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THE MEDIUM AND MCLUHAN'S MESSAGE

Lance Strate¹

Marshall McLuhan's famous aphorism, *the medium is the message*, serves as the title of the first chapter of his most influential work, *Understanding Media: The Extensions of Man* (2003), originally published in 1964. Its significance extends far beyond that starting point, as this single sentence sums up in pithy and poetic fashion the entirety of McLuhan's approach to the study of media. It would be tempting to designate this statement as the first axiom of McLuhan's media ecology, except for the fact that it is not a logical postulate, but rather is born out of McLuhan's literary sensibilities. As such, it is metaphoric, *message* being the metaphor for *medium*, leading us to ask, regarding each and every particular medium, what is the message that it conveys, and what is the effect that it produces? It is also oxymoronic, medium and message typically being considered two quite different elements of the communication process, and in some sense antonymic (paralleling the polarities of sender and receiver). Through this juxtaposition, McLuhan asks us to reconsider their opposition, asks us to consider whether they really are separate, distinct, and independent phenomena, or whether there is an erroneous elementalism at work resulting in a false division, in the same way that we may mistakenly divide mind from body, or the rational from the emotional. As an *oxymetaphor*, as Ray Gozzi (1999) puts it, *the medium is the message* serves as an invitation to contemplation, and as a poetic formulation, it invites participation through its ambiguity and openness, functioning as a cool medium, to draw on McLuhan's own taxonomy of media. But most importantly, as the first *aphorism* of McLuhan's media ecology, *the medium is the message* contains a multitude of meanings packed tightly together into one memorable package. The challenge, then, is to unpack McLuhan's saying, isolate and identify its many meanings, and express them in the form of coherent statements, thereby moving beyond an intuitive and aesthetic appreciation for McLuhan's thought, and into the developing field of inquiry known as media ecology (Nystrom, 1973; Postman, 1970; Lum, 2005; Strate, 2006, 2011).

The first thing to be said about *the medium is the message* is that it is a warning and a wake-up call. It is a plea to pay attention, for as McLuhan insists in *The Medium is the Message*, "there is absolutely no inevitability as long as there is a willingness to

contemplate what is happening" (McLuhan & Fiore, 1967, p. 25). McLuhan has often been wrongly accused of being a technological determinist, such accusations typically presented as a straw man argument, and as a label used to dismiss McLuhan out of hand, rather than actively engage with his ideas. I would go so far as to say that there was an active campaign to suppress serious consideration of McLuhan's media ecology in academic circles, beginning in the 1970s and finally waning over the 1990s as the growing popularity of the internet irrefutably established McLuhan's relevance. This was not due to a coordinated conspiracy so much as it was a confluence of different factors, but whether McLuhan was attacked for his personality, his popularity, his politics, his religion, or his style, the fact remains that his ideas and methods were rarely the subject of careful consideration and critical attention (significant exceptions being reprinted in Carey, 1989, 1997; see also Kuhns, 1971; Rosenthal, 1968; Stearn, 1967; Theall, 1971) until relatively recently (e.g., Genosko, 1999; Grosswiler, 1998, 2010; Lamberti, 2012; Levinson, 1999; Logan, 2010; Marchessault, 2004; Strate & Wachtel, 2005; Theall, 2001; see also the biographical studies by Coupland, 2010; Gordon, 1997; Marchand, 1989).

Contrary to the specific accusation of technological determinism, McLuhan (2003) refers to media and technologies as extensions, following a tradition that extends back to Ralph Waldo Emerson (1883). As extensions of ourselves, they are produced by us, made in our own image. But we forget, become alienated from our own creations, see them as something other than ourselves, and oftentimes become enamored of them not realizing that we are simply infatuated with reflections of ourselves. McLuhan used the phrase *narcissus narcosis* to refer to the numbing that accompanies the adoption of whatever new inventions are introduced, and our overall lack of awareness of our intimate connection to the media of communication that extend our senses. It is a numbing of our very consciousness, transforming us into sleepwalkers.

We are numb not only to the nature of our innovations, but to their consequences. Every extension is also an amputation, according to McLuhan, as our technologies function in effect as prosthetic devices. McLuhan did not use the term *cyborg* to refer to this merging of the biological with the technological, as this contraction of the phrase, *cybernetic organism* was an obscure engineering term in his time, and had not yet been popularized by the science fiction genre, through which it was picked up by cultural

theorists some time after McLuhan's death (e.g., Haraway, 1991), but it is certainly consistent with McLuhan's view that as we extend our bodies, our extensions feed back into ourselves, altering us in significant ways. This idea has been expressed many times over the course of history. Psalm 115, one of many examples of the biblical polemic against graven images and idols, describes them as "the work of men's hands" (15), incapable of seeing, hearing, speaking, or breathing, and warns that "they that make them shall be like unto them; so is, every one that trusts in them" (18). In the New Testament Gospel of Matthew, Jesus declares, "all they that take the sword shall perish with the sword" (26:52). The same idea take form in the 15th century French proverb, *comme on faict son lict, on le treuve*, literally translated as, *as one makes one's bed, so one finds it*, but often rendered in English in the more judgmental variation, *you made your bed, now go lie in it!* That same century, the English writer and pioneering printer William Caxton published a retelling of *Aesop's Fables* that included the following line in the Middle English of his time: *for to a folysshe demaunde behoueth a folysshe ansuere*, which is generally considered the ancestor of the modern saying, *ask a silly question, get a silly answer*. The notion that the questions we ask have much to do with the answers that we obtain is an essential adjunct to *the medium is the message*, and takes its most modern form in the computer science mantra, *garbage in, garbage out* (aka GIGO). During the 19th century, the idea was expressed quite poignantly by Henry David Thoreau's (1893/1980) observation on the building of the railroads: "we do not ride on the railroad; it rides upon us" (p. 67). And it was expressed humorously by Mark Twain's quip that when you have a hammer in your hand, everything looks like a nail (quoted in Eastham, 1990, p. 17). In the 20th century, possibly the most immediate influence on McLuhan's famous line is the comment from the anthropologist Ashley Montagu (1958) that, "in teaching it is the method and not the content that is the message," to which he adds, "the process of making a cultured man does not depend upon the transmission of knowledge, but upon the manner in which that knowledge is transmitted by the teacher" (p. 62).

Winston Churchill said, "we shape our buildings; thereafter, they shape us" (quoted in Schools, 1960, p. 76) and McLuhan's Fordham University colleague, John Culkin (1967), generalized that statement as, "we shape our tools and thereafter they shape us" (p. 52), in order to explain McLuhan's approach. McLuhan (1995) argued that every medium

and technology brings with it not only certain services, but a set of disservices as well; this parallels his remark that every extension is also an amputation (McLuhan, 2003). Stated plainly, every benefit comes with a cost, there is always a price to be paid for the advantages that our inventions bring us, media give rise to negative effects that are inseparable from their positive effects. Within the medical arena, the unwanted effects of pills and procedures are downplayed as *side* effects, but there is nothing peripheral if they cause as much or more harm than the intended effects, and even if the cure is not worse than the disease, the additional effects are no less real, and are not relegated to the sidelines as far as the patient's experience is concerned.

McLuhan objected to judgmental declarations about media, whether they were in praise or condemnation of technology. His emphasis was *understanding media*, by which he meant that we need to withhold judgment until we engage in a thorough assessment of a given medium's effects. Moreover, beyond the positive and negative effects, *the medium is the message* means that each medium and technology has its own *bias*. In this, McLuhan followed the example of Harold Innis in *The Bias of Communication* (1951), who argued that writing on heavy media such as stone and clay tablets are associated with a bias towards preservation over time, whereas writing on light media such as papyrus and paper are biased towards transmission over space, and that complex systems of communication are biased towards hierarchical relationships, whereas simplified systems of communication are democratizing. The bias of a medium does not determine how it is used, but does represent limitations on how it can be used (you cannot drive a car across the ocean, you cannot use radio to display images), and indicates what it is best suited for (automobiles may be used as dwelling or storage units but are biased towards the transportation of individuals or small groups, motion pictures may be used to display an unchanging scene but are biased towards the depiction of action and events). Therefore the bias of the medium represents what might be considered a statistical tendency for a given medium to be used in a particular way.

The fact that I may choose to use a medium against its bias, or choose not to use the medium at all, may allow me some measure of control over its effects on me. I cannot, however, control the decisions of others, or control decisions that are made on a societal level. That is to say, I can choose not to watch television, but I cannot chose to live in a

world where television does not exist. I can choose not to own or drive a car, but I cannot choose to live in a world where the automobile represents a primary form of transportation. I may never own or touch a gun, but I cannot choose to live in a world without firearms. I cannot choose to live in a world without airplanes flying overhead, nor can I choose to live in a world without nuclear weapons. This is not to discount the possibility of engaging in political activism regarding our adoption and use of technology, but merely to note that decisions about the adoption of innovations are rarely a matter of democratic deliberation, nor even measured decision making on the part of some ruling class, beyond simply a blind faith in technology, a surrender of culture to technology as Neil Postman (1992) puts it, with efficiency the only value given serious consideration, as Jacques Ellul (1964) argues.

Even if media and technology were brought under some form of centralized control, the fact remains that the consequences of innovation are unpredictable, that there are always unanticipated effects. Social systems being complex wholes made up of interdependent parts, changes made to the system will have direct effects that lead to secondary effects, which in turn will result in tertiary effects, and so on, with the various effects interacting with one another, and with the potential for a cascading or snowballing or butterfly effect, for change that is system-wide and potentially catastrophic. Simply put, in ecological terms, change is not additive, you do not add something to the system and get the same old system plus the new addition, but rather the result is an entirely new system. Add a writing system to a tribal society and you set in motion a series of effects that can, over time, result in the formation of an empire. Add the printing press with movable type to a medieval society and you can, over time, see the introduction of nationalism, democratic revolutions, religious pluralism, capitalism, individualism, and progress in science and technology. Add electronic media and digital technologies to a modern society and you get changes in communication, consciousness, and culture that continue to take us by surprise, being sometimes disturbing and distressing, sometimes encouraging and exhilarating, but that cannot help but fill us with uncertainty about the future. In his first book, *The Mechanical Bride* (1951), McLuhan characterized the contemporary situation as a chaotic maelstrom, but held out the hope that through observation and pattern recognition, we might be able to make some sense of what is happening, and take a measure of control over our circumstances. This begins with *the medium is the message* as a call to pay

attention before it is too late.

McLuhan's early emphasis on the metaphor of the vortex, taken from Edgar Allen Poe's short story, "A Descent into the Maelstrom," as well as the early 20th century British literary and artistic movement, Vorticism, associated with Wyndham Lewis and Ezra Pound, anticipates the late 20th century development of chaos theory and the science of complexity. His scholarship on media paralleled the early development of systems theory, and incorporates or intuitively grasps many systems concepts, as well as ecological metaphors. In this respect, while he made use of the language of cause and effect in his discussion of media and technology, the processes of social and psychological change that he identified were not mechanical processes of action and reaction, but connected patterns arising out of complex interactions, the kinds of phenomena represented by the concept of *emergence* associated with theories of chaos, complexity, and autopoiesis. The development of McLuhan's laws of media or tetrad towards the end of his career (McLuhan & McLuhan, 1988; McLuhan & Powers, 1989), in which the introduction of a new medium is said to enhance some pre-existing property (enhancement being the equivalent of extension), obsolesce an existing element (in some ways corresponding to amputation), retrieve something that has previously been obsolesced, and reverse or flip into its opposite when pushed to its extreme, is an excellent expression of systems dynamics, although it is not presented as such. Instead, McLuhan reached backward to the metaphysics of Aristotle, and specifically to his concept of formal causality, to explain the properties of the technological and cultural maelstrom—this essential foundation of McLuhan's media philosophy has only recently been clarified through the publication of *Media and Formal Cause* by Marshall and Eric McLuhan (2011).

As a scholar of English literature fascinated by the modernist movement, McLuhan was influenced by 20th century discussions and debates concerning the relationship between form and content, and intellectual movements such as formalism and structuralism. In this sense, *the medium is the message* can be interpreted as a new way of situating form over content, but it also relates to McLuhan's early interest in the medieval curriculum known as the trivium, and especially in the structural and formal aspects of language and knowledge associated with grammar and rhetoric, as opposed to the content identified with logic and dialectics (as discussed in his doctoral thesis, see McLuhan, 2006).

Form, with its origins in Platonic idealism, seems to suggest some kind of abstract phenomenon, in contrast to the concrete quality of content. In substituting medium for form, McLuhan succeeds in grounding form in the material world, *medium* having the connotation of substance, and in its association with technology, linking form to the pragmatism of method. This parallels the etherealization of the content or message, theoretically through the introduction of Claude Shannon's information theory (Shannon & Weaver, 1949), and practically through the use of electronic media of communication. Form, for McLuhan, involves pattern recognition, as for example when he describes the front page of the modern newspaper as a mosaic art form, comparing it to jazz, and also notes the parallel between cubism in art and relativity in physics, both of which involves new ways of understanding space and time (McLuhan, 1951), both of which follow the pattern initialized by the first electronic medium, the telegraph (McLuhan, 1962, 2003).

McLuhan emphasized the role of media in extending sense perception, declaring himself to be a Thomist in this regard, and saw art as a means of training the senses, and opening the doors of perception (to use Aldous Huxley's happy phrase). The study of art and perception have for long been closely allied, and while form as an extension fits nicely into this tradition, McLuhan did not go so far as to say that our organs of perception are themselves media, nor did he characterize the body in this way, although it would seem perfectly consistent with his approach to take this additional step. Certainly, McLuhan argued that the different senses have different biases, just as different media do. So, for example, the sense of hearing places us in the center of things, sound surrounding us in a three hundred and sixty degree circle, making us a part of the world, placing us in a subjective and ecological relationship to our surroundings that he identified as acoustic space. Vision, on the other hand, places us on the outside looking in, choosing a direction, a focus and a fixed point of view, as an alienated spectator or voyeur, an objective and objectifying position that he identified as visual space. The shift from orality to literacy, and especially to alphabetic literacy, was associated with a shift in emphasis from acoustic to visual space, according to McLuhan, and this especially intensified with the advent of Gutenberg's printing press, accounting for the distinctive qualities of western civilization (McLuhan, 1962). Ultimately, McLuhan's media ecological outlook values not only a balance among media and technologies, but also a balance among the senses, and within the

sensorium.

By saying *the medium is the message*, McLuhan was pointing out that we tend to pay attention to content, and ignore the medium, but it is the medium that plays the more significant role, that has the greater effect. We take our senses for granted, and naturally pay attention only to the content of our perceptions, but it is the basic ability to see, and hear, and smell, taste, and touch, that is truly important, a point driven home typically only when our senses fail us. Sight in and of itself, seeing for seeing's sake, only enters our awareness when our vision becomes impaired or lost. Similarly, the specific way that a given technology may be used in any particular instance is of much less importance than the presence of the technology in general. McLuhan (1964) used the example of the electric light, as we may use it so that we can read a book at night, or light up a room for a party, or to be able to conduct business after the sun goes down, or to project a motion picture in a darkened room, or illuminate a sign, or a street, but the real impact of the electric light is in all of these activities and more, in the ability to turn night into day, into the complete transformation of society to the point that we now speak of activities occurring 24/7. Similarly, it is the presence of the airplane that has drastically altered our world, providing relatively quick and easy transportation to every corner of the globe, connecting one city directly with another; of lesser significance are any set of particular passengers who may be traveling on any given flight. Along the same lines, we can say that the invention of writing revolutionized human culture, regardless of whether it was used in one instance to keep inventories and accounts, in another to send messages back and forth, and in another to record oral traditions. The medium of writing consists of the sum of all these particular uses, and is also greater than that sum, as it facilitated the transition from tribalism to what has been traditionally referred to as civilization. Likewise, the medium of printing facilitated the shift from the medieval to the modern, whether it was used to mass produce bibles and ancient works of philosophy, or vernacular literature, or broadsheets and periodicals, or calendars and catalogs, or blank forms to fill out. And so, McLuhan argued that all the concern voiced about what was on television paled in significance to the presence of the medium in and of itself, to the instantaneous audiovisual access it afforded to the outside world. And today we can perhaps more clearly see that it is the interconnectedness made possible by the internet that is especially significant, as

opposed to any particular tweet or status update about what someone had for lunch, or any particular blog expressing one or another political position, or any particular website for purchasing one given product or another.

The medium is the message means that if we really want to understand what is going on, that is, if we really want to *get the message*, we need to study the medium and not fixate on the content, the content often serving as a distraction or smokescreen. The *message*, in this sense, refers to significance rather than information, but the term is also synonymous with content, suggesting that *the medium is the message* also means that *the medium is the content*. To be precise, McLuhan (1964) argued that *the content of a medium is another medium*. For example, as I write these words, they are being displayed on a computer screen that looks like a printed page, but of course is not made of paper and ink, but rather photons and electrons. Whereas electronic text (e.g., word processing software) is the medium I am working with, typography is its content. In the case of the medium of the printed document, the handwritten text or manuscript is the content. Writing as a medium is a means of representing the spoken word in visual form, and therefore takes speech as its content. This process is easiest to recognize when a new medium is introduced. As there is no precedent for how to use a new medium, it is entirely natural to try to do the same old thing, duplicate previous activities, using the new medium—indeed, it is often the case that the new medium is invented to improve the efficiency of tasks performed by the older medium. So, for example, the printing press with moveable type was invented to facilitate the process of copying written documents, and the first printed works were designed to look as much like manuscripts as possible. McLuhan used the metaphor of the *rearview mirror* (McLuhan & Fiore, 1967) to characterize this way of thinking, a classic example being early references to the automobile as a *horseless carriage*.

Television was introduced as *radio television*, that is, television with pictures, and much of its early content consisted of radio programs slightly modified for the camera; old motion pictures also were used as content, as well as live performance (theater, concert, dance, etc.). It took time to develop content specifically suited to the new, small screen, low resolution, home entertainment medium. When it becomes the content of a new medium, the older medium is transformed from a material necessity, e.g., handwritten documents being the only option before printing technology was available, to become a

matter of style, e.g., typefaces that mimic calligraphy are one option among many; as individuals continue to work with the new medium, new options are developed that better suit the bias of the new medium, e.g., the plainer, more legible typefaces in use for the past several centuries. The process by which a new medium takes an older medium as its content has been termed *remediation* by Jay David Bolter and Richard Grusin (1999), so that, for example, the computer keyboard remediates the typewriter, the CD remediates the vinyl record album, the photograph remediates the painting, etc. McLuhan has often been incorrectly cited as saying that the content of a medium is always an *older* medium, when in fact he stated that it is an *other* medium, and Bolter and Grusin quite rightly point out that an older medium can remediate a newer one, so that, for example, computer graphics have been published in print media, and television clips have been used as the content of motion pictures. It is also worth noting that pioneering computer scientist Alan Kay, an admirer of Marshall McLuhan's thought, was not only one of the first to look at the computer as a medium, but dubbed it a *metamedium* (Kay & Goldberg, 1977), because it can take as its content all earlier forms of media; this has become even more apparent with the expansion of computer networks and the evolution of the internet, which remediates radio and television broadcasting, sound and video recording, motion pictures, publishing, and even word of mouth.

It would be absurd to conclude from this, as some of his critics have, that McLuhan meant to deny the existence of content altogether. On the contrary, *the medium is the message* also means that the medium used to send a message influences the form of the message itself, the content of our communication. The exact same words can send a different message if I whisper them in your ear or shout them out in front of a crowd. Words that are spoken carry different meaning when they are written down, and the meaning of handwritten text changes again when it appears in a printed document. Artists have long understood this principle, so that the same subject yields a different work if it is rendered in oil paints or watercolors, drawn in charcoal or pastels, photographed in black and white or color, or sculpted by molding clay, chiseling wood, or chipping away at stone. The same melody becomes a different piece of music when it is sung or played on an instrument, and differs if the instrument is a trombone, or xylophone, or electric guitar. Languages are media, according to McLuhan, and anyone who speaks more than one

language is aware that there is something always lost in translation, hence the Italian saying, *traduttore, traditore* (translator, traitor). Each language has its own grammar, every medium has its own set of rules for creating meaningful content, which have much to do with the bias of the medium, and as those rules differ, so does the content that is created, transmitted, and contained. McLuhan's media ecology encompasses the linguistic relativism associated with Edward Sapir (1921), Benjamin Lee Whorf (1956), and Dorothy Lee (1959), a perspective that fell into disfavor during the Chomsky era in linguistics, but has recently been reinvigorated.

Models of communication, such as the Shannon-Weaver Model (Shannon & Weaver, 1949), typically present the medium (or channel) as an afterthought, suggesting that first we have a message, and then we decide on which medium to send it through. Based on this view, it is only natural to assume that messages exist in some ideal form, independent of the media, and unaffected by them. *The medium is the message* is intended to correct this mistaken view by also conveying the idea that the medium precedes the message. We begin with a medium, for example a language, and compose a message by selecting and combining elements of the medium, or in this instance the code, according to the rules of grammar. The painter begins with an empty canvas, a brush, and a set of paints. No television programs existed until after television technology was invented. And most telling of all, before we learn to speak, we first learn to make the meaningful sounds of language, the medium of phonemes, acquired typically in very early childhood through the activity commonly referred to as baby talk. There is no such thing as a message without a physical basis—words must take the form of sound, vocalization, or be represented by visible marks made on some kind of writing surface, or exist in electrochemical form in the brain. Similarly, there is no information independent of form, whether it takes the form of electrical circuits or silicon chips or electromagnetic waves or chromosomes, a point often overlooked in popular discussions of the concept of the *meme*, ideas that are said to replicate themselves in the manner of a virus.

It follows from all this that a further meaning of *the medium is the message* is that there is no message without a medium. There can, however, be a medium without a message, that is to say, a medium devoid of content. That idea is expressed in the memorable first sentence of William Gibson's groundbreaking cyberpunk novel,

Neuromancer: "The sky above the port was the color of television, tuned to a dead channel" (p. 1). McLuhan begins the first chapter of *Understanding Media* (2003) by describing the electric light as a medium without content. More commonly, it is an all but universal experience to spend an extended period of time contemplating media without content, whether it is an empty piece of paper that we mean to fill by writing or drawing, or an empty canvas, or a blank computer screen. Practices related to meditation and mysticism generally involve engagement with a medium without content, the goal often being the clearing of the mind of linguistic content (i.e., the inner monologue or dialogue), so as to open the senses to a different type of message.

As much as a medium can exist without content, it might be said that it is in the nature of media to abhor a vacuum, so that *the medium motivates the content*. By this, I mean that the introduction of a new medium leads to a search for new content to fill it with. Thoreau (1899) famously said, "We are in great haste to construct a magnetic telegraph from Maine to Texas; but Maine and Texas, it may be, have nothing important to communicate" (p. 61). The point was well taken, but he missed the more important fact that the presence of the telegraph would prompt Maine and Texas to find something to communicate about, important or not. When steam-powered printing press made it possible to produce low cost, high volume, mass circulation daily newspapers in the early 19th century, it set in motion a scramble for content that began with the introduction of reporting about crime (also criticized by Thoreau, who equated such reporting with gossip), and led to the creation of a whole new category of news manufactured specifically to fill the newspaper's pages, rather than gathered about events occurring with or without the presence of the press; Daniel Boorstin (1978) referred to these new forms as *pseudo-events*, e.g., interviews, publicity stunts, press releases, press conferences, background briefings, and news leaks.

Similarly, following the introduction of the World-Wide Web circa 1993, content became a buzzword during the mid-to-late 90s, as various organizations and businesses scrambled to find material to fill their newly created websites. It is often said that once a new technology has been invented, it cannot be *uninvented*, and beyond that notion, *the medium is the message* also implies that once a new technology has been adopted, it is difficult to prevent it from being used. This is a terribly sobering thought, when we

consider all of our innovations in the technology of warfare, and the fact that the most terrible of them, nuclear weapons, have in fact been used, twice in the conduct of war, and over two thousand times in testing. Some small measure of comfort may be gained at this juncture by recalling that the use of technology is not inevitable, that it is possible to gain some measure of control, and that that is very much a goal of McLuhan's media ecology.

Another meaning that McLuhan (1995) attached to *the medium is the message* is that *the user is the content*. From the standpoint of communication, the *user* refers to both sender and receiver. While models of communication tend to separate the sender from the message, in truth they are inseparable, the message is intimately connected to the sender. This is clearest in oral communication, where it is impossible to separate fully the message from the messenger (hence the emphasis on *ethos* as proof Aristotle's *Rhetoric*). Writing gives the illusion of messages existing independently from communicators, of communication as a *thing*, rather than an action performed by an agent. For McLuhan, the fact that the sender is the content became most apparent on television, where the sender is sent, that is, the image and sound and gestures and expressions of the person appearing on television becomes the content of the television broadcast. But the same process applies to all forms of communication, so that a sense of presence can be generated even by the highly abstract medium of print, as Walter Ong (1967) explains (which is not to discount the distinct qualities of physical presence). If the medium is the message, then the content does not reside independently within the medium, but is in fact the phenomenon of senders extending themselves (which also corresponds to the content being another medium). As for the receivers, they are the ones who create the content in the sense that they interpret the message and generate its meaning; this McLuhan learned while studying the New Criticism at Cambridge University in the mid-twentieth century, and it is also expressed quite unambiguously in the resonance theory of Tony Schwartz (1974), a media producer that McLuhan maintained a close relationship with. The user is the content because there is no meaningful message until a receiver makes meaning out of the stimuli received. In this way, the only element of communication that has no objective and independent existence is the content, as the sender and the receiver are connected via the medium that exists independently of both sender and receiver, but the content does not exist without at least one of the three.

In understanding the process of communication not as individuals sending and receiving messages, but rather as extending themselves over time and space, as a process of connection and communion taking place through the agency of a medium, we can further link *the medium is the message* to another of McLuhan's statements, one that extends the title of a classic work by one of McLuhan's mentors at Cambridge University, *The Meaning of Meaning* (Ogden & Richards, 1923), to the following: *the meaning of meaning is a relationship* (McLuhan & Nevitt, 1972, p. 86). *The medium is the relationship*, in other words, it is the means by which individuals communicate and relate to one another. So, for example, communication via the printed word constitutes a different kind of relationship than communication via a handwritten note, dialogue constitutes a different kind of relationship than public address, the television broadcast constitutes a different kind of relationship with the viewer than a video uploaded to YouTube. Paul Watzlawick and his colleagues have established that there is a relationship level to communication that is distinct from the content level, and that the relationship level has much to do with how the content is interpreted and understood, so much so that communication can hardly be said to have occurred unless the relationship is established first (Watzlawick, Bavelas, & Jackson, 1967). In this sense, then, the teacher-student relationship is a medium of sorts, within which many messages of an educational nature may be shared, a medium that differs in significant ways from a romantic relationship. The parent-child relationship constitutes a medium that becomes the content of many subsequent relationships but that contrasts sharply with peer group relations. Communication on the relationship level is a form of metacommunication, that is, communication about communication, communication that establishes and maintains the relationship and guides us in interpreting the messages that we receive. We can therefore also say that *the medium is the metacommunication*.

Relationship implies context, so that we can also understand *the medium is the message* to mean that *the context is the communication*, which is to say that the context is instrumental in establishing relationships and allowing messages to be shared. The classroom is a context in which certain behaviors are accepted and others disallowed, the tavern or bar is a context of a quite different character, as is an airport. Each in its own way constitutes a medium of communication, so that, for example, the medium of the beach has its own codes of dress and conduct, leading us to interpret appearance and behavior quite

differently from the medium of the city street. Bruno Malinowski used the phrase *situational context* in his appendix to *The Meaning of Meaning* (Ogden & Richards, 1923), and Erving Goffman (1959) simply referred to *situations*. The physical characteristics of situations also function as media, as can be seen from Edward T. Hall's classic analysis of proxemic behavior, *The Hidden Dimension* (1966). So, for example, the imposition of a desk between interviewer and interviewee establishes a more formal relationship than two chairs facing each other directly. The traditional classroom establishes the teacher as the focus of attention, minimizing interaction among the students, whereas having everyone sit in a circle facilitates discussion; sitting around a table adds an element of formality and decorum that would otherwise be absent. The architecture of churches and synagogues communicates a sense of higher power, the landscaping of parks and gardens a sense of leisure and rumination. Joshua Meyrowitz in *No Sense of Place* (1985) persuasively demonstrates how traditional media (e.g., television, telephone, books) and physical situations are both information systems, which is to say that both are media; he uses the designation *medium theory* to refer to this perspective, and while synonymous with media ecology, medium theory is best identified as a subset of the field of media ecology, one that is specifically allied with the social and behavioral sciences (McLuhan quite clearly denied that his work in any way constituted a *theory*, and it is perhaps more accurate to identify him as a media philosopher rather than a media theorist).

In saying that *the medium is the message* means that the medium is the context, situation, or system, we arrive at what, for me, is the fundamental point, that *the medium is the environment*. McLuhan clarified this point in his Introduction to Second Edition of *Understanding Media*, originally published in 1965: "The section on 'the medium is the message' can, perhaps, be clarified by pointing out that any technology gradually creates a totally new human environment. Environments are not passive wrappings but active processes" (McLuhan, 2003, p. 12). He went on to relate the idea that the content of a medium is another medium to the idea of media as environments:

"The medium is the message" means, in terms of the electronic age, that a totally new environment has been created. The "content" of this new environment is the old mechanized environment of the industrial age. The new environment reprocesses the old one as radically as TV is reprocessing the film. For the "content" of TV is the movie. TV is environmental and imperceptible, like all environments. We are aware

only of the "content" or the old environment. When machine production was new, it gradually created an environment whose content was the old environment of agrarian life and the arts and crafts. This older environment was elevated to an art form by the new mechanical environment. The machine turned Nature into an art form. For the first time men began to regard Nature as a source of aesthetic and spiritual values. They began to marvel that earlier ages had been so unaware of the world of Nature as Art. Each new technology creates an environment that is itself regarded as corrupt and degrading. Yet the new one turns its predecessor into an art form. When writing was new, Plato transformed the old oral dialogue into an art form. When printing was new the Middle Ages became an art form. "The Elizabethan world view" was a view of the Middle Ages. And the industrial age turned the Renaissance into an art form as seen in the work of Jacob Burckhardt. Siegfried Giedion, in turn, has in the electric age taught us how to see the entire process of mechanization as an art process. (p. 13)

McLuhan goes on to argue that art provides us with anti-environments or counter-environments that help us to perceive and understand our present environment (this functions in much the same way as the experience of traveling and experiencing other cultures and then returning back home). The idea that media constitute invisible environments is in part a matter of perception and attention. When a medium is new, it is briefly visible to us, as we marvel at the novelty of the innovation. As we become used to it, and the use of the technology becomes routine, we stop paying attention to it, allowing it to fade into the background, leaving us functionally blind to it. McLuhan often invoked the dichotomy used in scholarship on art and perception (e.g., Gombrich, 1960) of figure-ground relationships, and media, being environment, become the ground, against which content stands out as the figure. When television was new, viewers were happy just to watch whatever was on, marveling at the sudden appearance of the moving image in their homes. Now we pay no attention to television as a medium, and only ask about what's on, or why there isn't anything good on? We don't stop to observe and ponder the presence of electric lights, or mass produced clothing, or railroads, or amplified music. When we read, we don't stop to think about the process of reading, when we listen, we don't puzzle over the miracle of language.

Media are environments as well because they alter our perception of our environment. When we look through a telescope, our world becomes much smaller than it was before, when we look through a microscope, our world expands to immense

proportions. Through photography and sound recording, film and video, we extend our senses over time and space, and this changes the environment that we know and understand forever. When we read the words of another person, and in this way peer into the mind of a fellow human being, our understanding of the other people in our environment is drastically altered. When we gain the ability to connect with others through telecommunications, our social environment can never be the same. Language too is a medium of perception, allowing us to view the world in abstract form and share knowledge socially and generationally (Korzybski, 1993), and each particular language carries with it its own variation on how to view the world (Sapir, 1921; Whorf, 1956; Lee, 1959).

Media such as buildings, houses, farms, gardens, parks, streets, roads, and cities are environments in the most obvious sense, but at least in the English language, we also enter *into* conversations and relationships, we write *in* English or Spanish or Hebrew or Mandarin, suggesting that speech, language, and interpersonal communication can also be regarded as contexts and environments. In regards to computer technology and the internet, computer chips have their own particular *architecture*, data in digital memory and storage media can be found at certain *addresses*, we go to *sites*, we *navigate* the web, we explore *cyberspace* and *virtual reality*, and even word processing programs are often referred to as environments. In the case of new media, digital media, and online media, the idea of media as environment becomes much clearer than it was for print media, but all media become environmental to us, as noted, and also all media, as contexts, situations, and systems, are experienced in some way as environments that we enter into, if not physically than at least mentally (e.g., losing oneself in a good book). Moreover, to the extent that media are extensions of the human body, they come between the human body and the outside environment, thereby shielding us from the outside environment—hence the numbing effect of amputation. As Max Frisch (1959) put it, "technology is the art of never having to experience the world" (p. 178). But what comes between ourselves and our environment, becomes our new environment, or as I like to put it, *the medium is the membrane*. And this in turn suggests that *we shape our environments, and thereafter, they shape us*.

While media are typically thought of in terms of transportation, transmission, or pipeline models, connecting point A to point B, the term *medium* also is defined as an all pervasive substance that surrounds us, that is, as an environment in the sense that fish live

and swim in the medium of water, and we move and speak through the medium of air. And as Neil Postman (2000) explains

You will remember from the time when you first became acquainted with a Petri dish, that a medium was defined as a substance within which a culture grows. If you replace the word “substance” with the word “technology,” the definition would stand as a fundamental principle of media ecology: A medium is a technology within which a culture grows; that is to say, it gives form to a culture’s politics, social organization, and habitual ways of thinking. Beginning with that idea, we invoked still another biological metaphor, that of ecology. . . . We put the word “media” in the front of the word “ecology” to suggest that we were not simply interested in media, but in the ways in which the interaction between media and human beings give a culture its character and, one might say, help a culture to maintain symbolic balance. (pp. 10-11)

Neil Postman formally introduced media ecology as the study of media as environments in an address given in 1968 (published in Postman, 1970), inspired by McLuhan's use of environmental and ecological metaphors. McLuhan was not the first to use such metaphors, as they can be traced back to Lewis Mumford (1934), whose work had a major impact on McLuhan's thinking, and even further back to the Scottish polymath, Patrick Geddes (1904, 1915). But McLuhan was the first to use environmental and ecological metaphors in relation to the study of media, making his work central to the field of media ecology. The idea of media as environment brings us back to the point that the effects of media and technology are not deterministic in the sense of cause-and-effect relations, of one billiard ball hitting another, but rather exert an environmental influence, in the same way that the billiard table limits and directs the possibilities that may ensue when the billiard balls are hit. The idea of media as environment is consistent both with a understand McLuhan via theories of systems, chaos, and complexity, and with the philosophical concept of formal cause, which is presented by McLuhan as environmental (McLuhan & McLuhan, 2011).

The medium is the message means that media exert the greatest influence on us, individually and collectively. They affect our modes of perception, shifting us from a balanced sensorium oriented toward the spoken word and acoustic space, to a heightened visualism characterized by the fixed point of view brought on by literacy and print, and back out of that mode with the advent of the electronic media. They affect our modes of

thought, from the concrete and holistic mindset characteristic of members of oral cultures, to the abstract, analytical, and linear thought made possible by literacy, to new forms of ecological thinking in the age of electricity. They affect the way we see ourselves, from the group-centered, tradition-directed members of oral cultures, to the individualistic, inner-directed members of literate cultures, to today's multitasking, remixed, other-directed netizens. They affect our cultures, oral cultures being economical in their management of knowledge, conservative and homestatic; literate cultures allowing for progressive accumulation of knowledge, but also a degree of fixity that can result in rigidity; electronic cultures providing quick and easy access to knowledge, but at the cost of trivialization and information overload. They affect our social organization, from the tribalism of oral cultures, to the increasing complexity of social systems associated with writing, including the growth of cities, empires, and specialized governmental, religious, economic, and educational institutions, to the nationalism and democratization associated with print, to what McLuhan termed the global village of the electronic age, and the proliferation of heterogeneous forms of social networks. Of course, what I have related in this paragraph is but a brief and cursory mention of one of the main aims of the field of media ecology, which is to investigate in a thorough and comprehensive manner the nature and effects of our media environments.

McLuhan's insights about the electronic media remain relevant today, more so as our new media and digital technologies fully exploit the bias of the electronic media that he identified over half a century ago. More importantly, though, it was through his work that a new way of studying and understanding media coalesced, and a new field began to take coherent form, the field of media ecology. In the end, his most lasting contribution is a new approach, a new way of thinking about, not only the media, but all phenomena. In the place of a binary dialectic of polar oppositions, for example the idea that rich and poor define each other, McLuhan (2003) offers the alternative that wealth is the medium, and poverty is its message, which is to say that wealth is the environment out of which poverty emerges. To follow this approach, we might say, regarding psychoanalysis, that the unconscious mind is the medium, and consciousness is what emerges out of that environment. As for physics, rather than view chaos and order as equal and opposite forces, it would follow that chaos is the medium, and order is what emerges out of it. And

it is of course the case that biology is the medium, and technology is what emerges from the body as environment. In sum, *the medium is the message* provides us with a new mode of understanding ourselves and our surroundings, a new and vital means of understanding the human experience in the context of the universe.

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