears the trends he tried to make us aware of thirty years before. The globalization of consciousness he alerted us to and the cultural effects he spoke of are now matters of everyday concern. Adopted as the "patron saint" of *Wired* magazine (and unfortunately the subject of a pair of embarrassingly wrongheaded and pretentious articles about him, one pretending to be a posthumous "interview,"[xix][19] he has been the subject of more than a dozen books since 1989,[xx][20] including a recent intellectual biography written with the cooperation of the McLuhan Foundation Trust,[xxi][21] a revised edition of the first biography,[xxii][22] an interactive CD-ROM,[xxiii][23] a six-part video series of his television appearances and lectures,[xxiv][24] and most recently a work specifically outlining the relevance of his ideas to the Internet and the World Wide Web.[xxv][25]

Media as Environments

McLuhan's aim was not to be the prophet of a coming or returning Golden Age, but to jolt people into an awareness of the psychic and social effects of the electronic media, so that we might be prepared to come to terms with them. His further aim was to create awareness that all human artefacts, extensions, or amplifications of our faculties—any technologies, whether involving communication or not—create a ground or complex of environmental conditions and related technologies of which we are mostly unaware, because we take them as givens. As he wrote in *Culture Is Our Business*, "Fish don't know water exists till beached."[xxvi][26] Of course, he isn't referring to fish but to humans, who are blissfully unaware of the environments created by our technologies until something goes wrong with them, such as pollution; or someone—notably the artist—creates an anti-environment that shocks us into seeing the environment as a figure, rather than as the invisible ground working subliminally in the background. The effects of these hidden grounds vastly overwhelm the social and cultural significance of the original technology or message—for individual messages and messengers may contradict and cancel one another out, but the messaging environment remains.

In this sense McLuhan considered himself a media ecologist, trying to create an awareness about the hidden effects of electronic technologies, in much the same way that Rachel Carson exposed the unintended effects of pesticides in *Silent Spring*. More recently, Jane Holtz Kay has made a similar effort with *Asphalt Nation*, developing notions about the impact of the automobile on cultural, social, and city forms that McLuhan had broached over 30 years before in *Understanding Media*:

> When the motorcar was new, it exercised the typical mechanical pressure of explosion and separation of functions. It broke up family life, or so it seemed, in the 1920s. It separated work and domicile, as never before. It exploded each city into a dozen suburbs, and then extended many of the forms of urban life along the highways until the open road seemed to become non-stop cities. It created the asphalt jungles, and caused 40,000 square miles of green and pleasant land to be cemented over. With the arrival of plane travel, the motorcar and truck teamed up together to wreck the railways.…The motorcar ended the countryside and substituted a new landscape in which the car was a sort of steeplechaser..…The car, in a

> word, has quite refashioned all of the spaces that unite and separate men, and it will continue to do so for a decade more, by which time the electronic successors to the car will be manifest.[xxvii][27]

Seeing McLuhan in his true light as a technological environmentalist exposes the narrowness of his misperceiving critics who saw him as a booster of technology; in truth, he was no more so than Rachel Carson was a promoter of DDT, or than Jane Holtz Kay is a flack for General Motors.

The problems raised by misapprehending the aims of McLuhan's efforts and his contributions to thought can be likened to those that would have been raised if we had misunderstood or ignored Rachel Carson's evidence and conclusions concerning pesticides. It may not seem, at first blush, that the consequences would be nearly so dire, but this is largely because we are used to thinking that "truths" of science can be demonstrated; by contrast, those of the humanities are "subjective" and contingent. McLuhan's insights about the invisibility of our mental environments, conditioned by the communications media that help to shape it, anticipate this difficulty in apprehending the changes in perception he wished to make.

What is more, Carson's intent in attempting to change our attitudes towards pesticides were less likely to have been misperceived, primarily because she was a scientist working according to the paradigm of induction, whereby her findings could be sifted for inconsistencies and inadequacies and her conclusions could be subjected to the process of falsification.[xxviii][28] This is not to assert that the validity of her conclusions was assured by token of the methodology within her intellectual community; indeed, she was strongly vilified by the vested interests, and her motives, competency, and science were all called into question.[xxix][29] But whatever the uncertainties of determining truth in science, at least there are recognized procedures within scientific research that can serve as tests for what is being asserted and with what objectives—that is, the claims of her detractors could be falsified. This is also not to deny the often key role played by intuition or other analogical means of perceiving scientific truth, but instead to say that such flashes of "pattern recognition," to borrow a term from McLuhan, stand out as a figure against the ground of what Thomas S. Kuhn calls "normal science,"[xxx][30] which provides a probabilistic foundation supporting such visionary leaps.

By contrast, working in the humanities, where no similar procedures of verification and falsification exist, McLuhan was working in a profoundly different mode of inquiry, that created by literary criticism; most particularly, the so-called Practical Criticism, with whose avatars I.A. Richards and F.R. Leavis McLuhan studied at Cambridge. Significantly, according to his son Eric, *Understanding Media* "was deliberately titled in order to place it beside [Cleanth] Brooks' and [Austin] Warren's *Understanding Poetry*, a key text in introducing Practical Criticism to these shores."[xxxi][31] The essence of Practical Criticism was the interfusion of sound and sense, and of form and content—the notion that what a work of verbal art communicates is through the shape of the language and the way that shape subliminally alters our consciousness. Verbal artistry lies in having the form of the utterance enact in the audience a psychic response that mirrors or reinforces its sense. This makes artistic productions experiences in their own right that aim to change the audience's consciousness, as distinguished from informing, persuading, or indoctrinating them.

Artists may use doctrine as their manifest content (one thinks foremost of Milton), but the artistic effects they achieve—in Milton's case, the atonement of God and Man—are gained not through the doctrine per se, but through the audience's participation in the psychic drama by which the words are enacted. In sum, the medium is the message, and the audience, by participating in the fulfillment of the medium's purposes, identifies with both medium and message.

Obviously, such a participatory mystique cannot be verified in the same sense as "normal science"; it can only be appreciated and experienced by immersion in the incantatory power of the Word. However, such an appreciation can be and has been taught, and the principles that underlie it are capable of a degree of demonstration and certain forms of inductive logic. But the evidence used in such inductive processes has its roots not in logical positivism but in the humanistic tradition embodied in the unification of the three branches of the medieval trivium—grammar (study of language and literature), dialectic (logic and disputation), and rhetoric (moving an audience through the shape of language). Contemporary students (not to mention many, if not most, professors) are unaware that the trivium was the foundation of higher education in the West from before the time of Cicero up through the latter part of the nineteenth century, when American universities began to adopt the fragmented departmental structures established by the German concept of the university.

The Rhetoric of Modernism

For McLuhan, in sympathy with his religious convictions (he was raised a Protestant and converted to Catholicism at twenty-six), in the beginning truly is the Word—and in the end, as well as in between. Indeed, this has been the stance of Western education from its beginnings up through all but the last hundred and twenty-five years, but our subsequently compartmentalized system of knowledge—not only in the sciences and social sciences but the humanities as well—has alienated us from the wellsprings of this tradition. Such an assumption that knowledge is a series of fragmented "disciplines" rather than a unitary whole serves to make McLuhan appear an oddball, even a crank and a "visionary," simply because he chose to retrieve the core values of Western culture and discuss how they have been conditioned by our evolving technologies, particularly those that most directly affect the essence of what makes us human—the partnership of cognitive behavior and language. In light of the intellectual traditions not only of the West but of all great cultures, it is we who are the oddballs in thinking that knowledge and experience can be subdivided and dissected without somehow being made whole once again.

In this spirit McLuhan wanted us to appreciate that human technologies, like all other artefacts, are outerings, or "utterings," of our human faculties. Technologies, whether they be devoted to communication or not, are thus extensions of our humanity, not the cold, alien, external forces envisioned by the paranoia of bad science fiction. Seen as utterings (to advert to the word's Middle English roots), technologies can thus be seen as utterances, as rhetorical tropes we use to express and enhance our humanity, and can therefore be read and analyzed for their cognitive, social, and cultural effects. True also to the medieval philosophy he knew so well, he wanted us to see that Nature, including humankind, is a book that we can read, if we can only know and decode its language and analyze its significance. Such a methodology should have an interpretive power akin to

that of the medieval four-level exegesis of the Book of God—the literal, the figurative (allegorical), the tropological (moral), and the anagogical (eschatological) levels. We will see later a method of analysis based on what McLuhan terms the tetrad as his contribution to such an interpretive effort.

But McLuhan created a more fundamental means to a more organic understanding in the very aphoristic style in which he chose to convey his ideas—one consciously embodying the concept that the medium is the message. Its means is not to follow a continuous, linear, and unbroken line of thought, but to create a tessellated pattern of ideas, with each of the tiles in the mental mosaic a particular facet of the overall pattern. Like fractals, an analogue that has gained currency only since McLuhan's last work,[xxxii][32] the grand, overall pattern is contained in miniature in each of the parts. He also took as models for this style writers in the symbolist and modernist movements, particularly Mallarmé, Eliot, Pound, and Joyce.

McLuhan chose this style because he saw it as organic to the modern era, which is under the invisible stresses created by the pressures of electronic communication on the smooth continuities of thought fostered by the visual bias of print. Hence, his use of slogan, aphorism, *bon mot*, repetition, and probe as ways of jolting his audience into new modes of awareness necessary for perceiving such changes in their cognitive environment. As Eric McLuhan describes it in the Preface to *Laws of Media*,

> The style of *UM* [*Understanding Media*] had been deliberately chosen for its abrasive and discontinuous character, and was forged over many redraftings. It was designed deliberately to provoke the reader, to jar the sensibilities into a form of awareness that better complemented the subject-matter. This is poetic technique (science, if you will) of a high sort – satirizing the reader directly as a means of training him.[xxxiii][33]

He thought that the great symbolist and modern artists were creating insights into the age by discontinuities, for which he liked to claim, "[t]hat's what Symbolism means—it comes from the Greek *symbaline*—break things into single bits and reassemble them into patterns".[xxxiv][34] The fact that the actual Greek root *sumbolon* meant a token for identification through comparison with a counterpart[xxxv][35] detracts nothing from McLuhan's concept, since in both cases, signification is achieved through juxtaposition of images.

According to his view, Mallarmé, Joyce, Pound, Eliot, Picasso, and the other great artists were creating insights into the modern world and its relationships with the past not by smoothing over transitions from one perception to another, or by providing perspective from a fixed point of view, or by creating a consistently-toned discourse (all mental habits fostered by print)—but by presenting the observer with fragmentary images of reality and forcing him to become a participant in the process of piecing them together in a pattern of significance. Hence, in order to make sense of the modern world, McLuhan himself would take a similar approach.

Literacy and Orality

But it may fairly be asked why these methods of discontinuity should be appropriate to, and be an outgrowth of, the modern age and the supposed clash between

print and electronic sensibilities. The answer to this question hinges on two ideas: that there are fundamental differences between oral and literate cultures, and that electronic communication is retrieving patterns of thought and culture fostered by orality. The first idea can be explored in modern ethnographic, literary, and linguistic research done on primary oral cultures and on literatures containing residues of their origins in orality. The second idea depends upon the contrast McLuhan posits between the sense of "acoustic space" predominant in oral cultures and the "visual space" characteristic of writing and print cultures. To McLuhan, these ideas are intimately connected, and they lead to his assertion that television, as an "audile–tactile," rather than visual medium, is leading this "charge of the light brigade" to a reversion to many of the cultural forms of orality. McLuhan gives typical expression of this idea in explaining the distinction he draws between "hot" and "cool" media:

> A cool medium like hieroglyphic or ideogrammatic written characters has very different effects from the hot and explosive medium of the phonetic alphabet. The alphabet, when pushed to a high degree of abstract visual intensity, became typography. The printed word with its specialist intensity burst the bonds of medieval corporate guilds and monasteries, creating extreme individualist patterns of enterprise and monopoly. But the typical reversal occurred when extremes of monopoly brought back the corporation, with its impersonal empire over many lives. The hotting-up of the medium of writing to repeatable print intensity led to nationalism and the religious wars of the sixteenth century. …Similarly, a very much greater speed-up, such as occurs with electricity, may serve to restore a tribal pattern of intense involvement such as took place with the introduction of radio in Europe, and is now tending to happen as a result of TV in America. Specialist technologies detribalize. The nonspecialist electric technology retribalizes.[xxxvi][36]

Awareness of the contrasts between purely oral cultures and those in which literacy has either been developed or introduced has never been part of the academic and scholastic mainstream, and in fact in modern times there have been strong pressures to marginalize this type of inquiry. Ever since Milman Parry was told by the classics faculty at Berkeley in the 1920s that there was no chance he would get a Ph.D. by following up on his Master's thesis on oral formulary patterns in Homer, the idea that there is a strong correlation between the patterns of a culture and its primary means of communication has only seldom been able to put a dent in the easy identification, in the general run of academe, between literacy and high levels of culture. The notion that high literacy is the normative state of language and civilization, and that its only alternative is the fallen state of illiteracy, and hence darkness and ignorance, seems to occupy the vital center of humanistic studies with remarkable energy and intensity. As Eric A. Havelock puts it,

> The overall presumption is that civilizations to be worth the name have to be based on writing of some sort, have to be in some degree literate ones. Probably a majority of specialists who have considered these matters still share this view, including classicists. It is certainly true of the layman.

> When some advanced cultures like those of the Incas of Peru are observed to be wholly nonliterate, the lesson that might be drawn, namely that a civilized society with its own art, architecture, and political institutions need not depend on writing for its existence, is quietly passed over.[xxxvii][37]

This state of affairs is responsible for much of the resistance to McLuhan's ideas, but it has also meant that other researchers doing work in this area have not always gained the recognition that they should, given the cogency of their work. None of them have been nearly as "visible" as McLuhan, probably because they weren't inclined to take McLuhan's route of popularizing their ideas in such striking ways. None have gained widespread recognition as intellectual icons or placement as leaders in the canon of criticism within their fields, nor are they the "brand names" that have all but guaranteed success for the book clubs, such as Edith Hamilton in classics, S.I. Hayakawa in linguistics, Jacques Barzun in literary studies, John Kenneth Galbraith in political economy, Margaret Mead in anthropology, Lewis Mumford in the history of technology, Arnold Toynbee in history, and Mortimer J. Adler as tout for the Great Books.

To be sure, all those who have dealt with the impacts of communication on culture, McLuhan included, were able to establish niches for themselves in the traditional academic establishment and have achieved high levels of achievement within them, without becoming household names. In this group we may include Jack Goody in ethnography, Harold Innis in political economy, Milman Parry and Havelock in classics, Albert B. Lord and Ian Watt in the humanities, Father Walter J. Ong in communication studies, and Elizabeth L. Eisenstein in history. There are, of course, many other researchers who have made significant contributions to the field but who remain even farther in the background, despite the inspiration McLuhan and others have derived from their work. Most notable in this regard are Siegfried Giedion, Georg von Békésy, H.J. Chaytor, Lucien Febvre, Henri–Jean Martin, and E.H. Gombrich.

Despite their relative obscurity, seeing McLuhan as a fellow–traveler, as it were, with these researchers may help us appreciate that, far from being some kind of lone figure on a wind-swept intellectual promontory, or especially some pushing a solipsistic monomania, McLuhan is part of an established intellectual movement of which the vast majority of his detractors and perhaps some of his cybernaut "disciples" seem unaware. Such an understanding will help us gauge the epistemological biases that underlie both kinds of responses to his legacy and that reveal what McLuhan would consider the "somnambulism" lying at their heart. It will also help us see the intellectual foundations for his true followers who, disparate as they are, have used the inspiration of his vision to help establish solid intellectual approaches to the impacts of technology on culture and broaden the arena of discourse.

The most appropriate place to start in surveying the development of this field is with the work of Milman Parry in the 1920s and '30s on the formulary structure of the Homeric poems, particularly his dissertation written at the Sorbonne.[xxxviii][38] Parry's discovery of the way in which the *Iliad* and the *Odyssey* were created and performed was to have significant implications concerning the cognitive and cultural differences between totally oral cultures and those in which writing is the normal means of recording and passing on knowledge and wisdom.[xxxix][39] Parry noted that the fabled Homeric epithet or formulary phrase (such as those translated into English as wily Odysseus, wise Nestor,

and the like) was actually one of a variety of phrases that differ according to the metrical requirements created by where they may fall in the strict hexameter unit, with its regular pattern of long and short vowels. The performer of the verse apparently had at hand a repertoire of ready-made phrases that could be stitched together to suit the varying circumstances under which the poems were performed, answering to an economy of form that could be created only under the conditions of relatively extemporaneous delivery of traditional materials. Such a repertoire could have been devised only because the poems were not written but memorized—and not verbatim, as in writing- and print-oriented cultures, but flexibly according to standard themes and formulary situations. Thus, far from fulfilling the model of the totally original poet, which has been engrained in our consciousness from the cumulative effect of two and a half millennia of writing and printing, the Homer that Parry revealed was instead, from our point of view, a tailor of ready-made pieces off the rack, a vendor of what we now consider to be clichés.

But the concept of a cliché, with its pejorative connotation, is a product of print culture and thus would lack meaning in an oral universe, where any thoughts worth having and saving would need to be memorized if they were not to be lost. The word cliché itself is a printing term that comes from stereotyping, the past participle of the French *clicher*, which is an imitation of the sound of dropping a matrix into molten metal to make a plate.[xl][40] To us Western, secular moderns, a cliché is a shopworn expression unworthy of serious consideration because of its overuse. To an oral culture, triteness is inconceivable, for only those thoughts that can be formulated into sayings, apothegms, proverbs, and other dicta are likely to survive the entropic effects of oral transmission; conversely, idiosyncratic, abstract, unique expressions and lists that are not tied to action or human agency do not survive, because they lack the characteristics of rhythm, metre, balanced antithesis, and repetition crucial to their being remembered. But once writing comes on to the scene, the cognitive environment is changed. While the onset of writing by no means erases the expressionistic structures fostered by oral memorization (in fact, at first it tends to preserve and reify them in fundamentalist formulae), gradually the powerful storage function of writing, and later of print, provides means by which more idiosyncratic and "original" (reversing the primordial meaning of the word) forms of expression can be preserved. Eventually, the cultural values of traditional and unique expressions become switched, so that today we unconsciously project onto Homer the traits of "creation" that only centuries of internalizing the values of writing and print could make us take for granted.

In the same year that the *Galaxy* was published, an equally notable extension of the Parry–Lord thesis appeared in the form of Jack Goody and Ian Watt's extended article, "The Consequences of Literacy." Both authors had had personal experience with conditions of almost total nonliteracy, Watt being forced to survive without reading materials as a prisoner of the Japanese in Malaysia during W. W. II, and Goody working as an ethnographer in Africa observing nonliterate tribes that had had only limited contacts with a writing culture, Islam. The essay, as well as the volume which it heads, deals with not only the persistence of orality in modern culture but, more to the point, the cultural transformations that take place when an oral culture comes in contact with literacy.

Havelock sees McLuhan, in *The Gutenberg Galaxy*, dealing with primary orality only indirectly, as he focuses on the cultural impacts of the invention of movable type on

medieval scribal culture. According to Havelock, McLuhan asserts that this new technology "fastened on the (presumably) European mind a print mode of consciousness which by implication he saw as constricted and (though he is ambiguous here) regressive".[xli[41]] However, "behind the 'linear' consciousness of modernity, derived from the linearity of typography, could be discerned an oral consciousness which follows its own distinct rules of thinking and feeling…now being revived through modern technology…."[xlii[42]] But Havelock's understanding of McLuhan is restricted, as he seems not to have fully grasped the distinction McLuhan makes between the "content" of a medium (always another medium) and its "message" (the unconscious cognitive bias it fosters in its users), as well as his observation that the manifest content of any communication (its data or ideas) is always less important than the cognitive impact: "[*The Gutenberg Galaxy*] asserted, and largely demonstrated from examples, the fact that technologies of communication exercise a large measure of control over the content of what is communicated ('The medium is the message')."[xliii[43]]

Extensions of Man

Central to McLuhan's mode of inquiry into the relationship between humans and their technologies is that all technologies are extensions of our faculties. Indeed, how could they be otherwise? If they have been imposed on us from outside, as inferred from such imaginative vehicles as Arthur C. Clarke's *2001*, then either they are extensions of those agencies who imposed them on us, or they had been imposed on those agencies by other agencies, which gets us into an infinite regression resolvable only by the *deus ex machina* of an Aristotelian Prime Mover. Rather than relying on complicating assumptions, it is better to use Occam's razor and prefer the simplest explanation possible: Our technologies are means of enhancing or amplifying a particular function that has use to us (whether for good or for ill: think of both prosthetics and atom bombs). If it is useful, then we naturally embrace it and are moved to incorporate it into our ways of interacting with the world. Thus, our sensorium, which is the totality of all our faculties, becomes a combination of all our senses plus their extensions.

In the case of reading, alphabetic writing is so efficient in encoding speech, readers of it become almost exclusively dependent on the eye; the resources of the ear, and hence of the memory, are correspondingly diminished. Plato discusses this effect in the *Phædrus*, where he recounts the story of the god Theuth (or Toth) presenting writing, only one of his clever inventions, to the king of upper Egypt, Thamus (otherwise known as Ammon), claiming that it is a specific for memory and wisdom. Thamus replies that

> by reason of your tender regard for the writing that is your offspring, [you] have declared the very opposite of its true effect. If men learn this, it will implant forgetfulness in their souls; they will cease to exercise memory because they rely on that which is written, calling things to remembrance no longer from within themselves, but by means of external marks. What you have discovered is a recipe not for memory, but for reminder. And it is no true wisdom that you offer your disciples, but only its semblance, for by telling them of many things without teaching them you will make them seem to know much, while for the most part they know nothing, and as

> men filled, not with wisdom, but with the conceit of wisdom, they will be a burden to their fellows.[xliv][44]

Alphabetic writing, and even more so print, because of its regularity, becomes an extension of the eye, which no longer has to have recourse to a fund of residual orality to complete the effect of the speech encoded all but completely in the sequence of letters. A new ratio of the senses is created, in which the eye comes to dominate. Thus, the medium of writing and, *a fortiori*, print, carries with it a lesson, which is not to rely on the ear for confirmation of truth, but to depend on the eye instead. "Seeing is believing," whereas in oral cultures, and as preserved in the system of English common law, hearing is believing, because you can always cross-examine a person, but, as Socrates says, you cannot interrogate a text.[xlv][45]

But what is more important, this lesson works not manifestly but subliminally. The lesson referred to above has been termed differently by Harold Innis as the "bias" of communication media, while Neil Postman has referred to their "epistemology."[xlvi][46] However one refers to this lesson, its significant characteristic is that it operates subconsciously, or it could not work at all. There are those who contend that, in fact, there is no such thing as a media effect, and that all media are neutral vessels into which we simply pour our reflections and disperse them on the multitudes. However, McLuhan considers this view naive; while our conscious minds are occupied by the manifest content, our subconscious is left vulnerable to the subliminal effects of the medium. His favorite analogy was of the content as the juicy hunk of meat the media burglar uses to distract the watchdog of the mind.[xlvii][47] Unconsciously, our sensorium becomes molded by the medium and thus becomes the filter through which we select percepts and experience "reality." Without such filters we would go insane from an overload of input. As McLuhan puts it,

> Were we to accept fully and directly every shock to our various structures of awareness, we would soon be nervous wrecks, doing double-takes and pressing panic buttons every minute. The "censor" protects our central system of values, as it does our physical nervous system by simply cooling off the onset of experience a great deal. For many people, this cooling system brings on a lifelong state of *rigor mortis*, or of somnambulism, particularly observable in periods of new technology.[xlviii][48]

Concomitantly, we come to identify the characteristics of our particular filter with sanity itself—or, at the very least, with the "natural" structures of knowledge, wisdom, and truth. Those with differing, competing, or conflicting filters are seen as lacking those qualities which our filters have persuaded us are "universal." Hence, clashes of cultures, whether these be ethnic, ideological, historiographic, or generational.

The bias of print is towards smooth continuity, linearity, sequentiality, homogeneity, interchangeability, and efficiency, while the biases of other scripts, and of the discontinuous electronic universe, tend in opposite directions. Hence it is understandable why McLuhan's critics have found it difficult or impossible to comprehend or accept both his medium—aphoristic probes arranged in a mosaic structure—and his message, because of the way our minds have been shaped by

typography, invisibly and subliminally. It is also easier then to understand why both his critics and some of his cybernaut enthusiasts—whose mental filters have been shaped just as strongly by electronics—have mistakenly seen his probes as an enthusiastic embrace of electronic media, rather than as the purely detached and descriptive efforts they actually are. While his intent was always to help preserve the positive cultural values that have been fostered by writing and its amplification via Gutenberg technology, he has been mistaken by both camps as a celebrant of the electronic galaxy, simply because he tried to shock people, by means of the probe, out of their complacent unawareness of the ways in which media "massage" consciousness.

Nonlinear Causality

McLuhan's probes depend for their insights upon recognition of overall patterns of interrelationship as the means for understanding. They are not linear or syllogistic explanations of the focus of inquiry but multifaceted explorations, analogous to the way that a cubist painting presents many sides of the object at once. Hence, they do not promote single points of view but invite many views simultaneously, while abandoning the smooth spatial continuities implied in vanishing-point perspective, or visual space, in favor of the sometimes jarring discontinuities of acoustic space. They forsake the exclusive dependence, characteristic of modern thinking, on efficient cause as a means of explaining phenomena, in favor of formal cause, which McLuhan equates with pattern recognition.

Since the abandonment of the medieval trivium as the basis of education, we have lost sight of the fact that, from the ancients up through the Enlightenment, causality was recognized not as the linear, unitary actions of a billiard-table universe, but as being fourfold in nature. Bertrand Russell, in his description of Aristotle's metaphysics, elucidates this concept:

> To understand what Aristotle means, we must take account of what he says about causes. There are, according to him, four kinds of causes, which were called, respectively, material, formal, efficient, and final. Let us take…the man who is making a statue. The material cause of the statue is the marble, the formal cause is the essence of the statue to be produced, the efficient cause is the contact of the chisel with the marble, and the final cause is the end that the sculptor has in view. In modern terminology, the word "cause" would be confined to the efficient cause.[xlix][49]

For medieval thinkers, this fourfold conception of causality, applied to the Book of Nature, was "in perfect correspondence" to the fourfold exegesis of the Book of Scripture, as set out by St. Bonaventure.[l][50] Thus, according to McLuhan, formal cause corresponds with the literal level, material cause with the figurative (allegorical) level, efficient cause with the tropological (moral) level, and final cause with the anagogical (eschatological) level:

> It is hardly surprising then that present-day media analysts find it impossible not to moralize, or that they substitute moralism for understanding. Old Science affords only abstract method and the

> Shannon–Weaver pipeline and its variants – both of these are based on left-hemisphere elaborations of efficient cause and lack the ground that is supplied by formal cause and by interaction with the other causes. Since the four levels, like the four causes, are simultaneous, it is obvious that to perform any one level to the exclusion of the others, as a visual figure minus a ground, is to produce grievous distortion. This goes far towards explaining…the helplessness of Old Science or philosophy to deal with the new transforming ground of electric information.[li][51]

Efficient cause is the basis of modern logical positivism and its extensions, such as the social "sciences." The positivistic epistemology has by no means stopped there, and has extended itself into the humanities, forming the basis for the attitudes of those critics of McLuhan who claim that he hasn't "proven his case." The vocabulary of proof has no real place in the humanities, nor in the social sciences or even the hard sciences, as the New Science of Einstein, Planck, Bohr, Schrödinger, and Heisenberg has manifestly shown, and as chaos theory confirms. It is the vocabulary of formal logic, of closed systems, not of living, open systems, where the proper aim of investigation and argument is not to establish proof but to increase the probability of assent.[lii][52]

McLuhan's probes are aimed not at deductive logic, which he saw as satisfying the purely visual conception of a pleasing arrangement of elements, but at training the perceptive mind in pattern recognition. Such recognition is above all of the grounds of perception, against which the figure of concentration stands out. In the case of any medium, its manifest content, of which we are conscious and on which we tend exclusively to focus, is the figure, while the grounds are the total environment created by the system of services and disservices any technology creates. McLuhan's critics and some of his "disciples" have concentrated on the "content" of his work in a positivistic vein, and have ignored the grounds of awareness his approach attempts to establish.

Thus, as an example, complaints about his "misreadings" of Shakespeare or Joyce entirely miss the point—in place of the standard, and standardized, "interpretations" based on positivistic models of evidence and "proof," he offers re-readings whose aim is to reveal the ground of effects fostered in the minds of the authors by media change that are either latent, in the case of Shakespeare, or manifest, as in Joyce. The critics are most unconsciously revealing the visual bias underlying their misperception of McLuhan's intent when they say they don't "see the connections" McLuhan does. His aim was to get entirely beyond the visual principle—at the very least, in order to appreciate it for what it is—and to encourage people to realize that the electronic age of instantaneous awareness and involvement dethrones efficient causality and restores formal causality as the means of understanding, or re–cognizing, patterns of relationships within the conscious field.

This effort has a close parallel in Carl Jung's concept of synchronicity: that at any given moment in time, any part of the universe resonates with the whole, and that changes in the whole can be perceived by reading changes in any of the parts—and vice-versa—in a kind of figure–ground relationship.[liii][53] Other parallels can be seen in Einstein's complementary General and Specific Theories of Relativity, Heisenberg's Uncertainty Principle, quantum physics,[liv][54] and, most recently, chaos theory.[lv][55] In a similar vein, Richard Dawkins's "selfish gene"[lvi][56] can be seen as a kind of reversal of the conventional figure–ground relationship, and a notion which McLuhan anticipated in

Understanding Media: "Instead of asking which came first, the chicken or the egg, it suddenly seemed that a chicken was an egg's idea for getting more eggs."[lvii][57] So, far from being outside the mainstream of modern thinking, McLuhan is clearly within the flow of contemporary currents of thought. His theories have particularly found confirmation in brain hemisphere research, and he has used the unsolicited contacts with prominent researchers in that field as a springboard for further development of his ideas in *Laws of Media*.[lviii][58]

The Tetrad

In *Laws of Media*, as a means of examining the interactions between human artefacts and their environments, the McLuhans, father and son, propose a fourfold process of examination which they call the tetrad:

> More of the foundation of this New Science consists of proper and systematic procedure. We propose no underlying theory to attack or defend, but rather a heuristic device, a set of four questions, which we call a tetrad. They can be asked (and the answers checked) by anyone, anywhere, at any time, about any human artefact. The tetrad was found by asking, 'What general, verifiable (that is, testable) statements can be made about all media?' We were surprised to find only four, here posed as questions:
>
> • What does it enhance or intensify?
>
> • What does it render obsolete or replace?
>
> • What does it retrieve that was previously obsolesced?
>
> • What does it produce or become when pressed to an extreme?[lix][59]

To use the tetrad on McLuhan's work itself, his attempts at understanding media have

- enhanced our recognition of all human technologies, whether devoted to communication or not, as media that shape our patterns of perception and human interaction;
- obsolesced the rigid dichotomy of C.P. Snow's "Two Cultures";
- retrieved the concept of physics as natural philosophy; and, pushed to their extreme,
- reversed into scientific inquiry.

This last aspect has had its influence particularly on those followers of McLuhan's ideas who have been most thoughtful in exploring the relationships between our minds and emerging electronic technologies. Some of the most prominent among these investigators are Derrick de Kerckhove, Liss Jeffrey, Arthur Kroker, Paul Levinson, Robert K. Logan, Stuart Moulthrop, Janet H. Murray, Richard Lanham, and Neil Postman.

The inclusion of Postman in this group might seem anomalous, given his extreme skepticism about the positive value and impact of electronic media on human cognition—

which strongly contrasts with the views of some of the others, most especially Richard Lanham. Indeed, in one of the essays collected in *The Electronic Word*, "Operating Systems, Attention Structures, and the Edge of Chaos," Lanham lights into Postman for the ideas expressed in *Amusing Ourselves to Death*, in a counter-polemic of remarkable ferocity.[lx[60]] Lanham and Postman represent the polar extremes of interpretation invited by McLuhan's neutral stance in examining media effects without moralizing—the former being representative of most of McLuhan's metaphorical children, who plump for the possibilities of hypermedia in establishing a more complete synesthesia, or balanced ratio of the senses, the latter more in spirit with McLuhan's sympathy for the values of Gutenberg technology. It seems that, for both his detractors and supporters, McLuhan serves as a kind of Rorschach test.

While McLuhan definitely is in sympathy with preserving the "achieved values" of "mechanical Gutenberg culture," the possibility lies open of his being receptive, had he lived longer, to a configuration of media that might promise to recapture such a balance among the senses in fuller cultural expressions. The question thus arises: Can such a restoration be achieved through evolving forms of multimedia and hypermedia? Is the "real" Marshall McLuhan therefore the one read by Lanham, Kroker, Levinson, Moulthrop, and Murray, and not necessarily the one read by Postman?[lxi[61]] Or is he, in the spirit of the Rorschach test, neither and both? Which is the figure, and which the ground?

Hypermedia as Synesthesia?

Perhaps answers to these questions are forthcoming if we are willing to probe and explore what is going on with these vortices of power—how they affect the sensorium. To do so we need to ask some further questions:

1. 1. What are the cognitive effects of multimedia, hypertext, and hypermedia?
2. 2. Does virtual reality take us towards or away from true synesthesia?
3. 3. Is, as the hypertext author Michael Joyce has put it,[lxii[62]] hypermedia the revenge of text upon television, or do hypertext and hypermedia simply turn text into television?
4. 4. Do hypermedia turn image and sound into simply other forms of text to be manipulated as such, as Jay David Bolter claims,[lxiii[63]] or do they do just the opposite—relegate text to the status of image?
5. 5. If the latter is the case, are virtual reality and hypermedia overstimulating the right hemispherical cortex of the brain, hindering communication between right and left cortices?
6. 6. What changes in educational curriculum would be needed to compensate for such an unbalanced state of affairs?
7. 7. If current multimedia and hypermedia systems are unsatisfactory in achieving synesthesia, what changes and developments would have to be made in order to do so?[lxiv[64]]

McLuhan has shown that the best means of arriving at answers to such questions is to use the probe and the tetrad, rather than depending on the ideological blinders of both his critics and some of his champions (I'm thinking here particularly of the *Wired* crowd).

Use of such means reveals that McLuhan was no prophet, nor did he mean to be one. The prophetic mode, when it comes to media and other technologies, participates in the fallacies of futurology, which depends exclusively on efficient causality by extrapolating current trends in a straight line. Prime examples of such vulgar prognosticators are John Naisbitt and the Tofflers. The insufficiency of this approach lies in its overlooking the ground in favor of the figure—ignoring the environmental effects of technological change.

Unlike such computer "visionaries" as Michael Dertouzos, who is confident in telling us *What Will Be*, McLuhan always focused on What Is, and therein lies his value; for instead of inviting the embarrassment of being proven wrong by the course of events, he gave us a heuristic by means of which we could examine what is, so as to determine for ourselves what *should* be. Through such methods as the probe and tetrad we have means of evaluating our current situation and anticipating effects in real time, rather than somnambulistically embracing illusory visions of the future, in unreal time. Those who embrace McLuhan as a visionary, or patron saint, of the electronic future are thus just as misled as those for whom he represents a cultural Antichrist, for they miss the critical dimensions of his method. Given the tunnel vision of both McLuhan's detractors and some of his adherents, we can appreciate the wisdom of *Matthew* 13:57: "A prophet is not without honor, save in his own country."

Endnotes

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[i][1] Benedetti, Paul, & deHart, Nancy. (1997*). Forward through the Rearview Mirror: Reflections on and by Marshall McLuhan.* Cambridge, MA: MIT Press, p. 70.

[ii][2] Philip Marchand (1998) titles one of his chapters "Canada's Intellectual Comet," after the title of a *Harper's* magazine article by Richard Schickel on McLuhan published in November 1965.

[iii][3] Gordon, 1997, p. 301.

[iv][4] Ibid., p. 212.

[v][5] Eisenstein, 1983, pp. 10–11.

[vi][6] McLuhan, 1962, p. iv.

[vii][7] Ibid., p. 135.

[viii][8] p. 57.

[ix][9] McLuhan & Zingrone, 1995, p. 236.

[x][10] March, pp. 53–54, 59–62, 64–66, 68, 70, 72, 74, 158.

[xi][11] The most comprehensive collections of commentaries on McLuhan are Stearn (1967) and Rosenthal (1968). Apparently publishers at the time felt that McLuhan's cachet demanded the ample use of ampersands. There is some redundancy between the two volumes. The former is by far the better, since it provides a sort of codex version of the medieval disputation, with McLuhan and his supporters provided almost equal space in rebuttal of his detractors. The last chapter is an interview between McLuhan and the editor, in which McLuhan provides his most conclusive refutation of his critics' misconceptions. As a habit, McLuhan tended simply to ignore his critics in public and change the subject, so this interview provides a rare insight into his thinking. The latter volume is much less balanced; not only are the Cons given dominance over the Pros, but the editor's Introduction is unusually obtuse, transparently revealing the uncomprehending prejudice behind his stacking the deck against McLuhan in the proportion of essays. Rather than being a vehicle for clarification and understanding, the volume amounts to little more than an intellectual mugging behind a mask of fairness.

[xii][12] Bruce Powe, in a comment made during a panel discussion on "McLuhan's Life" at the reThinking McLuhan Conference, York University, North York, Ontario, March 21, 1997.

[xiii][13] Personal communication.
[xiv][14] Kostelanetz, 1967.
[xv][15] Philip Marchand, in a talk presented on "McLuhan's Life" at the reThinking McLuhan Conference, York University, North York, Ontario, March 21, 1997.
[xvi][16] Marchand, 1998, pp. 200–201.
[xvii][17] McLuhan & Parker, 1968, 1969; McLuhan & Watson, 1970; McLuhan & Nevitt, 1972; McLuhan, McLuhan, & Hutchon, 1977; McLuhan & McLuhan, 1988; McLuhan & Powers, 1989.
[xviii][18] For a sample review, see Sturrock, 1989.
[xix][19] Wolf, 1996a, 1996b.
[xx][20] See particularly the Bibliography in Marchand, 1998, pp. 321–313.
[xxi][21] Gordon, 1997.
[xxii][22] Marchand, 1998.
[xxiii][23] Southam Interactive, 1996.
[xxiv][24] McLuhan–Ortved & Wolfe, 1996.
[xxv][25] Levinson, 1999.
[xxvi][26] p. 191.
[xxvii][27] pp. 224–225.
[xxviii][28] See Kuhn, 1996, pp. 146–147, for his use of Sir Karl Popper's definition of a scientific statement as not one that can be verified, but one that can be falsified. Popper's contrast between closed and open societies was influential in McLuhan's thinking about oral and literate societies, respectively.
[xxix][29] See Graham, 1976.
[xxx][30] pp. 23–34.
[xxxi][31] posting to the Media Ecology discussion list <mediaecology@ube.ubalt.edu>, November 19, 1999.
[xxxii][32] See Briggs, 1992.
[xxxiii][33] McLuhan & McLuhan, 1988, p. viii.
[xxxiv][34] McLuhan & Stearn, 1967, p. 282.
[xxxv][35] *Liddell–Scott–Jones Lexicon of Classical Greek* < http://www.perseus.tufts.edu/ >.
[xxxvi][36] pp. 23–24.
[xxxvii][37] Havelock, 1986, p. 56.
[xxxviii][38] 1928; A. Parry, 1971.
[xxxix][39] Much of what follows depends upon Walter J. Ong's presentation of these matters in *Orality and Literacy* (1982, pp.16–36). I am particularly indebted to Father Ong's work for whatever understanding of the orality–literacy interaction may shine through my dross.
[xl][40] American Heritage *Dictionary*, p. 356.
[xli][41] Ibid., p. 27.
[xlii][42] Ibid., pp. 27–28.
[xliii][43] Ibid., p. 27.
[xliv][44] 274e–275b.
[xlv][45] 275d.
[xlvi][46] 1985, pp. 16–29.
[xlvii][47] 1964, p. 18.
[xlviii][48] Ibid., p. 24.
[xlix][49] 1945, p. 169.
[l][50] McLuhan & McLuhan, 1988, p. 218.
[li][51] Ibid.
[lii][52] Toulmin, 1958.
[liii][53] Jung, 1951.
[liv][54] See McLuhan & McLuhan, 1988, pp. 39–66.
[lv][55] See Gleick, 1987.
[lvi][56] Dawkins, 1976.
[lvii][57] p. 12.
[lviii][58] McLuhan & McLuhan, 1988, pp. 67–91.
[lix][59] Ibid., p. 7.
[lx][60] pp. 236–247.

[lxi[61]] To be fair, Postman recognizes that McLuhan's answers to questions Postman poses about media effects would be "quite different" from his own (1985, p. 161); still, the McLuhan who inspired Postman's career is the one who seeks not to belittle Gutenberg culture.

[lxii[62]] 1988.

[lxiii[63]] 1992, p. 39.

[lxiv[64]] Eric McLuhan addresses these issues and more in *Electric Language* (1988), which he characterizes as a popularized version of *Laws of Media* (1988) (personal communication).