

LITERACY, ORALITY AND THE DIGITAL REVOLUTION:
HISTORY AND PROSPECTS
FOR UNIVERSITY UNDERGRADUATE RESEARCH FELLOWS

A Senior Honors Thesis

by

J. GARRETT CORNELISON

Submitted to the Office of Honors Programs
& Academic Scholarships
Texas A&M University
In partial fulfillment of the requirements of the

UNIVERSITY UNDERGRADUATE
RESEARCH FELLOWS

April 2001

Group: History/Cultural Studies

LITERACY, ORALITY AND THE DIGITAL REVOLUTION:
HISTORY AND PROSPECTS
FOR UNIVERSITY UNDERGRADUATE RESEARCH FELLOWS

A Senior Honors Thesis

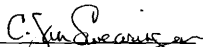
by

J. GARRETT CORNELISON

Submitted to the Office of Honors Programs
& Academic Scholarships
Texas A&M University
In partial fulfillment of the requirements of the

UNIVERSITY UNDERGRADUATE
RESEARCH FELLOWS

Approved as to style and content by:


C. Jan Swearingen


Edward A. Funkhouser

April 2001

Group: History/Cultural Studies

ABSTRACT

Literacy, Orality and the Digital Revolution: History and Prospects. (April 2001)

J. Garrett Cornelison
Department of English
Texas A&M University

Fellows Advisor: Dr. C. Jan Swearingen
Department of English

For years, communications scholars have classified communication into two types, oral and literate. Oral communication is, of course, basic to humans. We are born with the ability to speak and need no formal training in language. We simply learn the language that is spoken around us. Literate forms of communication, however, must be taught; we have no instincts as human beings for acquiring the ability to read and write.

According to communications scholars such as Walter Ong and Marshall McLuhan, when an individual becomes literate, the written word became not just a vessel for communication, but a device that restructures her consciousness. Leonard Shlain extends this principle by arguing that literacy shifts a person's mental dependence from the right brain to left brain. The right hemisphere of the brain is the domain of oral communication – it is holistic and intuitive. The left hemisphere is the domain of logic, sequence and order. According to Shlain and other scholars, shifting from a right to a left brain dominance allowed for the creation of classical philosophy and the sciences as a result of the abstract thought that is made possible through literacy.

The Digital Revolution, involving our new technologically advanced forms of communication such as the television, radio, the world wide web, email and others, is transforming our consciousness in a manner akin to the ways in which it was

transformed by the Chirographic and Typographic revolutions. However, instead of dividing the two types of communicative devices, oral and literate, right brain and left brain, the communications revolution is fusing them. The dividing line that communications scholars have placed between oral and literate forms of communication is becoming increasingly meaningless in our “global village.” Instead of thinking and speaking of new media forms in old terms such as “orality” and “literacy,” we should instead be venturing forward with revised ways of thinking and speaking about our communicative devices. Instead of speaking in terms of “orality” and “literacy,” we should instead be focusing on the ways in which our newest communicative forms are fusing aspects of both oral and literate communications into a hybridized structure.

ACKNOWLEDGEMENTS

I would like to first of all thank my wonderful advisor Dr. Jan Swearingen for putting up with me and my idiosyncracies for the better part of a year. She has always been willing to help me when I needed help and she has provided guidance and direction to a sprawling project.

I would also like to thank Megan and Courtney for their comments and feedback. They never hesitated to ask me, “So what are you *really* trying to say here?” They kept my focus on keeping it all understandable, and for that I thank them.

I would like to thank all the people in my rhetorical theory classes over the past year for giving me such good ideas. Finally, I would like to thank the students at Texas A&M University for providing the innumerable examples of modern communicative life contained herein.

TABLE OF CONTENTS

	Page
ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	v
TABLE OF CONTENTS.....	vi
CHAPTER	
I INTRODUCTION.....	1
II A SHORT HISTORY OF COMMUNICATIVE REVOLUTIONS.....	4
III DEFINITIONS OF ORALITY AND LITERACY.....	15
IV THE DIGITAL REVOLUTION.....	34
V CONCLUSION:THE HYBRIDIZATION OF COMMUNICATION.....	46
REFERENCES.....	51
VITA.....	52

CHAPTER ONE: INTRODUCTION

This study defines new approaches to communication and language in the digital communication revolution, the communication revolution we as a society are now undergoing. Due to this revolution, we can no longer employ the terms “oral” and “literate” to describe our communicative habits and processes, for most of our newest communicative forms are neither oral nor literate, but something that falls in between, exhibiting at the same time an amalgamation of traits typically classified as either oral or literate. Most scholars agree that the invention of writing by the Sumerians sometime around 3000 BCE and the subsequent development of literate communication has had a dramatic, significant impact on our communicative practices. Written communication allowed us to record more or less permanently what we as a race had been verbalizing for hundreds of thousands of years. The effects that such a revolution had upon society and culture have arguably been as profound as those affected by the development of verbal language itself.

Communications scholars have classified communication into two types: oral and literate. Oral communication is, of course, basic to humans. We are born with the ability to speak and need no formal training in language. We simply learn the language that is spoken around us. Literate forms of communication, however, must be taught; we have no instincts as human beings for acquiring the ability to read and write.

This thesis follows the style and format of *Language and Communication*.

Aside from the development of verbal language during human antiquity, there have been two major communications revolutions in human history. The first – the chirographic revolution – occurred sometime between 3500 and 3000 BCE in the Fertile Crescent when the Sumerians discovered how to record business transactions by pressing a stylus into a wet lump of clay to form characters. The second – the typographic revolution – occurred with the invention of the printing press by Johannes Gutenberg in the 15th century. We are currently undergoing a communications revolution that many scholars think is at least as important, if not more important, than these two landmarks of human history. The digital communications revolution, involving our new technologically advanced forms of communication such as the television, radio, the World Wide Web, email and others, is transforming our consciousness in a manner akin to the ways in which it was transformed by the chirographic and typographic revolutions. Communication lies at the heart of our consciousness, and so there is nothing so basic to society as communication. Everything in which we as a society and as a species engage ourselves, from something as simple as reading a book to a thing as complex as arguing politics on the floor of the United States Senate, involves at least one, and usually more than one, type of communication. The idea of the existence of communication is so commonplace that we rarely, if ever, question it. We speak, we read, we communicate, we exist, and we seldom take the time to actually think about our communicative processes. Communication and the innate ability of human beings to communicate simply exist. Verbal language is instinctive for human beings. In *Comparative Rhetoric*, George Kennedy states that “no human society failed to develop language into a subtle and complex social tool” (Kennedy 29). Although it is highly debatable, many communications experts and evolutionary scientists see the development of language as the crucial difference between humanity and various animal societies, many of which employ sophisticated communicative practices themselves.

Of equal importance to changes in our communicative methods are changes in cognition. For the past several decades, communications scholars have become

increasingly aware that the methods we use to communicate affect our thought processes and the ways in which we organize information. Put simply, communicative methods affect cognitive abilities. If our communicative methods are evolving, then so our cognitive abilities are evolving as well. Marshall McLuhan understood this principle well when he said “The medium is the message” (McLuhan 1967). *How* something is communicated is as important, if not more important, than *what* is actually communicated, for the ways in which we communicate hold clues to why we as a society exhibit certain qualities.

In order to understand the current communicative revolution, however, it is important to review what we have learned from studying the communicative revolutions that preceded it. Thus, a secondary focus of this paper is to revisit studies of oral and written communication in human cultures past and present, including studies of how our cognitive abilities have been affected by our communication methods. Only then can the Digital Revolution that we are currently undergoing be understood in historical, social and cultural terms.

CHAPTER TWO: A SHORT HISTORY OF COMMUNICATIVE REVOLUTIONS

Writing is a relatively new development to human history. For hundreds of thousands of years, human beings (*homo sapiens* and their relatives) have communicated without the help of the written word. Little is known, however, about the history of communication before the advent of writing. Though Western theologians, philosophers and linguists have speculated on the subject, what little is known is considered conjecture and theory, and as many different opinions on the origin of human language exist as there are scholars to debate these opinions. The subject has been discussed for two and a half millennia, from the school of Plato in the 4th century BCE through the 18th and 19th century musings of Rousseau all the way up to the present day.

Presently, there is a rising interest in the study of the origin of human speech, known as “glossogenetics.” Scholars differ in their opinions and there are “schools of thought emphasizing physiological, behaviorist, and cognitive approaches” (Kennedy 33). However, most scholars agree that the recent discovery of the ability of apes (and other primates) to nominally communicate with each other and exhibit a primitive form of reason lends credence to the idea that ability of speech in humans must have evolved naturally over several million years (Kennedy 33).

There are several communicative attributes that are, traditionally, unique to oral communication. One of these is that no formal training is necessary to learn oral communicative skills; most theorists, among them Darwin and his successors, believe that human beings have evolved a natural inclination to use verbal signals to communicate. Although the level and effectiveness of oral communicative skills can differ based upon such variables as level of education and rhetorical training, a human being will develop the ability to communicate orally at a rudimentary level with no help whatsoever beyond common exposure to a language. It should be noted, however, that this exposure must occur at a fairly young age. In some of the most well-documented cases where a human being has been raised without the use of language, he or she rarely

develops any significant oral communicative skills whatsoever. It is also important to consider the fact that language is in no way genetic; a German child raised in a Japanese-speaking household will learn to speak Japanese, not German.

Another important attribute of oral communication is its speed. Sound travels at approximately 1100 feet per second; for two people interacting verbally at a range of approximately three feet, the time it takes one person's utterance to travel to the ear of the other is negligible, so for all intents and purposes, oral communication is instantaneous. Closely tied to this attribute is another attribute of oral communication: intangibility. Once uttered, a word disappears, followed by other words, which disappear as soon as they are spoken as well. The only way that oral communication survives is in the memories of the speaker and listeners. The auditory medium of oral communicative methods means that there is no way to edit utterances. Once a word is spoken, there can be no erasure of that word.

Oral communication is also incredibly efficient; the use of oral communicative methods along with other methods such as gestures and facial expressions to communicate an idea takes much less time than the same idea being communicated in written form. The immediate feedback capability of oral communication is apparent in every conversation that has ever taken place. The flow of conversation consists of what has already been discussed, with the two communicators (using, for simplicity's sake, an interpersonal dialogue) listening and then responding in turn. Such a capability does not exist with traditional written communication; feedback on written communications such as term papers and theses can take days, weeks or years to occur. Finally, oral communication is informal on most occasions. Although formal occasions for oral communication, such as a eulogy, a lecture or an acceptance speech, do occur frequently, the vast majority of oral communication is informal by nature and takes the shape of conversations between two or more human beings. These attributes were firmly in place for hundreds of thousands of years before the invention of writing. For much of its history, the entire human race has employed non-literate forms of communication. We have been primarily oral communicators.

Over the past century, scientists have systematically categorized the differences between the right hemisphere of the human brain and the left hemisphere, noting that different functions we perform are the responsibilities of different hemispheres. The cognitive functions that control our abilities to communicate orally are housed in the right hemisphere of our brain. This describes the 91% of the earth's population who are right-handed; the reverse applies in part to left-handed people, but typically in left-handers the functions are not as divided as distinctly as in right-handed people (Shlain 18). The right brain is also responsible for generating states of being and emotions, including, but not limited to, love, hate, humor, disgust, etc. These states are considered by neuroscientists to be non-logical; that is, they do not follow the rules of conventional reasoning and logic as Western-educated people understand it. Traditionally, the right-brain has been associated with the traditionally "feminine" qualities of intuition and holism. It is also the domain of spatial perception and aesthetic distinction.

According to many communicative scholars, the primary use of oral communication in a culture can be linked to an overt display of "feminine" cognitive abilities in that culture. Because the use of oral communication in place of written communication stimulates the right brain exclusively, the other attributes of the right brain are emphasized as well. Although it is still controversial, many scholars suggest that the use of oral communication can actually stimulate an appreciation for such things as music and artwork, both of which are also associated with right brain functions (Shlain 21). For hundreds of thousands of years, man existed in acoustic space; he had no way of permanently recording his thoughts as writing. Because of this, humanity's right brain was dominant over its left brain. However, this has changed drastically over the past five thousand years as the written word has gradually assumed dominance over the spoken word.

According to most scholars, the Chirographic Revolution – the invention of writing – took place somewhere in the Tigris and Euphrates Rivers Valley in present day Iraq between 3500 and 3000 BCE among the Semitic inhabitants of Sumer. The development of writing among the Sumerians was practical; it is the earliest Western

culture known to practice commercialism on a large scale. A method of record keeping was adopted to handle the increasing influx of business trade experienced by Sumerian merchants.

The earliest known pieces of “writing” found among the ruins of the Sumerian culture seem to be marks or symbols carved or engraved into objects to signify ownership (Kennedy 115). These were more than likely only readable to the “owner” of the object. Later, these marks of ownership developed into seals. In both cases, these early forms of writing seem to be more for identification purposes than for communicative purposes. These were followed later by simple pictographs, more than likely used as mnemonic devices to help merchants remember such things as inventory numbers. Gradually, these developed into the highly stylized pictographic system of cuneiform, which were wedge-shaped characters impressed on wet clay tablets with a stylus, which was nothing more than a piece of wood or metal in most cases. Within several hundred years, the Sumerian cuneiform system had evolved enough characters to make the recording of significant religious and social documents an achievable goal.

The large number of cuneiform characters that existed in the Sumerian writing system by the middle of the third millennium BCE meant that only trained scribes were able to read and understand written documents. Scribes attended a specialized school for years (some scholars believe as many as twenty years) to gain proficiency in understanding the Sumerian writing system. The vast majority of people in the Sumerian culture were functionally illiterate and were completely unable to rely on written texts for any sort of information source. Even so, the introduction of written symbols in Mesopotamia was a major communicative revolution. It allowed the transmission of knowledge to take place beyond the boundaries of acoustic space, and for a permanent record of that knowledge to be created.

The invention of writing soon spread to other cultures in the ancient world. It is likely that the Sumerians provided the impetus for the development of the pictographic system known as hieroglyphics among the Egyptians in the Nile River Valley, and it may also be the precedent for the development of the written word among the peoples of

the Indus River Valley sometime in the second millennium BCE (Kennedy 116). These cultures began to experience several properties of writing that are not found among the attributes of oral communication. First, human beings have no natural inclination for developing the ability to write; the skill must be taught, but can be taught at any age, though with more difficulty the older the student gets. This can be seen in the vast majority of people in Sumerian culture who did not attend the scribal schools and remained dependent solely on oral modes of communication. Writing has the ability to communicate across time and distance, as it can be permanently recorded and is, for the most part, easily portable. With permanence came the ability to change words and thoughts after their composition; scribes now had the ability to edit their words. The invention of writing eventually led to a standardization of language and grammar.

Cuneiform and its intricacies had the side effect of creating a “scribal class” that wielded considerable power among the populace. This scribal class can be considered the first group of “intellectuals” as they were the first to be able to “master a body of texts not available to others and create new texts” (Kennedy 116). The first extensive codes of law and the standardization of those codes were another side effect of writing. For the first time, codes of conduct could be written down and applied universally and consistently. Hammurapi’s law code (c. 1792-1750 BCE) is by far the most famous that the Mesopotamians have left us, although it was not the first. Most of these law codes contain commandments followed by appropriate punishments when the commandment is not kept. In these law codes, for the first time in human history, judgment was handed down not from a king, monarch or despot but rather by a formal set of instructions on proper conduct in society.

The invention of writing affects us today most clearly through the educational, communicative and rhetorical traditions of ancient Greece and Rome. These two traditions, most commonly thought of as the twin pillars of Western Education, have been used as educational models for millennia by Western-thinking societies in Europe and the New World. Much of our own educational system is based upon the ideas set forth by Greek and Roman intellectuals, the cognitive descendants of the Sumerian

scribes; the traditional Western emphasis on philosophy and logic is an excellent example of this. In order to gain a clear sense of our society's rhetorical and communicative practices, it is helpful to observe their antecedents in the traditions of the ancient Greek and Roman cultures.

About 1500 BCE, the Minoan civilization flourished on the island of Crete and the neighboring Aegean islands to the north. The Minoans, who were named after their most famous king, the Minos of Greek myth, used a distinctive, but as yet untranslatable writing system known to scholars as Linear A. Like the Sumerians a millennium before, the Minoans were an agricultural culture. The fragments of Linear A that have been under scholarly study seem to be mostly business transactions and records. In imitation of the Minoans, the Mycenaean Greeks on the mainland of Greece created a centralized economy based on agriculture and began to employ a script that scholars have termed Linear B, which, like the Minoan writing system, was mainly employed for record keeping purposes (Kennedy 191).

Unfortunately, knowledge of writing was lost in the area some time between the 13th and 11th centuries BCE. The cause of the Minoan civilization's destruction is unknown, although some scholars blame a giant volcanic eruption and its resulting tidal waves, but the Mycenaean civilization on the mainland was partially destroyed and partially absorbed by a non-literate culture invading from the north known to us as the Dorians, a people closely related to the Mycenaean Greeks. The destruction was so complete that the fledgling knowledge of writing and record keeping was lost. The resulting culture was one where oral methods of communication were once again the only methods known. The effect that the Dorians had on the Greek mainland was not one way, however. Gradually, Dorian culture began to incorporate the traditions of the surrounding Indo-European peoples and the practices of their neighbors in Egypt and the Near East, where the written word had been in use for thousands of years.

The Dorians excelled at oral communicative methods. Dorian culture was extremely rich in oral epics, which were "composed by traveling bards chanting in verse" (Kennedy 192). The most famous of these traveling bards was the blind poet

Homer, the composer of the *Iliad* and the traditionally recognized composer of the *Odyssey*, although there has been scholarly debate for some time now on this point. Homer composed his epics right on the cusp when literacy and the written word were just being re-introduced to the area. The introduction of the written word into Dorian culture came relatively late compared with its introductions among neighboring cultures. Most scholars have placed the resurfacing of literacy in mainland Greece in the 8th century BCE; by this time, the Dorian Greeks were using a form of writing to record commercial transactions just as their intellectual predecessors in Sumer, Egypt and Crete had done for two millennia.

The Greece with which our society is most familiar is the Greece of the Classical Period, that of Socrates, Plato and Aristotle, a culture obsessed with abstract thought, philosophy and rhetoric. Upon its models, our own educational tradition is based. The Greek writing system that developed in this period was unlike the writing system of any other culture before it. The Greek alphabet was an adaptation of the one developed by the Phoenicians. Consisting of a sparse twenty-four letters, this alphabet had none of the cumbersome trappings of Sumerian cuneiform or Egyptian hieroglyphics. Cuneiform and hieroglyphics are early examples of logographic writing systems, where each unique symbol stands for a particular *word*. The Greek alphabet was a phonetic system, where each symbol stands for a particular *sound*. Languages can contain literally millions of words, but the spoken words are made up of a relatively small amount of sounds. The Greek phonetic system employed a relatively small number of written symbols as compared to the logographic systems employed in the Mediterranean world. Unlike most of its predecessors, the Greek alphabet's twenty-four characters were easy to learn. The Greeks were not the first culture to introduce a phonetic writing system; however, they were the first to introduce the concept of vowels into a language. Systems before the Greek alphabet, including the Phoenician and Hebrew systems, consisted completely of consonantal sounds, and the reader would be expected to supply the appropriate vowel sounds between the consonants. The pattern continues to be employed, for example, when reading the Torah in the original Hebrew. Years of study were required

to learn to read vowelless languages because students had to learn to recognize the patterns of words in order to insert the appropriate vowel sounds.

Adapting several Phoenician consonant symbols as vowels, the Greek phonetic system changed the incompleteness of the consonant-only writing systems. Alphabetic reading required only learning what sound went with a particular symbol; the entire process was drastically shortened from several years to as little as weeks or months to achieve functional literacy. As a result, for the first time in history, near universal literacy was achieved in Classical Greece, at least among the citizenry of free Greek males. For the first time, the alphabet's tremendous influence was felt by an entire society.

The introduction of the alphabet in ancient Greece affected not only the Greeks' ability to communicate differently, but also affected their cognitive skills. The act of reading or writing is almost completely controlled by the left hemisphere of the brain, for a right-handed person. The left brain's functions include the abilities of analysis, numeracy (the ability to perform abstract mathematical calculations such as algebra) and abstraction (Shlain 22). If the right brain is associated with *being*, then the left brain is associated with *doing*; it is the hemisphere of logic and if-then syllogisms.

The introduction of a phonetic writing system, and hence the consequential achievement of universal literacy in Classical Greece, was, according to some scholars, the impetus for the first civilization on Earth obsessed with abstract thought. The increasing use of writing for communicative purposes meant that for the first time, the majority of the population was favoring the functions of the left brain over those of the right. Before the introduction of writing in Greece, all knowledge was recited by instructors to students, who memorized it. The introduction of writing allowed knowledge to be recorded and pondered over, greatly increasing an ability to philosophize. Plato does this extensively in his *Republic* and *Gorgias*, and elsewhere. By utilizing writing, Plato is able to flesh out a concrete record of abstract thinking. Almost everywhere within Plato's works where Socrates speaks of writing, he condemns it; although Plato understood the power of the written word, and so used it to convey his

message, he also understood its destructive powers upon the memory. Socrates at many points in his dialogues condemns writing as the destroyer of memory, a prophesy that has come true repeatedly in the past 2500 years.

Roman intellectual culture was built upon the foundations of Greek thought. Thinkers such as Cicero and Quintilian transmitted many Greek ideas, with some Roman modifications, to later civilizations including among them our own. This composition, revision and transmission was only possible through the medium of writing. Roman dominance over the Mediterranean world lasted for a millennia. During this time, the Romans conquered much of Europe, the Near East and North Africa. Along with Roman culture and government came the Roman alphabet to the conquered territories, and newly Romanized lands were indoctrinated in its many uses. The Roman war machine coupled with the Roman tradition of preserving Greek thought was one of the most effective tools ever used to spread the use of the alphabet.

After the fall of the Roman Empire, monasteries began to take over the responsibility of the transmission of knowledge through the written word. From 476 CE to the invention of the printing press, monks alone held much of the knowledge and educational traditions of the West. The Middle Ages were primarily oral; that is, the major means of communication during the thousand years that followed the destruction of Rome were non-literate. The return to orality as the primary and preferred method of communication was due to three circumstances. First, the barbarian tribes that swept through Europe in the 5th and 6th centuries were almost entirely non-literate. Much like the Dorian invasion of Greece 1600 years before, the invasion of the Roman Empire by non-literate peoples severely crippled the spread of literacy, though in this case did not wipe it out completely. Second, the cost of reproducing manuscripts was prohibitively high; the only way to gain a copy of a manuscript was to copy it or have it copied entirely by hand. Third, and most importantly, the medieval church frowned upon literacy for the common man. Most medieval Church officials felt that if the common man were to learn to read, he might read the Bible. If he were to read the Bible, he

might misinterpret it and began to espouse doctrines other than the accepted doctrine of the medieval Church.

The Church's worst fears came true during the aftermath of the Typographic Revolution. Born with the introduction of the printing press by Johannes Gutenberg in 1452 CE, the Typographic Revolution is the second major turning point in the history of communication. The printing press revolutionized writing's ability as a communicative tool. For the first time, writing and printed books were available to the masses at a much cheaper price than was hitherto known. Writing slowly began to replace oral means as the preferred method of communication. This development produced numerous results, most importantly, the Reformation, with its call for the mass availability of the Bible, and thus reading, for the first time in history. Men like Martin Luther and John Calvin found ready disciples among the common people who had just learned to read the Bible and were no longer relying entirely upon Church clergy for interpretation of the holy scriptures. For the first time since the height of Roman intellectualism, a sense of philosophical independence swept across Europe, known as the Age of Enlightenment.

The proliferation of the printing press and the printed book meant that more people than ever were able to learn to read and write. With this increase in literacy came an increasing dependence on left-brain cognitive skills, such as logic and sequential thought. In *The Medium is the Message*, Marshall McLuhan states that "the alphabet and print technology fostered and encouraged a fragmenting process, a process of specialism and detachment" (McLuhan 1967). The evolution of written communication fostered abstract thought as embodied by Descartes, Bacon and others during the Age of Enlightenment. McLuhan goes on to say that "until writing was invented, man lived in acoustic space: boundless, directionless, horizonless... the goose quill put an end to talk. It abolished mystery; it gave architecture and towns; it brought roads and armies, beauracracy... the hand that filled the parchment page built a city" (McLuhan 1967).

We are currently experiencing the third, and perhaps most important, communicative revolution in the history of the human race, the Digital Revolution. Not since the introduction of the printing press and its consequences the Reformation and the

Age of Enlightenment have our communicative methods been so violently uprooted in such a short time span. Our communicative methods have changed drastically over the past ten years with the introduction of the internet, the World Wide Web, email and cellular phones. The reliance that we as a society have placed upon the printed word is being phased out as new forms of communication are being employed more and more in the workplace, in the schools and in the community. Just as our ways of communicating and our cognitive abilities underwent major shifts during the Chirographic and Typographic Revolutions, so too our communicative habits and cognitive processes are shifting even now, and will continue to do so for the foreseeable future. This shift encompasses a hybridization of our communicative forms and a reemphasis on the cognitive abilities of the right hemisphere of the brain.

CHAPTER THREE: DEFINITIONS OF ORALITY AND LITERACY

The first question we should ask if we are to understand the effects of the Digital Revolution is “how do we communicate?” It seems a simple enough question, but it is one that has puzzled communications scholars for some time. It is only a recent revelation that varieties in human communicative habits exist at all. For much of the 19th century, for example, the continent of Africa was colonized with no thought at all to the ways in which European communication differed from traditional African tribal communication. The goal of colonization, at least the one announced and maintained publicly, was to spread “the blessings of civilization as well as the cultural heritage of the West” (Thompson 1). This Eurocentric approach, which was implemented with varying degrees of success, included the long-held beliefs that education entailed literacy and that written communication was superior to oral communication.

For the colonized African tribes, however, nothing could be further from the truth. Traditional tribal communication was in no way literate; when the European colonists began the colonization process, most African tribal units, especially the ones that existed south of the Sahara Desert, were entirely oral and had never been exposed to letters and the art of writing. Believing in the inherent superiority of literate communication, the colonists began trying to teach to the newly colonized the concepts of literacy and writing. These attempts were half-hearted at best; most colonial governments realized quickly that their moral justification for colonization would vanish as soon as the “savage” became traditionally educated in the European sense. For this reason, there was never an attempt to teach all native tribes to read and write. Nevertheless, attempts *were* in fact made, many in good faith, resulting in varying degrees of success.

The concept of entire cultures functioning without the use of literacy is just as real now as it was during the 19th century African colonization efforts. Fully one-third of the world’s inhabitants live day-to-day without the ability to read and write, and this number can be expected to increase (Thompson 2). The idea that a vast number of

people, in some cases entire societies, can survive and thrive without the benefit of reading and writing is a completely foreign idea to most Western-educated people. The belief still exists among most of us that somehow writing is superior to speech. For example, do we lend more credence to a statement when it is backed by “Well, I read that in a book somewhere” or “Well, a friend of mine told me that.”? Of course, the statement is much more likely to be believed when it is backed up by a written citation.

Most communications scholars have come to the conclusion that there is no inherent cognitive or cultural superiority in the written word and are attempting to erase the idea of literate communication’s superiority. Over the past several decades, scholars have begun to employ the term “orality” to refer to the primary use of oral communication in a culture instead of using the terms “illiteracy” or “non-literacy.” The idea behind using “orality” is to avoid the implication of failure or deprivation inherent in such ideas as “illiteracy” and “non-literacy.” Scholars have chosen to define a culture’s communicative abilities by what they have, as opposed to what they do not have.

Defining Literacy and Orality

What exactly do the terms “orality” and “literacy” mean, however, and how do these terms apply to the communicative revolution that we are now undergoing? At first glance, the two terms would seem to be somewhat simple to define, but communications scholars have struggled greatly for years to gain even a simple definition for either of these two terms, and definitions vary greatly from authority to authority, with rhetoricians and theorists debating over the definition of these two words for decades. There is no consensus for understanding exactly what the two terms entail, but a closer look at a few differing definitions will allow for a comparison from which to observe our own forms of communication, including new electronic media. In order to fully realize how the two definitions are increasingly inapplicable to communicative devices in our own society, it is important to first understand what they *do* apply to.

Most people think of basic reading and writing skills when they think of the word “literacy.” Industrialized nations often have “literacy” rates that hover above ninety percent, which would indicate that ninety percent or better of the population has a basic understanding of the written language of that country and can read and write at least functionally on a very basic level. There are, of course, many varying definitions of “functional” in this case. A popular definition (at least one that you will hear in Texas) is that the goal of literacy is to be able to read a road sign or a menu. This definition would seem to indicate that a person, in order to be fully literate, need only be able to employ the written word in a limited number of situations. Almost all elementary-aged children can do this however. Ask a fourth grader what she wants when sitting in a restaurant and she will most likely look up from the menu and tell you exactly what she wants. Does this imply that this child is fully and completely literate, and does it denote that our civilization is an entirely “literate” nation? This question has plagued communicative scholars for years; how well does a person need to understand a language to be considered “literate” in that language?

Communications theorists define “literacy” stringently and emphasize its ties to “Western Education,” classical training based upon learning Greek and Roman tenets of thought and the ideas of the Age of Enlightenment. LaNette Thompson’s masters thesis emphasizes the degradation of the West African tribes mentioned above as a direct result of the introduction of western culture (and, along with it, literacy) into tribal cultures (Thompson 4-6). She also employs several other definitions of literacy developed by communicative theorists over the past several years. Nineteenth century European colonists in West Africa, consistent with their “moral obligation” for colonization, thought of literacy as being able to read and understand the Bible; Thompson notes that, to these colonists, “the Gospel could not be divorced from the written word” (Thompson 2). Related to this idea is the fact that the colonists believed that literacy was “the blessing of civilization as well as the cultural heritage of the West” (Thompson 3). Literacy should be taught to the “savages” not only for their earthly good but to save their eternal souls as well. Thompson makes the statement that “in [the colonists’]

insistence on the use of the *lingua franca*, the colonial governments created a state of illiteracy among the African people” (Thompson 7). Stated here is the idea that a person (in this case, a member of an African tribe colonized by a European government) is illiterate simply by not being able to understand (read, write, and perhaps even speak) the language of choice, which for most of the colonists were most often English or French.

This emphasis on a *lingua franca* is still very much alive in our own culture, especially in southwestern states such as Texas, New Mexico and Arizona. Due to the surge in the population of Mexican-Americans and other Hispanics in southwestern states, the governments of these states are, increasingly, having to decide between attempting to teach these children English – the *lingua franca* of the United States – or allowing them to learn in Spanish with no attempt to teach them to converse, read and write in English. Either choice can have a negative impact, but by not teaching them English, they are left illiterate when dealing with a strictly English environment. Things become more muddled as one delves deeper into the definitions of literacy offered by other communicative theorists. It is interesting to note that when a reader looks up the word “literacy” in the indexes of many different communication books, all he would find is the reference “See *Writing*.” This seems to connote the idea that literacy means strictly being able to write. Of course, this begs the question, “How *well* does one need to write to be considered ‘literate?’” Answers vary from scholar to scholar.

The association between literacy and writing appears in the index of George Kennedy’s book, *Comparative Rhetoric*, in which he argues that “writing greatly facilitated the possibility of conscious creation” (Kennedy 4). Kennedy seems to be implying that oral societies are incapable of such “conscious creation.” This idea is preposterous. Hundreds of examples exist to prove that oral societies do, in fact, consciously create. It is believed that Homer himself was non-literate and that the society in which he composed his epics was only nominally literate at best, in much the same way that the Sumerians of 3000 BCE were nominally literate. However, the *Iliad* and the *Odyssey* both display a remarkable sense of unity and depth of story which,

before Milman Parry's groundbreaking re-appraisal of oral art forms, was considered too difficult and abstract an idea for a predominantly oral culture to achieve. Parry, who spent several years in the Balkan region of Europe studying modern-day illiterate Slavic bards in the early 1930s, reached the conclusion that such "conscious creation" of story was well within the limits of an oral society, a viewpoint that is held to be valid by most communications scholars to this day. (Lord 1960)

The list of proposed definitions for literacy goes on. Theorists such as Erik Havelock, McLuhan and Ong all differ on their definitions of literacy. If a definition for "literacy" can't be determined, then is it also an impossibility to define a meaning for "orality?" As with the term literacy, scholars, especially in recent years, have defined the term "orality" in a number of different ways.

Is orality the exact opposite of literacy? If a literate society is one in which at least a portion of the population employs literacy on a regular basis for their communications needs, then an oral society would be one in which none of the population relies on the written word or written forms of communication at all. This definition, however, would eliminate all but the remotest societies of the modern world and many of the cultures of antiquity that we presume to be primarily oral in nature. According to a definition like this, the people of the African tribes colonized in the 19th century would all live in a literate society, due to the use (however small) of literacy within that culture. Is it possible, then, that there are no more "oral cultures?"

In *The Muse Learns to Write*, Eric Havelock states that "orality, by definition, deals with societies that do not use any form of phonetic writing" (Havelock 65). What, exactly, is phonetic writing, though? As mentioned in Chapter Two, phonetic writing is any writing system that represents individual sounds, called *phonemes*, with symbols. Each phoneme in a given language is given a unique symbol. Havelock, in the same passage, goes on to state that the pictographic system of written communication, known as hieroglyphics, of early Egyptian society does not count as writing because the Egyptians "could scarcely use them for written communication, in any meaningful sense of the term" (Havelock 67). Havelock is attempting to explain in this passage that, like

the Sumerians and their use of cuneiform to record business transactions and contracts, the large and unwieldy Egyptian system couldn't be used by anyone who hadn't spent years in formal training. Havelock has a point; the Egyptian hieroglyphic system left the vast majorities of Egyptian society practically and functionally illiterate and existing in the same manner as a society entirely without writing. However, to claim that the Egyptians were an oral society oversteps logical bounds. The complex governmental and bureaucratic systems of Egyptian society would have been impossible without the advantages of writing. The building of the pyramids would have been equally impossible without the use of writing.

Extending Havelock's definition into modern times relegates several advanced modern cultures to the realms of orality. For example, the Chinese have employed a logographic system of writing for over four thousand years. The purpose of maintaining this logographic system has been to allow for the varied dialects of the region, many of them unintelligible to each other verbally, to be mutually intelligible on paper. This system, though improved upon steadily for centuries, is nevertheless cumbersome to learn in much the same manner as Egyptian hieroglyphs or Sumerian cuneiform. Extending Havelock's definition, then, means that Chinese still exist in an oral society because (until recently) they have existed without the use of any type of phonetic writing.

Thompson describes orality in different terms. She notes that the "the term 'orality' was coined on the analogy of 'literacy' in the hopes that this new term would avoid the implications of failure inherent in the term 'illiteracy'" (Thompson 3). So then if it is impossible to obtain a firm, acceptable definition for "literacy," how can we construct a definition for "orality?" Thompson goes on to state that orality should mean "relying entirely on oral communication rather than written" (Thompson 3). Thompson studies several West African tribes, among them the Jula people, the Yoruba people and the Mossi people. All of these tribes have, according to Thompson, had exposure to written language, and it is more than likely that a portion of each tribe's population knows how to read and write and employs these communicative forms on a regular

basis. Among these are the “disaffected young” that have become dissatisfied with both traditional tribal life and Western ideas and roam the larger cities, often forming gangs and engaging in crime (Thompson 14). This then would mean that these tribes would be literate societies, a statement that is contradicted throughout in Thompson’s thesis.

In *Orality and Literacy*, Walter Ong provides perhaps the most complete definition of orality; he deals with what he has termed “primary orality,” or orality that has been untouched by the introduction of literacy. His definition has been the basis for much of the communication scholarship of the past twenty years. Ong pieces together several different aspects of orality, extrapolating on them and often comparing them to aspects of literacy in his descriptions.

First, Ong states that orality is additive rather than subordinative (Ong 37). In other words, oral composition is based upon the use of words and phrases such as “and” to convey a story. A very familiar instance of this is the opening passage of the Hebrew book of Genesis. Although obviously the book of Genesis exists in print form, the original Hebrew is very much oral in nature and the first translations of the book into English, such as the King James Bible and Douay Bible, occurred in a culture that still contained a massive oral residue. Later translations of the book of Genesis, most notably those of the past fifty years, have used a subordinative style in translation, employing transitional words such “thus,” “then” and “when.”

Ong also suggests that orality is aggregative rather than analytic (Ong 38). In other words, oral cultures prefer to use formulaic phrasing in composition to aid in memory. Oral cultures prefer “not the soldier, but the brave soldier; not the princess, but the beautiful princess; not the oak, but the sturdy oak” (Ong 38). According to Ong, literate culture sloughs off such epithets as too cumbersome and redundant. A wonderful example of this can be found in Homer’s *Iliad*. Throughout the narrative, each character is associated with one or two descriptive words, such as “wise Nestor” or “sly Odysseus.” Such tags not only allow for character development, but more importantly allow the speaker a device for remembering the storyline.

Three other characteristics of orality that Ong embraces are its homeostasis, its redundancy and its traditionalism (Ong 41, 46). Because primary oral cultures do not possess the capability to preserve knowledge in written format, the only alternative left to preserve such knowledge is through extensive memorization. Because the human mind can only hold so much information, knowledge in primary oral cultures is hard to come by and extremely precious. Thompson experienced this phenomenon in her dealings with West African tribes. She notes that in West African societies, a father will often gather his children around the fire and to pose riddles and tell them stories (Thompson 16). Often, the father will ask them to repeat the previous night's episode. This allows the children to learn memorization techniques and narrative skills, the only ways of transferring knowledge in such societies. Because of its emphasis upon repetition, oral societies admit little new information; the more new information that is introduced and required to be memorized, the more old information, such as tribal legends, folk tales and proverbs, must be rejected.

Our own culture exhibits, to some degree, each and every one of these characteristics of orality. Our spoken language today retains its oral character, yet is still massively influenced by the advent of literacy. We employ an additive style of storytelling, full of "ands." In such storytelling, we often find ourselves referring to people with particular tags. This can be seen in any conversation where two people are referring to a third person and generalizing about that person's characteristics. We name one person "intelligent," another "dishonest," another "happy," and so on. Such is the basis of our notion of "reputation." The storytelling ritual also exists in our culture; instead of sitting around a campfire relating experiences, we do so around a water cooler. Instead of a father correcting a son who doesn't tell a story correctly, it is perhaps a co-worker who states, "No, no, that's not the way it happened at all! Let me tell you what *really* happened..."

For years scholars have debated on the definitions of two terms basic to the study of communication, and still no real consensus has been reached. There has not been, and probably will continue not to be, a definitive meaning for either the term "literacy" or

the term “orality.” However, as our own culture illustrates, most cultures exhibit a mixture, to one degree or another, of both oral and literate form of communication. It would seem, then, that one culture can, at the exact same time, be interdependent on both oral and literate forms of communication to an incredible extent.

Four Questions

The extent of a particular culture’s use of oral and literate forms can be determined by asking four questions while observing the society as a whole to obtain the answers. These questions are:

- Are the culture’s sources of knowledge orally based or literately based?
- Does the culture participate in activities that are primarily oral or literate?
- Does the culture learn through oral or literate means?
- Are the accepted and popular means of communication in the culture primarily oral or literate?

By answering these four questions, a fairly accurate appraisal of a society’s use of orality or literacy can be determined. The following applies the four questions with particular reference to popular American culture in order to gauge effectively our society’s uses of oral and literate forms of communication. What will be shown is that our communicative forms are transforming themselves into structures that are neither oral nor literate entirely, but are instead a hybridization of both.

1) Are the culture’s sources of knowledge orally based or literately based?

In order to understand whether or not a culture’s sources of knowledge are orally based or literally based, we should first define “sources of knowledge.” “Sources of knowledge” are avenues by which a large number of people gain access to information; these avenues are not just limited to traditional school forms such as textbooks and

lecture settings, but can also extend to include popular news magazines to television programs.

It is said that the world is in the midst of the “Information Revolution.” With the coming of the Internet, email and the World Wide Web, more information and knowledge is available faster. It is cheaper, more technically reliable and easier to access than ever before. Even now, the Internet phenomenon is forever changing the ways in which society interacts, much along the same lines as the printing press did in the 15th and 16th centuries. The different media through which cultures both past and present gather information plays a most important role in determining if those cultures are primarily oral or primarily literate in nature.

America has virtually spearheaded the Information Revolution. From the development of the ARPANet in the 1970s to the launch of online companies such as Yahoo! and Amazon, the United States has played a pivotal role in the formation of the Information Superhighway. There are two primary places to observe the flow of knowledge in our culture, both inside and outside of the a typical classroom setting. Because the classroom setting is traditionally viewed in American culture to be the center of learning, it should be treated as a separate entity; however, more and more Americans are beginning to eschew the traditional environment of lecture and textbook for a more eclectic and less structured education. Bill Gates, founder of Microsoft, Inc. is a prime example of this new mindset; Gates quit college to start up Microsoft, which now is numbered among the most successful companies in the world. Gates is not alone; Silicon Valley, among other places, is filled with people who have chosen to gain their education away from the traditional classroom setting. The sources of knowledge separate from the classroom are equally important in determining a society’s relative usages of orality and literacy.

Most “formal” knowledge is learned in a classroom setting. However, legitimate knowledge can be found in abundance outside the classroom, and for many people, this “informal education” is the education that has the most impact on their lives. Among the methods of communication that are employed to gather day-to-day information are

weather, local news and business updates. Newspapers used to dominate the communicative landscape of America. The rise of newspaper giants like Joseph Pulitzer and William Randolph Hearst in the early part of this century gave testament to the newest, fastest and most efficient way of getting information to the public: the daily newspaper. Stories in newspapers, then just as today, were more often than not written well in advance, at least one or two days prior, of the papers' publication. People would then buy the newspaper and read it at leisure; for example, a woman might read the entire newspaper through in an hour, while her husband could spend all day with it, reading bits and pieces here and there. The newspaper was a permanent record of preceding events. Consumers were in control of what information they acquired from it and when they acquired it.

The rise of television and radio changed that. With television and radio came a forced feeding of information. Much like the children that gather around the fire to listen to their father tell stories, Americans, beginning in the 1950s, began to gather around the television set in the evenings to take in their daily doses of news and entertainment. Much as the father in the West African tribe decides what is told his children and what is not, so too news anchors in this country often decide which stories are aired and which are not.

The speed at which we gather our knowledge has definitely improved over the past half-century, bringing our newest communicative forms closer to the speed of oral speech. The television was a major improvement over the newspaper, and nowadays, information runs at an even faster rate. While it often takes a television crew hours to film a story and air it, news and information can be posted to a website or emailed halfway around the globe almost the second after it occurs, in a very literal sense. Examples of this are the numerous sports-related websites on the World Wide Web, including espn.com and cnnsi.com, that post the scores of games still in progress, updated as often as every minute, so fast that it closely mirrors the speed of oral communication. Although they are print media, electronic media resemble oral communication more than that of traditionally written communication.

Since the invention of the television in the 1920s and its wide acceptance in the 1950s, our sources of knowledge outside the classroom have been continually transformed in speed and in form. McLuhan, in *The Medium is the Massage*, notes that “electric circuitry has overthrown the regime of ‘time’ and ‘space’ and pours upon us instantly and continuously the concerns of all other men. It has reconstituted dialogue on a global scale... Ours is a brand-new-world of allatonce (sic). ‘Time’ has ceased, ‘space’ has vanished. We now live in a *global village*... a simultaneous happening. We are back in acoustic space” (McLuhan 1967). As our sources of informal knowledge continue to become faster and more impermanent, they are more and more resembling oral forms of communication, moving farther and farther away from their literate heritage and as a result disengaging our society from the firm hold that literacy and written forms of communication have had on us since the invention of the printing press.

2) *Does the culture participate in activities that are primarily oral or literate?*

If you asked the typical American what he or she did last weekend, more likely than not, the answers “I went to see a movie” or “I got together with friends” will prevail over “I spent the weekend reading a book.” This example illustrates an important point about our modern culture. Almost all of our activities, whether they are business or leisure activities, involve oral communicative forms; in many cases, our activities involve *only oral forms of communication*, as illustrated by the statement, “I got together with some friends.” How many people “get together with friends” to read a book? While these groups do exist (reading groups immediately come to mind), the vast majority of people, when in the company of friends, prefer to spend their time chatting. This is indicative of the primacy that oral communication still has in our lives.

Similarly, movie-going is at an all-time high, while the general consensus among the modern population, especially the youth population, is that books are strictly for the classroom. There is a basic dichotomy that has developed in our culture that pits books

against movies. Students who are assigned to read books such as Bram Stoker's *Dracula* or F. Scott Fitzgerald's *The Great Gatsby* often find themselves watching Francis Ford Coppola's movie version of *Dracula* or watching Robert Redford and Mia Farrow portraying Gatsby and Daisy on screen. Often these students rationalize this by thinking to themselves, "My professor will never know the difference." In some sense, they are right; the basic themes of the two books mentioned above are well executed in the movie versions; either the literate version or the newer, more oral version convey the same meaning. However, most people have either "seen the movie" or "read the book." Very few have both read the book and seen the movie, and it is more than likely that even fewer, due to the book-movie dichotomy, have enjoyed both.

The dichotomy exists because there is an essential communicative difference between these two forms of entertainment. Books are, obviously, a form of literate communication, while movies, much like television and radio, are of a much more oral nature. While movies are shot from a script and are planned out meticulously and in great detail (all aspects of literate communication), the actual communication that is done by a movie when an audience is seated in a theater on opening night is very similar to the communication done by a tribal storyteller or a West African father who has gathered his children around a fire to tell them stories and pose riddles. Neither the father's audience nor the movie's audience knows precisely what they are about to see or hear. The audience for each may have some idea of what is to happen, due to gossip around the village or a movie trailer seen on television, but the actual communication that is done is instant and disappears immediately after the moment it occurs. The sights and sounds that we perceive while watching a movie are sensed by the cones in our eyes and understood by our right brain; these sights and sounds are instantaneous and are replaced immediately by new sights and sounds much as the words that flow from a tribal storyteller's mouth disappear and are replaced by new words.

The fact that movies' popularity is at an all-time high is an example of the ways in which the communicative habits of our culture are changing. Movies, as mentioned above, are heavily oral in nature, and so an argument can be made that we as a society

are regressing to what Walter Ong terms “secondary orality” (Ong 136). Secondary orality is a “new orality... sustained by telephone, radio, television, and other electronic devices that depend for their existence and functioning on writing and print” (Ong 10). Elsewhere, Ong states that this secondary orality “has striking resemblances to the old in its participatory mystique, its fostering of a communal sense, its concentration on the present moment, and even its use of formulas” (Ong 136).

Secondary orality is not just limited to movies, of course,. How many of us find ourselves sitting home on a Friday night to read a book instead of going to a party with our friends, where we will spend the evening in conversation, or “going out” where we will be surrounded by people and music? Very few in our culture will spend such an evening with a book, especially when the vast majority of the American citizenry is considered instead of the academia populace of students and professors. The latter tend to be a different, and much more literate, communicative breed, whereas the former tend to gravitate toward forms of communication that are primarily oral in nature.

Even our simple greeting “rituals” are innately oral and, through our secondary orality, link us with traditionally oral cultures. Thompson describes in her thesis a greeting ritual of the Jula people of West Africa in which no real information is passed between the participants but rather a series of formal questions is asked with responding standardized replies (Thompson 17). Our society does much the same thing. When asked “How are you?” most people respond with something akin to “Fine. And you?” We, like the Jula, do not expect to hear a response such as “My wife is mad at me and my dog died this morning. I’m miserable!”, especially if the person is not a good friend. The ritualized greeting of the Jula and our own standardized methods of oral interaction are similar in structure; the difference is only in the words spoken.

The business activities of our society are transforming themselves as well. The speed at which business flows today dictates that this change occur. Instant stock quotes are available online at the click of a mouse. More than ever, the “Great American Business” is relying on the concept of “teams” to accomplish its goals. One look at magazines such as Forbes and Fast Company indicate this rising trend of emphasis on

teamwork in the workplace. This is a concept that implies quick, often face-to-face communication between team members; this is a concept that is entirely different than the traditional, aloof “do it yourself” attitude of 19th century American business, embodied in such captains of industry like J. P. Morgan and Andrew Carnegie.

Almost all inter-office and inter-business communication is now done via phones, faxes or email. All of these forms of communication share attributes of both literate communication and oral communication, and all are partially responsible for the ways in which our communicative habits are transforming themselves.

We as a society participate in activities that are both oral and literate in nature. Some of our activities, such as moviegoing and the usage of the Internet, contain aspects of communication that are both oral *and* literate.

3) *Does the culture learn through oral or literate means?*

An interesting dichotomy has long marked discussions of orality and literacy in the communication and rhetoric of education. Socrates, the “father” of the western ideal was so influential that his teaching methods are still employed in the classroom today, yet he was “suspicious of writing and emphasized individual thinking and orality. (Kennedy 153). In the *Phaedrus*, Plato has Socrates state that,

“...the discovery of the alphabet will create forgetfulness in the learners’ souls, because they will not use their memories; they will trust to the external written characters and not remember of themselves... You give your disciples not truth but only the semblance of truth; they will be heroes of many things, and will have learned nothing; they will appear to be omniscient and will generally know nothing” (Plato *Phaedrus* as quoted in McLuhan 1967).

Ironically, the father of Western Education, an education based very much on the idea of the superiority of the written word over the oral enunciation was himself in fact convinced of the superiority of orality and the memorization of knowledge. The Socratic Method – a method based upon question and answer, call and response – has been employed by the West for millennia, even in periods such as the Age of Reason and the Enlightenment, dominated by print culture.

Our means of education have more in common with traditionally oral means of instruction than it might appear at first, especially with the advent of multimedia technology and its application to the classroom. For example, Koranic teachers are often the only means of instruction, in a traditional classroom, that a young West African in a tribal culture receives (Thompson 21). Koranic education in West Africa is divided into three levels, with virtually all students ending their education after completion of level one. Level one includes one thing: the memorization of the Koran by having it repeated to them by a Koranic teacher, often a level two or level three student. There are no texts; virtually all of the level one students are completely illiterate. In fact, the level one students don't even know the meaning of what they are learning to repeat, let alone gaining the ability to interpret it. Learning to translate the Koran is part of the educational content of level two, and learning interpretive skills is part of level three.

The same idea, in some sense, holds true in our own culture, though we reverse the process. Instead of allowing demagoguery to flourish at a beginning level, we encourage it in our secondary and, especially, our post-secondary institutions of education. Most college students could attest to having numerous professors do nothing but lecture for the entire class period. In this situation, as in Koranic classrooms in West Africa, the flow of information is one way, given by a speaker to a listener. The repetition of this information in our own culture comes on test day, as students are expected to regurgitate this knowledge in the forms of essays or correct answers on multiple choice tests.

The introduction of multimedia technology has revolutionized the ways in which we look at "classroom learning." Examples include distance learning and web-based classes. Distance learning takes several forms, some more oral than others. A few distance learning classes use a textbook where the students are expected to read the material, complete the assignments and mail them to the home university. Some distance learning classes employ the use of television programs pre-recorded of an instructor giving a lecture or a program designed to convey knowledge of some sort; in this sort of setting, the student is expected to watch these programs, take notes and use

the information contained to complete the assignments. Recently, a new trend has developed. More so now than ever, distance learning classrooms are being employed in which a professor at one university can lecture to students at other universities via the technology of closed-circuit television. Although separated by hundreds or possibly thousands of miles, students in many cases can ask questions of the lecturing professor in real time, giving a genuine Socratic Method feel to the “classroom.”

Another example of the ways in which our classroom-based communicative methods are changing is the introduction of “web-based classes.” A web-based class is a class that never actually meets in the classroom as a body but instead relies on the internet, the World Wide Web and the use of email to accomplish its goals of instruction. The instructor posts relevant assignments and readings to a website, where the students can download them for viewing. Assignments are usually emailed to the instructor as attachments such as Microsoft Word documents, spreadsheets or databases. The instructor rarely interacts with the students face to face, and yet the speed and immediateness at which assignments can be viewed and completed suggests at least a partially oral root to the communicative forms used. In fact, emailing an assignment to a professor as an attachment is much quicker than taking the time to print the assignment and turn it in by hand; college students across the country will attest to this fact. The opportunity for immediate feedback, another feature of oral communication, on the assignment is enhanced as well, as the professor can quickly make suggestions and revisions and send the corrected assignment directly back to the student.

The movement toward working in teams on group projects, especially at the collegiate level, extends the theory is that, since “the team” is the most popular business tool in the marketplace today, by practicing on teamwork now students will be able to improve their teamwork skills, including the ability to communicate effectively through oral methods and the ability to work well with other people. With this, there has been a movement toward an educational tool that employs oral forms of communication as well as written forms to accomplish its purpose.

There is a movement away from the use of traditional textbooks in the classroom. Outside of law and medical school and the hard sciences, big thick tomes are rare these days. The trend is toward amalgamating selective material from a wide variety of different sources, whether they be selected readings from books and scholarly journals, music or television- and movie-related programs. Professors have access to much more material today than at any other point in history, and the speed at which they can access it is much faster than ever before. Our emerging ability to communicate a vast amount of information over a long distance in a short amount of time allows this type of selection of materials to take place.

There is still a place for literate means of communication in the educational realm, and there most likely always will be. More and more texts are becoming available online, such as the recent works of Stephen King, and the question is whether or not these online texts are truly literate communication in the traditional sense of the word. The techniques of *memorization* practiced by ancient oral poets such as Homer and modern West African tribes such as the Jula people are virtually unknown in societies such as ours; yet a place for the ability to permanently record information will always be found.

4) Are the accepted and popular means of communication in the culture primarily oral or literate?

This question is perhaps the most important of the four questions presented here. Most people would agree that there is “nothing like talking to someone face to face.” Although chronic chat room junkies might disagree, the fact remains that a large majority of us prefer to deal with people in person. One of our most preferred methods of communication is traditional conversation; in fact, in most instances this has been the most common method of communication since the introduction of human speech hundreds of thousands of years ago. When we get together with friends, have Christmas

with the family or spend the night playing cards with the neighbors, we are engaging in the time-honored form of oral communication.

The telephone is a good approximation of this communicative type. While it does not allow someone to communicate in person, it does allow for almost instantaneous transfer of speech from the speaker to the listener, which is the most important facet of an oral communicative form. The introduction of the cellular phone over the past twenty years has allowed the technology of the telephone to move into the modern age; now people can communicate instantaneously anywhere they go. Though an old technology by current standards, the telephone is still responsible for a vast amount of the communication that occurs today.

The television and the radio, though mentioned earlier, deserve some notice here. As with the telephone, both are relatively old technologies when compared with the advances that have been made in the past two decades, but both continue to influence our communicative habits heavily. Both are also heavily oral in nature.

The idea that we are left with, then, is that our culture has been and is employing both traditionally oral and traditionally literate forms of communication, in various combinations. In conjunction with this, our society has produced technologies that use both oral and literate forms of communication in their execution. Definitions for our communicative forms are becoming increasingly unclear, especially those definitions for the newer communicative forms of the Digital Revolution of the last ten years and the coming of the "Information Superhighway." Increasingly, a new way of talking about these technologies, apart from the old paradigm of orality and literacy, is needed.

CHAPTER FOUR: THE DIGITAL REVOLUTION

New forms of technology are often first discussed using the terminology of older technologies. Human beings are relational animals; when something new occurs in society, it is human nature to attempt to relate this something new to something else with which we are all already familiar. An example of this phenomenon occurred with the invention and proliferation of the automobile in the United States and Western Europe in the late 19th and early 20th centuries. For years, automobile makers glorified their product by terming it the “horseless carriage,” a very specific reference to a new technology in terms of the older, better known technology. It is a testament to our deep-seated desire to do this that we still refer to the amount of power an automobile can manufacture by employing the term “horsepower.”

More recently, using the old to describe the new has been adapted to electronic media: the Internet, email and the World Wide Web. It is becoming much more common for business companies to “tag” any emails that are sent by their employees while at work with a few lines of computer code which allows the company’s Information Systems people to read these emails. The purpose of doing this is to cut down on the usage of corporate email accounts for personal reasons, and the common terminology that is employed to describe these code insertions is “wiretapping.” The term wiretapping, of course, refers to the practice of tampering with a phone line so that a third party can listen to a conversation that occurs over that phone line. The process of wiretapping has nothing to do with the insertion of code onto the end of an employee’s email, but the practice of tagging emails in this way resembles in theory the older form of technology of wiretapping as practiced, and celebrated in movies, by organizations such as the Federal Bureau of Investigation.

The term “horseless carriage” was no longer necessary to describe an automobile; the proliferation of automobiles in the United States marketplace and the obvious differences between the automobile and the horse-drawn carriage coupled with consumers’ familiarization of the newer form of transportative technology made it no

longer necessary to employ terms like “horseless carriage.” A new terminology set soon sprang up around the automobile for specific reference to the automobile; in much the same way, it is likely that a new term for the idea of “email wiretapping” will eventually come into use.

Communications scholars have for years talked about all communicative technologies in oral and literate terminology. They have assigned each type of communicative device to either one extreme or the other, regardless of the hybridization of communicative attributes that each technology displays. The phone is oral communication, the use of email is literate. Such black-and-white thinking is the reason that communications theorists have struggled for years with definitions of orality and literacy. They are attempting to make them too broad and all-encompassing.

Many of the more recent works on the subject of oral and literate communication have attempted to define our modern communicative devices, especially those that have come to prominence in the past ten years, as either oral or literate forms of communication. In much the same way that the use of the terms “horseless carriage” and “email wiretapping” don’t actually describe their respective technologies, so too the terms “oral” and “literate” don’t actually describe the newest forms of communication that have come into popular use.

We are currently in the midst of what many communication scholars believe to be a communication revolution as important as either the Chirographic or Typographic Revolutions. The origin of speech gave humanity oral communication. The Chirographic Revolution made it possible for us to communicate through written forms of communication, and the Typographic Revolution made such forms of written communication much easier to use and reproduce, further increasing our physical and mental dependence on the written word. Both the Chirographic and Typographic Revolutions advanced changes in communication that favored literacy, and its subsequent shifts in brain hemisphere dominance, over orality. During this newest communication revolution, however, the Digital Revolution, our forms of communication have much more in common with older, oral forms of communication

than do writing or print technologies. The Digital Revolution is returning us, at least in part, to the orality of our past.

It is not simply that our newest communicative forms are oral forms of communication; instead, they are hybrids that employ both traditionally oral and traditionally literate qualities, patterns and attributes of communication to perform their functions. They are becoming something new and different than traditional notions of communication. As our forms of communication change, our cognitive processes are changing; we, as a society and as a people, are changing. So too must the ways in which we think about these new forms of technology change. Our communicative technologies are no longer simply oral or literate, but a hybrid of both. As we begin to study the ways in which our newest communicative devices are shaping our society, it is imperative that we move away from the old paradigm of orality versus literacy.

The Telephone

The "Digital Revolution" actually has its roots in the 19th century with the invention of the telephone by Alexander Graham Bell in 1876. With the invention of the "electrical speech machine," as Bell called it, people no longer had to communicate face-to-face to hear each other's voice instantaneously. Instead, information could travel great distance almost immediately. Instantaneous speed is an attribute of oral communication, and most people would have no problem linking the telephone to other oral means of communication. However, Bell's invention had the ability to allow instantaneous communication over great distances, which up until then had been an attribute associated strictly with literate communicative forms. While it is fairly obvious that the telephone is a primarily oral device, it does share some characteristics of literacy, and so can be thought of as a type of hybrid, the first hybrid in what would become (and is still becoming) a revolution of communicative hybrids.

The Radio

The invention of the telephone was followed soon after by the invention and proliferation of the radio, which was “invented” by Guglielmo Marconi between 1896 and 1897 when he demonstrated the possibilities of “wireless telegraphy” to the English Telegraph Office by setting up a radio that transmitted a signal from Needles on the Isle of Wight to the English mainland, a distance of 22 kilometers. For the first time in history, a wireless system of oral transmission had been established, one that, unlike the telephone, did not rely on an infrastructure of lines and cables but rather worked on the principles and attributes of electromagnetic waves.

The time during the rise of the radio in popular culture during the 1910s and 20s was the first time that a mass of people could listen to an oral voice over a long distance. The radio’s use of oral speech is highly connected with oral forms of communication, and so, like the telephone, seems to be an oral form of communication alone. The use of terms such as “fireside chat” by President Franklin Delano Roosevelt seems to imply that radio is speech transmitted over long distances. The radio does share many of speech’s attributes, among them its speed, its intangibility and its informality. The speed of a radio broadcast is for all intents and purposes instantaneous; a DJ who utters something is heard immediately by anyone within transmission distance of the radio station and is tuned to the appropriate frequency. For the listener’s purpose, radio broadcasts are intangible; the same utterance from a DJ immediately dissipates and, unless it is being recorded, lives on only in the listener’s memory. Radio is also somewhat informal, and its informality is increasing as DJs are beginning to have more freedom on the air to say and do spontaneous things.

However, there are several communicative attributes of the radio that are highly literate in nature. First of all, the flow of conversation with the radio is almost entirely one-sided. Call-in shows and song requests aside, there is very little opportunity for the average radio listener to interact with the people who program for a radio station. This is a literate communicative attribute, as typically literate forms of communication are

entirely one-sided as well, with reader being unable to interact with either the pages in front of her or the author of those pages. The fact that the majority of radio broadcasts are programmed is another attribute that connects it to literate forms of communication. Radio broadcasts, especially shows such as Top 40 countdowns and many news shows, are meticulously planned and timed. Though, as mentioned above, there has been an infusion of informality into the genre, radio remains highly formal and structured.

The ability of the radio to communicate across great distances is another characteristic that ties it to literate communication. The radio acts in much the same way as a book does in that it disseminates information to a large group of persons in various places at exactly the same time. The principle behind a group of persons all reading the *New York Times* in the morning and the principle behind that same group of persons listening to the morning news on a radio station is the same principle: the circulation of information to a varied audience all at once. Like literate forms of communication, radio can be archived as well. Advances in technology have allowed us to record radio transmissions for later study and review, and we have done so extensively. Copies of radio broadcasts dating back to the birth of the machine can be found and studied. This attribute closely parallels literate communication's ability to archive itself and leave a record of its past. Oral speech can in no way do this; once uttered, speech vanishes and leaves no physical trace of its passing.

Radio resembles both oral communication and literate communication. It is both, and neither. Much like the telephone, the radio was and continues to be a new hybrid of communication that is neither traditionally oral nor traditionally literate but something new and different. It combines features of oral and literate communication into a synthesis that can adequately be described by neither the word "oral" nor the word "literate." Instead, radio fits the idea of communication hybridization. The radio was followed several years later by the television, another technological device that would redefine communicative studies by combining aspects of both oral and literate communications into an entirely new communicative form.

The Television

Television continued the communicative revolution began by the propagation of the telephone and the radio in American society. The first prototype of the television was demonstrated in January of 1926 by John Logie Baird in his piecemeal laboratory in the Soho district of London to the British Royal Institute of Science and a report from *The London Times*. Since then, the television has become a regular part of life, especially in our own society; in fact, most people in American society could not imagine *not* having a television. The television has so infused our society that its effects on the ways we communicate have reached every level of our culture.

The television gained mass popularity in the 1950s, and this age is indeed remembered as the Golden Age of Television. Families would gather around the television at night to watch the news and shows such as *Howdy Doody* in much the same way that children of many West African tribes gather around the fire at night to listen to their fathers and in much the same way that the Dorian Greeks must have gathered around their oral poets to listen and watch performances of their myths, legends and history. In this sense, television is a very oral form of communication. It allows speech to be transmitted over long distances in much the same way that radio does. However, because of the fact that television transmits both pictures and words, the advent of the television allowed the appropriate nonverbal signals and gestures associated with oral speech to be transmitted as well as the actual oral utterances, something that radio cannot do. Television shares radio's sense of intangibility. For the vast amount of viewers, a television broadcast disappears the minute it terminates and lives on only in the memories of its viewers. However, like radio, television broadcasts can be (and have been extensively) recorded and archived for later viewing and perusal.

Television shares many attributes with literate communication as well, however. As with radio, there is no real feedback capability with television as there is with speech dialogue. Feedback for television broadcasts functions in much the same way that feedback for traditionally literate forms of communication function; it takes time to comment on a television program, and the usual method of doing so is by writing letters

or, more recently, sending an email message. In this sense, the flow of information in the medium of television is very much one-sided. Even more than radio broadcasts, television broadcasts are meticulously planned and programmed; more, they are almost always pre-recorded, excepting in many cases news broadcasts and the occasional “live” television show.

Analogous to the development of television in modern society is the rise of movies as communicative and entertainment forms. The cinema is better attended now than at any other time in our history, and is one of the preferred methods of entertainment in our culture. Movies function in much the same way as television in their use of speech and sound to convey oral messages to us. However, like television, movies work from an extensively reworked, revised and edited script which is thoroughly literate. The “message” of a movie, much like the “message” of a particular television show, is carefully planned and scripted.

Television and movies are both forms of communication that are neither oral nor literate in nature. They are hybrids, combining the features of oral and literate communications. Like speech, they can instantaneously convey information with full usage of nonverbal gestures and facial expressions. Like writing, they can communicate across time and distance. In much the same way that radio has contributed to the restructuring of our popular communicative forms, television and movies have helped to switch our communicative abilities away from a traditionally literate mindset.

Our Newest Forms of Communication

The past ten years has seen an explosion in the proliferation of new communicative technologies. The use of cellular phones, fax machines, pagers, the internet, the World Wide Web and email messaging, among many others, has truly transformed the American communicative landscape. At no other point in history have a society’s communicative methods changed so rapidly, and at no other point in the

history of communications scholarship have communicative scholars been so excited (and nervous) about the future of communication.

Cellular phones have become popular communicative tools over the past fifteen years. As technology has advanced, they have gotten easier to use, smaller and more portable. Cellular phones work on a communicative level in much the same way as a traditional phone does; they allow a user to communicate with another person instantaneously over a vast distance. However, many newer cellular phones have several advantages over traditional phone service, two of which are the advent of text-messaging and the portability described above. Text-messaging allows cellular phone users to write short messages of actual text to each other in much the same way they would have a telephone conversation. This combines both elements of oral communication and, as it is in fact text-based, written communication. The portability that accompanies a cellular phone highly resembles the portability of written communication. Oral communication has never been portable; it is rather difficult to pack someone else into a suitcase so you can talk to them on the beach later, but it is amazingly simple to pack a book into the same suitcase for reading on the same beach. The use of cellular phones combines the best features of both.

The Internet and its offshoots, however, have had more to do with our changing communicative landscape than any other form of communication. The Internet has changed our culture faster than any other communicative technology has to date; where the printing press took two hundred years, the Internet has taken ten. The Internet's communicative properties have metamorphosized the ways in which we communicate at the same speed. The development of the ARPANet in the 1970s into what we think of when we think of the Internet today has resulted in communicative forms that are changing so rapidly that communicative scholars can hardly keep up. Most of the scholarship on the subject today is obsolete almost as soon as it is published as newer and newer technologies keep altering the communicative scenery.

The World Wide Web has provided a new form of communication that combines elements of literate and oral communications. Just as the television was an improvement

over the newspaper in the speed at which we can gather our news, the use of the World Wide Web has increased our ability to get news and entertainment at the touch of a button or a click of a mouse. The speed at which we are able to gather news from the internet more closely resembles the speed of oral communication than that of literate communication. The information to be found on websites resembles oral communication in other aspects as well. Much as the words of a storyteller disappear as soon as they are spoken, so news on websites is almost never a permanent record. Websites are changing all the time; cnn.com, for example, updates its website multiple times in a day. The sports scores on cnn.com and espn.com are promptly removed a few hours after the game is completed instead of being stored permanently on the site's web server.

The ability to permanently archive news and information on the World Wide Web enhances its literate attributes. Numerous sites exist that rarely or never change; among these are articles out of online encyclopedias like Encarta and the online archives of scholastic journals. In these cases, the World Wide Web functions very similarly to traditionally literate communicative forms; information has been permanently stored and can be accessed at the user's discretion.

Email is similar to the use of the World Wide Web as a communicative form. A popular form of communication, especially among young people and among business associates, email appears to be a form of literate communication; after all, it is written, which would seem to be the most important factor in determining whether a particular communicative form is oral or literate. However, the fact that email is written down does not automatically make it literate communication. There are several attributes of email that link it directly with traditionally oral methods of communication. First, the speed of email more closely resembles the speed of oral speech than it does literate communication. Just as the World Wide Web allows users to instantaneously access various pieces of information, so email allows us to instantaneously transmit our own news, ideas, salutations and opinions over vast distances. The speed at which email travels lends greatly to its use as an oral form of communication, and more and more,

people are using email in this sense. Second, and more importantly, the “text” contained in the majority of email messages has more in common with everyday speech than with formal, written text. Email messages are often grammatically incorrect and proverbial in nature, and the faster that they are written, that is, the closer that they approach the speed of real speech, the more colloquial and the less grammatically correct that they become. Conversations are often carried on through email as well, such as the ones in a listserv or a newsgroup, and often email messages contained in such conversations will consist of a single sentence (or sometimes, a single word) in response to someone else’s email. For example, it is not uncommon for an email message to consist entirely of the words “Yes” or “No” in response to a question asked by someone else in another email. These conversations more closely resemble real speech conversations instead of the one-sided, edited viewpoints often associated with written text. However, email is still in fact written text, and cannot divorce itself entirely from traditionally literate forms of communication. Email is used, however seldom, in a traditionally literate sense; for example, students are often required to submit papers and assignments via email, and these papers and assignments are expected to be formally arranged and edited. Moreover, there is some use of email as a formal letter writing tool, such as its use to send complaint letters to businesses. This is an example of the ways in which email, while displaying many oral attributes, can still function in a traditionally literate way.

A similar phenomenon has occurred with the advent of “chat rooms” and programs such as America Online’s Instant Messenger. Chat rooms are online locations that allow users to interface with each other using internet connections and traditional computer methods of input (like a keyboard and a mouse) to “talk” to each other. This talking actually involves nothing but typing, but the speed at which people interact is very similar to the speed of oral speech, more similar, in fact, than any other communicative technology discussed above. Participants of these chat rooms employ a high degree of informality in their discussions just as dialogue participants do. These participants have even devised a way to circumvent the handicap of lacking traditional nonverbal signals and gestures that accompany oral speech; a whole system of symbols

has been designed to simulate these gestures, such as the use of the symbol :-)) to indicate that someone is smiling, the use of the symbol ;-)) to indicate that someone is winking, or the abbreviation “LOL,” which stands for “laughing out loud” to indicate that someone is laughing. These are just a few examples of the dozens that exist for all types of situations that may occur in these chatrooms.

An offshoot of the chatroom phenomenon is the increase in the use of programs like America Online’s Instant Messenger. Instant Messenger, or just simply “IM” to its users, is a program which allows an internet user to communicate with people they know over the internet. The program is designed to recognize when a friend of the user is online (they must have the program installed and running on their computer as well) and contains several different features for interaction between the two users, the most common of which is a dialogue box where the two participants can type to each other as though they were having a real-time conversation. In this sense, it very much resembles a telephone conversation, the difference being that the dialogue is text-based instead of orally based. Almost all of IM’s users use the technology in this sense to communicate.

It is interesting to note that the terminology surrounding the use of Instant Messenger has already transformed itself. Instead of someone “writing” to someone else using Instant Messenger, it has become common to state that someone is “IM-ing” someone else. This is completely appropriate as the use of Instant Messenger, like the use of the other communicative technologies discussed above, is very much its own communicative form, separate from both oral and literate means of communication, embodying attributes of each but clearly resembling neither.

We as a society are increasingly using forms of technology that employ both oral and literate means of communication. This is a strong shift away from the traditional emphasis on literate communication that has existed in our society and its predecessors for over two millennia. As such, we are in the middle of what Walter Ong and Eric Havelock have termed a shift to “secondary orality,” which is a resurgence of oral communicative methods in highly literate cultures such as ours. However, it cannot be that simple. Our newest forms of communication have more oral attributes than older

forms of communication that we have employed in the past, but they still resemble literate communicative forms. It is not that strictly oral means of communication are on the rise again, but that our newest communicative methods simply contain more oral attributes than our older technology. More and more we are experiencing an emerging hybrid of communication that is entirely new. We can no longer attempt to explain our communicative forms in terms of "oral" and "literate." Instead, we should speak of "hybrid" communicative forms and begin to discuss the ways in which these communicative technologies are changing the traditional notions of communication.

CHAPTER FIVE: THE HYBRIDIZATION OF COMMUNICATION

The hybridization of our communication forms has had and will continue to have many far-reaching effects on our society. As discussed in chapters two and three, the uses of oral and literate communication each depend on different functions of the human brain, with the functions of oral communication housed in the right hemisphere and the functions of literate communication housed in the left brain. For several millennia, the continuing use of literate communication as a superior form to oral communication has conditioned Western Society to function primarily with their left brain. This is evidenced by our society's emphasis on logic, abstract thought, philosophy and the Scientific Method. Holistic thought and intuition have traditionally been given a lesser place in our value system; in fact, those who have espoused this type of thinking have at one time or another been branded witches, heretics, mystics, and other names that relegate these people, and the functions of the right hemisphere of the brain, to the margins of society.

The influx of new communicative devices is changing all of that. Because our new hybrids of communicative forms are at least in part oral, their rise to domination in our society has signaled a reversal in the trend of left brain superiority. For the first time since the period directly after the invention of the printing press, the image along with the oral word carries in many ways the same weight as the written word. Leonard Shlain, in fact, argues that it is the resurgence of oral communicative patterns and the image that have saved us from self-annihilation. He proposes that the logical conclusion of left-brain centered, sequential thought is the use of man's own technology against himself, in this case, the use of the atomic bomb. Shlain states that it was the image of the mushroom cloud billowing over Hiroshima that truly brought to light the massive destructive powers of man's technology. Man's technology results from his ability to think abstractly and *invent*; abstract thought is a result of literacy. Had a written description of the atomic bomb's awesome power been circulated instead of the image, Shlain argues, we surely would have destroyed ourselves.

The new hybrid of communicative forms may have other consequences for society as well. One of the most important of these is the educational consequence of changing communicative forms. Since the founding of the United States, the American classroom has been built on several key ideas. The ideas of rationality and the Scientific Method have had a great influence upon the American classroom through their emphasis on logic and sequential thought. For example, one of the architects of the Enlightenment, Rene Descartes, attempted to prove to himself that first he existed and then that the rest of the world existed using nothing but the principles of philosophy and logic available to him through literacy. By contrast, a person grounded in orality and holistic thought would have taken such an assumption completely for granted.

While it might seem a little ludicrous for us imagining Descartes' need to prove that he existed, the basic principles that underlie the philosopher's work are still held very dear in the realm of public education. Children are taught the Scientific Method of "hypothesis, test, conclusion" from an early age, and from middle school on they are encouraged to write not narrative structures, but instead the five-paragraph essay, compare and contrast assignments and research papers. In high school, students spend four years reading and analyzing major pieces of American and British literature. Years of traditional English classes leave the average American student not only sick and tired of analytical, abstract thinking but also wrongly believing that such thinking is superior somehow to the more concrete, holistic thinking exhibited by oral cultures.

More importantly, this leaves them helpless when dealing with communicative tools in "the real world," the world that they will exist in after they graduate from school. What students are exposed to in school is in direct opposition to what they experience in their normal, day-to-day lives. As they too are living through the Digital Revolution, they are immersed in its communicative mediums as much as any other segment of society, if not more. Internet use among students is almost taken for granted, as is email. Telephone conversations among high school students often stretch long into the night, and television watching among teenagers is a popular activity. The incredible popularity of pop music groups signifies the radio's importance to young people. More

and more, students of all ages, including post-secondary students, are becoming creatures of the New Hybrid, not entirely oral but not entirely literate.

This sharply contrasts with what they see and hear everyday in school. Logical skills and the Scientific Method, while important, hold less in common with the typical student than they might have had a hundred years ago. Is it any wonder that most students find school inapplicable to their daily lives? If students can't apply what they learn in school to the lives they lead, then the entire system of education is failing. The primary purpose of any educational system is to prepare its participants for real-world experiences, and by insisting on an emphasis grounded in literate-based communicative forms, the educational system alienates them. It is more likely that the modern forms of communication discussed above – movies, television, email, etc. – hold more interest and instill more cultural awareness into students than any amount of books or experiments could.

What needs to occur then is a re-assessment of our educational system. The emphasis on literate analysis is important, but an equal emphasis on orality methods and skills would not only appeal to students but would also teach them both left and right brain cognitive skills. More importantly, a thorough grounding in the appropriate uses of our newest communicative forms is a must, as these forms will be used by students once they graduate. It is extremely important for students in the modern world to learn to use both hemispheres of their brain. More and more, in an increasingly global society, students are going to come across people of oral backgrounds, especially if they are exposed to any of a number of African or Asian cultures. A grounding in the processes of the right brain is necessary for effective communication in these situations.

Most of the great minds of history were able to use both sides of their brain. For example, Leonardo da Vinci applied his thought not only to the concrete, holistic professions of art and sculpture but to abstract pastimes, such as architecture and invention, as well. Albert Einstein, perhaps the greatest physicist of our time, was an accomplished violinist.

In *Boostraps*, Victor Villanueva mentions that many students today, especially those of minority background, are *code switchers*; that is, they are able to process different information from different sources in different ways. For example, Villanueva discusses how he himself talked and thought one way on *el bloc* and an entirely different way in the classroom (Villanueva 35). This skill is often frowned upon in public schools today because many code switchers can't perform well on standardized tests.

Instead of teaching to tests, we should be teaching for cultural (and cross-cultural) fluency. There should be equal emphasis on oral methods of communication in the classroom alongside the existing literate emphasis. To these should be added an emphasis on the ways in which new communicative forms are bridging the gap between oral and literate communications. Today's classroom, however, is woefully lacking in oral teaching methods and mediums. It has only been a recent development that the State of Texas has made a speech class a requirement for graduation in Texas high schools, but this class is only one semester long, compared with four full years of traditional, analytical English class. While this is a step in the right direction, it is inadequate to prepare high school students for the occurrences they will face after they leave school.

What is needed instead is a system that combines the mediums of orality and literacy. For example, over the course of a student's high school career, he or she might still take four years of traditional English classes, which are still important by all means, but might also take four years of, for lack of a better term, Speech Communication class. While the English curriculum would remain the same, the Orality curriculum might include such things as poetry and drama performance, with an emphasis on spontaneous interpretation as well as introductions to multi-cultural materials. Use of the newest forms of media would need to be employed as well, with an emphasis on the ability to continue learning and readjusting to new media after leaving school.

The result would be students who could not only use the new media to greater advantage but would also be much more effective communicators, able to choose effectively the media to best convey their messages. Most importantly, these students

would be more able to adapt to the new, multi-cultural situations in which they will find themselves in an increasingly global society.

Education is only one area in which our changing communicative forms are affecting the ways in which we think and act. The corporate world is also experiencing massive internal changes as businesses are beginning to shift their infrastructures from ones based on paper to ones based in cyberspace, where email and the internet are standard methods for the transfer of information. Our newest communicative forms have transformed interpersonal communication as well. More and more, people in our society are using email and the internet to communicate with one another instead of using older literate methods such as the United States Postal Service. Instead of writing a good old-fashioned letter, people are making the switch to the type and send functions of email.

The Digital Revolution has effected every aspect of our society; the change in communicative forms that we are now undergoing is even affecting our cognitive processes. The effects of such changes are still being observed and an account of their exact consequences is still a distance into the future. However, an effort should be made to realize and to understand the ways in which our communications methods have changed and will continue to change for the foreseeable future to insure that we are using such methods to an optimum degree. We must take the lead in recognizing new communicative forms and realize their important place in our society. As older, traditional notions of literacy and orality fade from society, so too must they fade from the classroom and from the textbook, to be replaced with a new vision of the communicative hybridization that is taking place even now in our society.

REFERENCES

- Brown, Rexford (1993). *Schools of Thought* San Francisco: Jossey-Bass Publishers, Inc.
- Havelock, Eric (1962). *The Muse Learns to Write* New York: Penguin Publishing Group.
- Kennedy, George (1998). *Comparative Rhetoric* New York: Oxford University Press.
- Johnson, Steven (1997). *Interface Culture* San Francisco: Harper Publishing Group.
- Lord, Albert (1960). *The Singer of Tales* Cambridge: Harvard University Press.
- McLuhan, Marshall (1962). *The Gutenberg Galaxy* Toronto: University of Toronto Press.
- McLuhan, Marshall (1967). *The Medium is the Massage* San Francisco: Hardwired Press.
- McLuhan, Marshall (1994). *Understanding Media* Cambridge: Massachusetts Institute of Technology Press.
- Medhurst, Martin (1990). *Communication and the Culture of Technology* Pullman, Washington: Washington State University Press.
- O'Donnell, James (1998). *Avatars of the Word* Cambridge: Harvard University Press
- Ong, Walter (1982). *Orality and Literacy* New York: Routledge.
- Shlain, Leonard (1998). *The Alphabet Versus the Goddess* New York: Penguin Group.
- Thompson, LaNette (1998). "The Non-Literate and the Transfer of Knowledge in West Africa" Arlington: University of Texas at Arlington.
- Villanueva, Victor (1993) *Bootstraps* Urbana, Illinois: National Council of Teachers of English.

VITA

J. Garrett Cornelison was born in Seminole, Oklahoma on 7 November 1978. He graduated from high school in May of 1997 from Shawnee High School in Shawnee, Oklahoma. In the fall of 1997, he enrolled at Texas A&M University to study computer and electrical engineering; however, after only a few months, he realized his talents lay in other directions and changed his major to English. He is graduating in May of 2001 and will be matriculating at the University of Texas at Austin School of Law in the fall of 2001.