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Communication as Change: Marshall McLuhan and a Transformation Model of Communication

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COMMUNICATION AS CHANGE: MARSHALL MCLUHAN AND A TRANSFORMATION MODEL OF COMMUNICATION

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By

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ABSTRACT

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The work synthesizes Marshall McLuhan's transformation model of communication with a trivium-based educational model and challenges the modern-day position of unreflective mediated communication. McLuhan's transformation model demonstrates that communication is more than the transfer of content; rather, it is a transformation of perception. This work broadens the analysis and suggests that figure and ground relationships are integral to seeing the whole of media transformations. Through figure and ground relationships, communication unfolds as a study of perceptual change. The work explores perceptual change within the context of McLuhan's conversion to the Catholic Church and underscores the importance of a unified mind and body as integral to understanding and comprehending the greater reality of the cosmos in our digital age of a philosophically embedded Cartesian dualism.

DEDICATION

To my family: Jennifer, my loving and supportive wife.

To my parents: Stanley and Virginia, thank you for providing love and guidance.

To my sister: Adrienne, thank you for being a wonderful sibling.

To Marshall: Thank you for your contributions in revealing the fullness of our humanity.

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Chapter 1: Communication as Transformation: Finding a Communicative Center

> The one and only goal of all critical endeavours is improvement in communication.
>
> —Marshall McLuhan quoting I. A. Richards (Gordon 365)

Utilizing the works of Marshall McLuhan, the goal of this project is to unfold a greater understanding of a transformation model of communication and its critical importance in today's world of electronic communication. The notion of communication as transformation is mentioned sparingly by Marshall McLuhan and his son Eric McLuhan. Marshall McLuhan briefly mentions the notion in a lecture at the University of South Florida in 1974, while his son Eric touches upon the subject in a short chapter in *The Sensus Communis, Synesthesia, and the Soul*. Other notable communication scholars, such as Kenneth Burke, along with Neil Postman and Charles Weingartner, to name but a few, embody an understanding of communication as transformation; however, in their respective works *Permanence and Change* and *Teaching as a Subversive Activity*, the scholars unknowingly or at least do not explicitly acknowledge the transformative nature of communication in their respective metaphors of "trained incapacity" (Burke 10) and "crap detecting" (Postman and Weingartner 3). Thus, an opening exists for an explicit unfolding of communication as transformation. To clearly reveal this notion, one must consider McLuhan's explicit mentioning of the term in context of the scope of his media theory. For McLuhan, his "transformation model of communication" studies "how people are changed by the instruments they employ" ("Full Lecture Living in an Acoustic World") That is to say, communication means change.

It is my contention that McLuhan's notion of communication as transformation has not been fully acknowledged, developed, and applied within the media ecology literature; no scholarship has been dedicated to explicit analysis of communication as transformation. Hence, the primary goal, in this project, is to bring forth a more robust understanding of communication as transformation and reveal its deeper implications. There are scholars who have explored the notion of transformation within specific contexts of communication; however, transformation served a secondary status. This project differs by moving the notion of transformation itself as the primary area of analysis and underscores the idea that communication occurs when change occurs.

Noam Chomsky approached communication as transformation indirectly. Chomsky was on McLuhan's intellectual radar, as Gordon notes that McLuhan "collected references to the works of many well-known linguists of the twentieth century including Charles Hockett, Edward Sapir, Benjamin Lee Whorf, R.A. Wilson, and Noam Chomsky" (324). Noam Chomsky was particularly notable with his introduction of generative grammar in the 1950s. Chomsky's theory is based upon the premise that man[1] has an innate capacity for language. Linguists who study generative grammar are interested not in prescriptive rules but rather foundational principles that guide the generation of language itself. As Chomsky notes,

> [W]e study the formal properties of a set of grammatical transformations that carry sentences with phrase structure into new sentences with derived phrase structure. . . .Each grammatical transformation T will essentially be a rule that

[1] This project uses the term "man" as representative of all human beings. The term is intentionally used as a means of remaining consistent with McLuhan's style and use of the term.

converts every sentence with a given constituent structure into a new sentence with derived constituent structure. (113, 121).

Transformation, in the context of Chomsky's work, considers the specific structures of sentence transformations from the deep structure to the surface structure. An important element of transformation is as Chomsky implicitly understands, "to show how they are interrelated" (113). That is, change occurs through the interplay of figure and ground. As will be discussed, interrelations deal with what McLuhan refers to as figure/ground analysis. In terms of linguistics, figure would be a word itself or the "sign," while the meaning behind the word is its ground. Viewed through the lens of McLuhan's media theory, "every figure [consciously noted element of a structure or situation] must have its ground or environment [the rest of the structure or situation, which is not noticed]. A single word, divorced from its linguistic ground would be useless" (Gordon 332). The surface structure of the word "train," for example, is meaningless unless united with the deep structure of its context—that is, a railway yard versus a wedding, i.e., a bride's train.

Leslie Baxter focuses on the notion of interrelations in interpersonal communication. Baxter's (181) area of study in relational dialectics is an extension of Mikhail Bakhtin's distinction between "monologue" and "dialogue" in which, as Bakhtin notes, "two voices is the minimum for life, the minimum for existence" (252). Relational dialectics considers the interplay of differences. Baxter states, "To engage in dialogue, participants must fuse their perspectives to some extent while sustaining the uniqueness of their individual perspectives" (181). This dialogic view assumes, albeit implicitly, an understanding of transformation—that is, how one person influences the other in interpersonal communication. This project carries the dialogic spirit and attends to a

wholistic consideration of communication, including easily identifiable factors (figure) and hidden influencers (ground).

Chomsky and Baxter potentially operate from a transformation perspective but do not identify their work as such. McLuhan, however, explicitly identifies his work as transformation, as he states that "my own approach, following Harold Innis, is a transformation model of communication" (Gordon 150). Eric McLuhan remarks that "only two kinds of theory of communication are possible: sequential and simultaneous" (*Sensus Communis* 111). The first view of communication, as sequential, is generally referred to as a transportation theory which "underlies all Western theories of media and of communication: the Shannon-Weaver model" (E. McLuhan *Sensus Communis* 111). The Shannon-Weaver model of communication considers communication as the movement of a message. Like a pipeline, a message is sent through a channel of communication from sender to receiver (E. McLuhan *Sensus Communis* 111). From a transportation perspective, media, such as radio, TV, or the Internet, serve as neutral means of distributing (E. McLuhan *Sensus Communis* 111). The goal, in a transportation model, is to reduce the "noise" to a level in which the message "matches exactly what was loaded into the pipeline by the sender" (E. McLuhan *Sensus Communis* 111).

A transformation model of communication, in contrast, views communication as simultaneous, not linear and considers the effects of media in the messaging process. In our electronic world of disconnected and discontinuous information, there is no pipeline to speak of, for "there is no movement of information" as "such things are simply simultaneously present everywhere at once" (E. McLuhan *Sensus Communis* 113). A transformation model of communication considers how the content works synergistically

with the medium such as radio, TV, or a smartphone. With an interplay of the medium and the message, changes occur perceptually. Firstly, the message transforms within the context of its media akin to a glass of water, the container shapes the liquid. More significantly, the container transforms the perceptions of the user. With the advent and development of writing, for example, society developed an acuity for "seeing" things, as the book requires visual engagement. With a transformation model of communication, the analysis attends primarily to how the medium transforms the user and, by extension, society.

A transformation model of communication is not easily understood by our modern society, which views communication as the linear transfer of information. The confusing nature is due, in part, to its analogical approach; as Eric McLuhan notes, the "transformation model of communication . . . is irrational" (*Sensus Communis* 113). The irrationality of analogical reasoning considers simultaneous happenings rather than linear chains of events. Thus, it is understandable why Marshall McLuhan's transformation model of communication has been broadly overlooked by our rational society. Yet, in our modern world of electronic communication, a transformation approach is much needed as electronic mediums increasingly become platforms for communicating. As the world progressively moves away from print-based media to the electronic world, a transportation approach, developed out of the print paradigm, loses relevance.

In a lecture at the University of South Florida, McLuhan acknowledges the need for a widespread embrace of a transformation model of communication: "I wish there were a lot more people in this field I mentioned of transformation but there are extremely few, and in fact I'd be embarrassed to mention two or three" ("Full Lecture Living in an

Acoustic World"). Eric McLuhan frames his father's message in more explicit terms: "The electric age, the age of electric media and simultaneous and discarnate transformation of users and mass audiences, demands that we set aside transportation approaches to understanding media and understanding communication" (*Sensus Communis* 117). Again, a transformation model of communication considers the ways in which media change the user and society. A transformation model of communication is especially critical in our time of rapid technological advancements in terms of bringing societal awareness to the implications of media.[2]

McLuhan's transformation model of communication is difficult to understand on its own. McLuhan himself remarks, "After all, my stuff is very difficult," and he does not "pretend to understand it" (Whitman). Thus, if we are to understand communication as transformation, we need an aid. McLuhan scholar Alexander Kuskis unknowingly provides the aid, saying that "education is all about communication" (325). If education and communication are a synthesis of sorts, an understanding of one yields an understanding of the other. This project uses education as an artifact for unfolding the "irrationality" of communication as transformation.

Although the project focuses heavily on McLuhan's thought, this project aims at more than illuminating a transformation model of communication. The project explores, as McLuhan editor and biographer W. Terrence Gordon notes, McLuhan's "unequivocal call" for "a program of education based on the ambitious and lofty ideal of reintegrating the classical trivium" (McLuhan *The Classical Trivium* xi). Through the corpus of

[2] McLuhan refers to media not only as communicative and non-communicative technologies such as a smartphone or a car but also as experiences, environments, and people. That is to say, media is more broadly conceived as external influences on internal perception.

McLuhan's work, he reveals that a trivium-based education is critical in opening a space of awareness in which man can better understand the profound impact of media.

Few scholars have attempted to meaningfully show the connection between McLuhan's call for a trivium-based education and his media theory. As Kuskis remarks, "very few educators haven taken up that challenge and that kind of substantiation and examination of McLuhan's ideas on education has not happened to any significant extent" (315–16), partly due to what Culkin identifies as McLuhan's thoughts on education being "scattered through his work" (72). The project addresses the needs identified by Gordon, Kuskis, and Culkin and attempts to unfold an understanding of communication as transformation by stitching together McLuhan's perspective on education and synthesizing it with his media theory, which reveals a fuller understanding of communication as transformation. The fusion is ultimately the easiest way to see communication as transformation. Thus, the analysis within the context of education serves two purposes. It explicates communication as transformation more fully and reveals that a trivium-based education is integral for understanding communication.

McLuhan's framework for education was unknowingly prophetic in that a trivium-based education pairs well with today's students who are caught in a world of print and electronic media. McLuhan uses the paradoxical term "acoustic image" to represent the visual and acoustic nature of man and the subsequent shift away from the visual processing of information in print-based media to the acoustic processing of information in electronic media ("Inside on the Outside, or the Spaced-Out American" 53). McLuhan uses "research into brain operations that focus on the differing functions of the right and left brain hemispheres" ("The Table Talk of Marshal McLuhan" 4). A

left/right brain distinction reveals the notion of the print world relying on the left hemisphere and the electronic world on the right. Unlike the purely print world before the advent of electric media, today's students live in two worlds at once: a print world, as representative of the traditional brick-and-mortar classroom and an electronic world exemplified by the online classroom. As McLuhan notes, this creates an "identity vacuum . . . since the clash of the old segmented visual culture and the new integral electronic culture creates a crisis of identify, a vacuum of the self" (McLuhan "Playboy Interview" 117, 120).

In a pragmatic sense, a transformation model of communication and education unfolds a greater understanding of why these two environments differ and provides guidance for navigating new and unforeseen communicative terrains. Additionally, a trivium-based education assists in this process by forming the mind to be aware of "the whole" of communication. As McLuhan argues, awareness serves the "pragmatic purpose" of understanding "our technological environment and its psychic and social consequences," for "understanding is half the battle" in alleviating the tension of being caught between two worlds ("Playboy Interview" 104, 134). A transformation model of communication and trivium-based education is complementary on the journey toward awareness.

Introduction to Marshall McLuhan

Marshall Herbert McLuhan (1911–1980) was an English professor and communication theorist who rose to prominence not only within the academic community but also in popular culture. Famous aphorisms such as "the medium is the message" and "we look at the present through a rear-view mirror" propelled academic

and cultural intrigue. Born in Edmonton, Alberta, Canada, McLuhan received degrees from the University of Manitoba and Cambridge University. He taught at the University of Wisconsin from 1936 to 1937 before moving to St. Louis University from 1937 to 1944. Prior to becoming a full professor in 1952 at the University of Toronto, he taught at Assumption University in Windsor, Ontario, and St. Michael's College. As a lifelong practicing educator, McLuhan offers valuable insights on communication and education. McLuhan's pedagogical insights are consolidated in *City as Classroom*, although, as noted by Culkin, many additional insights are observed throughout his scholarship.

Throughout his life, McLuhan was active in his scholarship, authoring and co-authoring hundreds of publications. As a preliminary introduction to his works, McLuhan first published his doctoral dissertation, *The Place of Thomas Nashe in the Learning of His Time*, in 1942; it later was published as *The Classical Trivium* in 2006. In his first published book, McLuhan "illuminates the complexities of the classical trivium, and provides the first ever close reading of the enigma that was Thomas Nashe," as noted by McLuhan scholar and editor W. Terrence Gordon (McLuhan *The Classical Trivium*). McLuhan copiously reviews the communication literature ranging from the Sophists of the pre-Socratic era to Thomas Nashe of the sixteenth century. Interestingly, as this dissertation unfolds, the historical form of McLuhan's first work will represent a linear and left hemisphere approach concurrent with the medium of print.

The Mechanical Bride, published in 1951 as McLuhan's second major publication, was a pioneering work in the field now known as popular culture, which McLuhan referred to at the time as "the folklore of industrial man". The work "issued a challenge to readers to become as aware of new environments as they are of getting into a

bath" (Gordon 187). The book is a "collection of analytical essays and often brilliant rants aimed at pieces of pop culture ephemera, and especially how magazine advertisements sold the postwar dreams of everyday glamour and hygienic domesticity" (Coupland 82). The structure of this work changed from his doctoral thesis to a mosaic form. With the mosaic form, McLuhan "is adapting the analogical methods of medieval learning" (Wachs *The New Science* 13) as distinct from the "logical and isolating techniques of modern science" Gordon 155–56). To say otherwise, the mosaic form is like a puzzle where seemingly disparate parts connect to form a whole picture. The mosaic form is a distinct departure from his first work in that it challenges the reader to use the right hemisphere and analogically connect parts into the whole of understanding.

McLuhan's third major publication, *The Gutenberg Galaxy*, written in 1961, was published in Canada in 1962 and awarded the Canadian Governor General's Award for Nonfiction. In this work, McLuhan introduces and reveals three major technological innovations—alphabetic writing, the printing press, and the electronic telegraph—each of which profoundly affected man's psyche. In this work, the primary question is, "[W]hat sort of changes did the media of the printing press and movable type bring about?" (Gordon 186). Gordon answers the question in his editorial remarks, stating that "it promoted nationalism and national languages because international Latin did not have enough scope to provide markets for printers" (McLuhan *The Gutenberg Galaxy* xvi). Additionally, printing as the mechanization of writing extended "private identity (by making copies available to individual readers in such large number) and imposed a level of standardization in language that had not prevailed until then, thus making 'correct' spelling and grammar a measure of literacy" (Gordon 186). McLuhan scholar Anthony

M. Wachs extends an analysis of the implications from printing to electronic media: "Essentially, McLuhan argued that the printing press had the effect of fully visualizing the epistemology of the West and that electric technologies are quickly reversing the effects of the printing press" (*The New Science* 14). In what McLuhan later puts in terms of brain science in 1988's *Laws of Media*, the left hemisphere dominance of print is reversing to the right hemisphere with electronic media. For McLuhan, the origins of it all are found with the phonetic alphabet. McLuhan notes that "the phonetic has ever translated man out of the possessive world of total interdependence and interrelation that is the auditory network" (*The Gutenberg Galaxy* 26). Before the phonetic alphabet, man was of a right hemisphere orientation. The right hemisphere was shocked by the phonetic alphabet as the technology brought about left hemisphere cognition. As McLuhan remarks, "Schizophrenia may be a necessary consequence of literacy" (*The Gutenberg Galaxy* 26). In sum, McLuhan points out the profound impact of media upon the individual and society. The form of this work represents the linear appeal to the left hemisphere that further explicates the effects of print that are unrecognizable to the linear mind.

Finally, *Understanding Media*, published in 1964, is a pioneering study in his media theory. Although the work "defies summary," McLuhan "made several main points. . . . [M]ost notable are (1) that a medium is any extension of the body, not just a carrier of information, and (2) that every medium has effects that are often subliminal" (Wachs *The New Science* 14). Written in a mosaic form, the subliminal effects are notably reflected by the form of the work itself. The work calls upon the reader to process information in a non-sequential manner. As Gordon notes, "McLuhan wanted it that way.

When we are faced with information overload, he taught; the mind must resort to pattern recognition to achieve understanding" (*Understanding Media* xiv). The form, like McLuhan's aphorism "the medium is the message," "invites reflection," as Gordon describes, "and challenges us to plumb its depths, to interpret it, to put it on, to understand it by becoming its content" (Gordon 173). That said, the mosaic form is a toned-down version of his original manuscript. As editor Leon Wilson from McGraw-Hill remarks, "I have rarely read anything that required so many unprepared mental leaps on the part of the reader" (Gordon *Marshall McLuhan* 198). Although McLuhan responded that he "abandoned the mosaic approach" because "the McGraw-Hill editors wouldn't have it," the mosaic form is clear for the discerning reader (Gordon 198).

Responses to McLuhan

McLuhan's scholarship was received by audiences in numerous ways amongst the public and scholarly community. The public was most often intrigued and curious over his "eccentric and aphoristic style of speaking and writing" (Wachs *The New Science* 14). For McLuhan, intrigue meant success. McLuhan attempted to "put people on," that is, prod his audience to awaken them to the transformative power of media, as he remarks that "my work is designed for the pragmatic purpose of trying to understand our technological environment and its psychic and social consequences" (McLuhan "Playboy Interview" 104). Critiques by the scholarly community are best captured by McLuhan's response to an early critique of his tetrad in which he replies, "Venable attempts to relate my 'tetrades,' or laws, to logic . . . the whole point about my tetrades is that they are analogical. That is, there are no connections between any of them, but there are dynamic ratios" ("Misunderstanding the Media's Laws" 263). McLuhan's statement captures the

essence of his thinking as analogical or a right hemisphere, which often conflicts with the logical left hemisphere approach of the scholarly community.

John M. Aden critiqued McLuhan's view as ill-informed and overly deterministic. In a 1969 essay titled "McLuhan: Pro and Con Man," Aden argues that "he is pitifully ill and misinformed about human nature and human behavior" (359). As will be demonstrated in Chapter 4, Aden misses that McLuhan had an extensive understanding of the anthropology of man, in particular the study of the bicameral mind, the human sensorium, and the effects of mediation in altering sense ratios, which ultimately affect human perception. Aden also argues that "more disturbing is the philosophic determinism that informs it, the notion that man is the product and pawn of his technologies" (360). This charge is overstated. McLuhan's transformation model sought to balance Western theories of communication that attended to content only and the transportation thereof. McLuhan acknowledges the importance of content—that is, the message—but emphasizes the importance of context—that is, the medium. Both are integral to understanding communication, yet McLuhan emphasizes media and its transformative effects to balance Western theories. Additionally, McLuhan argues that content only cannot affect the human sensorium like media therefore media are the ultimate message through their ability to affect the human sensorium at an unconscious level. McLuhan's work serves the noble purpose of bringing forth an awareness to media effects so that people can make conscious choices.

James J. Murphy also levels the charge of determinism, as he argues that "consequently, McLuhan's metarhetoric implies that a modern rhetoric is impossible. He nowhere makes this statement clearly, but beyond iconic manipulation he seems to see

little hope for human intelligence in the new technocratic universe. . . . [T]his is rhetorical determinism, as chilling as the economic determinism of Hegelian Marxism" ("Metarhetorics" 212). As Wachs contends, Murphy is essentially arguing that "McLuhan's theory is based upon a technologically deterministic epistemology that, when taken to its logical fulfillment, makes rhetoric impossible" (*The New Science* 16). Again, the charge of determinism is over-levied and misunderstood. McLuhan's primary message is awareness. Through the corpus of his work, McLuhan does not argue that we are determined by technologies; rather, we are greatly affected by them. He offers hope in that through awareness we can ultimately retain an essence of our humanity and freedom of our will by considering the implications of new innovations, both positive and negative. Ultimately, McLuhan's message is rhetorical in that it is meant to prompt a deeper conversation on technological progress.

Ginger Nolan attributes McLuhan's idea of the global village to neocolonialism. As Nolan argues, "the global village was modeled on colonial strategies intended to transform the semiotic, economic, and spatial fabric of the decolonizing world in such a way as to safeguard British economic and political interests in the aftermath of independence" (2). Throughout her work, Nolan attributes the colonization of a "global market" to McLuhan, as she states that "market society would be constituted by intellectually self-regulating subjects; that is, subjects who, thanks to print technology, had been liberated from the enchantment of oral authority" (22). Nolan appears to charge McLuhan with seeking to detribalize Africans. However, Nolan fails to understand McLuhan and his mission. McLuhan sought to awaken society to the sweeping effects of the phonetic alphabet and electronic technologies. McLuhan did not take a moralist

position for or against either—rather, he simply raised the red flag as to its implications. McLuhan himself notes the following: "[Y]ou see, I am not a crusader. . . . I derive no joy from observing the traumatic effects of media on man" ("Playboy Interview" 136). In fact, McLuhan, when asked, said he "would be most happy living in a secure preliterate environment" ("Playboy Interview" 136). A preliterate environment is the very environment Nolan charges McLuhan of trying to colonize. Nolan's logical approach to McLuhan understandably misses the mark and essence of who he is. Statements by Nolan, such as "we deduce from his arguments" and "it can be readily inferred," underscore her logical approach and miss McLuhan's analogical approach (16, 18). The distinction will be more clearly made in Chapter 3, where McLuhan's analogical perspective is contrasted with the logical perspective of William Henry Venable.

In the final analysis, McLuhan welcomed all critiques, remarking "but I don't want to sound uncharitable about my critics. Indeed, I appreciate their attention" ("Playboy Interview" 135). The attention leads to dialogue, which, in the mind of McLuhan, is a success in that his primary mission was to awaken his audience. Moreover, dialogue is paradigmatic of McLuhan's work in that understanding unfolds when parts are placed in the context of each other. Such an approach is akin to an artist. Brushstrokes on their own yield little meaning until placed within the context of others.

The Practical Romance of a Communication Artist

Although commonly described as a media theorist, McLuhan can be better described as a communication artist. McLuhan did not have a theory of communication per se, as he explicitly states, "I don't have a Theory of Communication [sic]" and "I don't use theories in my work" (E. McLuhan "Marshall McLuhan's Theory of

Communication" 25). Theory was for "the ranks of the academics" which McLuhan attempted to avoid because, as he remarks, "great creative or even critical work never comes from them" (Gordon 17). For McLuhan, academic theory is detrimental in that a theory acts as a medium and subconsciously narrows one's perspective. Eric McLuhan remarks that "it is a matter of how you begin: if you begin with theory, then one way or another your research winds up geared to making the case for or against the truth of the theory" ("Marshall McLuhan's Theory of Communication" 26). A theory approach inherently fosters a binary way of thinking and limits the inquiry to proving or disproving the theory; as noted by Eric McLuhan, "a theory always turns into a scientist's point of view and a way of seeing the job at hand" ("Marshall McLuhan's Theory of Communication" 26). McLuhan instead worked through observation.

In contrast to theoretical queries, McLuhan's artistic perspective was greatly influenced by his passion for and study of literature, as noted by his son Eric McLuhan: "without a theory as a guide McLuhan was influenced by artists and poets in developing the analytical and conceptual tools he relied upon to examine media and communication" ("Marshall McLuhan's Theory of Communication" 25). The artistic methods of the poet were central to McLuhan's thinking. Eric McLuhan remarks that "he applied artistic methods directly to the materials and circumstances of everyday life. . . . [T]he role of the artist became a central concern in modern poetics with, first, the Symbolists, then with Wordsworth, Coleridge and Matthew Arnold, and later the 'Moderns'—Eliot and Pound, Lewis, Yeats, and Joyce" ("Marshall McLuhan's Theory of Communication" 29, 36). An excerpt from Eliot captures the essence of McLuhan's artistic perspective:

> I may say that the great poet should not only perceive and distinguish more clearly than other men, the colours or sounds within the range of ordinary vision or hearing; he should perceive vibrations beyond the range of ordinary men, and be able to make men see and hear more at each end [of the spectrum] than they could ever see without his help. (Eliot 134; E. McLuhan "Marshall McLuhan's Theory of Communication" 25)

The artist inspires and prods the reader to consider all imaginable possibilities and to avoid the trap of singular focus by engaging all external senses.

The artist always synthesizes parts into a whole. The artist joins various colors to form the whole of a painting while recognizing the impact of the outer world on the inner world of human thought and, by extension, action as McLuhan's spiritual and intellectual mentor, G. K. Chesterton states, "this desirability of an active and imaginative life, picturesque and full of poetical curiosity" (*Orthodoxy* 14). This approach is quite distinct from a theory-based perspective of "a series of deductions" (Chesterton *Orthodoxy* 13); in contrast, an artist "has had the power—and courage—of the seer to read the language of the outer world and relate it to the inner world" (McLuhan "Playboy Interview" 105).

The artistic nature of performance-based inquiry is akin to a "safecracker," as described by McLuhan in an interview with Gerald E. Stern in 1967: "In the beginning I don't know what's inside. I just set myself down in front of the problem and begin to work. I grope. I probe. I listen. I test—until the tumblers fall and I'm in" (McLuhan and Moos 59). McLuhan begins as an artist and remains open to all possible combinations. McLuhan uses another metaphor to describe the artistic nature of performing an analysis: "anyone engaged in exploration uses every available approach, every available foothold,

every accessible crevice to which to cling as he scales the unknown rock-face" (E. McLuhan "Marshall McLuhan's Theory of Communication" 27). The artist is always doing which yields to knowing and the embodiment of knowledge.

Practical criticism, as a relatively young discipline emerging in the 1920s, welcomes the artistic spirit. The seed of the discipline was planted by I. A. Richards whose years at Cambridge; as McLuhan remarks in a letter to Richards, "I owe you an enormous debt since Cambridge days," adding that "your wonderful word 'feed-forward' suggests to me the principle of the probe" (Gordon 334). With Practical Criticism, the "task is to look at things and to look at what happens. . . . Practical Criticism is not theory-based. It is performance-based. It relies on observation and critical judgment—learned skills" (E. McLuhan "Marshall McLuhan's Theory of Communication" 26, 38). Practical Criticism reveals what I. A. Richards himself remarks on as "a fuller and more entire response" (Gordon 313). Practical Criticism "transcends the constraints imposed by seeking to make the case for or against the truth of a particular theory" (E. McLuhan "Marshall McLuhan's Theory of Communication" 25).

The "probe" is at the heart of Practical Criticism. In *The Book of Probes*, McLuhan and Carson define the probe as "a means or method of perceiving" (403). The "probe" speaks to McLuhan's perspective of having "no point of view" (E. McLuhan "Marshall McLuhan's Theory of Communication" 27). McLuhan used probes as drills for piercing "the crust of mankind's dulled perceptions" (Gordon 302). By "probing and testing the forms and limits of an idea," McLuhan sought to forge "links among ideas" and develop a fuller method for understanding (Gordon 304). The fullness arrived by unifying figure with ground. The ambiguity associated with a metaphor, for example,

requires an understanding of the literal meaning (figure) and the figurative meaning (ground). Both are understood within the context of each other. The probe "should remind us that McLuhan sought not to isolate the concepts . . . but to integrate as percepts" (Gordon 305). That is, how do we perceive the whole of the metaphor as "simultaneously" evoking "two images one literal and the other figurative" (Joseph *The Trivium* 43)?

McLuhan used the probe as a primary means for discovery. The probe provides insights beyond the binary choice of proving or disproving by, as McLuhan remarks, carrying no "point of view" and "keeping in mind the divergent opinions of a diverse group" (Gordon 430). As McLuhan biographer Gordon indicates, "McLuhan's objective is not to offer a theory of human communication, but to probe the effects of anything and everything we use in dealing with the world around us" (328). McLuhan's figure/ground analysis is integral to the probe as a technique for discovering the fullness of a given inquiry.

To unlock the significance of the artistic nature of communication, we turn to Chesterton. Although he is not a media ecologist or communication theorist per se, Chesterton not only inspired McLuhan intellectually and spiritually but he also indirectly provides a richer understanding of and distinction between transportation and transformation models of communication through select metaphors from *Orthodoxy*. As a brief introduction to the impetus of the work, Chesterton states that he wrote it as "not whether the Christian Faith can be believed, but how he personally has come to believe it" (9). Chesterton uses the metaphor of a "practical romance" to describe his belief; as he notes, "I wish to set forth my faith as particularly answering this double spiritual need,

the need for that mixture of the familiar and the unfamiliar. . . . [W]e need this life a practical romance; the combination of something that is strange with something that is secure" (*Orthodoxy* 14). In a sense, a transportation model focuses on the familiar and secure, that is, the message. However, a transformation model attends not only to the message but also more significantly to the channel of communication, the unfamiliar. A practical romance is the essence of a transformation model of communication where the communication artist mixes the familiar, the message, with the strange, the channel of communication, to determine the totality of communication.

The Medium Is the "Massage" and Introduction to Figure and Ground

McLuhan's media theory brings an awareness to the profound effects that media have upon human behavior. McLuhan synthesizes the familiar with the unfamiliar while emphasizing the often unforgotten aspect of communication, the channel; as he notes, "by stressing that the medium is the message rather than the content, I'm not suggesting that content plays no role—merely that it plays a distinctly subordinate role" ("Playboy Interview" 115). Although the primary focus of this project is communicative media as channels of communication, McLuhan studied a vast array of technologies, such as clothing, housing, money, clocks, games, and the motorcar, to name a select few. The commonality between communicative and non-communicative technologies is that all media transforms human perception at an unconscious level.

Media transform man's perceptions through hidden environments. As McLuhan indicates, "in any media, there's always a big hidden ground that is usually concealed by the program," ("Full Lecture John Hopkins University") which "becomes the hidden ground of all perception, choice, and preference" (*The Global Village* 22). In the case of

TV, the hidden environment of the medium "is the participatory nature of the TV experience itself . . . that is being invisibly and indelibly inscribed on our skins" (McLuhan "Playboy Interview" 115). The hidden participatory environment manifests itself, to some extent, with visible emotions, such as laughing or crying, as the medium draws the viewer into the program; on a more technical level, the participatory effect changes man through the subconscious interaction of a

> mosaic mesh not only of horizontal lines but of millions of tiny dots, of which the viewer is physiologically able to pick up only 50 or 60 from which he shapes the image; thus he is constantly filling in vague and blurry images, bringing himself in-depth involvement with the screen and acting out a constant creative dialogue with the iconoscope. (McLuhan "Playboy Interview" 114)

"The medium is the message" captures the essence of analyzing communication as transformation. McLuhan uses this phrase to describe the effects of media more aptly: "it literally works over and saturates and molds and transforms every sense ratio" ("Playboy Interview" 106). That is, media massage our sensibilities and influence our behaviors as exemplified by the participatory nature of TV. To further extend this notion, on Monday, June 27, 1977, McLuhan appeared on an ABC televised program in which an audience member asked, "If the medium is the message, and it doesn't matter what we say on TV, why are we all here tonight and why am I asking this question?" (McLuhan "The Medium Is The Message"). McLuhan replied, "I did not say it didn't matter what you asked on TV. I said the effect of TV is quite independent of the program. That is, there is a huge technology of TV that surrounds you physically and the effect of that huge service environment, on you personally, is vast. The effect of the program is incidental"

("The Medium Is The Message"). The question by the audience member reflects transportation thinking, with a focus on the message, that is, the familiar. McLuhan's response attempts to convey the unfamiliar, that is, the transformative effects of media. Media do not simply transport messages; "technological innovations generate far-reaching environmental changes," (McLuhan "Playboy Interview" 111) for "people are changed by the instruments they employ" (McLuhan "Full Lecture Living in an Acoustic World"). The significance lies in controlling or more modestly tempering "the hidden aspects of media," which "have irresistible force when invisible" (McLuhan "The Medium Is The Message").

As briefly described earlier, McLuhan uses a figure and ground analysis as a means of revealing the transformational effects of media. McLuhan borrows the term "figure" and its associated term "ground" from Danish psychologist Edgar Rubin who used the terminology in the early twentieth century to "describe parts of a situation" (McLuhan et al. *City as Classroom* 8). McLuhan has broadened the terminology "to embrace the whole structure of perception and of consciousness" (McLuhan and E. McLuhan *Laws of Media* 5). McLuhan uses figure as an "area of attention," while ground is an "area of inattention" (McLuhan and E. McLuhan *Laws of Media* 5). With the TV, the ground is the effects of the medium, that is, participation, while figure is the program itself. Watching a violent program, as figure, may seem like mere entertainment, yet the medium conceals the participatory effects of TV and desensitizes the users to the content.

As "the medium is the message" implies, communicative media are not neutral carriers of information; rather, they are transformational in nature. The medium of communication, as McLuhan remarks, "has an important influence upon the

dissemination of knowledge over space and time and it becomes necessary to study its characteristics in order to appraise its influence in its cultural setting" (Gordon 174). In the context of McLuhan's three major technological innovations identified in *Gutenberg Galaxy*, the advent of the phonetic alphabet, circa 650 BC, induced a major shift in consciousness. Oral man and his wholistic uses of the senses transformed into a visual being as alphabetic writing gave "an extension and intensification of the eye" (McLuhan "Playboy Interview" 108). The eye became the new ear, so to speak, and new visual space emerged, which is "uniform, sequential and continuous ("Playboy Interview" 108). The implications of the new visual space parallel the book itself. Uniform letters form words and sentences while sequentially outlaying ideas in a connected manner. The visual space formed a new orientation of consciousness quite distinct from the "organic . . . integral . . . simultaneous interplay of all the senses" of oral man who did not "think" per se but rather existed in "the collective unconscious . . . patterned by myth and ritual" (McLuhan "Playboy Interview" 108). McLuhan situates the oral and visual forms of consciousness as two major pillars of his work.

Oral and Literate Man

With oral man, communication necessitated physical presence and demanded a holistic use of the senses. As Gordon remarks, "before the invention of the alphabet, communication among humans involved all the senses simultaneously, speaking being accompanied by gestures and requiring both listening and looking" (188). In oral cultures, one must be, quite literally, within earshot of the other, as the medium of orality mandates. Within a communicative exchange, the mind and the body are united, as five external senses operate in a "holistic" fashion (McLuhan and E. McLuhan *Laws of Media*

88). Oral man not only sees but hears, feels (handshake), and smells/tastes (olfactory functionalities—perfume, for example) within the same environment as the other. As McLuhan remarks, "spoken word involves all of the senses dramatically" (*Understanding Media* 111).

In oral culture, the auditory sense played a predominant role as the nature of sound varies from the nature of sight. Sound operates spherically in a 360-degree form. McLuhan states that "the ear hears from all directions at once and therefore is simultaneous" unlike the eye, which "does not see all directions at once" (McLuhan "Full Lecture John Hopkins University"). An acoustic space "has no center and no margin" (McLuhan "Playboy Interview" 108). To exemplify, the physiology of an animal's ears represents the spherical nature of sound. An animal's ears rotate like radars in an attempt to pick up sounds. Moreover, sound is felt, as the "crack" of thunder is not only heard but also felt as the sound waves simultaneously rattle things. In an oral culture, one simultaneously hears and feels the presence of the other.

The phonetic alphabet disrupted the primary status of sound; as Wachs notes, a "shift of consciousness . . . took place in the transition into literacy from non-literacy, from an oral tribal to a visual, alphabetic civilization" (*The New Science* 23–24). In contrast to an oral society, a literate society functions predominantly through sight. McLuhan highlights the transformative nature of print: "the book really is a means of creating a visual environment for mankind," ("Instructional Media" 447) whereby the eye has been given a "position of total predominance in man's sensorium" ("Playboy Interview" 111). To exemplify, one could imagine sitting in the back row while listening to a speaker. Although the distance prevents one from seeing the speaker's lip

movements, one would quickly shift should an audience member block his view. This example underscores the deeply embedded nature of vision in a post-oral society.

In a literate culture, the sense of sight is strong. People tend to see things first and hear things second. In a sense, individuals form a strong visual habit, so to speak, through the repetitive use of the eyes. To exemplify, when someone meets another for the first time, names are often forgotten as individuals attend to appearance (McLuhan *Understanding Media* 49). Print-based technologies condition one to see first and hear second. The more significant point lies not in the novel example but rather in recognizing the transformational effects. Print technologies do not simply transport—they transform.

The oral man and the literate man quite literally operate from different hemispheres. Print technologies shift consciousness from the right hemisphere of the brain to the left. McLuhan's interest in the bicameral mind was prompted by Julian Jayne's *The Origin of Consciousness in the Breakdown of the Bicameral Mind* as he sought to link his media theory with consciousness (Gordon 281). In *Laws of Media*, McLuhan notes the right hemisphere as the "acoustic (qualitative) side of the brain" and the left hemisphere as the "visual (quantitative) side of the brain" (69). McLuhan's discussion on the bicameral mind is empirically based in brain science and not speculatively conceived, as he is careful to note that "these hemispheres are empirically established" ("Full Lecture John Hopkins University"). Brain surgeons have discovered the two hemispheres "in the course of repairing brain damage and they have gradually spotted their functions as a result of their being impaired or dysfunctional" ("Full Lecture John Hopkins University"). McLuhan uses the work of Russian neurophysiologist A. K. Luria, "who found that the area of the brain which controls linear sequencing, and, hence,

mathematical and scientific thinking, is located in the prefrontal region of the left hemisphere" (McLuhan and E. McLuhan *Laws of Media* 73).

Although technologies transform societies and shift the brain left or right, the two hemispheres are in constant communication. The corpus callosum acts as a communicative center of sorts, which communicates between the two hemispheres. From a physiological standpoint, the corpus callosum is "a large nervous structure . . . which is on top of the brain" (McLuhan "Full Lecture John Hopkins University"). The corpus callosum acts as "a kind of interchange area which allows for dialogue to go on between the two hemispheres" (McLuhan "Full Lecture John Hopkins University"). In a sense, the corpus callosum acts as an arbitrator, affording two disparate positions the opportunity to work together. The corpus callosum serves as a metaphor for dialogue; as McLuhan remarks, it maintains a constant "state of dialogue" between two hemispheres ("Full Lecture John Hopkins University"). The physiology of the brain is naturally harmonious and seeks balance disparate positions through dialogue.

Neo-Oral Man

Literacy has developed and become the primary medium of communication for Western culture since the development of the Gutenberg press circa 1450 AD. The hidden ground or consequence resides in the effects as the brain is pushed out of balance with the extreme use of the left hemisphere. However, the literate paradigm is changing. The advent of the electronic telegraph, in 1844, has brought about a shift in consciousness. Electronic means of communication move brain functionality from the left hemisphere back to its original state in the right hemisphere. In essence, oral man has

returned to Western culture, albeit in a new form. Although the hemispheres have shifted, the habitual tendencies of a left hemisphere remain strong.

McLuhan's use of the term "acoustic image" describes the hybridization of the neo-oral man. The new right hemisphere man sees information (left) and processes it acoustically (right). In essence, with electronic media, "our eyes function like our ears" (McLuhan and E. McLuhan *Laws of Media* 77). To exemplify, consider the average Internet page in which visual information is scattered throughout the screen. Everything resides as ground until the user selects and brings it to figure. As Nicholas Carr documents, the Internet page, as a medium, is not meant to be processed by the left hemisphere, rather the right hemisphere. Unlike the book, with the Internet page, the pieces of information are independent and disconnected and require the right hemisphere to make sensible connections.

The neo-acoustic world of instant electronic information obsolesces the processing of information in a linear and connected fashion. In its place, the right hemisphere must simultaneously process information acoustically in a non-linear fashion. Douglas Rushkoff's metaphor of "fractalnoia" helps to explain the acoustic nature of the right hemisphere. In *Present Shock,* Rushkoff states that "new content online no longer require new stories or information, just new ways of linking things to other things" (199). That is, Internet links are disparate buckets of information that lack a common ground, context, or narrative. Thus, as Rushkoff notes, "we can't create context in time, so we create it through links" (200). That is to say, the neo-oral man creates meaning through patterns. To consider otherwise, as McLuhan notes, the right hemisphere attends to "interrelationships" (S. McLuhan and Staines *Understanding Me* 53).

To further emphasize this point, if a book were written in an acoustic manner, akin to an Internet page, sentences and chapters would be randomly scattered throughout the pages. This form would naturally leave the reader confused, yet the brain still attempts to find meaning by adjusting to the demands of the medium to discover "how it all fits together" through links (Rushkoff 198). Interrelationships serve as a broader metaphor for McLuhan's acoustic perspective, which offers a greater understanding of figure and ground relationships.

Education—A Competitor in the Information Market

Thus far, this project has covered a lot of ground regarding media transformations. The point has been to emphasize the power of media. Now, the project turns to the artifact of education for two reasons. First, as originally noted at the onset of the project, education is integrally tied to communication. After all, McLuhan himself was an educator, and like his transformation model, education brings awareness. Second, the survival of higher education depends upon McLuhan's call for a reintegration of the trivium. The following section begins this story. Chapter 2 continues it.

McLuhan argues that the walls of the classroom have been destroyed by modern media. McLuhan recognizes that "the sheer quantity of information conveyed by press-magazines-film-TV-radio far exceeds the quantity of information conveyed by school instruction and texts ("Classroom Without Walls" 1). . . . [W]e have to realize that more instruction is going on outside the classroom, many times more every minute of the day than goes on inside the classroom" ("Electronics & the Psychic Drop-Out" 38). In our Internet age, answers are easy to find. With a few keystrokes and clicks, answers appear

without the tedious task of library legwork. The Internet, as a medium, affords quick answers and places into question the role of the traditional classroom.

The new classroom is found on the Internet as a ready-made platform for do-it-yourself (DIY) education. Convenience certainly draws one toward an Internet education, yet as Dowd identifies, the "increasing costs" of higher education are one of the major contributing factors for the shift (138). Internet search engines have provided access to a goldmine of information at a relatively low cost. Our own personal experience speaks to the free lessons learned though YouTube videos. In addition to an informal education, the Internet affords a formal version (Dowd 138). MasterClass, for example, offers students access to well-known experts such as Gordon Ramsay, Christina Aguilera, and Judy Blume. Each professional teaches cooking, singing, and writing, respectively. Starting at $15 per month, the cost is exceedingly more affordable relative to a three-credit college course averaging $594 per credit (Kirkman). The Great Courses also offers students a formality of education from a variety of experts and professors. Their esteemed faculty include "the top 1% . . . of the more than 500,000 professors in the world" (The Teaching Company, LLC). The Great Courses currently offers 790 courses on virtually any subject matter. The courses consist of lectures in a variety of formats, including instant video downloads, DVDs, and audio discs, each of which contains a corresponding course guidebook. More recently, Great Courses has brought the convenience to on-demand TV for free. In the final analysis, the Internet provides a means by which individuals can learn at a fraction of the cost of a formal education.

The loosening of requirements for a four-year degree also creates a dilemma for higher education. The idea that one needs a college education is beginning to show signs

of wear in today's marketplace. On June 26, 2020, then-President Donald Trump signed an executive order to "transform the federal hiring process to replace one-size-fits-all, degree-based hiring with skills-based hiring" (U.S. Department of Education). Betsy DeVos, then-U.S. Secretary of Education, stated,

> I continue to challenge the business community to rethink education and to embrace potential employees who have gained their experience and skills outside of the typical classroom—including serving our country through military service. Learning is a lifelong journey, and there are many ways to acquire the knowledge and skills needed to succeed in the workforce. (U.S. Department of Education)

Prospective and current employees can supplement their skills, at a fraction of the cost, through a DIY education. This speaks to McLuhan's notion of "learning a living" in which "the acquiring of new basic knowledge . . . is one of the most common needs and harrowing facts of electric technology" (*Understanding Media* 457, 468). As Dowd argues, "technology allows anyone with a computer and Internet connection to access an unprecedented stockpile of information (Dowd 158) . . . the Internet, perhaps the most powerful learning platform yet devised" (Kuskis 320).

While describing a (DIY) education, albeit before its time, McLuhan et al. raise a critical question for higher education:

> [I]f all the information ever taught in school can be got instead from libraries, recordings, films, centers of instruction for every kind of skill, in-service training programs, adult programs for intensive language training, data banks of computerized information--If all these resources and many more are everywhere around us, then why should schools exist at all? (*City as Classroom* 3)

The question raises prospects for the future of higher education.

The Opportunity in Education—Introduction to Transformational Education

McLuhan, writing in 1966, anticipated a systemic shift in education, stating that "more instruction is going on outside the classroom, many times more every minute of the day than goes on inside the classroom" ("Electronics & the Psychic Drop-Out" 38). McLuhan seemed to anticipate a time when, as Robert M. Woods remarks, "data can be accessed online, and encyclopedias provide more information than any teacher has" (37). The shift in education itself provides a metaphor for adjusting to the Internet age—that is to say, the context of the changes outside unfolds content inside. Context and content are inextricably linked. Higher education must shift from a linear model of content delivery to a trivium-based model of content and context unification. Such a model parallels a transformation model and moves education away from the mere transmission of knowledge. The Internet and associated technologies have already mastered such an approach.

Alexander Kuskis, in "Marshall McLuhan as Educationist," captures the essence of a content-only—that is, a transportation—model of education: "Teachers shouldn't try to tell everything about any subject being studied, but rather should allow learners to discover portions of the topic for themselves" (319). In contrast, a transformation model involves the artistic spirit of what Kuskis describes as "discovery learning, whereby students would find things out for themselves by working collaboratively on topics that interested them" (319). The missed opportunity of not affording students artistic self-discovery results in a robot effect where, as McLuhan remarks, students are "not prepared to use their wits. They're only prepared to use the idea they picked up the first time and

connected to another idea" (McLuhan "The Medium is The Message"). Through a transportation model of education, "ordinary people are trained to follow you and connect everything you say with what they last heard," as the medium of the book has trained them to do (McLuhan "The Medium is The Message"). The linear approach lacks an attentiveness to alternatives, that is to say, context. Through context, facts and figures become applicable.

Our electronic world is obsolescing a transportation model of education. The linear flow of information offers little value to students who can access knowledge online at a fraction of the cost. Smart educators must be aware of this change and respond to it. A new paradigm of education offers students value through context. Thankfully, a ready-made model of education is applicable to our new situation—the trivium. Sister Miriam Joseph, whose text *The Trivium* remains the definitive text on the trivium, states that "the trivium is the organon, or instrument, of all education at all levels because the arts of logic, grammar, and rhetoric are the arts of communication itself in that they govern the means of communication" (*The Trivium* 6). A trivium-based education fits under a transformation model and provides the context necessary to make facts and figures relevant.

The liberal arts consist of seven branches of knowledge. Although the concept is ancient, the term "liberal arts" dates to the Middle Ages. Grammar, logic, and rhetoric are the three arts "pertaining to the mind," while arithmetic, music, geometry, and astronomy are the four arts "pertaining to the body" (Joseph *The Trivium* 3). As Joseph remarks, with the liberal arts, "there is something to know" and "something to do" (*The Trivium* 5). As the editor to her work, Marguerite McGlinn offers the significance of this, saying

that “the liberal arts, in contrast, teach one how to live; they train the faculties and bring them to perfection; they enable a person to rise above his material environment to live an intellectual, a rational, and therefore a free life in gaining truth” (Joseph *The Trivium* 6).

Eastern education embodies the spirit of the trivium in the search for context. As McLuhan et al. remark, “orientals tends to ask first, ‘what is the question’ while Westerners tend to ask, ‘what is the answer?’” (*City as Classroom* 4). In emphasizing the importance of the question, context unfolds. When context unfolds, understanding follows. McLuhan et al. quote George Savile, Lord Halifax (1633–1695) who captures the fruit of understanding as “what remains when we have forgotten all that we have been taught” (McLuhan et al. *City as Classroom* 5). Facts and figures naturally fade from memory; however, the process of linking them into a greater whole is never forgotten. Interrelationships make a meaningful whole.

Through a trivium-based education, the meaningful whole of learning unfolds through the interrelationship of content and context. Wachs exemplifies the importance of ground (context) as the often forgotten component in education:

> [S]o theoretically, a bowling ball and a feather fall at the exact same rate. We see this happen in reality only when the two objects are stripped of their context and put into a vacuum. When in a real context, the two objects are equally affected by gravitational pull, but the context, including such things as aerodynamics and wind patterns has an effect on which object hits the ground first. (*The New Science* 23)

But for context, content cannot be realistically understood. To use McLuhan’s terminology, ground brings greater meaning to figure as the meaningful whole is revealed

through the interrelationship. A trivium-based education gives an attentiveness to the often missed component of education, context. Like a marriage, the Sacrament transforms two into one flesh. Ground transforms figure (sterilized facts/answers) into a new form—understanding.

Context moves facts and figures into the realm of relevancy and reality. The bowling ball and feather fall at the same rate only when context is removed in a theoretical void. The Internet does a good job of providing content, as figure, but it fails in providing context as ground. A student can easily "Google" historical information, like what year Descartes was born, but it is far more difficult to discover why his birth and the year were important. We currently use the Internet in a manner that favors information gathering—as figure, which is partially an implication of literacy. In a DIY education, it is difficult for students to gain ground or meaning in learning. This gap provides an opening for higher education. Teachers can aid the educational process by providing context, that is, ground. Context gives significance to content, and sterilized facts and figures transform into a meaningful whole of understanding.

Ground is the often forgotten component of education that makes facts/answers meaningful. Yet, by and large, the educational system has divorced figure and ground with an attentiveness to answers (figure). In effect, education is reduced to mere rationality with the transmission of information and misses the importance of analogic reasoning with the interrelationship between figure and ground. Although facts and figures are important, they are not the end. They are a starting point of the transformational process. A trivium-based education offers a practical romance between

figure and ground and transforms information into a broader understanding of reality itself.

Transformation in Higher Education: A Herculean Task

With the advent of Internet technologies, the educational system has been presented with an implicit and often unrecognized call to change. As Marshall and Eric McLuhan note, "in a global information environment, the old pattern of education in answer finding is of no avail: one is surrounded by answers" (*Laws of Media* 239). The Internet provides knowledge but fails in providing understanding. Thus, as McLuhan and McLuhan remark, "the goal of science and the arts and of education for the next generation must be to decipher not the genetic but the perceptual code. . . . [S]urvival and control will depend on the ability to probe and to question in the proper way and place" (*Laws of Media* 239). This is the key to the survival of higher education in an Internet age of answers. Higher education must shift from knowledge transmitters to understanding creators. Yet, change is difficult because we, as humans, root our future behaviors on what has been done in the past. To say otherwise, we operate on habits and past behaviors that chart the course for the future.

Marshall McLuhan understands and recognizes the difficulty of change in terms of "rear-view mirror" thinking (E. McLuhan "Marshall McLuhan's Theory of Communication 28). McLuhan remarks that

> by this I mean to say that because of the invisibility of any environment during the period of its innovation, man is only consciously aware of the environment that has preceded it; in other words, an environment becomes fully visible only

> when it has been superseded by a new environment; That is to say, we can only recognize the past by comparing it to the present. ("Playboy Interview" 106)

Akin to changes in styles of clothing, changes are difficult to recognize on their own terms—that is, we need a ground, or past styles, to fully understand the figure, our current flair. The same holds true for higher education. The past model of a trivium-based education provides a clear perspective on the changes that have taken place within the electronic world.

The difficulty of change is akin to "groupthink," where one's immediate environment determines one's reality. With groupthink, perspectives become solipsistic, like "going through the old motions, as if concepts still reigned" (McLuhan and E. McLuhan *Laws of Media* 59). Kenneth Burke's metaphor of "trained incapacity" unfolds the essence of groupthink, in that "past training has caused them to misjudge their present situation (10). . . . [S]uppose there is a flock of birds and that one of them, rightly or wrongly, is frightened into flight; the rest of the flock rises also" (76). For the most part, higher education is trapped in an environment of knowledge transmission. As such, there is a natural resistance to new perspectives.

McLuhan captures the essence of "educational resistance" when responding to a question posed by Peter C. Newman in a 1971 interview. When asked about his critics, McLuhan replied that "they've been asleep for 500 years and they don't like anybody who comes along and stirs them up" ("The Table Talk of Marshall McLuhan"). Postman and Weingartner confirm McLuhan's impressions of rocking the boat, as they note that "one of the most dangerous men around at the moment—dangerous because he seems to be subverting traditional assumptions—is Marshall McLuhan" (16). Yet, the Internet age

itself is “rocking the boat” and truly a “krisis” in the Greek sense in that it is a moment requiring judgment to think beyond the natural comfort of existing perspectives and consider news ways of educating. As McLuhan remarks, “the future of education requires that we pay much attention to the media we’re employing as forms of study” (McLuhan “The Medium is The Message”) for “failure to notice the new opportunities is also failure to understand the new powers (McLuhan and E. McLuhan *Media and Formal Cause* 15–16).

The alternative to ignoring the crisis creates a more imposing crisis—declining enrollment—as students utilize a DIY education and employers loosen the four-year degree requirement. The long-term answer is not offering more knowledge through online classes; rather, it is offering more understanding through context development. Context makes knowledge meaningful, and higher education can deliver through a trivium-based education. A trivium-based education is a ready-made antidote for our electronic age by offering a communicative center—a transformational space of awareness in which understanding unfolds through the interrelationship of content and context.

At its essence, a communicative center is a space of awareness, that is to say, the interrelationship between figure and ground. Martin Buber speaks to the notion of “the common” in which the spiritual reality of our togetherness resides in “the genuine spoken intercourse with one another” (360). Man is not an island unto himself; rather, as Buber notes, “this means that there is not state in which the individual merely leads his own existence without contributing his part” (360). As Buber argues, the deepest reality in life is the relations between men. Buber, like McLuhan, recognizes the importance of

interrelations. A communicative center is a space of awareness in which man can recognize that all things are truly interrelated. A transformation model of communication helps to bring about true understanding through the unification of figure and ground. McLuhan's transformation model and a trivium-based education bring to bear the reality of relationships as essential for true contextual understanding.

Overview of the Project

This project is written in the artistic spirit of McLuhan. With a painting, no two impressions are the same. Art affects people in unique ways. Individuals bring a lifetime of experiences and insights to a painting, and together the figure and ground form the interpretive framework for understanding the work of art. McLuhan's artistic perspective carries a sense of freedom through observation. For McLuhan, there is no correct way of viewing the painting. In the spirit of McLuhan, my work celebrates observational freedom and recognizes my hidden ground—a lifetime of learning, insights, experiences, and biases— as a medium that influences my perspective. Thus, I do not claim to have the proper read on McLuhan. There are as many reads as there are readers. My work is but one of many, forming a mosaic of understanding of McLuhan's work, which hopefully contributes to the overall thought of McLuhan as a communication artist.

Chapter 2, Communication as Transformation: The Trivium and a Unifying Spirit of Mimetic Self-Discovery, extends the conversation from Chapter 1 with a more in-depth analysis of the three major technological innovations—phonetic alphabet, Gutenberg press, and electric telegraph—as they relate to transportation and transformation approaches to communication and education. McLuhan argues that major innovations create great "upheaval" and that each innovation "generates great pain and

identity loss, which can be ameliorated only through a conscious awareness" ("Playboy Interview" 107). This section brings awareness to the "upheavals" of hemispheric extremes and contends that a transportation model of education fosters the extreme use of the left hemisphere rationality. The chapter builds upon the importance of a transformation model of education as a proposed remedy. A trivium-based education serves as a survival mechanism for students and for higher education itself.

Chapter 3, The Tetrad and Change: The Second Dimension of Communication, unfolds the importance of the tetrad as the basis of McLuhan's understanding of communication as transformation. *Laws of Media*, published posthumously by McLuhan's son Eric McLuhan in 1988, was purposely constructed in scientific form as a means for legitimizing the tetrad amongst the scientific community. Although there are many parts to McLuhan's communication theory, it is most easily understood through the tetrad. At its essence, the tetrad is McLuhan's communication theory packed into one heuristic device. The tetrad is a holistic consideration of the effects of any given technology through the unification of figure and ground.

The chapter takes an etymological approach in considering the makings of the tetrad by tracing its beginnings in McLuhan's earlier scholarship, as well as contemplates the scholarly challenges to his communication theory. The scholarly debate between Venable and McLuhan reflects the distinction between transportation and transformation thinking and underscores the broader point that the communication transforms human perceptions. This chapter contends that a transformation approach bursts the bubble of rearview mirror thinking and brings forth an awareness of the transformative effects of media.

Chapter 4, The Medium Makes the Message: Understanding the Second Dimension of Communication as Change, continues an analysis of McLuhan's media theory by considering how different parts fit into the whole of the tetrad. As Aristotle indicates, the mind best grasps things when we start with the broad and work to the narrow, so "that is why we have to progress from the general to the particular; it is because it is whole entities that are more intelligible to the senses" (*Physics* 9). Herein lies the impetus of starting with the whole of the tetrad in Chapter 3. Chapter 4 further subdivides and interrelates McLuhan's media theory through the lens of formal causality. By revealing the working relationship between the parts and the whole, a more robust understanding of communication as transformation unfolds and underscores the importance of interrelationships.

Chapter 5, The Ultimate Transformation: A Catholic Conversion, extends the notion of communication as transformation in a broader context of transcendence. Embedded within the notion of communication as change is what Eric McLuhan identifies as a "Catholic understanding of the communicative process" (*Sensus Communis* 118). This chapter attempts to provide a Catholic perspective under the broader framework of communication as transformation. Eric McLuhan remarks that such a perspective is underdeveloped, as "the time is overdue to bring together the scattered fragments of our Catholic understanding of the communicative process" (*Sensus Communis* 118).

This chapter plays out spiritual communication in the context of post-humanism. Most communication theories and considerations are situated within a ream of horizontal utility, that is, communication between man. Yet, McLuhan's transformation approach

extends beyond the physical realm, of logos, to a metaphysical realm of Logos. As Wachs notes, "logos refers to its nondivine meanings ranging from word to argument," while "Logos refers to its divine form" (*The New Science* 195). When fragmented, communication becomes material and utilitarian. When united, communication is divine and eternal.

This chapter situates the analysis within the literature on cyberspace and the notion of self-transformation, and offers a ground for considering the trend toward post-humanism. Shlain defines cyberspace as "a computer-generated extension of the human mind into another dimension" (418). Abstraction into another dimension represents a fragmented logos in which man is trapped in a paradigm of figure. The fragmentation is akin to the literate paradigm of education in which the "rearview mirror" thinking prevents an awareness of the broader reality of the electronic age. In contrast to an attempt of finding freedom from our material environment, McLuhan's transformation approach finds freedom within. Through awareness, the unification of figure and ground brings forth a greater understanding of reality as existing beyond what we can see. McLuhan's scholarship and conversion to Catholicism offer a true interrelation of figure and ground, that is, the material and spiritual.

Chapter 2: Communication as Transformation: The Trivium and a Unifying Spirit of Mimetic Self-Discovery

> The liberal arts, in contrast, teach one how to live; they train the faculties and bring them to perfection; they enable a person to rise above his material environment to live an intellectual, a rational, and therefore a free life in gaining truth.
>
> —Sister Miriam Joseph (*The Trivium* 5)

The argument of the first chapter went on to show that a transformation model of communication has particular significance in our modern electronic world of simultaneity. McLuhan identifies two distinct perspectives on communication. A transportation model is one in which information is transmitted from sender to receiver in a linear fashion, while a transformation model is one in which communication takes place within a complex environment of simultaneous contingences. A transformation model considers the role of media both narrowly and broadly conceived as affecting the human psyche and consequently the actions of man; as McLuhan remarks, "a transformation model of communication" reveals "how people are changed by the instruments they employ" ("Full Lecture Living in an Acoustic World"). Like a transformation model, a trivium-based education fosters a holistic perspective through the unification of content and context, that is, figure and ground. Within the context of education, Chapter 2 attends more precisely to ground and the transformative effects of media. From this perspective, communication occurs at the perceptual level, where media—that is, technologies—change our subconscious awareness.

To demonstrate the immense impact of media, McLuhan identifies three major communicative media that fundamentally altered society. The phonetic alphabet and the Gutenberg press, as media, shocked oral man into a new form of consciousness. The phonetic alphabet and later the Gutenberg press gave rise to left hemisphere rationality, thereby reducing a holistic use of senses to the linear sense of vision. The invention of the electric telegraph interrupted the sequential form of left hemisphere rationality and returned man to simultaneous awareness, yet man's return to the right hemisphere is unique in that his oral ancestors did not have to contend with the residual effects of left hemisphere rationality.

With neo-oral man, communication is now caught between the legacy of left hemisphere rationality and the expanding use of the right hemisphere. This space in between is represented by McLuhan's use of the term "acoustic image," which represents neo-oral man's cognitive processing predicament ("Inside on the Outside, or the Spaced-Out American" 53). Neo-oral man sees electronic images, yet processes the information acoustically in the right hemisphere instead of the left, as with literate man. The internal processing distinction is what McLuhan refers to as pattern recognition and the corresponding attempt of the right hemisphere to make meaningful connections out of avalanches of electronically visible data. The average Internet page, for example, consists of a whirlwind of disparate information. Although it is a fine and understandably difficult distinction, a left hemisphere orientation is predominantly figure oriented, while a right hemisphere orientation is predominantly ground oriented—the left hemisphere attends to the parts, while the right attends to unifying the parts into a whole. Neo-oral man is

pulled between these two extremes, which results in psychological shock, a concept that will be explored further in this chapter.

This chapter continues to unfold the nature of a transformation model of communication by probing the nature of a trivium-based education as integral to successfully educating students and alleviating psychological shock. A trivium-based education brings awareness to the transformative effects of media, as ground, through a spirit of unity and self-discovery.

To achieve this end, the chapter is structured in three major sections. Media as Change Agents in Education considers the origins of the trivium in relation to McLuhan's identified three major communicative technologies: the phonetic alphabet, the Gutenberg press, and the electric telegraph. Transportation and Transformation considers the consequence of lack of awareness of media transformations, which results in what the project refers to as psychological shock, a condition of unawareness where the psyche is trapped between a literate and a neo-acoustic paradigm. A Transformation Model of Education: The Trivium explores a transportation model of education and addresses its limited purview of left hemisphere rationality. Additionally, the section considers the nature of education and offers a solution to the psychological shock with a trivium-based education and its spirit of unity.

Media as Change Agents in Education

This section explores the profound consequences of introducing the new technologies into society and emphasizes the McLuhan mantra that "the medium is the message." With the introduction of the phonetic alphabet, a seismic shift in educational methods in Athenian society occurred. This section explores those educational changes in

addition to exploring the profound impact of the Gutenberg press and the electric telegraph on society.

As introduced in Chapter 1, with the advent of the phonetic alphabet, societal perceptions had begun to shift from an acoustic to a visual space. Prior to the phonetic alphabet, as McLuhan argues, "the primary medium of communication was speech" ("Playboy Interview" 108). Speech was situated in an acoustic space, which, as Marshall and Eric McLuhan note, "is a natural environmental form," in contrast to the "man-made artefact" of visual space via the phonetic alphabet (*Laws of Media* 22). Walter Ong, a notable student of McLuhan's, observes the deep history of oral-man and the spoken word, which dates back over 500,000 years (*The Presence of the Word* 2, 26).

Tied deeply to the spoken word was poetics, used as a medium for education. As McLuhan remarks, in the Greek culture, before the advent of the phonetic alphabet, "Homer had been the educational system of the Greeks for centuries" ("Full Lecture Living in an Acoustic World"). In Homeric oral culture, the mark of "an educated Greek was one who memorized Homer, who can sing it to his guitar or harp, and perform it in public" ("Full Lecture Living in an Acoustic World").

The phonetic alphabet interrupted the Homeric educational method and paved the way for a new rational method of education. The tension between the deep oral tradition and the emerging literate tradition gave rise to, as McLuhan argues, the "first all-out media war" ("Playboy Interview" 109). McLuhan captures the essence of these two warring forms of thought: "Audile-tactile tribal man partook of the collective unconscious, lived in a magical integral world patterned by myth and ritual, its values divine and unchallenged, whereas literate and visual man creates an environment that is

strongly fragmented, individualistic, explicit, logical, specialized and detached" ("Playboy Interview" 109). The two vastly different orientations are akin to studying in a group, where ideas are shared, and studying individually, where ideas are self-contained. One is rooted in external dialogue, whereas the other is rooted in interior dialogue.

Plato served an integral role in the rise of interior dialogue, that is to say, rationality. As McLuhan notes, Plato seized "upon it and said let us abandon Homer and go for rational education" ("Full Lecture Living in an Acoustic World"). Eric McLuhan confirms his father's sentiments, stating that Plato "decided to champion rationality" (*Sensus Communis* 22). The elder McLuhan contends that "Plato's select war on the poets was not a war on poetry but on the oral tradition of education" ("Full Lecture Living in an Acoustic World"). Havelock concurs, stating that "the poetic state of mind is for Plato the arch-enemy" (*Preface to Plato* 47). Plato took the lead and "realized that civilization did not have a chance until the mimetic spell of the bards was broken" (McLuhan and E. McLuhan *Laws of Media* 64). For Plato, rationality was the key to self-enlightenment.

Plato readily adopted the phonetic alphabet as a means for achieving the end of rationality, that is, self-enlightenment. As Eric McLuhan argues, "Plato was determined to break the spell and inculcate instead the exotic new skills of abstract thought and objectivity that accompanied the alphabet" (*Sensus Communis* x). The phonetic alphabet accomplished the task of "translat[ing] Homer into a visual form and . . . bring[ing] the tribal encyclopedia under the control of literary and . . . in other words, replac[ing] Homer with Plato" (McLuhan "Full Lecture Lecture John Hopkins University"). Plato took "pains to sidestep mimesis and the spell-binding power of the poetic establishment that relied on it, in order to take advantage of detachment and abstract thought—the logos

hendiathetos" (E. McLuhan *Sensus Communis* 25). For Plato, the phonetic alphabet served an integral role in separating the collective unconscious into individual enlightened consciousness. In book seven of *The Republic*, Plato provides the allegory of the cave to describe the predicament of groupthink. The only way out of the darkness of ignorance is through individual enlightenment.

Plato's war on oral tradition undercut an integral aspect of the educational and communicative life of Greek citizens, mimesis. Eric Havelock refers to mimesis as "a term applied to the situation of a student apprentice, who absorbs lessons, and repeats and hence 'imitates' what he is told to master" (*Preface to Plato* 23). While referencing Havelock's *Preface to Plato*, Eric McLuhan contends that mimesis engenders "the total, the almost pathological involvement of the hearer in the poetic performance, an involvement so profound that the hearer effectively becomes the poem" (*Sensus Communis* ix). The fruit of pathological involvement is an embodiment; as Havelock notes, "thirty years later you could automatically quote what Achilles had said or what the poet had said about him" (*Preface to Plato* 45). On a practical level, "the mimetic form, a technique that exploited rhythm, meter, and music, achieved the desired psychological responses in the listener. Listeners could memorize with greater ease what was sung than what was said" (McLuhan and Fiore *The Medium Is the Massage* 113–14). The memory techniques were used to unlock the storage capacity of the human mind. Yet, with mimesis, knowledge was stored in a collective mind or "tribal encyclopedia" (McLuhan "Full Lecture John Hopkins University").

The phonetic alphabet interrupted the long run of mimetic education. McLuhan and Powers note the consequences, saying that "mimesis gave way to individual

detachment, and the integral resonating oral logos was broken into multiple fragments, each bearing some one or another of its properties" (*The Global Village* 32). McLuhan remarks that "the phonetic alphabet fell like a bombshell, installing sight at the head of the hierarchy of senses" ("Playboy Interview" 109). McLuhan and Powers argue that "the effect of the phonetic alphabet on the Greek psyche and culture was catastrophic" (*The Global Village* 32). The medium fractured the wholistic use of the external senses and gave rise to a left hemisphere rationality of a "sequential, analytic, detailed" manner of thinking (McLuhan and E. McLuhan *Laws of Media* 68). In addition, as McLuhan notes, "literacy propelled man from the tribe" ("Playboy Interview" 109). The tribal encyclopedia was literally and metaphorically fractured into individual perspectives. Moreover, the individual perspectives themselves were fractured, with sight replacing the holistic interplay of the external senses.

Private identity and rationality were the victors in Plato's media war. Marshall and Eric McLuhan consider the effect "in creating the West as characterized by individualism and abstract conceptual schemes" (*Laws of Media* 65). To capture the profound distinction between the old oral and new literate perspectives, Rodin's "The Thinker" depicts the modern student as he sits alone in rational contemplation. In contrast, the mimetic spirit of the oral world is depicted by the frontispiece of a vase from the fifth century BC, where Orpheus is "charming" a group of Thracian warriors with his "wisdom speaking eloquence" (Walker ix). Not only did the phonetic alphabet fracture social relations, but it also fractured thought into individual perspectives, as "mimesis gave way to individualized detachment, and the integral resonating oral logos was broken into multiple fragments" (McLuhan and E. McLuhan *Laws of Media* 124).

The trivium emerged in response to the fragmentation. Out of a spirit of unification and a return to the mimetic model of the collective unconscious, the trivium "was born of the phonetic alphabet" (McLuhan and E. McLuhan *Laws of Media* 124). The Stoics attempted to rescue the "pre-alphabetic logos" by formulating "the essential tripartite relationship" of a "threefold logos" (McLuhan and E. McLuhan *Laws of Media* 124). Although the term was not used until the Carolingian Renaissance of the early ninth century, the Stoics' "doctrine of the logos . . . served as the pattern for the trivium" (McLuhan and E. McLuhan *Laws of Media* 124). The Stoics understood that "simultaneous comprehension" is necessary for deeper understanding (McLuhan and E. McLuhan *Laws of Media* 68).

The spirit of unification and the holistic perspective of orality lies within the trivium. The trivium serves as an integral means for breaking the narrow purview of Plato's enlightened philosophy through a spirit of reunification. Such a disposition is of critical importance to McLuhan's objective of unifying figure and ground and lies at the basis of a trivium-based education. A trivium-based education heals fractured social relations and thought processes. However, before considering how the trivium achieves the spirit of unity, this section continues to analyze the significant role media play in transforming individuals and society. More precisely, the section considers the effects of the Gutenberg press and the speed at which new technologies are introduced and the respective impact of this.

If the phonetic alphabet gave birth to private identity, the Gutenberg press brought it to maturity. That is to say, the Gutenberg press pushed the phonetic alphabet to the extreme. Rationality became more embedded in society, or as McLuhan notes, "a new

race of visually oriented explorers of space and time emerged from the 'caves' of the Gutenberg technology" (McLuhan "At the Moment of Sputnik" 49). The second innovation, created by goldsmith and inventor Johannes Gutenberg in Germany circa 1450 AD, bolstered left hemisphere rationality.

To understand the effects of the Gutenberg press more fully, we turn to McLuhan's seminal work on the matter, *Gutenberg Galaxy*. In this work, McLuhan traces "the ways in which the forms of experience and of mental outlook and expression have been modified, first by the phonetic alphabet and then by printing (*Gutenberg Galaxy* 62). The Gutenberg press extended the effects of the phonetic alphabet through "repeatable type" in which "the fission of the senses occurred, and the visual dimension broke away from the other senses" (McLuhan *Gutenberg Galaxy* 62). In essence, the Gutenberg press exacerbated the effects of the phonetic alphabet, and people became "detached from the world in which they live" (McLuhan *Gutenberg Galaxy* 87). Detachment is unique to the new form of private identity because during the Middle Ages, "acoustical readings" were still common and people "read usually not as today principally with the eyes, but with the lips, pronouncing what they saw, and with the ears, listening to the words pronounced, hearing what is called the voices of the pages" (McLuhan *Gutenberg Galaxy* 102). Thus, pure visual rationality was tempered by the oral residue associated with the phonetic alphabet during the Middle Ages. It was not until the invention of the electric telegraph by American inventor and painter Samuel Morse in 1844 that a major shift in consciousness occurred.

The two-thousand-year development of a left hemisphere rational thinking was interrupted by the advent of the electric telegraph. With electronic means of

communication, neo-oral man emerged within a relatively short period of time. Left hemispheric rationality gave way to right hemisphere "simultaneous comprehension" (McLuhan and E. McLuhan *Laws of Media* 68). With electronic communication returned orality, albeit in a new form. As McLuhan argues, "the invention of the telegraph in 1844 . . . heralded an electronics revolution that will ultimately retribalized man" ("Playboy Interview" 102). Electronic means of communication tempered the extremes of literacy, yet represent an emerging threat.

Although Plato advocated rational education, literacy evolved slowly over an extended period of time. The phonetic alphabet progressed through the manuscript culture of the Middle Ages to the Gutenberg press—a period of over two thousand years. During the Middle Ages, the manuscript culture buffered the extreme visual space induced by the Gutenberg press. As Wachs notes, "manuscript culture stood between the fully oral orientation of pre-literal people and the visual print culture" (*The New Science* 60). In the Middle Ages, an orality was preserved, as the script was often read aloud and the "individual fixed perspective" (Wachs *The Triptych Tetrad* 112) of movable type remained "latent in the scribal mode" (McLuhan *Gutenberg Galaxy* 158). Rationality was tempered during the Middle Ages because, as McLuhan remarks, "they read everything aloud to themselves" (Gordon 75). As McLuhan observes, "manuscripts, commentaries, were dictated. Students memorized. Instruction was almost entirely oral, done in groups" ("Classroom Without Walls" 1).

Manuscript culture afforded the human consciousness an adjustment period. That is, man's perceptual orientation was not shocked into a fully left hemisphere orientation overnight. As Wachs remarks, "this technology and the process of change was slow and

not on a massive scale . . . . [T]he effects of the phonetic alphabet were actualized slowly" (*The New Science* 60). The mimetic aspect of active participation remained as the slow development of literacy minimized the psychological shock of shifting from one extreme to another—that is, from the right to the left hemisphere. In contrast, since the advent of the electric telegraph in 1844, the pendulum has swung rapidly. Electronic communication has forced human communication into a new right hemisphere cognition. The war between the legacy of left hemisphere cognition and the new right hemisphere cognition continues today. This dissertation terms the state of war, that is, confusion as psychological shock.

The War of Hemispheres

"Homer was wiped off by literacy," notes McLuhan, and so too literacy is feeling a great pressure to be wiped off by electronic forms of communication ("Full Lecture Living in an Acoustic World"). As McLuhan remarks, "we are playing the old story backwards" ("Full Lecture Living in an Acoustic World"). As the Greeks encountered a major technological shift from orality to literacy with the introduction of the phonetic alphabet, so too are we encountering a major shift in consciousness as we play the story backward and move from left hemisphere rationality to right hemisphere pattern recognition.

Today we live in a literate and electronic world all at once. McLuhan's use of the term "acoustic image" represents the battle between the right and left hemispheres ("Inside on the Outside, or the Spaced-Out American" 53). In the acoustic world of orality, oral man engaged all the external senses in their natural harmony, as he heard, saw, felt, smelt, and tasted the concrete world before him. In contrast, literacy adds a

buffer, rearranges the external senses, and gives priority to sight. With print technologies, man primarily "sees" the world. In our electronic age, neo-oral man still "sees" the world but also "hears" the world. This hybridity, as it were, occurs on the subconscious level where electronic information is seen and taken in through the left hemisphere, yet is processed acoustically in the right.

The "acoustic image" represents a hemispheric conflict of sorts, with the implication that, as McLuhan indicates, "today's child is growing up absurd because he is suspended between two worlds and two value systems, neither of which inclines him to maturity because he belongs wholly to neither but exists in a hybrid limbo of constantly conflicting values" ("The Medium Is the Message"). With Internet technologies, the sheer bombardment of simultaneous and disconnected information has pushed students, heavily accustomed to a left hemisphere attentiveness with the tidy and linear flow of information throughout their educational upbringing, into a new mode of processing information in the right hemisphere through pattern recognition. As briefly noted in Chapter 1, pattern recognition is a means for the brain to find meaning through patterns or links, that is to say, interrelationships.

Literacy had developed a cultural habit of the "sequential ordering" of information (McLuhan and E. McLuhan *Laws of Media* 68). The medium of the book has conditioned individuals to process information in a linear flow, i.e., sentence by sentence, paragraph by paragraph, and chapter by chapter. In this predetermined form, inherent to the medium itself, ideas are neatly connected to one another. In contrast, the electronic world is one of "simultaneous comprehension" (McLuhan and E. McLuhan *Laws of Media* 68).

With electronic means of communication, a linear mode of literate thinking no longer applies. Electronic media force the brain into a mode of pattern recognition. McLuhan uses the example of a newspaper to convey the notion that "like a symbolist poem, the ordinary newspaper page is an assembly of unconnected items in abstract mosaic form" (McLuhan "At the Moment of Sputnik" 49). As Marshall and Eric McLuhan note, "the daily newspaper is an interesting example of this fact. The items in the daily press are totally discontinuous and totally unconnected" (*Media and Formal Cause* 23). Pattern recognition is the right hemisphere's attempt to connect the discontinuous dots.

Today, we live in an information environment which results in a tug of war between these two forms of cognition. As the McLuhans argue, "Western man is torn between the claims of visual and auditory cultures or structures" (*Laws of Media* 102). Psychological shock is a consequence of being pulled between these two worlds without proper recognition. This is the significant point that we must recognize our conflicting condition, as McLuhan remarks, "no civilian can escape this environmental blitzkrieg . . . between audile-tactile and visual perception" ("Playboy Interview"134). Awareness is a crucial first step to bringing truce to the war.

Universities serve as a potential solution and metaphor for this hemispheric battle. In 1967, McLuhan and Fiore sounded a warning as to the state of education, saying that "it is a matter of the greatest urgency that our educational institutions realize that we now have civil war among these environments created by media other than the printed word" (*The Medium Is the Massage* 100). Within the traditional classroom, the teacher transmits information to the students in a manner akin to a book by neatly transmitting information

to the reader. The tightly packaged information is made for easy delivery, most commonly in the form of a lecture. The approach leaves students dismayed as it neglects the neo-acoustic aspect of electronic communication, which requires cognitive participation by allowing students to actively participate and form patterns of meaning themselves.

This idea is partly identified in a 2014 study suggesting "that STEM instructors may begin to question the continued use of traditional lecturing in everyday practice" (Freeman et al. 8413) As the study notes, "lecturing has been the predominant mode of instruction since universities were founded in Western Europe over 900 years ago" (Freeman et al. 8410). The results question the effectiveness of lecturing and highlight the need for active participation, with the study noting "that average examination scores improved by about 6% in active learning sections, and that students in classes with traditional lecturing were 1.5 times more likely to fail than were students in classes with active learning (Freeman et al. 8410). Although the study identifies the symptoms, it fails to diagnose the disease.

Pedagogical methods that strictly apply the transmission model attend primarily to the left hemisphere and undercut right hemisphere cognition of our electronic age. In the modern electronic world where "everything happens at once . . . in the same way that the sense of hearing apprehends details from all directions at once, within a 360-degree sphere," (McLuhan "Instructional Media" 448) students should be afforded the opportunity to connect the dots. This implies the use of the right hemisphere through mimetic participation (McLuhan and Powers 14). As Rushkoff notes, "even Marshall McLuhan realized that a world characterized by electronic media would be fraught with

chaos and best navigated through pattern recognition" (202). McLuhan and Fiore state that "education must shift from instruction, from imposing of stencils, to discovery—to probing and exploration and to the recognition of the language of forms" (*The Medium Is the Massage* 100). The mimetic spirit of active participation allows the right hemisphere to exercise its functionality in an electronic world of media with inherently disjuncture information.

A trivium-based education addresses the "acoustic image" of our time by appealing to both left and right brain functionality. A trivium-based education carries with it the Stoic spirit of unification and acts as a corpus callosum of sorts between the two warring hemispheres. Additionally, a trivium-based model encourages active participation by challenging students how to think rather than what to think. Before discussing a trivium-based approach, the following section highlights the current transportation model of education and its left hemisphere appeal.

Transportation and Transformation

In a 1974 lecture at the University of South Florida, Marshall McLuhan speaks to a philosophical divide in communication and education. McLuhan remarks that the philosophical positioning of one camp carries the majority position, which he refers to as the "transportation theory of communication" ("Full Lecture Living in an Acoustic World"). In the lecture, McLuhan expands upon the transportation model and remarks that "all the official theories of communication studied in the schools of North America, are theories of how you move data from point A, to point B, to point C with minimal distortion" ("Full Lecture Living in an Acoustic World"). For McLuhan, such an approach is akin to a train delivering goods. "It is like a railway train," remarks

McLuhan, “concerned with moving goods along the track” (“Full Lecture Living in an Acoustic World”). In the context of education, a transportation model is concerned with efficiently moving content from teacher to student, most often in the form of a lecture.

In a transportation model, the role of the teacher is to identify and remove any interference. McLuhan notes that “the track may be blocked, may be interfered with,” and that with the one-way flow of content, the objective becomes “to get the noise, get the interference off the track . . . let it go through” (“Full Lecture Living in an Acoustic World”). Such an approach is “linear, sequential, and logical” as educators seek to maximize content delivery and minimize the interference, that is to say, interruptions in the form of discussions (McLuhan and Powers 3). Practically applied, PowerPoint serves as a medium that efficiently delivers information from display to notebook. The mediated transaction alleviates any unnecessary labor on the part of students. Yet, what are the implications of forgoing the mimetic aspect of actively participating in the educational process? Freire’s “banking concept” provides insight and directly relates to McLuhan’s pedagogy developed in *City as Classroom*.

Paulo Freire—The Transportation of Left Hemisphere Rationality

Paulo Freire’s metaphor of a banking model of education concretely represents this notion of communication as transportation and implicitly considers the implications of passive learning. As a brief biographical introduction, Freire was a Brazilian educator and philosopher who lived from 1921 to 1997. As an educator, he sought to meet the needs of the poor and politically oppressed **(**Austin 62). From 1946 to 1964, Freire had “developed models for teaching basic literacy to poor farmworkers in the Brazilian state of Pernambuco” that “were ultimately adopted throughout Brazil” **(**Austin 62). However,

with political changes, “the military government” had subversively ended these programs when they came into power in 1964 **(**Austin 62). Freire became the target of the newly established political power and was arrested, jailed, and declared a subversive influence **(**Austin 62). Upon release, after more than two months of incarceration, Freire secured work in Chile and later in the United States, as a visiting professor at Harvard University **(**Austin 62). At America’s oldest learning institution, founded in 1636, Freire produced his most important work on education, *The Pedagogy of the Oppressed* (Austin 62). This work clearly reveals Freire’s opposition to what McLuhan terms a transportation model.

Freire uses the “banking concept” metaphor to describe the one-way transmittal of information from teacher to student. From this perspective, a hidden implication is that the instructor is the sole repository of knowledge. The teacher acts as a banker, of sorts, depositing information into the minds of students. The information is on loan, so to speak, when at the time of the exam, the students return the deposit. The result is that nothing is truly learned as “money” exchanges hands. Consequently, the “empty vault” necessitates the student returning to the banker for subsequent “deposits.” Thus, a major implication of a “banking concept” is dependency, for students have not learned how to make money on their own, as it were.

As Freire argues, such an approach lacks the communicative interplay necessary for transformative learning. Freire remarks that “the outstanding characteristic of this narrative education, then, is the sonority of words, not their transforming power” (Austin 63). Narration undermines dialogue. “Narration (with the teacher as narrator leads the students to memorize mechanically the narrated content,” turning the students into what Freire argues are “containers” or “receptacles” **(**Austin 63). The students’ minds are to be

filled with a wealth of facts and figures, and from McLuhan's perspective, this amounts to education as figure minus ground. That is to say, the information lacks context, and pure knowledge is only transformed into understanding through participation.

Freire's experiences themselves speak to the importance of context. Freire's political oppression impacted his perspective. Austin notes that "Freire's education theory begins with his belief that the relationship between teachers and students mirrors the relationship between political oppressors and the oppressed" (62). Freire attributes the banking concept to an "oppressive society" where "the teacher knows everything and the students know nothing; the teacher chooses the program content, and the students (who are not consulted) adapt to it; the teacher is the subject of the learning process, while the pupils are mere objects" **(**Austin 62). The ground of Freire's personal experience with political oppression informs his work. In fact, Freire's experiences are arguably the ground that gave rise to his work as figure. As such, Freire's work not only serves as a metaphor for the importance of context but also is a practical guide for making content meaningful.

Moreover, Freire's work reveals the power dynamic in information transmission. For Freire, the "banking concept" places power at the hand of the teaching class. As Austin comments, "for students, therefore, 'learning' means submitting to a teacher's absolute authority" (62). From Freire's perspective, transportation is a metaphor for political oppression. Dialogue is a crucial aspect of education, as McLuhan and Fiore remark that "propaganda ends where dialogue begins" (*The Medium Is the Massage* 142). Not only does dialogue thwart propaganda, but it also presupposes the mimetic engagement that is so crucial for learning.

Dialogue, in part, is what Freire sought in his educational model. Freire critiqued the banking model, which assumes that "knowledge is a gift bestowed by those who consider themselves to be knowledgeable upon those whom they considered to know nothing" (Austin 62). Freire's statement speaks to the purpose of education as an active endeavor, "for apart from inquiry . . . individuals cannot be truly human" (Austin 63). This underscores the importance of mimetic engagement in learning. As the following section demonstrates, a trivium-based education fosters mimetic engagement as it is inextricably linked to learning.

A Transformation Model of Education: The Trivium

In our electronic age, where electronic means of communication foster right hemisphere pattern recognition, the interrelation of disparate parts becomes more significant. As previously noted, the psychological shock of the "acoustic image" leaves society void of a means by which individuals can make sense of the world. A trivium-based education is a ready-made model that fills the void. The trivium, rooted in Stoic re-unification, considers the interplay of three parts—grammar, logic, and dialectic—in forming the significant whole as the basis of communication and understanding. The following section considers the nature and purpose of education in relation to a trivium-based model. By understanding the purpose of education, we can better understand the distinctions between a transportation model and a transformation model and the significance of a trivium-based approach in unifying fractured thought and social relations.

Certainly, information is an integral component of education, yet information is only half of the battle toward the goal of understanding. Our minds do not infinitely

retain information; thus, the goal of transmitting knowledge is fundamentally flawed. It fails to provide the skills to the student to learn on one's own. As the "banking model" suggests, students become dependent on an authority figure for information. In contrast, a transformation model develops understanding over time by fostering dialogue or the ability to ask good questions. While a transportation model focuses on good answers, a transformation model focuses on good questions. As Kuskis argues, a good education generates "curiosity in students sufficient to make them want to seek out the rest of the information using their own agency" (Kuskis 52). As McLuhan et al. note, "it is more difficult to learn to ask yourself productive questions than it is to look for answers to other people's questions, but learning to ask productive questions helps you become self-reliant" (*City as Classroom* 4). Thus, as McLuhan remarks, "education on all levels has to move from packaging to probing, from the mere conveying of data to the experimental discovering of new dimensions of experience" ("Electronics & the Psychic Drop-Out" 38). A transformation approach incorporates and embraces the probing spirit of self-discovery.

Although Plato championed rationality, the great philosopher implicitly argues against the transportation model of education. In *The Republic,* Plato states that "education is not what the professions of certain men assert it to be. They presumably assert that they put into the soul knowledge that isn't in it, as though they were putting sight into blind eyes" (197). Thus, the role of the educator is not to remove the blinders as it were, but rather to inspire students to see more clearly through dialogue. Thus, for Plato, education is the art of turning one to look rightly; as he remarks, "this art takes as given that sight is there, but not rightly turned nor looking at what it ought to look at"

(*The Republic* 197). For Plato, the whole of education is not depositing facts and figures into the minds of students, but rather pointing students toward a higher reality where students actively seek to understand that reality. As McLuhan would argue, since the rise of print technologies, our fragmented perspective has thwarted our ability for self-discovery by interrelating ideas and fractured a full understanding of reality.

Australian-born lawyer and Catholic author Frank Sheed implicitly addresses the importance of breaking the spell of "tunnel vision" through analogic reasoning or the ability to connect parts into a significant whole. Sheed indirectly refers to a critical component of education—oneness. Using a metaphor of "intelligent living," Sheed remarks that "most of men's efforts to read human nature, and frame a system of life in accord with it, err by an inability to seize the whole" (*A Map of Life* 13, 15). Thus, education today faces a significant challenge of reorientation whereby students become aware of how the many parts form an integral whole. A transformation model recognizes the significance of parts relative to the whole.

The spirit of unity is embedded in McLuhan's communication theory with his respective figure/ground analysis. Awareness is an essential first step toward realizing that all things are interrelated. Our feeble human intellect may not have the capacity to see all things, yet McLuhan's figure/ground analysis provides a template for assisting. As Kuskis remarks, "the figure-ground problem deals with perceptual deficiency caused by our inability to perceive" (50). The solution for McLuhan, as suggested by Kuskis, is bringing the parts into a whole by "the totality of a scene equally" (50). The essence and spirit of a trivium-based education is one in which "training and practice" provide "the viewer with a sense of configuration" (51).

The notions of unity and oneness are grammatical in nature. In his doctoral thesis *The Classical Trivium*, McLuhan cites Edward Vernon Arnold's *Roman Stoicism*: "there stands out clearly the basic cosmological doctrine which inspired the scientists to apply methods of grammar: 'All things intertwine with one another, in a holy bond; scarce one thing is disconnected from another'" (24). Grammar, as Sister Miriam Joseph notes, is "the art of inventing symbols and combining them" (*The Trivium in College* 1). Thus, at its essence, grammar is analogical and based on relationships.

The relations between figure and ground reveal meaning. The context (ground) reveals the deeper meaning of a content (figure). To exemplify, the word "figure" itself could be an arithmetical calculation, a bodily shape, a figure of speech, or a term that McLuhan uses in his media theory. Understanding is only revealed within the realm of context. Context, when interrelated with content, reveals the essence of the grammatical term, "figure". McLuhan et al. provide another example with the following: "the *train* sped by . . . the bridesmaid carried the bride's *train* . . . a *train* of thought" (*City as Classroom* 21). The word "train" as figure is ambiguous unless, as McLuhan remarks, "the situation, or ground" is identified. ("Figures and Grounds in Linguistic Criticism" 456).

A transportation model separates figure from ground and remains trapped in a narrow purview of understanding as figure; as McLuhan et al. note, "most of our training is directed toward keeping a clear distinction between figure and ground," and simultaneous perception "requires a certain amount of unlearning" (*City as Classroom* 10). However, a transformation model brings full awareness. Through the "simultaneous perception" of a figure/ground analysis, understanding emerges (McLuhan et al. *City as*

Classroom 10). Figure matters but more importantly figure matters within the context of its ground.

More broadly considered, ground constitutes media environments that are complex interrelationships. For example, the traditional brick-and-mortar classroom and all its artifacts constitute a ground for learning. Chairs, tables, orderly arrangements, a standing professor, to name a few, are artifacts that impact the instructor's pedagogical approach. The order in the classroom reflects the order in information transmission. A new ground would change the pedagogical approach. We can imagine that a noisy intersection would naturally interfere with the transmission of information. Thus, the instructor intuitively adjusts to the environmental ground (medium) by, let us say, having students study the flow of traffic or pedestrian crossings. The point is that ground (environment) transforms its figure (learning).

The Trivium

As reviewed in Chapter 1, the trivium consists of the three arts of language that pertain to the mind: logic, grammar, logic, and rhetoric. As Wachs notes, "the trivium is the name given to the three verbal arts of the liberal arts—that is, grammar, dialectic or logic, and rhetoric. These three arts were literally the 'three roads' [tri + via] of education in classical and medieval times" (*The New Science* 7). Logic is the art of thinking; grammar is the art of inventing symbols and combining them; rhetoric is the art of communicating (Joseph *The Trivium in College* 1). As Sister Miriam Joseph notes, "these arts of reading, writing, and reckoning have formed the traditional basis of liberal education" (*The Trivium in College* 1). All told, a liberal arts education constitutes "both a field of knowledge and the technique to acquire that knowledge" (Joseph *The Trivium*

in College 1). A liberal arts education relates "the facts . . . into a unified organic whole" (Joseph *The Trivium in College* 5). As a point of clarity, the terms "trivium," "liberal arts," and "humanities" are interchangeable; as Woods states, "until the modern world, post-Enlightenment, the terms 'paideia,' 'trivium,' 'quadrivium,' 'studia humanitatis,' and 'artes liberales' were intertwined and often interchangeable as ways of thinking, learning, and being" (30).

In essence, a student of a trivium-based perspective first acquires knowledge, that is, grammar. The student would first learn the grammar of math, for example, by memorizing Arabic numerals. Secondly, the student would use logic and symbols to work through a geometrical proof. Finally, the student would use rhetoric to communicate relevant matters, such as engineering. The three roads connect. Like a clover leaf, the trivium is three in one. As Chesterton argues, there are "many and the one. Are things so different that they can never be classified: or so unified that they can never be distinguished?" (*St. Thomas Aquinas* 19–20). So too with learning; there are many grounds for the one of figure. Unification paradoxically blurs yet bolsters understanding.

A trivium-based education acts as a counter-environment, as it were, by bringing an awareness to the influential nature of the media: "In the literate world, the function of liberal studies, of all the arts and sciences, had been at least in part to serve as counter-environments" (McLuhan and E. McLuhan *Media and Formal Cause* 9). A trivium-based education, in essence, steps outside of the prevailing transportation paradigm and provides "necessary means of orientation and perception" by bringing awareness (McLuhan and E. McLuhan *Media and Formal Cause* 13). A trivium-based education

teaches the student how to think, rather than what to think, as it moves beyond the mere transmission of knowledge.

Although a grammarian, McLuhan paradoxically argues against a purely grammatical model; as noted, he argues that "education on all levels has to move from packaging to probing, from the mere conveying of data to the experimental discovering of new dimensions of experience ("Electronics & the Psychic Drop-Out" 41). McLuhan frames this idea in terms of effects, saying that "information theory is a theory of transportation and has nothing to do with the effects these media have on you" ("Full Lecture Living in An Acoustic World"). McLuhan's transformation model considers the implications of hidden grounds through probing. Probing moves beyond the grammatical model of transferring knowledge, a figure only approach, to analogical reasoning, a figure and ground perspective, that is to say, how parts connect into a whole as McLuhan editor W. Terrence Gordon remarks that "McLuhan's principle of the probe and his preference for the analogical over the logical, as well as a worldview demanding the investigative technique of closure based on relationships" (McLuhan *The Classical Trivium* xv).

A trivium-based education fosters probing or the ability to ask good questions. Questioning is an active process and the core of analogical reasoning. It is through questions that parts are identified and interrelated into a whole. That is why a trivium-based education forms student who enter "with comparative ease into any subject of thought, and of taking up with aptitude any science or profession" because understanding unfolds through connections (*The Idea of a University* xliv). As Sister Miriam Joseph argues, a trivium-based education is "the best preparation for work and professional

schools, such as those of medicine, law, engineering, or theology" (*The Trivium in College* 1).

A trivium-based education captures an oral essence of engagement. As noted, a trivium-based education carries with it the Stoic spirit of unity and a return to the oral world. A Greek poetic education was rooted in person-to-person communication. Education involved mimesis or total immersion as an active endeavor between the teacher and the student. The immersive process is what Crawford refers to as "tacit thought" or the "indispensable part of all knowledge . . . personal elements" (134). Citing Michael Polanyi, Crawford argues that knowledge is embodied through "active comprehension of the things known" (134). Akin to a master musician attempting to explain his craft, the teacher and the student communicate mimetically through feel. It is the tribal impulse, or, as Crawford describes, "a moral relation between teacher and student that is at the heart of the educational process" (137).

Conclusion

Media transform perception and, by extension, action. Whether technologically conceived through the three major communicative technologies that McLuhan identifies as the phonetic alphabet, the Gutenberg press, and the electric telegraph or more broadly conceived as experiences, media transform man. McLuhan's work underscores the importance of awareness as to media transformations that serve as the essence of communication as change. When man changes, communication has occurred. Such a perspective is distinct from common notions of communication as message transmittal.

A strict transportation approach to communication and education falls short in revealing the true essence of communication as it remains trapped in the paradigm of

message transmittal. The purely grammatical model breeds dependency as students rely on the teacher for information and "what to do." In contrast, a transformation model rooted in the trivium offers an alternative to dependency by developing life-long learners through active participation in mind and body. The mind learns grammar and logic while the body communicates rhetorically. Chapter 1 posed the question of McLuhan's unequivocal call for a return to the trivium. This chapter has responded. A trivium-based education is integral in unfolding awareness through mimetic unity. Chapter 3 continues the conversation by probing the tetrad as a heuristic tool for awareness.

Chapter 3: The Tetrad and Change: The Second Dimension of Communication

> We shape our tools, and thereafter our tools shape up.
>
> —Father John M. Culkin ("A Schoolman's Guide to Marshall McLuhan" 70)

In the mid-1970s, Marshall McLuhan developed a set of laws that he refers to as laws of media (LOM), otherwise known as the tetrad. The tetrad is a set of four laws in a visual form that acts as a heuristic tool for discovering the implications of any man-made artifact on human perception. As Wachs contends, the tetrad is a "hermeneutic tool for understanding creations of the human mind. . . . [T]he tetrad, as a tool for interpreting both 'hardware' and 'software' creations of the mind, is part of a larger theory of how human beings perceive, apprehend, and interpret reality" (*The New Science* 84). To fully understand the tetrad, this chapter explores the hermeneutic tool as part of a larger conversation in human thinking, that is, psychology, hermeneutics, and phenomenology. Afterall, as McLuhan and Powers argue, "the tetrad, taken as a whole, is a manifestation of human thinking processes" (*The Global Village* 6).

Chapter 2 provided an awareness as to the transformative nature of media. An analysis of the three major communicative technologies—the phonetic alphabet, the Gutenberg press, and the electric telegraph—reveals how these media drastically altered Greek and modern societies. The phonetic alphabet "suppressed the activity of the right hemisphere" and gave rise to the visual world of the left hemisphere (McLuhan and E. McLuhan *Laws of Media* 70). Plato seized upon the phonetic alphabet and promoted rational education. The rationality continued unabated until the invention of the electric telegraph, whereupon the medium returned man to a right hemisphere orientation of

pattern recognition. However, the left hemisphere legacy of visual space still remains, albeit in hybrid form with the acoustic space of the right hemisphere. As chapter 2 argued, the "acoustic image" has left society in a state of psychological shock, that is to say, confusion.

Electronic communication has altered how we perceive others. With electronic technologies, the hemispheres have flipped, as McLuhan argues, and the tribal order has been restored, yet the visual residue, of print media, remains and keeps us attentive to exteriors. As Ong argues, "sight reveals only surfaces. . . . [S]ound, on the other hand, reveals the interior without the necessity of physical invasion" (*The Presence of The Word* 74, 118). Ong's point underscores the fundamental difference between the original tribal order and that of today. The visual legacy of print media remains embedded in electronic communication and thwarts true interior relationships. With social media, we can see the other, but we do not truly hear the other. Electronic media superficially bind us by sight, and we lack the opportunity to form interior bonds through in-person communication. We are more connected than ever, yet more apart, as Turkle argues, we are "alone together. . . . [W]hen technology engineers intimacy, relationships can be reduced to mere connections" (16). In our digital world, we are paradoxically a society of "acoustic images" who see but do not truly hear the other.

The analysis thus far underscores McLuhan's approach to communication as probing the transformative effects of media. In a 1974 lecture at the University of South Florida, McLuhan states that "my theory or concern is what these media do to the people who use them. What did writing do to the people who invented it and used it? What do the other media of our time do to the people who use them? Mine is a transformation

model of communication, how people are changed by the instruments they employ" ("Full Lecture Living in An Acoustic World"). By understanding changes in perception and how we view each other, we can better understand communication itself. By understanding communication, we can better understand our humanity. The study of communication is essentially a study in change, that is, how human perception is altered by media and how our altered perceptions affect our interactions with each other.

The tetrad is a tool for understanding human communication and the significant role media play in changing human perception. The tetrad provides a qualitative basis for understanding changes in human cognition. The broader significance of the tetrad is in helping the user recognize the profound impact of media. Based in perceptual theory, McLuhan's tetrad concretely demonstrates how man is changed by the technologies that he himself creates. By understanding the effects of these changes, man can better navigate an ever-increasing technological world. As Marshall and Eric McLuhan argue, "there is no inevitability where there is a willingness to pay attention" (*Laws of Media* 128). Through awareness, we can take ownership of our humanity and understand more fully what it means to be human.

This chapter unfolds a greater understanding of the tetrad in true McLuhan fashion. The form of this chapter parallels the three major elements of the tetrad itself as a *figure* interplaying with *ground* between a *resonant interval*. After a brief introduction, The Ground of the Tetrad: Perceptual Science provides the *ground* by establishing McLuhan's work as situated within a broader conversation in psychology, phenomenology, and hermeneutics. The Resonant Interval: Communication as Change

serves as the *resonant interval* that analyzes communication as change and serves as a transition to The Figure: The Tetrad, which analyzes the tetrad as *figure* by exploring the origins of the tetrad and its two-dimensional nature.

In the final analysis, the tetrad is significant because it provides insights into an ever-changing dynamic of human cognition and demonstrates how altered awareness manifests itself concretely in systemic changes to society. By offering an alternative to "all Western scientific models of communication—like the Shannon-Weaver model," McLuhan's transformation model offers a "right-brain model of communication" that demonstrates that communication is more than a one-dimensional transfer of content; rather, communication is the two-dimensional transformation of perception (McLuhan and Powers 3). That is to say, technologies not only transfer but also transform. The tetrad serves a vital role in uncovering perceptual and behavioral transformation induced by media.

The Ground of the Tetrad: Perceptual Science

McLuhan's tetrad fits within a broader conversation on perceptual science. As Wachs argues, "the laws of media and the tetrad form part of a greater perceptual science that is critical of conceptual and theoretical science that has developed since the Enlightenment" (*The New Science* 84). Perceptional science is a synthesis of sorts among psychology, phenomenology, and hermeneutics. To capture the ground of the tetrad more fully, a basic understanding of the respective disciplines is in order.

The term psychology is derived from "Greek psyche, which means 'soul,' and logos, which means 'to study'" (Schacter et al. 1). Psychology is thus the study of the soul or, as modern literature terms it, the mind. A formal definition is offered by

Schacter: “the scientific study of mind and behavior. . . . [T]he mind refers to our private inner experience, the ever-flowing stream of consciousness that is made of perceptions, thoughts, memories, and feelings. Behavior refers to observable actions of human beings and nonhuman animals, the things that we do in the world, by ourselves or with others” (2). The study of psychology offers a pathway forward in terms of understanding how perceptual change leads to behavioral change.

McLuhan’s work is situated within a conversation in psychology, that is, human cognition. In fact, McLuhan borrows the terms “figure” and “ground” from Danish psychologist/phenomenologist Edgar Rubin and his work in Gestalt psychology in the early twentieth century. The idea of figure/ground is most easily understood in what Rubin is best known for: “Rubin’s vase.” The picture of a vase is an optical illusion of sorts in which the black positive space reveals two faces, while the white negative space reveals a vase. In *Synsoplevede Figurer,* Rubin states that “when two fields have a common border, and one is seen as figure and the other as ground, the immediate perceptual experience is characterized by a shaping effect which emerges from the common border of the fields and which operates only on one field or operates more strongly on one than on the other.” The illusion reveals the deeper implications of human perception, specifically whether the viewer is attentive to figure (the vase) or ground (the faces). Although the picture does not change, the perception does.

McLuhan draws parallels between the work of Rubin and that of Sigmund Freud. The interplay of the subconscious and conscious, as figure and ground, forms the basis of Freudian psychology. As Marshall and Eric McLuhan note, “Freud had begun to explore the resonant figure/ground double-plot of the conscious and unconscious” (*Laws of*

Media 52). Logan recognizes the practical implication: "the ground is the environment in which the figure operates and its effects are subliminal" ("McLuhan's General Theory of Media" 26). That is to say, we are unaware of the perceptual changes induced by ground or our environment. Modern science attempts to discount the qualitative reality of ground, but as Rubin's vase demonstrates, perception plays an integral role in understanding the two-dimensional reality.

The notion of perception leads into the discipline of hermeneutics as an area of how understanding changes human perception. As Richard E. Palmer argues, hermeneutics is "a basic human activity of interpretation concerned with understanding the meaning of communications or life situations" (6). Palmer is careful to explicate what hermeneutics is not: pure science. Hermeneutics is not strictly the scientific application of understanding. Palmer states that "certainly the methods of scientific analysis can and should be applied to works, but in doing so the works are treated as silent, natural objects" (8). Although the scientific method is useful, it is not exclusive to hermeneutics; as Palmer indicates, "interpretation then is a complex and pervasive phenomenon" (9). In the final analysis, hermeneutics is a philosophical discipline of understanding human understanding. For McLuhan, the tetrad assists in this end.

Closely tied to hermeneutics is phenomenology, which presupposes that the objects of the world are understood by the user. Artifacts reveal meaning but within the personal perspective of the individual. They do so in a way akin to Rubin's vase—does the viewer see a vase or two faces? This idea captures the essence of phenomenology, "a rigorous philosophical description of how phenomena (i.e. anything from a mailbox to an imagined fairy) disclose themselves to us in their meaning" (Zimmermann 33). Though

seemingly complicated, “phenomenology is not quite so complex as phenomenologists have made it so seem” (McLuhan “Full Debate on Nature and Media”). Phenomenology for McLuhan is quite simply the idea that “behind every situation there is another situation that peeps through and that peeping through is phenomenology” (McLuhan “Full Debate on Nature and Media”). Like psychology, phenomenology embraces figure (situation) and ground (peeping through situation); as McLuhan argues, “I call it simply the medium is the message or the figure and ground” (“Full Debate on Nature and Media”).

Phenomenology played such a significant role in McLuhan’s thinking that he once considered a different name for his seminal work *Laws of Media*: *Phenomenology of the Medium*. In “Full Debate on Nature and Media,” McLuhan remarks that “my understanding media is phenomenology of the media. Using Gestalt psychology, McLuhan indicates that a phenomenological perspective is one in which “the ground comes through the figure or the figure comes through the ground. But it is that process of light through that is phenomenology” (“Full Debate on Nature and Media”). The significant point is that phenomenology determines the qualitative reality before the individual as a two-dimensional interplay of figure and ground.

The McLuhans cite the principal founder of phenomenology, Edmund Husserl (1859–1938), in their seminal work on media, *Laws of Media*. As Marshall and Eric McLuhan argue, “Edmund Husserl proposed a new strategy for philosophy, phenomenological philosophy, founded in a new technique—bracketing. ‘Absolute Being’ and ‘absolute experiences’ are the objective: whereas scientists pursue reflections in accordance with the ‘logic of experience’” (*Laws of Media* 60). Bracketing (epoche) is

a philosophical perspective that involves the setting aside of the real existence of a given object as figure, the first dimension. In *Cartesian Meditations,* Husserl refers to bracketing (epoche) as "this universal depriving of acceptance, this 'inhibiting' or 'putting out of play' of all positions taken toward the already given Objective world" (20). In essence, epoche involves the suspension of judgment regarding aspects of existence (Beyer). The connecting point to McLuhan is that judgments are figure and are set aside in an attempt to find ground.

Additionally, Marshall and Eric McLuhan cite Husserl's assistant and protégé, Martin Heidegger. In referring to Heidegger's famous notion of "enframing," the McLuhans remark that "Martin Heidegger has found a variation on the theme. For him, too, the actual is not a first consideration: actuality emerges from a 'standing reserve' of unrealized possibilities that were obscured or brushed aside by act" (*Laws of Media* 62). Here too we can see the essence of figure (first consideration) and ground (unrealized possibilities). In the editor's introduction to *The Question Concerning Technology*, William Lovett refers to enframing as "a mode of revealing, a destining of Being" (xxxiv). Heidegger himself refers to enframing as "the gathering together that belongs to that setting-upon which sets upon man and puts him in position to reveal the real, in the mode of ordering, as standing-reserve; Enframing is an ordaining of destining, as is every way of revealing; Enframing belongs within the destining of revealing" (24–25). Simply put, enframing, or the German word *Gestell*, refers to what lies hidden beneath the surface of technology. To say otherwise, enframing is the ground behind the figure, the second dimension.

Although Marshall and Eric fundamentally agrees with Heidegger's assessment that technology is fundamentally "enframing," a gap in Heidegger's understanding is highlighted:

> [T]here is in Heidegger still no sense of interplay between figure and ground; the attention has just been shifted from one to the other without trying to take the new thing on its own terms. That is, ground cannot be dealt with conceptually or abstractly: it is ceaselessly changing, dynamic, discontinuous and heterogeneous, a mosaic of intervals and contours. (McLuhan and E. McLuhan *Laws of Media* 63)

To say otherwise, Heidegger is one-dimensional but on the side of ground. In essence, the McLuhans are highlighting the failure of phenomenology as a one-dimensional study of ground. As McLuhan and Powers argue, "phenomenologists have engaged in an attempt to get at the hidden properties, or concealed effects, of language and technology alike," but "to do so they have tackled a right-hemisphere problem using left-hemisphere techniques and modes of cognition (*The Global Village* 6). For McLuhan, phenomenology fails in its one-dimensional nature. As McLuhan's transformation model reveals, communication is two-dimensional, or the interplay of figure and ground, and this dynamic is key to perceptual awareness.

Whether epoche or enframing, these "devices" fail as modes of understanding because they do not consider the interplay of figure and ground. They remain one-dimensional while discounting figure in an attempt to find ground. McLuhan's tetrad is quite different. It considers the interplay of figure and ground, that is to say, it is two-dimensional nature of media and communication. In the final analysis, the broader

conversation in psychology, phenomenology, and hermeneutics serves as a significant backdrop for understanding the two dimensional nature of McLuhan's transformation model of communication.

The Resonant Interval: Communication as Change

Perceptual change is at the core of McLuhan's transformation model. The tetrad is a tool for uncovering two-dimensional perceptual change. A cigarette, for example, enhances calm (figure); obsolesces loneliness (ground); reverses nervousness (figure); and retrieves the group (ground) (McLuhan and E. McLuhan *Laws of Media* 134). Change not only occurs within each quadrant as figure but also holistically as the interplay of figures and grounds. The changes are made more readily apparent by placing them in context with each other. Akin to clothing, the change in fashion (ground) reveals itself with the new garment as figure.

Change is at the heart of a transformation model of communication, and integral to understanding change is ground. That said, figure emerges from ground, and they are inextricably linked and cannot be separated as McLuhan argues. However, McLuhan's attentiveness to ground is in response to the lost aspect of ground in our modern age. McLuhan's ground approach to media studies is a continuation of the work of Harold Innis; as noted by McLuhan himself, "I am a student of Harold Innis and I am carrying on his work" ("Full Debate of Nature and Media"). McLuhan frames Innis in the gestalt mold of figure and ground; he remarks that "more and more I see the Innis approach as a gestalt figure-ground approach" (Gordon 308). For McLuhan, Innis was one of the few people to "recognize the ground or environment created by technologies as the area of change" (Gordon 308).

First published in 1951, Innis's *The Bias of Communication* explores the "ground effects" of media and the ability of society to maintain itself when new media are introduced. Innis states that

> we can perhaps assume that the use of a medium of communication over a long period will to some extent determine the character of knowledge to be communicated and suggest that its pervasive influence will eventually create a civilization in which life and flexibility will become exceedingly difficult to maintain and that the advantages of a new medium will become such as to lead to emergence of a new civilization. (34)

For example, as Innis argues, "the burst of Greek lyric poetry in the seventh century [BC] has been attributed to the spread of cheap papyrus," (7) while "printing brought renewed emphasis on the book and the rise of the Reformation" (31). Innis's statement captures the essence of McLuhan's work as rooted in the study of change as the interplay of figure (Reformation) and ground (printing). As McLuhan and Powers argue, "whenever two cultures, or two events, or two ideas are set in proximity to one another, an interplay takes place, a sort of magical change" (4). The change emerges in the invisible space between figure and ground as the resonant interval. The resonant interval will unfold throughout this chapter, but for now the idea of the resonant interval relates to change.

Change is at the core of a transformation approach to communication. Inspired by Innis, McLuhan argued in 1955 that "it is therefore, a simple maxim of communication study that any change in the means of communication will produce a chain of revolutionary consequences at every level of culture and politics" ("Communication and Communication Art"). Twenty years later, McLuhan echoed a similar sentiment in a

University of South Florida lecture in which he remarked that "my kind of study in communication is really a study of transformation . . . [M]y theory or concern is with what do these media do to the people who use them" ("Full Lecture Living in an Acoustic World"). Eric McLuhan brings forth the notion of change in 2015 with *The Sensus Communis*, stating that "if there is no change, there has been no communication" (113). Thus, change is the distinct characteristic of a transformation model.

In a visual format, the tetrad is a tool for uncovering change. The significance of recognizing and analyzing change is a preparedness to respond to future changes; akin to a market analyst, the business professional gathers data in an ever-changing marketplace. As Marshall and Eric McLuhan note, the tetrad is "an instrument for revealing and predicting the dynamics of situations and innovations (*Laws of Media* 105). In order to keep our humanity prepared, we must be aware of the profound changes media have upon our perception and, consequently, society. As McLuhan remarks, "we are always dumbfounded by—and unprepared for—the revolutionary environmental transformations induced by new media" ("Playboy Interview" 115). The tetrad acts as the market analyst who vigilantly attends to changing market conditions.

The tetrad as a holistic enterprise is about gaining control over the technology by holistically perceiving and understanding change, for, as McLuhan argues, "when these factors are ignored, they have an absolute power over the user" ("The Medium Is the Message"). Eric McLuhan remarks that "if you understand the nature of these forms [media] you can neutralize some of their adverse effects and foster some of their beneficent effects" ("Marshall McLuhan's Theory of Communication" 28). The tetrad

brings awareness by revealing the concrete impact that technologies have upon the human psyche, both positive and negative.

With the introduction of any new technology, something is gained and something is also lost. As McLuhan and Powers argue, the tetrad "helps us to see 'and both,' the positive and the negative results of the artifact" (18). The benefits of technologies tend to emerge as figure, while the costs tend to remain hidden as ground. The automatic garage door opener, for example, eases the burden of a long day of work by eliminating the need to get out of the car. However, with the convenience comes the cost of reduced in-person interactions with our neighbors. While the benefits are easy to recognize, the deleterious aspects are not as readily apparent. They remain hidden as ground. For McLuhan and Powers, the reason is partly attributable to technology, which "stresses and emphasizes some one function of man's senses; at the same time, other senses are dimmed down or temporarily obsolesced" (3). The book, for example, provides visual information. However, the loss of personal relationships is often missed, as the book provides a sort of convenience from the inefficiencies of in-person dialogue. A tetradic analysis reveals such consequences.

Borgmann adds a nuance to the cost/benefit analysis and reveals why we have an affinity for "benefits only." As Borgmann argues, new technologies and gadgets form the whole enterprise of the "device paradigm" or the technological world (40). The allure of the device paradigm, as Borgmann argues, is the promise "to bring the forces of nature and culture under control, to liberate us from misery and toil, and to enrich our lives" (157). In essence, the promise of ease accentuates benefits while simultaneously covering the negatives, yet the relief from toil comes at a cost as "people move away from

engagement" (Borgmann 77). The calculator, for example, "disburdens one of the intricacies of computation, it resists efforts at engagement," yet simple math becomes problematic through dependency on the device (Borgmann 112). That is to say, the newfound benefit of making math easy paradoxically makes math hard. From McLuhan's perspective, the calculator extends complicated math but obsolesces easy math—that is, the calculator amputates one's ability to do basic math.

Additionally, Borgmann argues that the "device paradigm" has the "tendency to destroy or displace things and practices that grace and orient our lives" (157). Modern forced air heating, for example, changed social interactions. Borgmann notes that the "wood-burning stove . . . used to furnish more than mere warmth. It was a focus, a hearth, a place that gathered the work and leisure of a family and gave the house a center" (41–42). The convenience distributed warmth while simultaneously fracturing the need for social relations in the form of family gatherings.

As a final point in emphasizing the profound effects of technology, thought and behaviors change because technologies disengage us from the activity itself. As Borgmann argues, "it is clear that the further technological liberation from the duress of daily life is only leading to more disengagement from skilled and bodily commerce with reality" (151). In the early 2000s, a barista at Starbucks retained a semblance of the art of coffee seventy years after the company was founded in 1931. A barista had to properly weigh and press coffee grinds in addition to gauging the rate of water, all in the artistic endeavor to make a good cup of coffee. The barista was a self-functioning entity of sorts, fully engaged in the artistic process of making coffee. With the addition of newer automations, the burden has been progressively eased to the point where the essence of a

barista has changed. Automation transformed the barista into a "button pusher." To Borgmann's point, although instant technology has liberated the barista from excessive toil, the artistic activity itself has been lost through disengagement because the "device paradigm" "will not make demands of commitment, discipline, or skill" (151).

To achieve the end of uncovering the holistic impact of technologies, the tetrad does not incorporate a quantitative gathering of market data but rather a qualitative use of imagination. Imagination, as one of the four internal faculties identified by Aristotle, is the "qualitative tool" by which the data is collected. As Aristotle remarks in *De Anima*, "the perceptions brought in by the five senses are first treated or worked upon by the faculty of imagination. . . . Hence, the mind never thinks without a mental picture" (210). The use of imagination is unscored in the following example by McLuhan et al.:

> [H]ow would being without a car affect your use of time? Would you have to get up earlier to get to school or catch a bus? Would you be more or less likely to eat breakfast? Would your other eating habits be affected? Consider how often you drive to a restaurant or drive-in, and how your shopping patterns might change, if you had to carry your groceries around in your lap or under your arm. (*City as Classroom* 122)

Questions probe the imagination and reveal implications.

The Figure: The Tetrad

The tetrad, holistically conceived, is a question—that is, an exploratory device for triggering the imagination and revealing change. The tetrad is a set of four laws that "reveal some of the subliminal and previously inaccessible aspects of technology. To the extent that these observations reveal the hidden effects of artefacts on our lives"

(McLuhan and E. McLuhan *Laws of Media* 109). As McLuhan biographer and editor W. Terrence Gordon indicates, the tetrad is a four-part visual representation of LOM (McLuhan and Watson *From Cliché To Archetype* x). The tetrad serves as a means of recognition by which one can see the transformative effects of media.

The tetrad identifies and clarifies the complexity of perceptual change. In effect, the tetrad moves the effects of media from ground to figure, that is to say, from "inattention" to "attention" (McLuhan and E. McLuhan *Laws of Media* 5). The tetrad reveals those effects that were once "the subliminal and previously inaccessible aspects of technology" (McLuhan and E. McLuhan *Laws of Media* 109). Marshall and Eric McLuhan consider the tetrad "the New Science approach," which is "the ground of users and of environmental media effects" (*Laws of Media* 85). As the McLuhans argue, tetradic analysis reveals "the hidden effects of artefacts of our lives, they are endeavors of art, bridging the worlds of biology and technology. . . . Our laws of media are intended to provide a ready means of identifying the properties of and actions exerted upon ourselves by our technologies and media and artefacts" (*Laws of Media* 98, 109). In contrast the "Western Old Science approaches the study of media in terms of linear sequential transportation of data as detached figures (content). . . . [I]t is a science of content and of messages only" (McLuhan and E. McLuhan *Laws of Media* 3–4, 85). The one-dimensional approach remains focused on the "linear pattern of efficient cause," while the two-dimensional approach of the tetrad remains attentive to figure and ground as a simultaneous matter (McLuhan and E. McLuhan *Laws of Media* 87).

Origins: McLuhan and Venable

In 1975, McLuhan first introduced the tetrad to the scholarly community in the form of a letter to the editor in *Technology and Culture*, the preeminent journal on the history of technology. In "McLuhan's Laws of the Media," McLuhan's self-described purpose was "to invite criticism, directed not at me or at my rhetoric, but rather at the substance and contents of my thoughts" (74). It is here that McLuhan was "experimenting with developing a series of 'Laws of the Media,' which I submit herewith for comment and discussion by readers of *Technology and Culture*" ("McLuhan's Laws of the Media" 74). McLuhan issued a simple challenge to the reader: "disprove my laws" ("McLuhan's Laws of the Media" 74).

The subtext of this statement captures a deeper reveal. McLuhan is attending to a specific audience: the scientific community and their predisposition for a "scientific hypothesis" ("McLuhan's Laws of the Media" 74). McLuhan intentionally put his LOM "in a 'disprovable' form, hoping that in the course of disproving each of them, many new discoveries might occur" ("McLuhan's Laws of the Media" 74). As McLuhan describes, "although I have used the simultaneous [synchrony] approach in arriving at these Laws of the Media, any one of them is susceptible to the diachronic approach for filling in the historical background and details" ("McLuhan's Laws of the Media" 74). That is to say, his LOM operate simultaneously within the context of each other; however, each law can be considered diachronically on its own terms. McLuhan appears to anticipate a diachronic response from his scientific audience as he states, "even if the readers of *Technology and Culture* might not agree with my underlying structure . . . I hope they will examine these sample apothegms for their validity on a historical basis" (McLuhan

"McLuhan's Laws of the Media" 75). In his first rendition, McLuhan offers fifteen tetrads, "Cable TV, Housing, Elevator, Clothing, Number, Steamboat, Railway, Copernican revolution, Xerox, Microphone, Money, The wheel, Printing, Instant replay, Satellite, and Electric media" (McLuhan "McLuhan's Laws of the Media" 75–78).

The publication contains recognizable key terms from *Laws of Media* (1988): "amplifies," "obsolesces," "retrieves," and "reversal" (McLuhan "McLuhan's Laws of the Media" 75), but McLuhan had yet to place the laws in question format and engage the human imagination. The significance of engaging the imagination runs counter to theoretical analysis and unfolds a broader purview. However, in the 1975 publication, McLuhan simply states the four laws in non-question format, for example, "apothegms . . . printing"

> A. Amplification of private, individual handicraft via mechanization.
>
> B. Oral tradition, also handicrafts and guilds.
>
> C. Retrieves antiquity, for example, the first Copernican revolution via Pythagoras.
>
> D. Flips from private writing to corporate consumption, into the big mechanized environment (reading public and worker) of the second Copernican revolution, and the interiorization of the external world via Kantian revolt against Hume, and flip into Romanticism and subjectivism. (McLuhan "McLuhan's Laws of the Media" 75, 77)

In essence, McLuhan is revealing and describing the structural changes to society. Printing had divided a shared community of knowledge into individual repositories or "packets," which paradoxically afforded or retrieved the ability to document and study

history itself. All of this was made possible through corporate publishers who widely disseminated the knowledge in visual form: books.

McLuhan received scant attention from the scholarly community, and the primary rebuttal came from a professional engineer and practicing attorney, William Henry Venable. Venable structured his response by critiquing McLuhan's use of the terms "media" and "laws." Venable's disagreement was issued in 1976 in *Technology and Culture* as "Flaws in McLuhan's Laws." In his response, Venable states, "The title of McLuhan's communication, 'Laws of the Media,' evokes comment of the key words 'laws' and 'media'" (256). Regarding "laws," Venable remarks, "I here suggest that its legal meaning (rules of behavior declared by a sovereign state) and its conventional meaning in science (a diagram experimentally confirmed to correspond to the pattern of some observed phenomenon should not be overlooked" (256). That is to say, Venable understands laws as observable rules that govern phenomena, like the law of gravity governing an object falling to the ground or the laws of the state governing the speed of traffic.

Yet, laws cannot be understood outside of an interpretive context. That is, an object falls on Earth but not on the moon. Minimum speed laws apply under normal driving conditions but not in inclement weather. These examples underscore the broader significance of understanding McLuhan's work through the lens of interpretive context. As the discussion on psychology, hermeneutics, and phenomenology reveals, human perception is at the center of observing laws and plays an integral role in understanding laws themselves. As with Rubin's vase, it is not the picture itself that determines realty but rather the observer. The idea of perception is an important framework by which to

understand the distinction between Venable and McLuhan. However, an important point needs to be reemphasized. Where phenomenologists err on the side of ground, Venable errs on the side of figure. McLuhan emphases ground, yet understands the importance of figure and the interplay of both in a way akin to Aristotle's golden mean: understanding unfolds in the middle, that is to say, the resonant interval.

McLuhan considers "laws" as perceptual, not scientific, and thus within the realm of psychology, hermeneutics, and phenomenology. McLuhan calls them "laws" because they represent, as do scientific laws, "an ordering of thought and experience" ("McLuhan's Laws of The Media" 75). As McLuhan argues, "the propositional function [left hemisphere] is naturally 'conceptual,' whereas the appositional [right hemisphere] is 'perceptual'" ("Figures and Grounds in Linguistic Criticism" 457). Whereas the modern scientific mind thinks in terms of concepts and theories as verifiable through experimentation, McLuhan "assumes that, in general, that which is perceived can be taken for granted as true" (Wachs *The New Science* 34). If the viewer sees a vase or two faces, the perceptual recognition is verifiable through testimony. Thus, as Wachs argues, "laws are perceptual, not theoretical" (*The New Science* 34). Or to say otherwise, McLuhan sees laws as subjective and perceptual in contrast to Venable's objective and conceptual framework.

The second point of disagreement arises over the understanding of "media." Venable argues that "this suggests that 'experience' and 'thoughts' are conceived as 'products' of the media, instead of media being merely one of the many products of these. I am of the latter opinion" (257). Here Venable acknowledges McLuhan's position that media structure thoughts, yet he forthrightly disagrees with this position and instead

argues in the reverse. Venable contends that thoughts conceive of products (media) akin to an inventor conceiving of a new idea. However, Venable's one-dimensional figure oriented theory misses McLuhan's two-dimensional figure and ground perspective. Yes, human thought does indeed make technologies possible, but technologies, in turn, restructure the thought that gave rise to them; as noted with the phonetic alphabet and the Gutenberg press, the technologies fractured social relations and gave rise to the individual thinker. These examples demonstrate the power of media. For McLuhan, media form "a larger entity of information and perception which forms our thoughts, structures our experience, and determines our views of the world about us" ("McLuhan's Laws of the Media" 74). McLuhan's statement is significant because it reveals his two-dimensional view of media: man makes media and media makes man. Wachs acknowledges the second dimension that Venable misses, that all media "structure the worldview and human understanding" (*The New Science* 34).

Venable's critique of McLuhan's tetrads captures the essence of his one-dimensional conception, which remains attentive to figure only, as juxtaposed with McLuhan's two-dimensional perception, which remains attentive to the interplay of figure and ground. In his first assessment, Venable's one-dimensional perspective is evident in his acute analysis of McLuhan's tetrad on the Xerox machine. Operating from "the left-hemisphere paradigm of quantitative measurement and precision," (McLuhan and Powers 21) Venable states, "I question the correctness of the statement that 'speeds up' the printing process" ("Flaws in McLuhan's Laws" 257). Venable continues, stating that "an eight-color, web-fold rotary press turns out up to 20,000 copies per hour, including cutting and folding. . . . [N]one of the photochemical machines I have seen can

approach this output speed" (259). Here, Venable attends to the media as functioning according to the "law of speed" (259). Within McLuhan's tetrad, Venable is searching for a verifiability of the media functioning "according to a law of speed" and misses the second dimension of media functioning as laws themselves. The Xerox, as McLuhan argues, "retrieves the oral tradition, the committee" ("McLuhan's Laws of the Media" 76). That is to say, the Xerox prompts everyone to literally be on the same page and discuss the subject matter. This is a significant point is that media function "as laws" and exact perceptual and behavioral change.

Venable's second critique of McLuhan's tetrad underscores this fundamental point that media not only act according to laws but, more significantly, as laws. Venable's is one-dimensional and figure-based perspective is revealed in the following statement,

> it so happens that the history of sinking and lining mine shafts was the subject of a paper I presented at the History of Science Congress in Poland; second, because "Elevator" has a special media status and contemporary science as a representation for explaining Einstein's "principle of equivalence." (260–61)

Venable's attentiveness to verifiability misses the ground perspective of the elevator itself as a medium and a law that changes how mining is done. McLuhan is not concerned with the narrow perspective of how the elevator functions within its own domain according to Einstein's principle of equivalence; rather, McLuhan is concerned with how the elevator, as a medium, functions as a law that governs how miners perceive and "do" mining.

The previous analysis is an important evidentiary hearing, as it were, that reveals that media act two-dimensionally according to laws and, more significantly, as laws. In the realm of communication, media are not strictly figure transmitting information; rather, media are ground transforming the perceptions of the user. That is to say, media are not static entities that, once created, remain neutral; rather, media are active entities that, once created, function as laws that govern thought and behavior. From McLuhan's perspective, the user becomes the content of the medium, and the medium fundamentally transforms the user.

All media fundamentally alter human thought and action. The clock, for example, as McLuhan argues, "transform tasks and create new work and wealth by accelerating the pace of human association . . . [C]locks increase the sheer quantity of human exchange" (*Understanding Media* 209). The clock "captured" the user and kept him on task not only in work but also in "eating and sleeping," as man "came to accommodate themselves to the clock" (*Understanding Media* 199). Such shifts in behavior are empirically observable. Thus, McLuhan's transformation model is essentially a two-dimensional study of perceptual change.

McLuhan's tetrad places the user at the center of the perceptual analysis—that is, the user analyzes a given artifact from his personal purview. As McLuhan argues, his intent is to reveal the impact of media on "you personally" (McLuhan "The Medium Is the Message"). These observations underscore the broader point of the tetrad as a revealer of perceptual change from the personal purview of the user.

McLuhan responded to Venable in 1976 with "Misunderstanding the Media's Laws," published in *Technology and Culture*. McLuhan's response captures the essence

of the disagreement of both men having vastly different understandings of the nature and functioning of media. In his brief response, McLuhan states that "Mr. Venable's response to my 'Laws of the Media' is typical of the difficulties people have with my writings. That is, there is no disagreement between Venable and me; there is simply no point of contact whatever" ("Misunderstanding the Media's Laws" 263). Venable is attentive to the one-dimensional nature of how media function according to laws (figure), while McLuhan is attentive to the two-dimensional nature of how media function "as laws" (figure and ground).

McLuhan's two-dimensional perspective is right hemisphere oriented. When Venable asks questions like, *Can the Xerox produce X number of copies per second?* or *Can the elevator operate according to the "principle of equivalence"?*, he is thinking from the left hemisphere, figure only. However, McLuhan thinks two-dimensionally "because I am using the right hemisphere when they are trying to use the left hemisphere"; thus, he is attentive to figure and ground (McLuhan "The Medium Is the Message"). Although he hoped for his scientific audience to understand his acoustic right hemisphere perspective more fully, McLuhan anticipated a one-dimensional response of Venable; as he self-admittingly acknowledges, "I appear to be the only person who knows why Western man played up these assumptions about his immunity to environmental influence . . . [T]here is a uniform response of hostility to any study of psychic effects of technology" ("Misunderstanding the Media's Laws" 263). The disagreement between Venable and McLuhan underscores the broader and significant point that a visual form of consciousness struggles to understand the oral. Thus, a modern logical perspective finds McLuhan's work incomprehensible.

The fullness of McLuhan's tetrad is reflected in his final work, *Laws of Media*, published posthumously by his son Eric. The work unfolds the tetrad as rooted in a qualitative right hemisphere orientation that seeks "simultaneous comprehension" or "abstract patterns" (McLuhan and E. McLuhan *Laws of Media* 68). The tetrad reveals effects "we are unconscious of" and serves as "an instrument for revealing and predicting the dynamics of situations and innovations" (McLuhan and Powers 4; McLuhan and E. McLuhan *Laws of Media* 105). The tetrad enables the user to "predict the effects of any new device or technique before they actually appear in time and experience" (McLuhan and E. McLuhan *Laws of Media* 8). That is to say, the tetrad prompts the user to imagine how technologies change society, as McLuhan scholar Corey Anton argues, "technologies have not simply added something to the human world; they have changed both it and us" (*Communication Uncovered* 78). The significance of the tetrad, like Husserl's "enframing" and Heidegger's "bracketing," reveals a deeper understanding of our humanity. However, the tetrad offers a fuller picture, unlike the one-dimensional nature of Venable's "figure only" or phenomenology's "ground only" perspective. McLuhan's tetrad offers a two-dimensional view of all media.

The Two-Dimensional Form of the Tetrad: The Metaphor Is the Message

McLuhan's LOM are two-dimensional in form. The tetrad is a visual representation of an acoustic perspective of reality. That is to say, the tetrad is a right hemisphere perspective of figure and ground translated into a left hemisphere perspective of figure only. As McLuhan argues, "the right hemisphere is the gestalt side of the brain. The figure and ground side. The left hemisphere is the figure without ground" ("Full Debate on Nature and Media"). Unless the user is keenly aware of this fact, confusion is

understandable. As McLuhan scholar Robert K. Logan remarks, “in pursuing his scholarship McLuhan operated more out of the acoustic space of the oral tradition rather than the traditional literary visual space” (*McLuhan Misunderstood* 64). Paradoxically, for McLuhan to reveal his two-dimensional perspective, he had to use the popular medium of his time, one-dimensional print.

Print as a one-dimensional medium or a left hemisphere figure representation affords wide-scale distribution and is commonly accepted amongst the scholarly community. Thus, the challenge for McLuhan was to make his acoustic figure and ground perspective understandable in a one-dimensional medium. It is reasonable to understand Venable’s confusion and misunderstanding, for McLuhan’s task is daunting; he is asking his readers to understand a two-dimensional perspective in one-dimensional form. McLuhan self-admittingly reveals the challenge, as the “Western world has historically been dominated by the left hemisphere,” (“The Table Talk of Marshal McLuhan” 4) and as a consequence, “the visual form of consciousness developed, it struggled to understand the oral” (Wachs *The New Science* 24).

The two-dimensional nature of McLuhan’s LOM can be more fully understood in terms of metaphor. As Grosswiler argues, “McLuhan tied this tetradic unit to metaphor in what he called the discovery that all extensions are metaphoric in structure” (*Method Is the Message* 77–78). For Marshall and Eric McLuhan, “a metaphor is a technique of presenting or of observing one situation in terms of another situation. It is a technique of awareness, of perception (right hemisphere) not of concepts (left hemisphere)” (*Laws of Media* 120). As McLuhan himself states, “they [LOM] are a four-part metaphor. A is to B as C is to D. They are in ratio” (“Full Debate on Nature and Media”). Understandably,

the Western world tends to take the tetrad literally, when, in fact, McLuhan's tetrad is a figurative representation of orality. Not only is the tetrad a way to convey an acoustic right hemisphere perspective to a visual left hemisphere world, but also the tetrad itself is a metaphor. That is to say, as an extension, the tetrad is not to be taken literally, but rather figuratively and integrally tied to perception.

The idea of metaphor connects to the bicameral mind. As McLuhan argues, "the left hemisphere is scientific because it's quantifiable. The right hemisphere is metaphoric because you cannot quantify it" ("Full Debate on Nature and Media"). Venable's scientific perspective attempts to quantify results, whereas McLuhan's artistic perspective attempts to qualify results. McLuhan's right hemisphere perspective captures the "gestalt side of the brain . . . the figure/ground side," in contrast to Venable's left hemisphere perspective, which attends to "figure without ground" (McLuhan "Full Debate on Nature and Media"). The significance is that a right hemisphere perspective captures the whole of perceptual reality, both figure and ground, whereas the left hemisphere perspective captures figure only and loses the importance of context.

In the final analysis, McLuhan has the herculean task of conveying an "irrational" perspective to a rational world. The left hemisphere is literal, scientific, and static, while the right hemisphere is figurative, artistic, and dynamic. As Logan remarks, "the right hemisphere is the locus of the artistic, intuitive, spiritual, holistic, simultaneous, discontinuous or creative side of our personalities, whereas the left hemisphere controls the lineal, visual, logical, analytic, mathematical, and verbal activities of our psyche" ("McLuhan's General Theory of Media" 57). These two different "centers of thinking" reveal the difference as to the nature of media function according to laws or as laws. Such

an analysis reveals profound implications. If the former is true, we are static beings functioning according to laws like robots. We do not change in as much as we respond. However, we are not robots. We are beings with an intellect and a will; thus, through awareness, we manage the impact of technology and avoid being determined by them. It is through awareness that we exercise our humanity.

The Visual Nature of the Tetrad

As noted, the tetrad itself is two-dimensional in that it reveals an acoustic perspective, albeit in a one-dimensional, visual form. The following section considers the evolution of the visual form by contemplating the tetrad's evolution from its textual roots to its hybrid form of text and "shape." The ongoing change in form paradoxically represents a broader metaphor of the tetrad not only as a revealer of change but change itself. The following analysis provides a glimpse of the tetrad's evolution.

In *The New Science of Communication,* Wachs identifies three primary forms for visualizing the tetrad (36–37). The first iteration was showcased in McLuhan's letter to the editor of *Technology and Culture* titled "McLuhan's Laws of the Media." Here, McLuhan offers his first visual representation. As Wachs argues, each of the sixteen examples provides "textual visualizations of the tetrad" in list-type order: A, B, C, D (*The New Science* 36). The textual visualization is as follows:

X. Microphone—P.A. System

A. Amplifies individual speech and rhythm.

B. Obsolesces the big band, the Latin Mass, grand opera.

C. Retrieves group participation

D. Flips from private to corporate sound-bubble

(McLuhan "McLuhan's Laws of the Media" 77)

As noted in the debate between Venable and McLuhan, McLuhan used this textual representation as a means to solicit feedback and "get a dialogue going, from which we might all profit greatly" ("McLuhan's Laws of the Media" 75).

The second appearance of the textual form was in McLuhan and Power's *The Global Village*. In their "Tetradic Glossary," McLuhan and Powers cite forty-five examples related to media in its tangible and intangible form. The examples retain the textual form from "McLuhan's Laws of the Media":

The Wheel

(A) Accentuates locomotion

(B) Obsolesces sled, roller, greased skids, etc.

(C) Retrieves roads as rivers (moving sidewalk), skis, snowmobiles

(D) Reverses into airplane, via bicycle

(*The Global Village* 172)

Perspective

(A) Enhances private point of view

(B) Obsolesces panoramic scanning

(C) Retrieves specialism

(D) Reverses into cubism, multi-view

(*The Global Village* 169).

However, McLuhan and Powers add an additional form to the textual representation. The new form came as a "shape," or three-dimensional ribbon in an "X"-type pattern

(McLuhan and Powers 116). As Wachs argues, this image is significant because it represents "the continuous process of transformation of all media" (*The New Science* 36). Moreover, the shape represents the acoustic nature of the tetrad as being simultaneous. As McLuhan and Powers argue, "The tetrad is configurational—a viewing of all sense processes abrading one another. Being configurational, it may be seen in its multi-dimensional character as acoustic" (44). That is to say, the shape represents orality with the wholistic enterprise of all senses functioning continuously and simultaneously with each other before the phonetic alphabet fractured the senses and reduced perception to a visual space.

The third visualization appears in *Laws of Media* as Marshall and Eric McLuhan retain the textual and shape forms with slight variations to both. The significant change here is that the textualizations were posed as questions not statements. This is a small yet profound matter. Questions are integral to an acoustic perspective that is rooted in dialogue. Moreover, questions serve to engage the imagination, involve the user, and foster awareness. As Plato argues, education is not about putting sight in the blind but turning one rightly to see as he ought (*The Republic* 197). The tetrad fulfills the Platonic mission by prompting awareness. For example, Marshall and Eric McLuhan state the following:

> What does it enhance or intensify?
>
> What does it render obsolete or displace?
>
> What does it retrieve that was previously obsolesced?
>
> What does it produce or become when pressed to an extreme?
>
> (*Laws of Media* 105)

The final point of significance is that questions engage the right hemisphere and activate the artistic spirit of probing. That is, questions break the purely logical left hemisphere perspective and make room for a right hemisphere analogical viewpoint.

With regard to "shape," Marshall and Eric McLuhan add a new quadrant form. They retain the positionality of the four corners of the ribbon, yet configure the tetrad in quadrants or "appositional, poetic" form (*Laws of Media* 129). Like the ribbon, the quadrant emphasizes that the "four laws are considered simultaneously, as a cluster" (McLuhan and E. McLuhan *Laws of Media* 105). In quadrant form, the top left is the law of "enhances (figure)"; the bottom right is "obsolesces (ground)"; the top right is "reverses (figure)"; and the bottom right of the quadrant is "retrieves (ground)" (McLuhan and E. McLuhan *Laws of Media* 129). Interestingly, on a novel level, the idea of quadrants may have originated in *The Global Village* with McLuhan and Powers's representation of Saussure's "Simultaneities/Successions" in quadrant form (48, 50). On a more practical level, McLuhan and McLuhan note that the escape from the linear list form is "to minimize clutter and make the proportional relations between the laws easier to see" (McLuhan and E. McLuhan *Laws of Media* 129).

New Form: The Resonant Interval and Perception

The changing nature of the tetrad represents the broader nature of the tetrad not only as a revealer of change but also as change itself. In the editor's introduction to "Laws of the Media," Levinson notes, "yet the very scope and flexibility of McLuhan's design underscores its need for further refinement" (321). In the spirit of change, this project proposes a new "shape" form. The third "shape" form attempts to build upon the existing "ribbon" and "quadrant" by incorporating a critical aspect thus far missed, the

resonant interval. The resonant interval is integral to the tetrad and needs to be introduced and emphasized. Before proposing the third "shape," an explication of the resonant interval is in order.

The idea of the "resonating interval" was first introduced in "McLuhan's Laws of the Media" in 1975 and later more fully developed by McLuhan and Powers in *The Global Village* over twenty-five years later. In "McLuhan's Laws of the Media," McLuhan states, "that is, the law of a medium is a figure interplaying with the ground. As with a wheel and axle, there must be an interval between the two and order for the play to exist" (75). In *The Global Village*, McLuhan and Powers argue that there is confusion, for "most psychologists still assume that both figure and ground are visual components in visual situations," when, in fact, "they form an iconic or tactile relationship, defined by the resonant interval between them" (22–23). The idea of the resonant interval is that two separate "material things" operate within tactile space of touch (McLuhan "Full Debate on Nature and Media"). To exemplify, as McLuhan argues,

> tactile space is the space of the interval. When you touch something, you create and interval, not a connection. If there were any connection between your finger and what you touch you would not have a finger. A resonant interval is touch. There is no connection in matter. There are no connections between molecules and electrons. There are only interfaces and resonating intervals. ("Full Debate on Nature and Media")

The resonant interval is the "touchpoint" between figure and ground. For example, the figure of extension touches the ground of obsolescence at the resonant interval. The significance is that this is the point of perceptual change.

The third "shape" form attempts to capture the tactile space using a figure eight. The point at which the upper "o" touches the lower "o" is the resonant interval or touchpoint between figure and ground. Akin to a tire touching the road, there is a continual state of interplay between the figure of the tire and the ground of the road. As McLuhan and Powers argue, figure and ground "are in a continual state of abrasive interplay, with an outline or boundary or interval between them that serves to define both simultaneously" (5). McLuhan and Powers frame this idea in terms of "play," as that which "literally constitutes the basis of human communication since human beings do not match ideas so much as reinterpret them" (13). The statement underscores the significance of communication as change. It is here, at the resonant interval, where change happens. Therefore, the third "shape" form attempts to convey this significance.

With a figure eight, the upper left half of the "o" as figure touches the ground of the bottom "o." The center point is the area of interaction and is significant for human communication as the perceptual center of understanding. For example, in a tetradic analysis, the tire as an artifact enhances (figure) comfort as it obsolesces (ground) the rickety wagon wheel. It reverses (figure) breaks in travel as it retrieves (ground) endurance or long-distance excursion. The driver of the wagon has a completely new outlook on travel. The significance is that communication has occurred. This is a significant departure from thinking of communication as the transfer of information. By putting figure in relation to ground, perceptual changes are revealed. This center of awareness can be thought of in terms of a communicative center where change is revealed to the user.

Applied to a modern circumstance, gambling is a popular means for excitement. Slot machines, in particular, are the most popular gambling medium, creating approximately 70% of the average casino's income (Cooper "Sit and Spin"). A tetradic analysis uncovers why the medium is so addictive, aside from the standard experience of euphoric numbness. The slot machine serves as an extension of the central nervous system, particularly tactility. Like the myth of Narcissus, the slot machine creates "closure" and drugs the user into subconsciously perceiving the machine as a substitute for another person. A tetradic analysis reveals that the slot machine enhances touch while it obsolesces loneliness, that is, missing touch. It reverses into an android (machine for person) while retrieving affection (lost touch). The point is not in the novel example but rather in the self-awareness induced, by the tetrad, through the interplay of figure and ground. The tetrad reveals a new outlook on the machine as a viable substitute for an in-person relationship.

Conclusion

The significance of this chapter is to bring an awareness to the profound impact of media. With new technologies, we do not just tame an outside world—we change the essence of the inner world of who we are. A tetradic analysis serves the noble purpose of bringing an awareness to the two-dimensional aspect of media. A tetradic analysis reveals that with the introduction of any artifact, we not only change an outside world materially, but also an inside world perceptually. As McLuhan and Fiore argue, "media, by altering the environment, evoke in us unique ratios of sense perceptions. The extension of any one sense alters the way we think and act—the way we perceive the world. When these ratios change, men change" (*The Medium Is the Massage* 41).

The significance of a transformation approach to communication lies in an awareness that media not only act according to laws but also as laws themselves, hence perceptual change. This chapter emphasizes the two-dimensional perspective on communication and analyzes how figure (media) act as ground by changing perception. The tetradic analysis breaks the one-dimensional, figure-only approach of Western theories of communication and considers technology not as a "dumb force" but rather a "perceiving all four-fold processes in operation," thus making conscious "their overall effects" (McLuhan and Powers 4). This chapter reveals that communication occurs on the perceptual level. Mark Twain once said that "to a man with a hammer, everything looks like a nail." Media affect how we think; thus, we should be well aware of our altered perceptual state.

The significance for communication studies is to recognize that changes in media result in changes in perception and how we view the other. In our digital age, we are replicas living in an environment of digital selves who are treated quite differently than in an environment of real selves. With digital communication, we perceive the other as something to be viewed and consumed as pleasurable. When the image does not please, the digital replica becomes less valuable. By recognizing that these shifts in communication fundamentally alter human relationships, we can balance our mediated communication with real communication, that is, person-to-person communication. After all, the spirit of McLuhan is rooted in an acoustic orientation or oral communication with real human beings.

Chapter 4: The Medium Makes the Message—Understanding Formal Causality as the Second Dimension of Communication

> The entire order of existence and change becomes unintelligible if formal causality is banished from the center of study and awareness.
>
> —Marshall McLuhan (*Letters* 259)

All media fundamentally transform perception and behavior. In 1978, this sentiment is captured by McLuhan as he quite prophetically describes the essence of YouTube and social media before its time. As McLuhan argues, "on all electronic media, the sender is sent. That is the message. You are the message. They [electronic media] send you. The person who is sent is a nobody" ("Full Debate on Nature and Media"). With modern digital media, the self itself becomes the message. Digital relationships form a network of interacting selves garnering attention through self-promotion. The more appealing the "you," the more appealing the message. "Likes" and other affirmations provide a positive feedback loop to determine one's value on a digital platform akin to Lacie in *Black Mirror*, a British dystopia science fiction television series.

In the "Nosedive" episode, Lacie interacts in a world where everyone can rate their interactions on a scale from one to five. Lacie, the main character, seeks to increase her 4.2 rating to 4.5 to get a discount on a luxury apartment. Throughout the episode, Lacie attempts to increase her ranking through self-promotion. As such, interactions are viewed as self-serving, superficial, and to be quantified for one's own end. The episode underscores McLuhan's aphorism "the medium is the message" and captures the essence

that the true message lies in behavioral change driven by the medium. This chapter unfolds a deeper understand of media effects and the connection with formal causality.

Communication is not a one-dimensional endeavor of transmitting information. The modern view of communication considers communication as such, that is, message distribution. According to the linear perspective, a communicative technology such as the smartphone serves as message transmitter. However, the transportation model misses the second dimension of altered perception. In Lacie's case, digital media shifted her perspective to that of "positive rankings." The second dimension is integral to understanding the whole of communication not merely as message transmittal, but rather as "message" transformation. A smartphone not only transmits content, but also transforms the user into a message to be "liked." The significance is recognizing the power of media to transform.

This chapter connects the broader environment with formal causality. The reason why formal causality needs to be explicitly studied is because formal causality works on the subconscious level and therefore needs to be brought to an area of awareness; as Marshall and Eric McLuhan argue, "formal causes are hidden" (*Media and Formal Cause* 130). As analyzed in Chapter 3, the tetrad serves a tool of awareness for uncovering the hidden environment, ground, or to say otherwise, formal cause. Like Lacie's behavior, her actions are hidden from her own purview until a series of crises forced her to self-reflect and understand the implications of digital media. The tetrad acts as a crisis of sorts, prompting a recognition of formal causality through perceptual and behavioral alterations. By uncovering formal causality, we bring our behaviors into focus

and understand why we do what we do. To unfold the nature of formal causality, the chapter is divided into five major sections.

In Mediation, the concept of mediation is introduced and examined. Mediation is made possible through technology. Technologies act as intermediaries between the sender and receiver; through the "hand-off," alterations to perception occur. The section transitions to The Medium Is the Message and emphasizes the power of media in altering perceptions through the mediation process. The section unfolds two understandings of McLuhan's famous aphorism "the medium is the message" as figure and ground. As figure, the medium alters the message as content. As ground, the medium forms environments in which the user becomes the "altered message." Media as Extensions answers the question of why media are so powerful. Media are not merely creations of mankind but rather extensions of our mind and body. An Overheated Artifact synthesizes the ideas from the previous two sections and provides two philosophical examples of "powerful media" as extensions through an analysis of McLuhan's "hot" and "cool" media. The Human Sensorium addresses how media alter perception by forming new sense ratios between the external and internal senses. Finally, Formal Causality steps back from the progressively detailed analysis and considers formal causality from two perspectives, figure and ground. In both instances, the metaphor of change emerges.

McLuhan's interest in causality was partly driven by his interest in symbolism. The late nineteenth-century art movement of French, Russian, and Belgian origin in poetry and other arts sought to convey absolute truths symbolically through metaphorical images. Edgar Allen Poe serves as notable symbolist poet; as McLuhan remarks, "my own approach to change is to start with the effects, an approach which I picked up from

Edgar Allen Poe" (Gordon 431). As McLuhan describes, "symbolism initiated the technique of separating effects from causes, studying the effects in order to learn the causes" (Gordon 429). McLuhan attributes the technique to the early work of "Ovid's Metamorphoses, and necessarily the technique of Darwin's origins of species. Darwin seems to have used the same number of books as Ovid and probably was as conscious of using Ovid as Joyce was in his Dubliners" (Gordon 429–30). Symbolism serves as ground for understanding formal causality as effects; as McLuhan notes, "the philosophical term for the study of effects is formal causality" (Gordon 429). The study of formal causality begins with an understanding of mediation.

Mediation

The concept of mediation arises through technologies. From McLuhan's perspective in the context of communication studies, prior to the phonetic alphabet, there was no mediation, although it must be noted that language itself is a form of mediation in that the word as matter possesses a form of meaning imposed upon it by convention. That said, in orality there was no communicative technology to convey the message other than the oral/aural exchange. In a primarily oral culture, people existed and communicated in a natural state using all sense functions. The phonetic alphabet changed all that and experiences became mediated. The phonetic alphabet invented by Phoenician businessmen circa 650 BC rendered the external sense functions of sight, sound, taste, and touch as secondary to sight or as McLuhan argues, the phonetic alphabet primarily transformed sound into vision, as the technology "gave him [tribal man] an eye for an ear" ("Playboy Interview" 109). This section unfolds an understanding of mediation as a

first step in understanding formal causality because without mediation, there is no change in perception.

The phonetic alphabet, as the first major communicative technology, fragmented thought from being. In pre-phonetic societies, thinking and being were one. People lacked the ability to think outside the "communal being." As Innis argues, "the cosmos was dynamics of existence. Being was a perpetual becoming" (111). However, with the advent of the phonetic alphabet, thinking was separated from being. Individual perspectives arose, and the cosmos was split between thinking and being, which can be considered the precursor to Cartesian dualism.

Ong terms the pre-alphabetic condition as "primary orality" (*Orality and Literacy* 100). In primary orality, the mind processed things as "part of a real, existential present" (Ong *Orality and Literacy* 100). Life was interrelated, and "things" were integral to a greater whole. Even words, as Ong argues, stood in relation to something greater—"spoken words are always modifications of a total situation" (Ong *Orality and Literacy* 100). "Circles, squares," for example, were not considered as abstract geometric shapes, but rather as concrete objects: "a plate, sieve, bucket" (Ong *Orality and Literacy* 50). In other words, perfect circles and squares do not exist in nature, only in "thinking" separated from being.

In contrast, Ong frames the post-alphabetic condition as "secondary orality" or "new orality," where experiences are mediated through technologies such as the "telephone, radio, television, and other electronic devices that depend for their existence and functioning on writing and print" (*Orality and Literacy* 11). As Ong remarks, the alphabet "freed the mind for more original, more abstract thought" (*Orality and Literacy*

24). In essence, the phonetic alphabet gave rise to "conceptual thinking" and an attentiveness "to the individual object" as figure (Ong *Orality and Literacy* 49). Thus, real objects such as the "moon" are viewed as "geometrical figures by categorical geometric names: circles, squares, triangles, and so on" (Ong *Orality and Literacy* 50–51). In essence, the phonetic alphabet was the first step in developing the logical mind as mediated or separated from being.

For McLuhan and Ong, the logical mind and "conceptual thinking" began with the mediated experience of the phonetic alphabet. The phonetic alphabet gave rise to "logic" by filtering out ground or context; as McLuhan argues, "logic is figure without a ground" ("Full Debate on Nature and Media"). McLuhan's acoustic approach in contrast is an attempt to recover ground and unify it with figure. This is achieved primarily through analogic reasoning and the interrelatedness of an object with its context. For example, the moon cannot be understood without its context of providing direction for early travelers. McLuhan's approach to media studies attempts to heal the divide between "thinking" and "being" through the spirit of mimetic unity of figure and ground relationships.

As argued, McLuhan's preferred method of study is probing. Probing is a return to orality in the sense of the simultaneous comprehension. As McLuhan and Carson remark, "the probe is a means or method of perceiving. It comes from the world of conversation and dialogue as much as from poetics and literary criticism. Like conversation, the verbal probe is discontinuous, nonlinear; it tackles things from many angles at once" (403). In terms of media theory, McLuhan remarks that "effective study of the media deals not only with the content of the media but with media themselves and

the total cultural environment within which the media function" ("Playboy Interview" 105). To practically underscore the importance of a total environment, the word "train" is meaningless without the greater environment or context of a wedding, a railyard, or an educational center.

Mediation tends to filter out context. Mediation changes how we perceive the world and those with whom we communicate by narrowing our sensorial purview, such as the phonetic alphabet reducing communication to sight. Mediation works as middleman of sorts where the intermediary takes his "perceptual cut" as it were. For de Zengotita, "mediation means dealing with reality through something else," which ultimately affects "the way we experience the world, and ourselves in it" (8). As de Zengotita argues, "the original being of the real thing has been fully mediated. . . . [I]t becomes representational" (27). A handwritten or typed letter, for example, substitutes for the person. The letter not only filters out sight, sound, taste, and touch in the communicative process but also the greater context of the person himself.

The same holds true for Internet technologies; they mediate our experiences or, more aptly put, translate our experiences. In digital form, the person himself transform into "super angelic" being (McLuhan "Full Lecture John Hopkins University") in the sense that "he can be everywhere at once, whereas they [angels] are subject to limitations of space and can only be one space at a time" (McLuhan "The Rise and Fall of Nature" 81). Cyberspace filters out the body, yet unlike the letter, it "reincarnates" the body in digital form. Cyberspace connects people but fails to give individuals a true sense of who the other is.

A transformation perspective recognizes the impact of mediation regarding social relations, but also deep elements of perception. McLuhan describes the effect of using electronic media as having "sudden emancipation from natural law," (50) as he argues, for man "is translated into information or an image" ("The Rise and Fall of Nature" 81). Cyberspace subconsciously conditions us to believe that we are exempt from the real world of external law. The digital universe creates a perceptual environment of exception, that is, freedom from. To say otherwise, cyberspace creates a hidden perceptual environment of autonomy.

Matthew B. Crawford captures the notion of autonomy in *The World Beyond Your Head*. Through his metaphor of the "autonomous self," Crawford states that "autonomy is built around the notion of a sovereign self, whose sovereignty consists in having everything within full view, available to her as material for her own choice, planning, and optimization" (37). Cyberspace provides the digital angel with a smorgasbord of choices to optimize the self. The digital environment impresses upon people to act as if they are free from natural limitations. In essence, the "autonomous self" seeks "creative mastery to a world it has projected" by stepping outside of law (Crawford 25). The newfound digital autonomy has implication for the real world as the behaviors transfer into real life as Marshall and Eric McLuhan argue, "discarnate man has no relation to natural law, his impulse is towards anarchy and lawlessness" (*Laws of Media* 72).

In contrast, Crawford uses the metaphor of the "situated self" as recognizing the of external constraints of the real world. For example, in the first century BC, "Romans were writing of a warmer climate, with little snow or ice, and with grapes and olives growing farther north in Italy than had been possible in earlier centuries" (Singer and

Avery 42). In response to the changing climate, the Romans cultivated lands farther north. In contrast, the "autonomous self" would ignore the new climate reality and cultivate lands wherever he felt. When we are situated, we recognize that certain things are beyond our control, and we respond to them. As Crawford describes, the "world….is not of our making" (26). In the cyberworld where the body is filtered from reality, we lose a sense of situatedness and "make the world" to our liking.

Human communication is fully understood in terms of situatedness. As McLuhan warns, "the electronic age has another peculiarity of moving at the speed of electricity and the tendency is to become disembodied" ("Full Lecture John Hopkins University"). An aspect of situatedness is the recognition of the human person as an integral union of mind and body. Mediation breaks this union by eliminating the body, in the case of print technologies, and "reincarnating" it with digital technologies. As Wachs argues, in cyberspace, we become digital replicas with "pure intellect [mind] with no need of a body" (*The New Science* 92). The hidden consequence of this separation lies in how we view each other as fragmented beings.

Crawford's metaphor of joint attention underscores the importance of the body in perceiving the other as a holistic being. Crawford remarks that a "human infant and its caregiver attend to one another intensively, staring into each other's eyes, smiling at each other, and copying each other's gestures" (145). Joint attention brings form to the "realness" of the other. Yet through mediation, the realness is filtered out. Thus, an awareness of our altered digital state is important if we are to gain a measure of control and understanding of who we are as humans in the digital age.

The Medium Is the Message

Mediation makes the study of formal causality possible within the context of communication. With "thinking" separated from "being," the mind becomes subject to altered awareness through mediation. The second step in understanding formal causality is gleaned through McLuhan's famous aphorism "the medium is the message." This section provides nuanced understanding of "the medium is the message" and the power of media to transform as figure and as ground. First, as figure, media transform the message itself. For example, the medium of writing allows for complex analysis. That is to say, the recorded nature of print allows the reader to refer to the text for clarification. In contrast to writing, speaking fosters simple messages. The hearer cannot refer back to the lecture unless recorded, thereby challenging the speaker to keep the message simple lest the message be lost. Secondly, as ground, media create environments or "ways of doing things." For example, the phonetic alphabet and later the Gutenberg press created a logical approach (thinking) to education as opposed to the mimetic approach of poetics (thinking and being). The section explores the interplay of media as figure and as ground and unfolds a deeper understanding of McLuhan's famous aphorism, "the medium is the message".

A transformation perspective attends to formal causality by acknowledging the power of media to transform perceptions as a hidden ground. From a transformation perspective, the real message is brought about by media through changes in perception. In contrast, a transportation perspective attends to the content and disregards the effects of the medium. Whether the message is delivered in person or over a smartphone, the message remains the same from a transportation perceptive. However, the medium makes

the message. A verbal "hello" is different from a written "hello." In the first instance, the ear is "strengthened," while the eye is bolstered with a written "hello." Each medium mediates the content differently by engaging different sense functions.

The impact of the channel of communication is not often recognized by modern communication scholars as McLuhan notes,

> For the past 3500 years of the Western world, the effects of the media—whether it's speech, writing, printing, radio or television—have been systematically overlooked by social observers. . . . By placing all the stress on content and practically none on the medium, we lose all chance of perceiving and influencing the impact of new technologies on man ("Playboy Interview" 105, 115).

McLuhan's approach moves beyond the one-dimensional purview of content transmission and attends to the two-dimensional aspect of perceptual transformation. That said, McLuhan's transformation model acknowledges the importance content, as the first dimension, but argues that the channel of communication, as the second dimension, has a far greater impact by its capacity to alter perception. As McLuhan and Fiore argue, "societies have always been shaped more by the nature of the media by which men communicate and by the contents of the communication" (8). McLuhan's famous aphorism "the medium is the message" captures the essence of the second dimension of communication, in that media act as laws transforming the user's perception. As Marshall and Eric McLuhan argue, "the artefact is seen to be not neutral or passive, but an active logos or utterance of the human mind or body that transforms the user and his ground" (*Laws of Media* 99). The smartphone, for example, not only serves as a device for transmitting content but also transforms users into information connoisseurs.

The title of McLuhan and Fiore's work itself, *The Medium is the Massage*, reveals the active nature of media "as laws." As McLuhan and Fiore describe, "all media work us over completely. They are so pervasive in their personal, political, economic, aesthetic, psychological, moral, ethical, and social consequences that they leave no part of us untouched, unaffected, unaltered" (26). Media work us over and massage our sensibilities; as McLuhan and Fiore exemplify with the alphabet,

> the alphabet, for instance, is it technology that is absorbed by the very young child in a completely unconscious manner, by osmosis so to speak. Words and the meaning of words predispose the child to think and act automatically in certain ways. The alphabet imprint technology fostered and encouraged fragmented process, a process of specialism and of detachment. (8).

The detachment of the visual sense from sound, smell, taste, and touch offers a "specialism" in processing things visually. In the final analysis, the general principle from "the medium is the message" is that media act as laws and transform society through perceptual shifts.

However, there is a nuanced distinction in the transformative power of media. As Eric McLuhan and Zhang note, "medium has those two meanings and they are never separated, so people blunder about and get confused talking about two things at once without realizing it" (443). Media not only shape the user within a broader ecology but also the message itself. This is the distinction between considering media as ground or as figure. The following section covers both perspectives, starting with media as figure.

From a figure perspective, the channel of communication makes the message. The ancient smoke signal, for example, constrains the message to that of "simplicity." As

Postman remarks, “while I do not know exactly what content was carried in the smoke signals of American Indians, I can safely guess that it did not include philosophical argument. Its form excludes the content” (*Amusing Ourselves to Death* 7). The same principle applies to any medium of communication, such as social media, TV, or radio. Each medium has a certain affordance or ability to convey a message. That is to say, each medium is “unique in its properties and its effects” (Gordon 175).

The Citizens Band Radio Service, or CB radio, for example, constrains the message to “simplicity.” The short-distance radio system typically has forty channels within the 27MHz band and remains the best system of communication for truck drivers. The technology allows truck drivers to communicate with short of bursts of monologue due to the “one-at-a-time” affordance. Consequently, long, and complex ideas are not part of the medium’s capacity. In fact, short, condensed packets of information have developed as CB slang. When the sender says “got your ears on,” he is asking if the receiver is listening. Another phrase, “10-4 good buddy,” has two messages built-in. “10-4” is an acknowledgment of understanding typically associated with a task such as “pull over at the next stop,” and “good buddy” carries a connotation of “thanks and respect.” Overall, the medium fosters a condensed message due to its inherent capacity limitations in conjunction with the memory limitations of the listener.

Media also transform as ground. As ground, media form a broader ecology of changed perceptions, that is, environments or cultural habits. As the McLuhans remark, “any new technology, any extension or amplification of human faculties when given material embodiment, tends to create a new environment” (*Media and Formal Cause* 12). An environment, like any cultural custom, is a “way of doing things.” For example,

although most states have passed laws against texting and driving, they are rarely enforced. The importance of a response supersedes safety, culturally speaking. McLuhan provides another example, as he remarks, "social consequences of any medium—that is, of any extension of ourselves—result from the new scale that is introduced into our affairs. . . . [T]hus, with automation, for example, the new patterns of human association tend to eliminate jobs, it is true" (*Understanding Media* 19). Technologies create perceptual environments that dictate how society funtions.

Media as Extensions

As McLuhan's "the medium is the message" demonstrates, media are powerful actors in the communicative process. Media mediate our perceptions through a sensorial filtering process as noted with the example of print media that filter out all senses but vision. Postman argues that "embedded in every tool is an ideological bias, a predisposition to construct the world as one thing rather than another, to value one thing over another, to amplify one sense or skill or attitude more loudly than another" (*Technopoly* 13). The following section explores the idea of amplification by considering media as extensions of the human mind and body. The third stop in understanding formal causality resides in McLuhan's notion of media as extensions. Like the previous section, there are two ways to understanding media as extensions, as figure and as ground. Media as figure extend the body, while media as ground extend the mind. In both instances, media are integrally tied to our perception.

Although media reside outside of our bodies, technologies, as figure, are still part of who we are. The pen, for example, is an extension of the hand. Although the device is materially separate from the body, it acts on behalf of the body. A prosthetic leg may

serve as a better example of an extension where the body relies more heavily upon the device; as McLuhan argues, “any invention or technology is an extension or self-amputation of our physical bodies” (*Understanding Media* 67).

As ground, media serve as extensions of the human mind. Gordon not only confirms the physical extension of media, as figure, but also the perceptual extension of media as ground: McLuhan thought of a medium as an extension of the human body or the mind” (*Understanding Media* xiv). Artifacts are physical and mental extensions; as Marshall and Eric McLuhan argue, “all human artefacts are extensions of man, outerings or utterings of the human body or psyche, private or corporate” (*Laws of Media* 116). The wheel, for example, as figure is an extension of the foot while as ground extends a mentality of exploration. The example highlights an often-confusing aspect of media ecology and helps to clarify media acting “bodily” as figure and “mentally” as ground.

The significant point is recognizing the transformative power of media as extensions of the human body and mind. However, as extensions, media hide their effects. In *Laws of Media*, Marshall and Eric McLuhan argue that “media, that is, the ground-configurations of effects, the service environments of technologies, are inaccessible to direct examination since their effects are mainly subliminal” (98). Human instinct causes, as Eric McLuhan remarks, “people to recoil from these new environments and to rely on the rear-view mirror as a kind of repeat or ricorso of the preceding environment, thus ensuring total disorientation at all times” (E. McLuhan “Marshall McLuhan’s Theory of Communication” 28). That is to say, media effects are often times subliminal, yet when we recognize the effects, we tend to ignore them. An easy way to understand this “denial mechanism” is through changes in fashion. The old suit in the

closet is only "outdated" when compared to the trend of the times, yet for those of us who are older, we tend to wear our "outdated" fashion out of habit.

McLuhan attempts to awaken us to the fashion changes of media, as it were. Technologies as extensions become unnoticeable unless someone or something brings them to our attention. A set of glasses, for example, becomes part of the wearer unless a smudge or a broken lens prompts the wearer to recognize the artificial extension. The brain naturally adjusts and incorporates the technology as part of the body and mind. In *Laws of Media*, Marshall and Eric McLuhan cite Dr. Albert Theodore William Simeons when referring to the adjustment mechanism as the "the brain-stem's great body-regulating centre, the diencephalon, [which] continued to function just as if the artifacts were non-existent" (McLuhan and E. McLuhan *Laws of Media* 95). With the addition of a new artifact, the brain-stem auto-adjusts, as McLuhan notes, artifacts create a "numbness" or a lack of recognition (*Understanding Media*" 64). Recognizing the changes, induced by media, is critical to gaining a measure of control over them and by extension our agency.

McLuhan uses the Greek myth of Narcissus to explicate the notion of auto-adjusting. The Greek word *narcosis* translates to the English equivalent of "numbness" (*Understanding Media* 64). McLuhan refers to the numbing as "self-hypnosis Narcissus narcosis, a syndrome whereby man remains as unaware of the psychic and social effects of this new technology. . . . [A] media induced environment becomes all pervasive and transmogrifies our sensory balance, it also becomes invisible" ("Playboy Interview" 105). In the case of Narcissus, as McLuhan argues, it was not that Narcissus fell in love with himself but rather that he fell in love with what he thought was another person

(*Understanding Media* 64). The medium of water, as figure, served as a mirror and extension of the body, while water, as ground, served as extension of the mind which altered the natural sense ratios and demanded "new ratios or new equilibriums" (*Understanding Media* 67). To say otherwise, Narcissus was drugged into thinking that the image extended outside of himself was another person when, in fact, it was himself. With the artificial extension, Narcissus had lost the ability "to recognize technologies as extensions of the human being" and he had failed "to detect the message, or new environment, created by new technologies" (McLuhan *Understanding Media* 564). In essence, through mediation, Narcissus experienced what McLuhan describes as "closure," or a failure to recognize the effects of the medium, which led to a false sense of reality (Gordon 385).

With any extension, there is closure, or the loss of recognition, which is akin to a scab covering a wound. As McLuhan remarks, "such an extension is an intensification, an amplification of an organ, sense or function, and whenever it takes place, the central nervous system appears to institute a self-protecting numbing of the affected area, insulating and anesthetizing it from conscious awareness of what's happening to it" ("Playboy Interview" 105). McLuhan's broader point is that "we are absorbing these extensions of ourselves into our individual system and experiencing an automatic 'closure' or displacement of perception" ("Playboy Interview" 133). When closure occurs, the effects of media become unrecognizable, and we, in essence, surrender ourselves to technology unknowingly.

To say otherwise, the technology amputates that which is extended. In the case of a bicycle or car, the foot performs the specialized task of either pedaling or "pedal-ing."

The technologies prevent the foot from performing its basic function: walking. So, paradoxically, the technologies extend mobilization yet immobilize. As Gordon remarks, "in this way our technologies both extend and amputate" (203). When pushed to the extreme, a reversal occurs, that is, the user becomes so dependent upon the bicycle or car that he no longer uses his natural mobility, walking.

The significance of McLuhan's work is that it calls our attention to our surrender to technology. McLuhan wants us to retain the essence of our humanity as determinative beings. Like Narcissus, media create a biased sense of reality, albeit unknowingly. McLuhan attempts to heal the "closure" through recognition, as he argues, "understanding is half the battle. . . . [T]he first and most vital step of all . . . is simply to understand media and its revolutionary effects on all psychic and social values and institutions" ("Playboy Interview" 134). The primary point of McLuhan's work is "to convey this message, that by understanding media as they extend man, we gain a measure of control over them" ("Playboy Interview" 134). Through recognition, we are presented with an opportunity to adjust and retain the essence of who we are as determinative beings. McLuhan's transformation model assists in this venture by confronting "closure" or "numbness" and moving effects from ground to figure, whereby the user may gain a full sense of the reality before him.

An Overheated Artifact

This section synthesizes The Medium Is the Message and Media as Extensions and explores the power of media as extensions to subconsciously affect our lives by providing two metaphorical examples, hot and cool media. McLuhan's distinction between hot and cool media serves as an example of media "hiding" their effects through

the metaphor of participation. Hot media require low participation from the user, while cool media demand high participation. This section brings theses effects from ground to figure as a means of fulfilling McLuhan's call for recognition.

McLuhan introduced the idea of "hot" and "cool" in 1964 in *Understanding Media*. As Anton argues, McLuhan's hot–cool distinction remains among the most contentious and confusing ("'Heating Up' and 'Cooling Down'" 373). Thus, an initial metaphorical reference may help to make the forthcoming analysis more understandable. A key distinction between hot and cool media is the degree to which the user participates with the medium. A fire (medium) is hot, both literally and figuratively. For those standing close to the fire, a high degree of warmth is readily provided by the fire. For those who remain close, the fire does the work, so to speak, as it keeps them warm. In contrast, for those standing at a distance, they must work to stay warm. That is to say, they must actively engage the fire. They may shift positions or rub their hands together in an active effort to stay warm. In either case, the medium affects the individual's degree of participation.

A hot medium extends a single sense in high definition and requires low participation. As McLuhan argues, any hot medium "allows of less participation than a cool one. . . . A hot medium is one that extends one single sense in 'high definition'" (*Understanding Media* 39–40). An instrument, for example, provides music in high definition—that is, one does not have to work for the music—the music is "pre-packaged" and delivered. Anton supports this understanding of hot media, saying that "artefacts and/or environments that open to a single sense, are higher in definition . . . and are lower in participation" ("'Heating Up' and 'Cooling Down'" 344). McLuhan uses the

example of the phonetic alphabet as "the hot and explosive medium [that] . . . when pushed to a high degree of abstract visual intensity, became typography" (*Understanding Media* 39).

In ancient Greece, the phonetic alphabet prompted visual communication. The single-sense communication was further extended with the advent of the Gutenberg press and had "explosive effects" for how we perceive the other; as McLuhan argues, "in a visual and highly literate culture, when we meet a person for the first time his visual appearance dims out the sound of the name" (*Understanding Media* 49). Today, our language itself reflects our visual bias with the common saying: "I will *see* you tomorrow." From the standpoint of participation, it is much easier to see the other than to hear the other for dialogue requires participation and effort. Thus, print technologies require less participation than a cool conversation that requires attentiveness.

A cool medium is in "low definition" and requires participation (*Understanding Media* 39). As McLuhan argues, a cool medium demands participation because users are given "a meager amount of information" (*Understanding Media* 39). Cool media "account for artefacts and/or environments that are multisensory, lower in definition, better suited for incomplete packages, and higher in participation (e.g. oral word, stone axes, hieroglyphs, comics, dialogue, television, etc.)" (Anton "'Heating Up' and 'Cooling Down'" 344). Cool media require participation "because so little is given and so much has to be filled in by the listener" (McLuhan *Understanding Media* 39). As noted, a conversation is cool by nature and requires participation in terms of conscious and subconscious engagement. On a conscious level (figure), one must listen and respond. On a subconscious level (ground), one must use multiple senses. We hear, see, sometimes

touch (handshake,) or smell the other (perfume). Thus, in any given conversation, we participate more fully consciously, to their words, and subconsciously to their "personness".

Another way to consider the idea of hot and cool media is by one's "personness" or personality. An individual's personality can be either hot or cool. The idea speaks to the aphorism of "made-for-TV," as some personalities fit the cool medium. President John F. Kennedy's was right for TV as his cool personality matched the medium. McLuhan remarks, "Kennedy had a compatible coolness," and his personality allowed the "viewer to fill in the gaps with his own personal identification" ("Playboy Interview" 116).

In contrast, President Richard Nixon had a hot personality; as McLuhan remarks, "Nixon was essentially hot; he presented in high-definition" and his hot personality presented a problem over the cool TV ("Playboy Interview" 116). TV rejected his "hot personality and sharply-defined image" (McLuhan "Playboy Interview" 116). McLuhan speaks to the implications of mixing hot and cool media, saying that "it was Nixon's fate to provide a sharp, high definition image and action for the cool TV medium that translated that sharp image into the impression of a phony (*Understanding Media* 401) …. the 'Tricky Dicky' syndrome that has dogged his footsteps for years" ("Playboy Interview" 116). Nixon's "slick, glib, aggressive" personality translated well on radio but [did] not mix well with the cool TV (McLuhan "Playboy Interview" 116).

McLuhan cites another presidential example of a hot personality in Franklin D. Roosevelt. As McLuhan argues, FDR "would not have done well on TV" (*Understanding Media* 401). FDR became the first president to use the medium in April 1939. Fortunately

for FDR, the new technology was temporarily halted with the outbreak of World War II. Should TV have taken root earlier, FDR would certainly have had to "chill out" by "increasing the number of senses [and] reducing the definition of [his] content" (Anton "'Heating Up' and 'Cooling Down'" 345). FDR's high-definition personality worked well on radio, during his fireside chats, but his strong, clear, and assertive voice was not fit for TV.

To underscore the distinction in the context of education, the traditional classroom is a hot medium. With a transportation model, learning begins and ends with grammar—that is, students are given information typically in the form of a lecture. As McLuhan notes, "a lecture is hot" and "provides great amounts of high-definition auditory information that leaves little of nothing to be filled in by the audience" ("Playboy Interview" 114). A hot lecture thwarts participation, as exemplified by Freire's "banking concept" where the teacher ensures that the students are "being well filled with data" (McLuhan *Understanding Media* 39).

Yet, the modern classroom is a paradox of sorts. The classroom is hot, but the students are cool. This blending of hot and cool is what McLuhan refers to as "hybridization of media" (Gordon 341). The electronic world of cyberspace has produced "cool students" who are used to participating with their electronic devices. For higher education, the importance lies in recognizing the clash of media; as McLuhan exclaims, "nevertheless, it makes all the difference whether a hot medium is used in a hot or cool culture" (*Understanding Media* 48). Akin to Nixon and FDR, the hot habits of the traditional classroom do not translate well in a cool electronic world of digital media.

The broader significance for education is recognizing the second dimension of communication and responding to it. Media transform perspectives. For the modern classroom to be relevant, it must understand this reality and adjust between hot and cool approaches to education. For education today, the solution lies in "chilling out" the classroom and allowing the students to participate. A trivium-based education naturally provides the right balance. Grammar is hot in that students are provided with content to learn. Logic is cool in that students begin to understand how ideas connect. And rhetoric exemplifies the hybridization of grammar and logic as students communicate what they have learned.

The previous examples serve as a broader metaphor for awareness. When we realize what the stakes are, we can better respond to them. Media transform by altering our conscious- and subconscious-level participation. At both levels, change occurs through the human sensorium as information is taken in through the external senses and processed by the internal senses.

The Human Sensorium

The previous sections have addressed why we change, and the role media play in that transformation, now, the following section explores the change process itself. The seat of perceptual and behavioral change lies with the human sensorium. McLuhan showed interest in the sensorium in his seminal work *The Gutenberg Galaxy* where he demonstrates how media create environments that alter sense ratios. McLuhan's curiosity with the human sensorium was in part a response to philosophers and psychologists who had fallen into the trap of treating the human sensorium as "passive receptors of experience" by preferring "to study the mechanisms of the senses . . . rather than the

worlds created by them" (Gordon 306). Such a viewpoint was driven partly by the work of Edward T. Hall who, as McLuhan acknowledges, "directed attention to the amazing variety of social spaces created by different cultures of the world" (Gordon 306). Additionally, McLuhan gives credit to Innis "for the basis of his own work on the economy of the human sensorium (the relationship among the five physical senses)" (Gordon 150). For the McLuhans, the study of culture or the technologies within a culture "must begin with their humanity and remain steeped in the study of the senses" (*Laws of Media* 4). As such, the human sensorium plays an integral role in McLuhan's media theory.

The human sensorium fits within the broader category of knowledge acquisition. There are two means by which we acquire knowledge, as Sister Miriam Joseph argues, "one acquires knowledge through one's own powers," or one acquires knowledge through faith, that is, "from the testimony of another" (*The Trivium* 210–11). The form of faith-based knowledge comes through "parents, teachers, companions, newspapers, radio, etc.—or divine—God communicating a revelation directly or by miracles" (Joseph *The Trivium* 210–11). The following discussion is concerned with knowledge acquisition through one's own sense powers. The proceeding Chapter 5 considers knowledge acquisition through faith within the broader context of McLuhan's conversion to the Catholic Church.

The human sensorium itself is a switchboard of sorts, relaying information from the outside world to our inside being. Our human sensorium consists of the whole of our sense apparatus, both external and internal senses. In De Anima, Aristotle identifies the five external senses as seeing, hearing, taste, smelling, and touch and the four internal

senses as common sense, imagination, rationale, and memory. The principle Latin stem of "sensorium" is *sentire*, which is "to feel"; thus, human sensorium is the means by which we "feel" the outside world.

In orality, the senses were translated equally into each other—that is, the external and internal senses had a natural interplay without the interference of media. Technologies, such as the phonetic alphabet and the Gutenberg press, altered the natural interaction of the senses and created artificial ratios through the mediation process. Print, for example, distorted the external senses and placed vision as primary. As McLuhan notes, print "is a visual enclosure of non-visual spaces and senses. It is, therefore, an abstraction of the visual from the ordinary sense interplay . . . whereas speech is an outering (utterance) of all of our senses at once, writing abstracts from speech" (*Gutenberg Galaxy* 50). Wachs argues that "the ratios of perception" ultimately shape "both thought and action" (*The New Science* 56). That is to say, media change perception by altering sense ratios. To convey this idea more concretely, W. Terrence Gordon in the editor's introduction of *Gutenberg Galaxy* offers the example of a blind or deaf person who "compensates for the loss of one sense by a heightening of activity in the others" (xii). What is lost in one sense is added in another.

Of the four the internal senses, common sense serves as the master sense of sorts in that it unifies the external senses into a common perception. Common sense is not to be confused with practical judgment; rather, Aristotle identifies the internal sense as "common sensibles we do in fact have a common sensation that is not incidental. . . . [S]ensation is a unity, and this occurs whenever there is simultaneous perception of the same object" (*De Anima* 191). As McLuhan remarks, "the common sense was for many

centuries held to be the particular human power of translating one kind of experience of one sense into all the senses, and presenting the result continuously as a unified image to the mind" (*Understanding Media* 89).

Blum and Hochschild assist in clarifying the understandably confusing notion, as they note, common sense is "the interior root of our sensation where the sense impressions of the five exterior senses come together" (73). In *Metaphysics,* Aristotle provides an example of bile stating, "our perception of bile is that it is bitter and that it is yellow, and it is at any rate not the function of some other sense to say that it is one thing that is both these" (191). Here, Aristotle argues that common sense is the simultaneous perception and reception of two external senses, taste and sight. The point is that common sense creates a unity of perception, as Marshall and Eric McLuhan argue, "sensus communis must not be taken as though it were yielded by sight, sound, touch, etc. Sight, sound, touch, et al., are internal differentiations of an initially perceived sensorial whole" (*Media and Formal Cause* 70).

Changes in perception occur through the interchange of external and internal sense functionalities. Akin to a writer turned speaker, the impression the audience had of the writer from his written work is quite different than meeting in-person. In each instance, different sense functions are being used. The visual is accentuated with reading while all external senses are utilized in-person. The change in sense impressions is what McLuhan refers to as "synesthesia" or "the splashing over of impressions from one sense modality to another" (McLuhan and E. McLuhan *Media and Formal Cause* 49). As Marshall and Eric McLuhan argue, with orality, "all the senses, such as seeing, hearing, tasting, smelling, and touch, were translated equally into each other" (37). An oral/aural

experience is perceptually distinct from a purely visual impression through the medium of print.

Since the invention of the phonetic alphabet, mediation has progressively affected the human sensorium and altered perception. In our modern times, there are more and technologies mediating our experiences than ever before. Through mediation, technologies interrupt the natural sense interplay and artificially accentuating certain senses over others. The consequence, as Wachs remarks, is that "the particular ratio between the senses . . . determines how reality is perceived in the mind of the perceiver" (*The New Science* 56). Artificial ratios lead to artificial perception and an artificial sense of well-being; as Wachs contends, the "marker of health was when these distributed in a balanced way" (*The New Science* 55).

McLuhan attempts to restore balance through recognition. In the editor's introduction to *Metaphysics,* Lawson-Tancred notes that "the notion of coming into being, and with it of all change, is fundamentally incoherent" (*Metaphysics* xxvi). McLuhan's work helps to bring coherence to our humanity by recognizing that man consciously create media, and that media subconsciously create man. It is at the subconscious level where formal causality works. The following section attempts to bring formal causality from ground to figure, that is to say, from unawareness to awareness.

Formal Causality

As the previous section argues, media subconsciously transform thought and consequently action through the human sensorium. To say otherwise, technologies affect how we see the world. We do not fully recognize the transforming power of the artifact, like eyeglasses, until it is removed. McLuhan's work removes the eyeglasses, so to speak,

and paradoxically brings clarity to blurred vision. When we realize our dependency upon technologies, we begin the journey toward recognizing their transformative effects and subsequently gaining a measure of control over them. This section explicates the notion of formal causality and its role in media transformations.

Formal causality is best understood through a figure and ground analysis. Formal causality as ground operates in the realm of the unconscious—that is to say, raw information taken in through the five external senses as percepts. Formal causality as figure moves percepts into the internal sense of rationality or conscious awareness, in which the raw information is transformed into a concept or blueprint for a particular technology. The interplay of figure and ground reveals the fullness of formal causality as an interplay between the external and internal senses. After a brief introduction to formal causality, *Formal Causality as Ground and Figure* considers formal causality as ground and as figure.

Aristotle introduces his doctrine that there are four basic kinds of cause in *Physics* and continues his discussion in Book V of *Metaphysics.* Aristotle provides "a taxonomy of causality," which includes efficient cause, material cause, final cause, and formal cause (Strate 160). Sister Miriam Joseph argues that "the metaphysical causes, according to Aristotle, explain every material effect" and together, the four causes reflect "a positive influence in making a thing be what it is" (*The Trivium* 214-215).

The classic example of the shoemaker serves as a good starting point for understanding the four causes. The material cause is the matter, leather of the shoe. The efficient cause is the shoemaker, who provides the skill, expertise, and labor needed to transform the leather into something more than pure matter. The formal cause is the

actual design or blueprint of the shoe. Built within the notion of formal cause is the idea of final cause, or the shoemaker's intent, which directs the material to become a shoe and not some other item like a belt. All told, the four causes reflect Aristotle's hylomorphic position combining matter with form as a composite, a shoe.

McLuhan's attentiveness to formal causality challenges the modern scientific bias toward efficient causality. As the McLuhan's argue, formal causality reveals a complex web of events and avoids the linear propensity to view "each efficient cause" as "long chains of causes" while noting that "with efficient cause, all study of effects (i.e. of ground) is set aside, this having been the whole point of causality" (*Laws of Media* 51). In other words, formal causality breaks the narrow purview of efficient causality and uncovers a multiplicity of hidden causal influences.

McLuhan's media theory attends to formal causality because of its "hidden" nature. In a 1975 letter to Father John Culkin, McLuhan declares that "my own approach to the media has been entirely from formal cause" (*Letters* 510). McLuhan speaks to the nature of his work as rooted in recognition; as he states, "formal cause is always hidden, where is the things upon which they act are visible" (*Letters* 510). Recognition comes through an attentiveness to effects; as Sutherland argues, "formal causality reveals itself by its effects, with the odd, paradoxical consequence that the effects usually appear before their causes" (259). Thus, the significance of understanding formal is recognizing the power of media transformation through hidden effects.

Formal causality is distinct from the other causes—material, efficient, and final—in that it is observable as change in the form of effects. As Marshall and Eric McLuhan argue, "formal causality reveals itself by its effects. . . . [E]ffects are perceived whereas

causes are conceived" (*Media and Formal Cause* 44, 77). To exemplify this confusing idea, the formal cause of the electric telegraph was separation. During the nineteenth century, settlers expanded westward. The observable effect of separation, the change in location, served as the formal cause of Samuel Morse's idea for the telegraph. The effect was perceived through Morse's external sense of sight while the cause was conceived through his internal sense of rationality as the American inventor formed an idea that reconnected the settlers—the electric telegraph—albeit a primitive communicative technology by today's standards. Thus, Samuel Morse owes his invention to its formal cause, separation.

Formal Causality as Ground and Figure

When dealing with human artifacts, formal cause itself goes through a transition from effects and percepts and to ideas and concepts. In essence, formal cause moves through two distinct stages, ground and figure. In the ground phase, formal cause deals with any number of the five external senses. At this stage, formal cause is ambiguous and in raw form. It is simply observing or perceiving without true conscious consideration, as Sister Miriam Joseph argues with "the external senses—sight, hearing, touch, smell, taste," which "operate on an object present before us and produce a percept" (*The Trivium* 21). As formal cause itself takes shape, it transitions from the ground stage to the figure stage where the percepts move to conscious awareness in the internal senses of imagination and rationality. In the figure phase, the internal sense of imagination is first used to consider possibilities or different ideas for human technologies. When the ideas become further refined, brainstorming and imagination moves to the internal sense of rationality where the "blueprint" for the technological is formed.

To exemplify, the idea for the telegraph began with Samuel Morse seeing the physical movement of settlers. Seeing is an external sense where Morse perceived a change. This is what Marshall and Eric McLuhan describe as "formal cause coincided with ground—situation or environment" (*Media and Formal Cause* 9). At this ground phase, the telegraph was born, although Morse was not consciously aware of it at the time. Conscious awareness came later as formal cause moved into the figure phase or area of conscious attention. As Morse begin to consider possibilities for reconnecting settlers, formal cause "resided," as figure, in the imagination. As the possibilities began to narrow, formal cause became further refined and moved to the internal sense of rationality. At this point, formal cause took on its polished or "blueprint" form, that is, workable ideas for the electric telegraph. Although formal cause has been presented as a linear progression through two distinct phases, ground and figure, and through three distinct senses sight (external), imagination (internal), and rationality (internal), in reality there is a simultaneous interplay of all events.

Any great innovator—Samuel Morse, Alexander Graham Bell, Henry Ford, Steve Jobs, Elon Musk—has an intuitive sense of formal causality in the sense that they anticipate a future demand from the present environment. Great innovators perceive the cultural ground effects and actualize them in the form of an idea. In the case of Samuel Morse, he perceived the cultural ground of separation and conceived the electric telegraph. In essence, formal cause gives a glimpse into the future for the keen observer. As Marshall and Eric McLuhan argue, formal causality is that "in which coming events cast their shadows (effects) before them" (*Media and Formal Cause* 7).

McLuhan frames technologies as linguistic. As McLuhan and Powers argue, artifacts "are the outerings and utterings of man" for "artifacts are in fact words" (3). While citing Sir Peter Medwar in the May 1973 issue of *Smithsonian*, McLuhan expands upon this notion: "The 'Laws of the Media' lead me to the awareness that all our artifacts, all our 'sensory and motor accessories,' are in fact, words. . . . [A]ll the extensions of man, verbal or non-verbal, hardware or software, are essentially metaphoric in structure, and that they are in the plenary sense linguistic" ("Laws of The Media" 322). In a metaphoric sense, artifacts begin as perceptual effects, in the ground phase, and metaphorically transition into conceptual ideas in the figure phase. The metaphoric change of state is "a kind of bridging process, a way of getting from one kind of an experience to another" (McLuhan "Laws of The Media" 323).

The bridging process begins with the transition from raw external perceptions to the internal sense of imagination. As Sister Miriam Joseph argues, "the internal senses, primarily the imagination, produce a phantasm or mental image" (*The Trivium* 21). The mental image could well be argued as the brainstorming phase, as noted in the example of Samuel Morse where he began to imagine different possibilities for reconnecting the settlers by using his internal senses of imagination and rationality. It is here where the images became polished, and percepts transformed into concepts, ideas, or blueprints for technological innovations. As Sister Miriam Joseph argues, a concept is "the abstraction created by the intellect through recognition of the essence" (*The Trivium* 22). Marshall and Eric McLuhan term it the "blueprint" or "the form given to the matter by the maker" (*Media and Formal Cause* 5).

In *Metaphysics,* Aristotle offers a deeper perspective by which we can understand formal cause as figure, that is, as area of conscious contemplation or the "blueprint" stage. In the editor's introduction of *Metaphysics* Hugh Lawson-Tancred highlights the Greek notion of "hylomorphism," or the idea that "all particular individual entities around us are, in a radical metaphysical way, composites" (xxvii). Aristotle argues that Democritus errs on the side of atomism in that "things" are all matter, while Plato errs on the side of idealism in that "things" are all form (*Metaphysics* xx–xxi). Aristotle takes the middle of these two positions and argues that "things" (species) are constituted of both matter and form (*Metaphysics* xx–xxi). Matter and form when synthesized comprise a composite.

Aristotle uses the example of a "bronze sphere" to explicate the notion of a composite (*Metaphysics* 206). Aristotle defines matter as "an item that is not in itself a something and is also not a quantity nor said to be anything of the other things by which that which is it is defined" (*Metaphysics* 175). More simply put, Aristotle terms matter "in this case, the form sphere could easily have been introduced into some other material, wood, say, or marble" (*Metaphysics* 206). Aristotle does not offer an explicit definition of form; however, we know anecdotally that the form of the bronze sphere is just that, a sphere. In *Parts of Animals,* Aristotle equates logos with form where he defines logos as "a thing's essence or nature" (*Parts of Animals* 18–22). Thus, the essence of a sphere resides in its form as "sphereness." The significance is that the bronze owes its existence to matter and form synthesized and within the notion of synthesis, arises the notion of purpose.

The notion of purpose is captured by the Greek term *telos,* which means "the end or goal" (McLuhan and E. McLuhan *Media and Formal Cause* 112). Another closely associated Greek term is *entelecheia,* which means to actualize that which lies *in potentia*. Wood, for example, lies in potential until a carpenter transforms the material into a chair. As a chair, the wood serves a purpose for sitting. With usefulness built in, the chair is something more than pure matter. The fusion of matter and form presupposes intelligent design or purpose.

In the final analysis, formal causality is recognized through change and purpose, either perceptually as ground or conceptually as figure. The preceding discussion is paradigmatic of a transformation model where communication occurs as purposeful change. By recognizing the deeper elements of change, we recognize the interconnectedness of things and more fully understand the human condition as being determined and determinative.

Conclusion

As discussed in Chapter 1, the significance of the artist lies in seeing what others cannot. The artist is essentially an explorer of formal causality. As the McLuhans note, "in an age of accelerated change, the need to perceive the environment becomes urgent. . . . [W]ith such knowledge in hand, it would be possible to program a reasonable and orderly future for any human community" (*Media and Formal Cause* 25). Yet, the art of formal causality was lost in the sixteenth century as "the content of philosophy and the arts became relegate to efficient causality" (McLuhan and E. McLuhan *Media and Formal Cause* 81). Thus, McLuhan's resurrection of formal causality is significant for recognizing and identifying the hidden effects that structure perceptual reality.

Formal causality is embedded with McLuhan's views on communication. McLuhan's perspective considers the ground, which gives rise to figure, whereas modern perspectives on communication remain attentive to figure at the expense of ground. Smartphone technologies and social media platforms, for example, are studied by modern communication scholars from the standpoint of transmission, that is to say, effective use. However, McLuhan questions the ways these technologies use us. In the case of the smartphone, the effects of instant access have transformed us into information addicts.

Modern scholarship misses the two-dimensional nature of communication: communicative technologies not only transmit; they transform. As McLuhan and McLuhan remark, "the transformation effects of our artificial organs—they generate totally new conditions of environmental service and of life" (*Laws of Media* 97). To say otherwise, "this is merely to say that the personal and social consequences of any medium—that is, of any extension of ourselves—result from the new scale that is introduced into our affairs by each extension of ourselves, or by any new technology" (McLuhan *Understanding Media* 19). Thus, in a world of rapid technological progress, as McLuhan declares, "you should know what the stakes are" ("Full Lecture Living in an Acoustic World"). The final chapter considers the stakes as we move toward a post-human world of technological progress. If we remain on our current trajectory, we will become that which we create, a technology.

Chapter 5: The Ultimate Transformation: A Catholic Conversion

> Discarnate man is not compatible with an incarnate Church.
>
> —Marshall McLuhan (Gordon 218)

While referring to G. K. Chesterton, Eric McLuhan remarks that "but like Socrates, he is a gadfly stinging his own countrymen into awareness of the crime of complacency" (*The Medium and the Light* 9). This dissertation has offered a Chestertonian spirit of awakening to the importance of a transformation model of communication and the significance for our modern world of electronic communication. A transformation model is distinct from the transportation model in that it moves beyond the one-dimensional study of message transmission and considers the two-dimensional nature of communication. From a two-dimensional perspective, communication occurs not only with the transmission of messages but also with the transformation of the sender and receiver by the method of transmission, that is, the medium.

The medium fundamentally alters how we perceive ourselves, others, and the world before us. A transformation model attends to this notion through a figure and ground analysis as captured by McLuhan's famous aphorism "the medium is the message," where "the 'message' or 'effect' is not in the figure of the content but in the ground or environment of the medium" (Logan "McLuhan's General Theory of Media" 20). That is to say, the medium becomes the ultimate message because it fundamentally transforms human perception; as McLuhan describes, "the effect of a containing medium is more powerful than the effect of the message of the contained medium (398). . . . [T]he content of any medium or technology has scarcely any effect on the sensory ratios. That is why 'the medium is the message'" (Gordon 401). According to McLuhan, the electronics

revolution “will ultimately retribalize man by restoring his sensory balance” (“Playboy Interview 102). Modern-day electronic communication technologies have offset the visual dominance of the left hemisphere with the acoustic right hemisphere; however, electronic media have failed in restoring our sensorial balance.

To understand the failure, we must understand the difference between our current electronic tribe and the original oral tribe. The new electronic tribe is mediated. Facebook, Instagram, Twitter, and other such platforms mediate our communicative experiences by filtering out certain senses. In cyberspace, we can see and hear the other but do not share a common environment with feel, smell, and taste. Relative to the oral tribe, modern electronic communication connects others from two different worlds. In pre-phonetic society, however, interlocutors shared a common environment and holistically perceived the other.

Walter Ong helps to unfold a greater understanding of the sensorial division in our electronic world. In *The Presence of the Word,* Ong explicates the critical importance of sound in human communication for sound, as Ong argues, “reveals the interior” (118). In contrast, sight reveals surfaces (Ong *The Presence of the Word* 74). Ong exemplifies this notion by using the metaphor of tapping on a wall “to discover where it is hollow inside. . . . [T]o discover such things by sight, we should have to open what we examine” (*The Presence of the Word* 118). Ong places sound at the hierarchy of the senses and argues that “sound reveals interiors because its nature is determined by interior relationships” (*The Presence of the Word* 118). Ong’s broader point is that “spoken language unites communities as nothing else does” because “voice manifests interiors . . . and since a human community is essentially a union of interior consciousness” (*The Presence of the*

Word 146). Spoken language does indeed unite but only through real presence, akin to Crawford's metaphor of "joint attention." The voice carries with it a resonance of the inner, i.e., depth that is not able to be reproduced via digital reproduction of sound—through a speaker, for example. This can be verified if one has ever felt the depth and soul of music experienced "live" versus the lack thereof or mere imitation of the same music through a digital recording. The increasing shift toward mediated communication over platforms like Twitter, Instagram, and Facebook only further divides a sense of self and community as we sensorially operate from two different environments and are not afforded a common home for true unity of consciousness.

This chapter explores the implications of the divided self within the broader context of the spiritual world. Media have not only altered how we view the other but also how we view spirituality. As discussed in Chapter 4, Aristotle's work *Metaphysics* followed his work *Physics,* where he defined "first principles in understanding reality" (Joseph *The Trivium* 267). This section attempts to contextualize the first principles with a spiritual reality, or as the Greek term *meta* refers to, that which is "after" or "beyond" our material world (Joseph *The Trivium* 267). Human Freedom establishes the first principles in understanding the role media play in transforming our attitudes and beliefs. In particular, cyberspace fosters an artificial sense of reality by conditioning the mind to believe that what is possible in cyberspace is possible in the physical world. The Spiritual World argues that the altered view of reality plays a role in how we perceive the spiritual world. This section sets up McLuhan's Conversion as an example of an anti-environment for awareness to the fullness of reality both material and spiritual. Additionally, this section serves as an anecdote to altered realities driven by the postmodern philosophy embedded

in cyberspace. Post-Humanism identifies the philosophical assumptions behind the push toward a fully mediated world. The section highlights two different forms of post-humanism—soft and hard, as explicated by the metaphors of cyberspace and cyborg. In the final analysis, McLuhan's conversion to the Catholic faith provides a ground for understanding the figure of post-humanism. Moreover, McLuhan's unequivocal call for a trivium-based education offers the means by which we are trained to comprehend media alterations, recognize the implications to society, and understand the fullness of our humanity, both material and spiritual.

Human Freedom

Electronic media have transformed our perspectives and, consequently, our disposition toward others and the world before us. In our postmodern age, the common disposition is freedom from philosophy. In other words, people do as they desire without consideration of short- or long-term consequences to our societal wellbeing. In a freedom from philosophy, satisfying the self becomes the ultimate goal. Although the origins are multifaceted and difficult to establish, freedom from philosophy is partly driven and sustained by electronic media. We can now conveniently communicate through Zoom or smartphones and have the freedom from inconveniencing the self with in-person communication. With digital dialogue, we avoid the headaches of time and money associated travel, for example, yet through the ease comes a burden.

Electronic media appear to be decreasing happiness, or at least contributing to this end. The World Happiness Report shows a steady decline in the general happiness of U.S. adults from 1973 to 2016 (Twenge). Moreover, as Twenge notes, the study demonstrates, "numerous indicators of psychological well-being such as depression,

suicidal ideation, and self-harm increased sharply among adolescents since 2010" (Twenge). More significantly, the report connects decreased happiness with increased electronic media usage.

The following section explores the implications of electronic media usage through the lens of Cartesian dualism. In essence, cyberspace separates the mind from the body, and we miss the depth and quality of in-person communication. The dialogic void is filled with freedom from philosophy. In particular, social media serve as an echo chamber for the airing of thoughts, feelings, and judgments. Only by returning to in-person communication can we truly transform the monologue of our electronic age into dialogue.

Electronic media appear to be the culmination of Cartesian dualism. Cartesian hermeneutics begins with the understanding that the rational mind can best understand reality when freed from the interference of the body or, more broadly conceived, external or environmental constraints. As Palmer argues, "truth, to Descartes, is more than merely the conformity between the knower and the known, it is the subject's rational certainty of this conformity" (144). For Descartes, truth is best understood when divorced from the interference of the body, as captured by his famous dictum "cogito ergo sum," or "I think therefore I am." The digital world fully prioritizes the mind and consequently discounts the body, as represented by McLuhan's reference to discarnation: "[Y]ou do not have a physical body. . . . [Y]ou have an image but no body" ("Full Lecture John Hopkins University").

Discarnation contributes to a freedom from philosophy. Matthew Crawford's metaphor of the "autonomous-self" fittingly describes the condition as being "a law to

oneself" (24). While quoting Roger G. Barker in *Ecological Psychology*, McLuhan echoes the essence of the autonomous-self as "quite simply the Western view is that human processes, particularly behavior, are independent of environmental controls and influence" ("Misunderstanding the Media's Laws" 263). In other words, the mind considers itself immune from external constraints; as McLuhan describes, "they assume that everything is OK if one wills that it is" (Gordon 369).

In cyberspace with freedom from the external constraints of the real world, existence is reduced to satisfying the preferences of the mind, as Dreher argues, "the mind of Technological Man cannot resist his heart's desires, because he has been trained by his culture not to question them. Technological Man comes to believe that the limits on what he can do to nature lie primarily in his capacity to subdue it to his will" (234). The implication of the "autonomous-self" is a concern not "with what he should desire; rather, he is preoccupied with how he can acquire or accomplish what he desires" (Dreher 223). Cyberspace, with its endless options, contributes to a mentality of autonomy by weakening our ability to say no as evident with the addictive nature of Smartphone itself (Dreher 219).

In contrast, a freedom to philosophy embraces the external constraints. In the real world, we respond to reality, while in cyberspace we create reality. Crawford's metaphor of the "situated self" helps to explicate this notion of freedom. In lieu of creating "meaning for ourselves" or "liberation from constraints imposed by one's circumstances," the "situated self" recognizes that we are "situated in a world that is not of our making. . . . [S]ituatedness is fundamental to what a human being is" (Crawford 26). As situated beings, "all things exist independently of our desires" (Dreher 235). In

the real world, we intuitively recognize that external constraints exist regardless of our desires.

For McLuhan, situatedness starts with figure and ground relationships. Figure emerges from ground, and thus the two are intimately related and not to be separated, save for an incomplete view of reality. Figure removed from ground is akin to the mind removed from the body. Reality becomes distorted and incomplete, as with the medium of cyberspace, which pushes the body to irrelevance. However, a holistic view of reality unifies the mind and body or figure and ground. The unifying approach is what Catholic writer Frank Sheed terms "intelligent living" (*A Map of Life* 15).

The Spiritual World

As argued, cyberspace splits the mind from the body and distorts our perception of reality. Consequently, the medium promotes disposition of autonomy, where the will is free to act without restraint. As "disembodied angels" in cyberspace, we operate as mind and find freedom from the body. However, a true notion of freedom comes through a recognition that we are situated beings who function within external realities. Spiritual and natural laws serve as examples that impress upon us certain ways of acting. For example, while a spiritual law tells us that deception weakens the soul while a natural law reveals that hunger weakens the body.

True freedom begins with recognizing spiritual an natural laws. As Catholic author Frank Sheed argues, "successful living involves obedience" to both (*A Map of Life* 22). Sheed remarks that "freedom; then, is not to be attained by doing what we like unless by chance we like what we ought, which brings us back to the true purpose of our being and the laws by which our being may progress toward it" (*A Map of Life* 24). Sheed

suggests that “intelligent living” involves living within laws, yet intelligent living is only intelligent through awareness.

McLuhan’s media theory brings a fuller sense of awareness to our material and spiritual situatedness. In his role as a philosopher of communication, McLuhan sought to increase recognition to the effects of media as extensions of the body and mind. As McLuhan remarks, the philosopher “is a sort of detective working on natural clues,” however, the philosopher in most cases “refuses to listen to any account (revealed truth)” (Gordon 73). Thus, the philosopher attends to material phenomena in the hope of discovering higher truths.

Plato’s allegory of the cave serves as an example par excellence of a philosopher seeking to reveal a higher sense of reality. As Plato describes, the prisoners were chained and made to face a blank cave wall. The prisoners saw the shadows of objects passing behind them. The shadows were not reality but a representation of reality. The prisoners had a partial view of reality and could not see the actual objects as they passed before a fire which cast the shadows. The role of the philosopher is to help them see more fully by unifying the spiritual, that is, the shadows, with of the material object itself.

The notion of Logos embodies philosophical inquiry into the unification of the material and spiritual realm, that is, the “seen” and the “unseen.” As Gordon remarks, “McLuhan deals extensively with the doctrine of the Logos . . . emphasizing that it is both a spiritual and material phenomenon” (McLuhan *The Classical Trivium* 60). Logos has a material and a spiritual essence, which unfolds in three primary understandings.

The first understanding of Logos can be thought of as the first cause of the kosmos. In *Laws of Media*, as the McLuhans state, “Logos is the formal cause of the

kosmos and all things, responsible for their nature and configuration. . . . Logos was also related to formal cause, to the existential essence of things" (*Laws of Media* 35–37). The McLuhans explain that "the divine body that encircles the world is that part of the resonant logos which never changes. This part is not contained by the world, but keeps outside, as an environment" (*Laws of Media* 36). The divine body points toward God, as McLuhan remarks, who "is independent of the universe . . . but he is also immanent in it in the sense that its order and life depends from Him" (Gordon 73). Wachs interprets McLuhan's understanding as "the agent that guides the history of the world . . . the cosmos and all that exists within it" (*The New Science* 166). Thus, the first understanding of Logos unfolds as the Creator of the material and spiritual universe without an explicit naming.

The second understanding of Logos relates to the human mind. As McLuhan remarks, "The *Logos* or universal reason is at once the life and order which are in all things, and in the mind of man. When the Romans found it impossible to translate *Logos* by any single word they therefore adopted the phrase *ratio et oratio* (reason and speech)" (*The Classical Trivium* 22). Reason and speech connect to the spiritual and material realm, in that reason (spiritual) is made known materially through speech. That is to say, Logos is actualized through the body. McLuhan makes the point when he states that "man is a rational animal, but he is also a speaking animal. In fact, it is speech that distinguishes him from the brutes" (*The Classical Trivium* 63). Thus, the second understanding more precisely reflects the material and spiritual nature of man.

Finally, Logos is understood explicitly as the Creator, or Jesus Christ as referenced in *The Holy Gospel* as the Word. According to St. John 1:1—"In the beginning was the Word, and the Word was with God, and the Word was God" (Challoner 103). From the Christian perspective, the Logos is the Alpha and Omega, or the beginning and end to which all things are drawn in the form of a Triune God. In the second person of the Holy Trinity, Logos is the Word made Flesh in the form of Jesus Christ. The Roman Missal pulls from *The Holy Gospel*; according to St. John 1:14: "And the Word was made flesh"—Et Verbum caro factum est (Hoever and Hugelman 701). In the final analysis, whether unmoved mover, reason and speech, or Jesus Christ, the idea of Logos represents a connection between the material and spiritual realm in that there is always a ground to the figure of the known.

Animals, plants, and stones are matter and known, while angels are pure spirit and unknown (Sheed 9). Man fits the hylomorphic position of both the seen and unseen, that is, matter and spirit or body and mind. As Sheed argues, "intelligent living" attends to both; we cannot live intelligently unless we know what we are made for. Science can determine what we are made of, but unless it is revealed, we cannot know what we are made for. To this point, Sheed uses the example of "a man who has never shaved" (11). As Sheed remarks, "suppose that he suddenly discovers a razor. He does not know what it is, but he discovers that it cuts. Whereupon he uses it for cutting wood. He does not cut a great deal of wood and he ruins the razor, leaving it fit only for the scrap-heap" (11). As Sheed argues, man may mean well, but unless he knows the purpose, he is "acting blindly" (11).

"Intelligent living" comes through two forms. First, as Sheed exemplified, is indirectly through trial and error. Such a perspective is inefficient and may not provide a clear path forward. The second form comes directly through revelation and provides clarity. We cannot know what we are made for unless we are told; as Sheed states, "short of God telling us . . . we cannot know. We can of course theorize—or in plain English, guess" (13). The teaching body of the Catholic Church, the Magisterium, reveals man's purpose to live intelligently and reach his proper end in Heaven. As the *Baltimore Catechism No. 3* reveals, God made man "to show forth His goodness and to share with us His everlasting happiness in heaven" (Connell and Sharrock 5). Thus, the Catholic position finds freedom toward the laws of God as explicated through the Magisterium or teaching authority of the church, priests and bishops.

McLuhan's work rarely references his Catholic faith, but his figure/ground analysis reflects the parallel of awareness. When figure is unified with ground, a broader understanding of reality unfolds. As McLuhan's work reveals, man errs in his inability to see the whole. In terms of media, the inability to understand media effects leaves man in a state of ignorance and caught in the figure of message transmission. Likewise, with the material world, the inability to understand the effects of spiritual laws leaves man only with the body and the figure of material realm. However, both are integral to "intelligent living." McLuhan's Catholic conversion is paradigmatic of "intelligent living" in exemplifying a broader understanding of reality both material and spiritual.

McLuhan's Conversion

The Greek word *metanoia* means conversion. In the classical Greek sense, *metanoia* meant changing one's mind about someone or something. In Christianity, the

term means “changing one’s way of thinking and living and adopting a new way of thinking and living consistent with the lifestyle prescribed in the teachings of Jesus” (Nave 222). The story of Saul is a classic example of an extraordinary and instantaneous “change of mind”. Saul, who on his way from Jerusalem to Damascus to arrest followers of Jesus, was interrupted by a blinding light. God knocked Saul from his horse, and he became Paul a follower of Jesus. McLuhan’s conversion was like Saul’s in that it was instantaneous as figure, yet as ground, McLuhan’s conversion was a journey. The following section tells the tale of his conversion journey.

G. K. Chesterton was a principal factor prompting McLuhan to begin this journey, as McLuhan acknowledges, “had I not encountered Chesterton I would have remained agnostic for many years at least. Chesterton did not convince me of religious truth, but he prevented my despair from becoming a habit or hardening into misanthropy” (*The Medium and the Light* 16). Although many intellectual influences shaped Marshall’s conversion, G. K. Chesterton played a special role; as McLuhan remarks, “no other writer, has ever before been able to arouse my enthusiasm for ideas as has G.K.” (Gordon 32).

The scholarly community has acknowledged many other influences. McLuhan’s son Eric recognizes the notable influence of St. Thomas Aquinas; as he notes, his father read *Summa Theologica* not only in English but in Latin as well (McLuhan *The Medium and the Light* xiii). Additionally, Thomas Nashe and his principal antagonist, Gabriel Harvey, shaped McLuhan’s intellectual perspective as well as

> He [McLuhan] dug back through our intellectual traditions, beginning with their foundations in the educational systems and techniques bequeathed us by Greece

> and the Rome, and pursued them on through the Middle Ages, the period of Scholasticism, the Reformation, the Enlightenment, and ending with some remarks about James Joyce in the twentieth century. (McLuhan *The Medium and the Light* x)

Throughout his intellectual journey, McLuhan encountered the likes of Zeno, Isocrates, Cicero, Augustine, Vives, Montaigne, Machiavelli, Muret, Erasmus, Ramus, Lipsius, and Descartes, to name a few (McLuhan *The Medium and the Light* x, 211–12). As Eric McLuhan remarks, his father's "approach to the Faith was simply a side-effect of his studies: he had not set out to investigate Catholicism. Rather, while mapping out the intellectual background of the Nashe-Harvey disputes he picked up an extensive grounding in Catholic theology" (McLuhan *The Medium and the Light* xiii). This is how Eric McLuhan frames the "first phase" of McLuhan's conversion: an intellectual endeavor (McLuhan *The Medium and the Light* xvi).

In addition to the breath of intellectual influences, McLuhan's early childhood religious formation served as a grounding for his spiritual transformation. McLuhan biographer W. Terrence Gordon notes that "if it was Sunday morning, he was in Bible class at Winnipeg's Nassau Baptist Church" (25). McLuhan "rarely missed a Bible class, even though he found a succession of teachers had little more to offer than 'feeble, faltering, immature, disjointed utterance'" (Gordon 25). Gordon remarks that since instruction was not meeting McLuhan's high standards, he embarked upon his own systematic study of the Scriptures (25). The practice of reading the Bible carried forward into his later years; as Maurice McLuhan, Marshall's brother, notes, "during his undergraduate years, Mars [Marshall] made a habit of reading Bible daily, not only for

spiritual sustenance, but also for literary value" (Nevitt and McLuhan 273). As a father, McLuhan "rather constantly, over the years, before breakfast, used to read a few verses from the New Testament each morning in English and then in two or three other languages," as noted by his son Eric (McLuhan *The Medium and the Light* xxi).

McLuhan was formally received into the Catholic Church on March 30, 1937, at the age of 25. The date had a particular measure of importance, as captured in a letter to Father Stanley J. Murphy in 1979 where McLuhan remarks that "today is the forty-second anniversary of my reception into the Catholic Church" (*Letters* 544). His journey toward Catholicism had three notable stops, which correspond to his academic life at the University of Manitoba, the University of Cambridge, and the University of Wisconsin, where he was teaching when he was ultimately accepted into the Church. The following section tells the tale of McLuhan's journey toward the most important aspect in his life, his Catholic faith.

University of Manitoba

Marshall's years at Manitoba extend from 1928 to 1934, where he obtained a BA and MA from the University. It was here where Marshall first encountered G. K. Chesterton's work. Thomas W. Cooper notes that the phrase "Cambridge conversion to Chesterton's Catholicism" is misleading in that Marshall's "introduction to Chesterton came in Manitoba, not at Cambridge" ("The Medium Is The Mass" 164). At the University of Manitoba, McLuhan first encountered what would quite possibly become the most influential person in his spiritual and intellectual life.

In *Marshall McLuhan*, McLuhan biographer Philip Marchand highlights the story of Marshall's serendipitous encounter with Chesterton. The chance encounter with

Chesterton's, *What's Wrong with the World*, occurred while browsing for books at a secondhand bookstore with a friend, Tom Easterbrook (Marchand 23). Marshall picked up a book on economics, while Tom "bought a twenty-five-cent copy of *What's Wrong with the World*" (Marchand 23). Bored with their respective selections, the friends decided to swap (Marchand 23). As Marchand notes, "it was a transaction, McLuhan maintained, that changed his life. . . . *What's Wrong with the World* seems an unlikely book to change anyone's life. The mannered prose repels as many readers as it attracts" (23).

Easterbrook, a childhood friend, college classmate, and faculty colleague, later recalls the experience directly, saying that "both of us were fascinated with Chesterton. He had a way of twisting a phrase and gleaning an insight . . . and yet he needed a security, a base, something he could turn to or lean on, to free him of all the uncertainties and he found his bedrock in the Church. . . . Chesterton led him to the church" (Cooper "The Medium Is the Mass" 162, 165). McLuhan later remarks in "G.K. Chesterton: A Practical Mystic" that the grounding of Chesterton's influence as man "liberated by faith and joy" (464); it is this faith and joy that activated McLuhan's interest in the Catholic Church and later moved him from his misanthropy. In a letter to his mother Elsie, McLuhan explains that "he [Chesterton] taught me the reasons for all that in me was simply blind anger and misery" (*The Medium and the Light* 15).

The significance of McLuhan's experience thus far is to highlight the formation of ground, that is, the environmental effects that are influencing him. To say otherwise, ground is communicating subconsciously. As his conversion story continues, the effects of ground move to conscious awareness or figure. As figure, it becomes a matter of the

will and the conscious decision to convert. The next stop in his conversion journey is at the University of Cambridge.

University of Cambridge

McLuhan attended the University of Cambridge from 1934 to 1936, receiving a second BA. While at the university, Marshall's interest in Chesterton continued to grow as he sought out those with similar interests. As Gordon notes, "McLuhan had taken the trouble to get figures on the circulation of *G.K.'s Weekly*; on discovering that his subscription and the Willisons' were among the only three in all of Cambridge, he contacted them" (53). In a March 30, 1935, letter to "Mom, Dad, and Red [brother]," McLuhan introduces his new friends, Mr. and Mrs. Willison, as "the G.K. fan[s]" (*Letters* 66). McLuhan mentions that Ted and Kath invited him to supper "last Thursday and [I] took it with me to entertain them with some snappy American dialogue they had a very tasty supper for me, and we had the most pleasant evening" (*Letters* 66). Their first dinner together was not to be the last, as McLuhan frequently visited the home of his new Catholic friends (Gordon 53). As their friendship developed, so too did their mutual interest in Chesterton.

McLuhan and the Willisons traveled to London to hear Chesterton speak. On Saturday, June 1, 1935, McLuhan and the couple attended an afternoon meeting of the Distributist League, followed by a dinner with Chesterton as a notable speaker (McLuhan *Letters* 68). With excitement, McLuhan penned a letter to Elsie (his mother), Herbert (his father), and Red (his brother) the following day. The salutation exhibited his delight with the event, as McLuhan describes, "well, GK was at the dinner!" (68). The letter reflected his joy as McLuhan describes Chesterton: "he holds himself quite erect when he stands—

necessarily he moved slowly, and because he is GK, he imparts a sense of largess, ample humor, tolerance, and significant dignity to the necessity which nature has laid upon him" (*Letters* 68). Gordon marks the event as the impetus for Marshall's completing his essay, "G.K. Chesterton: A Practical Mystic" (54).

What appears to have captured Marshall's interest in Chesterton was not necessarily his orthodox views but rather his way of thinking, as reflected in "G.K. Chesterton: A Practical Mystic." To say otherwise, Chesterton as ground transformed McLuhan's perspective as figure. In his 1936 essay, McLuhan describes Chesterton as a "mystic" ("G.K. Chesterton: A Practical Mystic" 455). As McLuhan argues, a mystical approach "goes to the roots of things," uncovering taken-for-granted assumptions (McLuhan "G.K. Chesterton: A Practical Mystic" 458). The notion of McLuhan's probe and the playful artist connects to Chesterton's mystical approach.

In the 1908 work *Orthodoxy,* Chesterton frames the mystic as one joyously engaged in "splendid confusion" (34). Paradoxically, Chesterton argues that out of "splendid confusion" comes clarity, as "the mystic allows one thing to be mysterious, and everything else becomes lucid" (*Orthodoxy* 33). By probing ideas, one understands them better—that is to say, the student forms connections by considering figures and grounds. In contrast, clarity leads to confusion; as Chesterton remarks, "the morbid logician seeks to make everything lucid, and succeeds in making everything mysterious" (*Orthodoxy* 33). The figure-oriented student discounts connections and contexts and misses out on the intellectual vigor of probing and the revelations that follow. As McLuhan remarks that "much learning theory still accepts this illusion as a warranty that we must learn by going from the familiar to the unfamiliar. Yet this strategy merely ensures that whenever we

encounter the unfamiliar, we will translate it into something we already know" (Dunphy *The New Morality* 176). McLuhan worked from the probe and brought clarity by unifying the unfamiliar, ground, with the familiar, figure, thereby seizing a greater understanding of the whole.

Chesterton's mystical perspective is another way of understanding McLuhan's "method of perceiving," that is, the probe (*The Book of Probes* 403). While having "no point of view," McLuhan embraced Chesterton's sense of mystery (E. McLuhan "Marshall McLuhan's Theory of Communication" 27). Cooper notes that "McLuhan would adopt Chesterton's sense of awe and mystery, his love of transformation and transcendence" ("The Medium Is the Mass" 165). McLuhan embraced splendid confusion as he sought to observe, not impose. As Chesterton remarks, "mysticism keeps men sane. As long as you have mystery you have health: when you destroy mystery, you create morbidity" (*Orthodoxy* 32).

While at Cambridge, Chesterton may well have been the medicine for McLuhan's perceived inconsequential existence. In a September 5, 1935, letter to his mother, Elsie, McLuhan states, "I simply couldn't believe that men had to live in the mean mechanical joyless rootless fashion that I saw in Winnipeg. . . . The deepest passion in man is his desire for significance" (*Letters* 73, 74). The call for significance rang louder in McLuhan's life, yet as he notes, in his letter to his mother, "I shall not rush into the Church where even angels tread reverently" (*Letters* 73). It would be a year and a half before McLuhan entered the Catholic Church while serving as a lecturer at the University of Wisconsin.

At this point in his conversion journey, we see the network of grounds continue to grow and interrelate. McLuhan forms a friendship with the Willisons and develops a mutual interest in Chesterton. McLuhan sees Chesterton himself, and the man inspires McLuhan to intellectually engage his works. Through this engagement, Chesterton's mystical perspective attaches to McLuhan, although at the time, he may not have been fully aware of the impact. The significant point is the simultaneous interplay of figures and grounds. McLuhan's conversion is not a linear model, from A to B, that is, Manitoba to Cambridge, but rather the networking of interrelated grounds. The ultimate transformation occurs at the University of Wisconsin when the grounds come to full awareness as figure.

University of Wisconsin

After receiving a BA from the University of Cambridge in 1936, McLuhan moved to the University of Wisconsin, teaching from 1936 to 1937, prior to returning to Cambridge for a MA in 1939 and a PhD in 1942. It was here that his journey toward the Catholic faith culminated with his conversion. As McLuhan recalls, a "fellow in class asked me why I wasn't a Catholic" (Cooper "The Medium Is the Mass" 164). McLuhan acknowledges that he was caught by surprise and "had absolutely no answer (Cooper "The Medium Is the Mass" 164). . . . I became a Catholic at once, because I knew that was the divine work" (McLuhan *The Medium and the Light* xvii). This was McLuhan's Saul to Paul moment. As Gordon remarks, "McLuhan was baptized by the Newman chaplain, who already knew him well and exempted him from instruction and catechism. That evening, he was received into the Church, sponsored by his teaching colleague and friend John Pick" (Gordon 74). As Eric McLuhan describes, "he was baptized and

confirmed on the same day" (McLuhan *The Medium and the Light* xvii). The following day, he took first communion at the college chapel. The day was Holy Thursday: March 25, 1937.

The date was very important to McLuhan, as Gordon describes that he "never failed to mark the anniversary of the event in his diary" (74). Years after his conversion, in 1970, McLuhan himself reflected upon the event, stating that,

> I had no religious belief at the time I began to study Catholicism. I was brought up in the Baptist, Methodist, and Anglican churches. We went to all of them. But I didn't believe anything. I did set to find out, and literally to research the matter, and I discovered fairly soon that a thing has to be tested on its terms. You can't test anything in science or in any part of the world except on its own terms or you will get the wrong answers. The church has a very basic requirement or set of terms, namely that you get down on your knees and ask for the truth. I prayed to God the Father for two or three years, simply saying 'show me.' I didn't want proof of anything. I didn't know what I was going to be shown because I didn't believe in anything. I was shown very suddenly. It didn't happen in any expected way. It came instantly as immediate evidence, and without any question of its being divine intervention (*The Medium and the Light* xvii).

God transformed McLuhan through many grounds that suddenly revealed themselves as figure and resulted in his conversion decision. As ground often does, the effects remain imperceptible until something brought them to awareness. The question posed to McLuhan by a student triggered conscious awareness. McLuhan's conversion is paradigmatic of his work in that he attempts to bring ground to figure. To say otherwise,

McLuhan attempts to “convert” those who do not recognize the profound and hidden effects of media.

McLuhan’s conversion serves as a metaphor for communication as transformation in that there is always a hidden ground behind an apparent figure. From a transformation perspective, ground is crucial to understanding communication because it is in ground where communication is really happening. That is, ground transforms at the subconscious level and only moves to the conscious level through an attentiveness to it.

Dialogue played a crucial role in McLuhan’s conversion as the question from a student served as the catalyst to his conversion. Communication scholars Ronald C. Arnett and Annette M. Holba emphasize the importance of dialogue, it is “discourse that houses a sense of meaning and offers interpretive frameworks for understanding” (9). Through the “communicative relationship,” (Arnett and Holba 17) a “story” unfolds and moves “information into the realm of meaning” (Arnett 60). McLuhan’s conversion is an interrelation of “story” and “meaning”. The multiplicity of grounds, throughout McLuhan’s life formed “the story,” and became “meaningful,” as figure, when combined into more than “the collection of informational parts” (Arnett 60).

Meaning for McLuhan is what he describes as “belief in God” (Gordon 75) As figure, his belief was reflected in many experiences, as Cooper notes, “he [McLuhan] attended noon Mass every day that he could and utilized the traditional forms of the church as his times for contemplation, communion, and Communion” (“The Medium Is the Mass” 171). Cooper also recalls McLuhan telling him that “he spoke with the Virgin Mary” (“The Medium Is The Mass” 171). Cooper notes, “Her spirit seemed a singular blessing to him. Why should this seem any more unusual than speaking with God as in

prayer, or in believing in fate or luck, or in speaking to dead ancestors as millions of Shintoists do? It was real and vivid for him and seemed a special source of counsel and relief" ("The Medium Is the Mass" 171). McLuhan also revealed the spiritual occurrence to Marcel Kinsbourne who recounted his conversation with McLuhan as follows,

> He alluded to it very briefly once, almost fearfully, in a please-don't-laugh-at me tone. He didn't say, 'I know this because the Blessed Virgin Mary told me,' but it was clear from what he said that he was interrogating her about his ideas and that one of the reasons he was so sure about certain things was that the Virgin had certified his understanding of them (Marchand 45).

McLuhan's experience with the Virgin Mary could be why, as Marshall's son Eric recalls, that "we said the Rosary as a family before retiring to be most nights" (McLuhan "Marshall McLuhan's Catholic Faith").

In the final analysis, McLuhan's Catholic faith was primary in his life, albeit often unknown. Richard J. Osiecki cites a paper presentation by Eric McLuhan where he states that "the three most important things in my father's life were: one, his faith (as a Catholic); two, his work (as teacher and scholar); and, three, his family—in that order!" (353). The figure of McLuhan's Catholic faith assists in understanding his work as ground. Conversely, McLuhan's work, as figure, assists in understanding his Catholic faith as ground. In true McLuhan fashion, the two cannot be separated but rather stand holistically in relation to each other.

The Church itself reflects an attentiveness to unity of the spiritual and material. The holistic view of the Church is at odds with the embedded Cartesian dualism of cyberspace that prioritizes the "spiritual," that is, the mind over the body. The dualistic

philosophy poses challenges for the Catholic Church as an incarnate entity. Livestreamed Masses, for example, discount the necessity of the physical presence. To receive the Eucharist, one must be physically present. Additionally, a Catholic cannot get absolution over the phone or through Zoom. The sacraments require physical presence. Without physical presence, the Church ceases to fulfill its mission, as McLuhan warns of the separation "induced by the electric media," arguing that electric media "conceivably . . . holds the potential for realizing the Anti-Christ" ("Playboy Interview" 137). McLuhan does not mean the devil himself will come through cyberspace, but rather that the lack of recognition as to the "the psychic and social consequences" could potentially create an artificial view of mankind, the Church, and its mission. Post-humanism unknowingly creates a false sense of mankind and the Church's mission by its philosophical embrace of Cartesian dualism albeit as ground. The following section brings the post-humanism's embedded embrace of Cartesian dualism from ground to figure as a means of revealing its antithetical view of McLuhan's work and Church teaching.

Post-Humanism: Cyberspace and Cyborg

Thus far, this project has covered a lot of ground. This chapter has highlighted the distinction between a freedom from and a freedom toward using the metaphors of the "autonomous" and "situated self" to help exemplify the notion of Cartesian dualism. The "autonomous-self" embodies a freedom from philosophy and elevates the mind while discounting the body. The "situated self," in contrast, embodies a freedom toward philosophy and embraces the mind and body as integral to "intelligent living." Yet, "intelligent living" comes through awareness, that is, recognition of the effects induced by electronic media. The following section argues that post-humanism philosophically

embraces Cartesian dualism and fails to see the whole of our humanness. By recognizing that we are situated beings, we can live intelligently or, to say otherwise, live with purpose.

Within the scholarly conversation, there are two forms of post-humanism, hard and soft. Soft post-humanism embraces technologies and attempts to retain the essence of our humanity. Hard post-humanism forthrightly disregards our humanity as we know it. However, both share the common embrace of Cartesian dualism. The fullness of our humanity cannot come through mediated communication, be it print or electric technologies. They are means to an end, not an end in and of themselves. Not only do they separate the mind from the body, but they also separate the mind amongst itself. Electronic media, for example, filter the senses and give priority to sight and sound. In a Zoom call, for example, we see and hear the other, but we cannot feel the other's presence. The once shared bond of touch, taste, and smell is not only separated within oneself but also between two environments. One rhetor may "feel" the office environment, while the other may "feel" the home environment. The separation of senses and two environments alter the overall perception during the communicative exchange, albeit subconsciously. Both soft and hard post-humanism fail to consider implications of mediation upon our humanness.

Soft post-humanism is in quasi-denial, of sorts, seeking to embrace the benefits of technology without adequately recognizing the embedded Cartesian dualism of our electronic age. Notable postmodern literary critic N. Katherine Hayles argues that post-humanism "embraces the possibilities of information technologies without being seduced by fantasies of unlimited power and disembodied immortality, that recognizes and

celebrates finitude as a condition of human being" (5). Hayles's understanding of post-humanism seeks to fulfill the potentialities of humanity through modern technologies, yet misses the point of mediation. Through mediation, we cannot help but exceed the finitude of our human condition as our senses and environments are artificially divided. Hayles's understanding is arguably more akin to what Garreau refers to as "transhuman" (231–32) or "those who are in the process of becoming posthuman" (Hayles 5). Transhumanism operates on the figure level and advocates for the outright transformation of the human condition, while soft post-humanism works on the ground level and advocates for transformation of the human condition, albeit unstated through the embrace of Cartesian dualism.

Cyberspace

Cyberspace is paradigmatic of soft post-humanism. Cyberspace itself is the means by which we achieve a disembodied state. Cyberspace is a term describing widespread digital connectivity most commonly known as the Internet. The term "cyberspace" first appeared in the late 1960s "in the lower right-hand corner of a collage that shows human figures placed within a space made up of geometric and organic form. . . . [T]he creators were artist Susanne Ussing (1940–1998) and architect Carsten Hoff (b. 1934)" (Lillemose and Kryger). However, Willian Gibson is credited with conceptualizing cyberspace; as noted by Womack, "in the most genuine sense [Gibson] did create cyberspace" in his 1982 short story *Burning Chrome*, describing cyberspace as "a graphic representation of data abstracted from banks of every computer in the human system" (Womack 4750–72; Gibson *Burning Chrome*). Gibson, an American Canadian writer, later refers to cyberspace in his 1984 science fiction novel *Neuromancer* as "a consensual hallucination

experienced daily by billions of legitimate operators, in every nation" (902). Gibson's description, as a "graphic representation" and "consensual hallucination," represents the mind divorced from the body and the senses reconstituted over the digital space. Cyberspace is, in essence, a network of "disembodied angels" interacting as beings free from the constraints of the body as their minds are "transmitted instantly everywhere," or to say otherwise, mediated (Gordon 434).

As argued, cyberspace is Cartesian dualism par excellence. As Barlow remarks, in the cyberworld, "our identities have no bodies, so, unlike you, we cannot obtain order by physical coercion." In cyberspace, autonomous selves operate as cells within a digital organism. Electricity provides the digital body in the form of the mind. As Gordon argues, "where McLuhan speaks of the global village, his key word is interdependence—a far different matter from unity" (303). A false sense of unity comes through self-promotion in the digital world. This is a key distinction between the oral world of tribal unity and the digital world of tribal interdependence.

Cyberspace promotes behaviors that otherwise would be viewed as bizarre in the real world. Take, for example, the cereal challenge on TikTok where one individual lies flat while another pours cereal and milk into their mouth and uses the orifice as a bowl. Such behavior would generally not be permissible in the public arena of physical presence. To use another example, pornography is widely viewed and trafficked in cyberspace, yet if the viewer and actors were to transfer the same behavior into the real world for public viewing, the orgy would result in a public outcry if not jailtime for the participants. These examples demonstrate that in cyberspace, "humans transcend the experience of 'real life'" (Wachs *The New Science* 171).

Hard post-humanism, like soft post-humanism, embodies a philosophy of Cartesian dualism. However, hard post-humanism views the human condition as pliable. Bestselling author Joel Garreau describes hard post-humanism as "a belief in the engineered evolution of 'post-humans,' defined as beings 'whose basic capacities so radically exceed those of present humans as to no longer be unambiguously human by our current standards" (231–32). The radical exceeding of humanity is notable through the cyborg, which "represents the denial of death. . . . [T]he cyborg obsolesces death and handicaps. People who live longer—potentially forever—no longer need to fear death because the machine will keep them alive for extreme periods of time" (Wachs *The New Science* 183).

Cyborg

If cyberspace serves as a metaphor for soft post-humanism, the cyborg serves a metaphor for hard post-humanism. A cyborg itself is "a self-regulating organism that combines the natural and artificial together in one system" (Gray 2). The term was first coined by Manfred Clynes and Nathan S. Kline in "Cyborgs and Space" in 1960. There they describe the cyborg as "exogenous components extending the self-regulatory control function of the organism in order to adapt it to new environments" (Clynes and Kline 27). In other words, the cyborg "frees man to explore" (Clynes and Kline 27). Hayles defines the cyborg as "a conception of information as a (disembodied) entity that can flow between carbon-based organic components and silicon-based electronic components to make protein and silicon operate as a single system" (2). The Terminator serves as an example of a synthesized system. In the 1984 American science fiction film *The Terminator,* Arnold Schwarzenegger plays the role of a cyborg assassin sent back in time

from 2029 to 1984 to kill Sarah Connor to prevent her son from being born as the savior against the rise of the machines in a post-apocalyptic future. In one scene, the T-800 cyborg removes his eyeball with a scalpel as a mechanical eye is revealed. The scene paradoxically represents an acceptance of the body by rejecting it; as Gray argues, with the cyborg "we can consciously shape our own evolution," for the cyborg itself is "a self-regulating organism that combines the natural and artificial together in one system" (2, 11). The cyborg serves as a metaphor for self-transformation and the pinnacle of Cartesian dualism. This philosophical assumption is critical for understanding the diametrically opposed positions of the Catholic Church.

The Catholic position rejects Cartesian dualism and the autonomous spirit of post-humanism. The fundamental guide for Catholic teaching, *Baltimore Catechism No. 3*, states that "man is a creature composed of body and soul and made to the image and likeness of God. The soul and the body are not loosely connected parts of man; they are united in a substantial union to form one complete human nature. The soul is not located in any particular member of the body but is whole and entire in each part" (Connell and Sharrock 32). Thus, unlike soft or hard post-humanism, the Catholic Church philosophically argues against the body and soul being separated in cyberspace or the outright rejection of the body in the cyborg. Additionally, the Bible itself supports the notion of man as spirit and matter. The Book of Genesis 2:7 states, "and the Lord God formed man of the slime of the earth: and breathed of life, and man became a living soul" (Challoner 6). The etymological origins of the term "Adam" reveal the dualistic nature of man. The term meant "mud-man" before Adam was brought forth from a purely material to a spiritual being.

Catholicism works from the perspective of the "situated self," that is, body and mind unified. As the Catholic tradition argues, death is not something to be overcome but rather embraced. It is a consequence of the disobedience of Adam and Eve in eating the forbidden fruit. The root of disobedience is pride and constitutes the essence of sin. Adam and Eve acted as autonomous selves, who desired to fulfill their preferences regardless of the spiritual law set forth by their Creator. By eating the forbidden fruit, Adam and Eve desired to be like God. In essence, they desired to self-transform, akin to the cyborg. Yet, through their pride of disobedience, they suffered banishment from the garden of Eden and the consequently "the right to heaven . . . death . . . suffering, ignorance, and a strong inclination to sin" (Connell and Sharrock 35). Their disobedience caused the entire human race to enter "the world deprived of the gifts we should have had if Adam had not sinned" (Connell and Sharrock 36). The significance is recognizing that we are situated beings cooperating with reality, not discarding it. We are paradoxically determined and determinative beings in that we have an intellect to ponder and a will to decide. Mediation muddies the water on both fronts, unless the effects are recognized. McLuhan's work serves the significant purpose of attempting to clear the water through recognition so that we can live intelligently.

In the final analysis, media are not a neutral endeavor; they are two-dimensional in that they transmit and transform. Cyberspace and the cyborg create a false sense of reality by splitting the mind from the body. McLuhan's work attempts to unify the mind and body through awareness. By bringing awareness to the transformative nature of media, man can exercise his humanity through "free" and conscious decisions.

Conclusion

Communication studies is divided between a one-dimensional transportation perspective and a two-dimensional transformation model. As McLuhan argues, the distinction lies between "inner and outer quests" (Dunphy 181). A transportation approach attends to the "outer quest" of transmitting data, while a transformation approach attends to the "inner quest" of perceptual change. The figure-oriented approach of the transportation model misses the ground effects created through mediation. The figure-first perspective understandably misses the massive implications because "it is quite natural also that the formal causes of these changes should be beyond the range of human perception" (Dunphy 177). Thus, the significance of a transformation perspective is awareness.

Chapter 1 highlighted McLuhan's "unequivocal call" for "a program of education based on the ambitious and lofty ideal of reintegrating the classical trivium" (McLuhan *The Classical Trivium* xi). A trivium-based education is the means by which McLuhan intends to cultivate awareness. Awareness is a parallel theme in his transformation model, and a trivium-based education paradoxically prepares the mind to understand it. Through a figure and ground perspective, the "inner quest" and "outer quest" are more fully understood. The trivium tradition offers an antidote to the autonomous philosophy of post-humanism and prepares the mind for understanding and embracing the fullness of reality, both material and spiritual. As the foremost scholar on the trivium, Sister Miriam Joseph, remarks, "the function of the trivium is the training of mind for the study of matter and spirit, which together constitute the sum of reality" (*The Trivium in College* 6). The post-humanist philosophy distracts from the spiritual reality by embracing the

philosophy of the "autonomous self," whether in cyberspace or cyborg. The "autonomous self" essentially seeks itself through preference satisfaction. A trivium-based education breaks this cycle and prompts the mind to consider a greater reality of being.

The trivium consists of "the three arts of language" (Joseph *The Trivium in College* 1). Logic is the art of thinking; grammar is the art of inventing and combining symbols; rhetoric is the art of expressing thought (Joseph *The Trivium in College* 6). The three liberal arts are distinct from utilitarian arts, such as carpentry, or fine arts, such as music, in that "the action begins in the agent and ends in the agent" (Joseph *The Trivium in College* 1–2). The end is to "perfect the agent," that is, the human person (Joseph *The Trivium in College* 3). Awareness is the key to "perfection." As Plato argues, we are turned rightly when look at what we ought (*The Republic* 197).

A trivium-based education turns us rightly, and when we are turned rightly, we see the whole. A trivium-based education fosters figure/ground thinking; as Sister Miriam Joseph remarks, "the essential activity of the student is to relate the facts he learns into a unified organic whole" (*The Trivium in College* 5). Information without context "burdens the mind and stultifies it instead of developing, enlightening, and perfecting it" (Joseph *The Trivium in College* 5). A trivium-based education moves beyond knowledge acquisition and the "outer quest" of transmitting data to the "inner quest" of awareness and understanding. Through the "inner quest," we recognize the effects of mediation and retain the essence of our humanity.

When we lose control of our judgment, we lose control of our humanity. Weizenbaum makes this critical point in *Computer Power and Human Reason* where he states that "however intelligent machines may be made to be, there are some acts of

thought that ought to be attempted only by humans" (13). Cyberspace and the cyborg separate our humanity by attending to the autonomous mind and trap us within ourselves through preference satisfaction. By continually satisfying the self, we lose the essence of ourselves. The trivium tradition attempts to break the autonomous cycle through recognition and bring "humans to their fulfillment as liberal or free person" (Wachs *The New Science* 187).

Plato's allegorical representation of the tripartite soul is paradigmatic of a trivium base education. A good education gives students wings, and when the student "is perfectly winged, it [he] travels above the earth" and avoids being "swept along until it lays hold of something solid" (Plato *Phaedrus* 26). With wings, man sees beyond his material condition and gain freedoms through recognition. Within the communicative center, man finds the fullness of his being and prepares himself for his rightful end.

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