Media Then and Now

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Definition and Introduction

"Media" is a commonly-employed term in our current vocabulary, but there is little consistency in its use. Without qualification, some people use the term to mean "the news media," the commercial industry that produces news for consumption. Others use the term to mean "the entertainment media," referring to another commercial industry (or cluster of industries) that exist to make commercial profit *via* entertainment. I do not use the term either way; I use it as other Media Ecologists do, in its most generic and general sense to mean *any* of the various media by which humans communicate or commune with one another. Orality is a medium, handwriting is a medium, photography is a medium, etc.

Media Ecology is the (fairly new) discipline that studies the use, development, and consequences of various human media throughout human history. Neil Postman has claimed that Marshall McLuhan coined the term, and, while the term is not especially appetizing or attractive, it has become the common label for the enterprise.[1] McLuhan was aware that it was/is extremely difficult to assess one's own culture (and dominant media therein), and he observed what he called the "rear-view mirror effect," that we could more easily observe and evaluate previous media than current media. Media Ecology has been, and continues to be, therefore, an historical discipline. We survey the history of various media (and the evaluations thereof) as a necessary vantage point from which we evaluate current media; and most of this paper consists of such an historical survey (with slightly more emphasis, at the end, on the present moment, characterized

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[1] Readers may wish to consult the website of The Media Ecology Association, and will quickly see that this is the name of that particular society.

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by digital media). At least three foundational observations undergird any successful efforts to understand media: the dialog between our tools and us, neuro-plasticity, and the see-saw effect.

1. We make tools; and tools make us.

One of the most foundational observations of cultural anthropology is the reciprocity between humans and their tools: We shape tools; and tools shape us. We make tools for the purpose of accomplishing certain tasks, but in the process of using those tools, we ourselves are altered. We manufacture a shovel, for instance, to put holes in the ground, but in using the shovel, our hands become calloused or blistered. This is not a value judgment; it is merely a statement about the material effects of a material tool on a material human. When I played handball in college, I wanted my hands to be as hard as possible, because the ball could be hit harder with hard hands than with soft hands. Had I been a neuro-surgeon or a masseuse, I might have preferred softer hands. But the simple fact is, the tools we employ not only have some effect(s) on our environment (holes in the backyard), they also have some effect(s) on us (calloused hands).

The development of tools also tends to shape us in other ways, by altering our sense of what is possible (try digging a foundation with your hands) and even what is desirable. As the old saying goes, "For a man with a hammer, everything looks like a nail." Travel, for example, seemed neither especially possible nor especially desirable prior to the development of the railroad, or steam-engine nautical vessels. Add the automobile and airplane, and now we live in a culture in which travel is both common[2] and widely perceived as desirable. We are now a commuting society; most of us do not work within walking distance of our homes. We make

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[2] In his own lifetime, Jesus never travelled more than a day's journey by foot. If you put all of his travels on a map, and measured the farthest distance of one to the other, it would be little over a day's journey by foot. Many, if not most, Americans today commute farther than that every day.

tools; and tools make us. Some Media Ecologists put it this way: tools do something *for* us and tools do something *to* us; to evaluate them we must consider both what they do *for* us and what they do *to* us. As MIT's Sherry Turkle put it, we are concerned to discover not merely "what computers do *for* us but what they do *to* us, to our ways of thinking about ourselves, our relationships, our sense of being human….We make our technologies, and they, in turn, shape us."[3]

One sub-group of human tools is media tools, tools we make for the purpose of communicating. Using those tools, as with using any tools, alters us. Reading tends to foster rationality, for instance, and/but yet it also tends to foster individuality. Our tools of perceiving and communicating shape our capacities to perceive and communicate, and therefore, tend to shape *what* we are likely to perceive and communicate. Writing connects us to the past, for instance, in a way that texting or emailing does not (I've received no replies to the many texts I have sent to Socrates.). So our media tools—like all other tools—do something *for* us and something *to* us; we shape them, and they shape us.

2. Neuro-plasticity (or "neuro-genesis")

For many centuries, wise people have observed that the tools we make shape us (as individuals and/or as cultures), but we were not always able to explain some of the mechanisms by which this happened. We knew, for instance, that people who read tend to be smarter than people who do not—not just in the sense that they have read something we have not, but in the sense that, when confronted with a new challenge, they were more likely to perceive a solution than the non-reader is (with obvious individual exceptions). Neurologists over the last several decades have begun to understand this kind of phenomenon. Aided by fMRI, neurologists can

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[3] Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (New York: Basic, 2012), 2, 19, emphases mine.

now "see" how a brain functions without surgery; and what they have discovered is that the brain creates new synaptic pathways throughout life, constantly creating new neurological pathways between different lobes of the brain. Many of the tasks and problems we face require a different neurology than we currently have; and the brain is capable of developing those needed pathways.[4]

In our efforts to do or perceive something new, then, our brains end up adjusting to the task over time, the way a new baseball glove will adjust either to a softball or a hardball. So our brain today is not our brain a year from now; a year from now (unless our habits are the same in between) our brain will be different, more able to perceive some realities and less able to perceive others. People who spend a significant amount of time on rapidly-changing media (television, Internet) will have a mind that moves easily and quickly from one thing to another, but that same mind finds concentrated attention to be nearly impossible, such as reading a 900-page Tolstoy novel (more on this later). So, if you wish to read a Tolstoy novel, or Aristotle's *Nicomachean Ethics*, you will need to begin perhaps a year earlier to shape your neurology in such a manner that it can focus for 900 pages on a single thing. Our "brains" are not fixed things; they are flexible, malleable, alterable, changing realities. What we perceive today is not what we will perceive next year. Our brains, to over-simplify, are not Locke's *tabula rasa*, a blank slate

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[4] For an excellent example of this, the human brain is not capable, at birth, of reading. The neural pathways between three very significant lobes of the brain simply are not present. In the effort to "learn" to read, therefore, we are not actually "learning" anything. We already know that "cat" means the furry thing that runs the household; all we "learn" is how to translate the visible letters c-a-t into the sound, "cat," which we already know, and which we have been taught to associate with the house-dominating furry animal. But our brains need to learn how to make this translation, by connecting the conceptual, the verbal, and the visual lobes of the brain. For a fuller discussion of this remarkable process, cf. Maryanne Wolf, *Proust and the Squid: The Story and Science of the Reading Brain* (New York: Harper, 2007).

on which anything can be written; our brains themselves are mutable and mutating, always moving, always changing, always adjusting to what they encounter.[5]

3. The "See-Saw" Effect

If the last three millennia of Media Ecological conversation have taught us anything, it is that the introduction of a new medium or the disappearance of an old medium alters the *ratios* of certain individual and cultural realities. Media that permit long-distance communication, for example, alter the ratio of the distant and the proximate. When the formerly distant becomes proximate, the formerly-proximate becomes distant; cultures do not communicate exclusively with the distant or with the proximate, but the ratio between the two changes. Like the see-saw on the playground, when one side goes up a little, the other goes down a little. The change, then, is relative; as one human behavior or sensibility improves, another tends to degrade.

One of the most notable examples of the see-saw effect is in the relation between space and time. Media Ecologists observe that all media tend to be space-biased or time-biased. The telegraph (and, other electronic technologies such as telephone or radio) is "biased" towards space; it conquers space, allowing an individual in Boston to communicate with an individual in Texas. The gravestone (or the Lincoln Memorial), by contrast, is "biased" towards time; its message appears in a medium that lasts many, many years, but does not move easily through space. A 4th-century manuscript of the Greek New Testament, handwritten on animal skin, does not travel well or easily. Such a manuscript is fairly large and expensive to produce. But it travels through time very well. We have a number of such manuscripts (and some even older) that are biased toward time.

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[5] This neuro-genesis may partly explain the studies of habit-changing that suggest that it ordinarily takes 66 days to alter a habit. Cf. Phillippa Lally, Cornelia H. M. van Jaarsveld, Henry W. W. Potts and Jane Wardle, "How are Habits Formed: Modelling Habit Formation in the Real World," *European Journal of Social Psychology* 40:6 (October 2010), 881–1094.

All media, therefore, shape the see-saw effect, causing some kinds of human contacts to be more common than others in a given culture. They alter the ratios or balances of these kinds of pairs within a culture:

Space/time

Proximate/distant

Past/present

Rational/emotional

Imaginative/visual

Linguistic/visual

Six "Eras" of Media (and their critics)

Media Ecology is a very new discipline, rarely recognized (but growing) on academic campuses. There are still many questions and discussions, but a few areas of agreement have emerged, including the recognition by most that there are six eras or moments in media history (though two of them happened simultaneously, so some count them as five): orality, manuscript (also called "chirography" by some, or "handwriting" by contemporaries), typography (printing press), electronic, photographic, and digital. At each moment in history when a new medium appeared, criticism/analysis appeared also, as thoughtful people raised questions about the likely effects of the new media. What follows is an extremely-abbreviated historical overview.

1. Orality

All cultures are oral; and many cultures are exclusively oral, never having reduced their language to writing. Many/most hunter-gatherer cultures are oral cultures. Without the ability to write things down, the mind must remember whatever is deemed important, so oral cultures prize

memory and memorability.[6] Nearly all learning in such cultures is social—rather than private—because one can only learn either by direct observation or by talking to others. One knows the personal source of all the understanding one has, whether it came from the village sage or the village idiot. "Teachers" in such cultures must establish their credentials by living wisely, justly, and virtuously; whereas in print culture, we often know little to nothing about the people whose writings influence us.[7]

Compared to later print cultures, people in oral cultures tend to think in the first person plural ("we"), rather than the first person singular ("I"). Learning from a book may be a very private experience, but learning from others cannot be.

2. Manuscript/chirography/handwriting

Over the course of about half a millennium, beginning in the second-millennium BC, after a number of imperfect efforts, an alphabet was developed. Prior efforts to write things down included pictography (each character looked like what it represented), logography (each character represented an entire word, but did not necessarily look like it, much as Chinese today), and syllabary ("alphabets" with only consonants but no vowels, such as the biblical Hebrew in which Moses wrote). But eventually, a true alphabet was developed by the Greeks, containing both vowels and consonants, allowing the written word to contain most of what the spoken word contained.

Once a phonetic alphabet was available, important things, such as international treaties or religious texts, could be written down for posterity. When the Jews returned to their land from

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[6] For a full discussion of the matter, cf. Walter Ong, *Orality and Literacy. The Technologizing of the Word* (New York: Routledge, 1982). For the move from orality to manuscript, cf. Eric Havelock, *Preface to Plato* (Cambridge: Harvard University Press, 1963), and Havelock, *The Muse Learns to Write: Reflections on Orality and Literacy from Antiquity to the Present* (New Haven: Yale University Press, 1986).

[7] This is the point made by Paul Johnson, in his *Intellectuals: From Marx and Tolstoy to Sartre and Chomsky,* rev. ed., (New York: Harper, 2007), in which he all but said that no one who ever met someone like Rousseau would ever have given any credence to anything he said, because he abandoned his wife and children to teach about universal love of humanity.

captivity in Babylon, the nations around them objected, and tried to prevent them from building the house of God and their wall. The Jews replied by writing a letter to Darius, in which they reminded him that Cyrus had decreed they could return and rebuild. In their letter to Darius, they said,

> "Therefore, if it seems good to the king, let search be made in the royal archives there in Babylon, to see whether a decree was issued by Cyrus the king for the rebuilding of this house of God in Jerusalem. And let the king send us his pleasure in this matter" (Ezra 5:17, the record of the original decree is recorded in 2 Chron. 36:22-23).

And, sure enough, the written letter was found:

> Then Darius the king made a decree, and search was made in Babylonia, in the house of the archives where the documents were stored. And in Ecbatana, the citadel that is in the province of Media, a scroll was found on which this was written (Hebrew כְּתִיב, Greek, γεγραμμένον): "A record. In the first year of Cyrus the king, Cyrus the king issued a decree: Concerning the house of God at Jerusalem, let the house be rebuilt…" (Ezra 6:1-3).

Note that by this time in history, writing important documents and preserving them in archives was a sufficiently routine aspect of geo-political life in the Middle East that the Hebrews could appeal to a written record of a geo-political treaty (something we now take for granted).

Though manuscripts were used for official business, and for preserving religious texts, such as the Hebrew Old Testament (or the Jewish Pseudepigrapha or Dead Sea Scrolls), manuscript cultures were more like oral cultures than they were like typographic cultures. Writing materials (animal skins or papyrus) were very expensive to produce (I saw a reconditioned Kosher Torah—just the five books of Moses—on Amazon for $28,000). Most people, therefore, would only have encountered a manuscript in a public meeting, such as at the

Jewish feasts. Manuscript cultures were largely illiterate cultures, therefore, for the simple reason that only scribes, priests and court-officials would likely ever see a manuscript.

Manuscript cultures differed from oral cultures, however, in at least one important respect. Manuscripts created cultures with sacred, mythical or historical texts that connected them to their *past*. Previously, only the liturgy of a cultural or religious tradition—its religious or cultural rites—connected one generation to previous generations. But manuscripts permitted texts themselves to connect the generations. The ancient Jews, for example, were "people of the Book," for whom "the writings" (sometimes translated "the Scriptures") were the locus of cultural and religious authority. As these Jews became the first generation of the Christian church, their apostles often cited these earlier writings with the conventional introduction, "it is written…" (γέγραπται), which appears 67 times in the Greek New Testament to introduce Old Testament passages. In earlier, oral cultures, we knew only the wisdom of people we knew and heard from in our own lifetime; in manuscript cultures, we knew the wisdom of people who may have lived hundreds of years before. Manuscripts, therefore, created a kind of human consciousness that connected us to our past.

Manuscripts were not universally well-received, however. In the *Phaedrus* dialog, Socrates objected to the then-new medium of manuscript, on two grounds: that it would injure memory and create much confusion. Regarding memory, he said:

> for this discovery of yours 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. The specific which you have discovered is an aid not to memory, but to reminiscence, and you give your disciples not truth, but only the semblance of truth; they will be hearers of many things and will have learned nothing; they will appear to be omniscient and will generally know nothing; they will be tiresome company, having the show of wisdom without the reality [275a-b].

Socrates (who preferred dialog, of course) also doubted whether the "monologue" of a written text could be understood by a reader who could not ask the author questions:

> I cannot help feeling, Phaedrus, that writing is unfortunately like painting; for the creations of the painter have the attitude of life, and yet if you ask them a question they preserve a solemn silence. And the same may be said of speeches. You would imagine that they had intelligence, but if you want to know anything and put a question to one of them, the speaker always gives one unvarying answer [275d].

I happen to agree more with Socrates's first point than his second. Good authors can anticipate questions or confusions and address them, as when the apostle Paul wrote, "What shall we say, then—shall we continue in sin that grace may abound" (Rom. 6:1)? On the first point, however, Socrates was right; orality promotes memory more than manuscript does, so in the see-saw ratio of memory v. critical analysis, his observation was correct. My point is not to defend Socrates, but to mention him as an example of early media ecology; wise people, such as Socrates (or Moses, by whom God prohibited making images for religious purposes) recognized that new media always altered certain ratios, thereby promoting some things and demoting others.[8]

3. Typography (McLuhan called it "The Gutenberg Galaxy.")

The Chinese and Koreans had developed woodblock printing on cloth around the first century of the common era, and even developed a primitive form of movable type around a thousand years later. Limited as they were both by their logographic alphabet and by the fact that inexpensive paper had not been developed, little was done with what we now call the "printing press" until Johannes Gutenberg in 1436, who combined three pre-existent technologies: pressing, movable type, and oil-based ink (and, some would say, the then-being-developed inexpensive paper). Thus, printing took off rapidly. Within half a century, there were over 270 cities with printing presses in Germany alone. The written word was now being mass-produced (and mass-consumed). Literacy rates accelerated due to the widespread availability of Bibles,

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[8] And, in one of history's more-delicious ironies, the only reason you and I know of Socrates's viewpoint on the matter is because his disciple, Plato, disagreed with him, and wrote down the *Phaedrus* dialog for the benefit of future generations.

hymnals,[9] and other printed material. The printing press democratized knowledge, because the specialized knowledge of the few was printed for the widespread benefit of the many. Further, as Elizabeth Eisenstein and others have observed, the printing press was a critical catalyst to such cultural upheavals as the Renaissance, the Reformation, and the Scientific Revolution.[10]

In addition to such widespread cultural changes, Media Ecologists have noted several other results of printing (and reading), because reading privately (as opposed to hearing a manuscript read publicly) cultivates rationality, imagination, and a heightened sense of self or individuality.[11] As Nicholas Carr has put it: "[S]ince Gutenberg's printing press made book reading a popular pursuit, the linear, literary mind has been at the center of art, science, and society. As supple as it is subtle, it's been the imaginative mind of the Renaissance, the rational mind of the Enlightenment, the inventive mind of the Industrial Revolution, even the subversive mind of Modernism. It may soon be yesterday's mind."[12]

Walter Ong similarly acknowledged the distinctive contributions of literacy to intellectual development, saying that literacy: "…is absolutely necessary for the development not only of science but also of history, philosophy, explicative understanding of literature and of any art, and indeed for the explanation of language (including oral speech) itself."[13]

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[9] Cf. Christopher Boyd Brown, *Singing the Gospel: Lutheran Hymns and the Success of the Reformation* (Cambridge: Harvard University Press, 2005).

[10] Eisenstein, *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early Modern Europe*, 2 vols. (Cambridge: Cambridge University Press, 1979). Cf. also Marshall McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man* (Toronto: University Press, 1962), and Walter Ong, *Orality and Literacy: The Technologizing of the Word* (New York: Routledge, 1982).

[11] In addition to the authors mentioned in the previous note, cf. Sven Birkerts, *The Gutenberg Elegies: The Fate of Reading in an Electronic Age* (New York: Faber and Faber, 1994), Jacques Ellul, *The Humiliation of the Word,* trans. Joyce Main Hanks (Grand Rapids, MI: Eerdmans, 1985), Eric A. Havelock, *The Muse Learns to Write: Reflections on Orality and Literacy from Antiquity to the Present* (New Haven: Yale University Press, 1986), David R. Olson, *The World on Paper: The Conceptual and Cognitive Implications of Writing and Reading* (Cambridge: University Press, 1996), Brian Winston, *Media Technology and Society: A History: From the Telegraph to the Internet* (London: Routledge, 1998), and Maryanne Wolf, *Proust*.

[12] Carr, *The Shallows: What the Internet Is Doing to Our Brains* (New York: Norton, 2010), 10.

[13] Ong, *Orality and Literacy*, 14-15.

The same kind of observation about the development of intelligence, based upon neurological studies, was made recently by Maryanne Wolf of Tufts University: "New thought came more readily to a brain that had already learned how to rearrange itself to read…the increasingly sophisticated intellectual skills promoted by reading and writing added to our intellectual repertoire."[14]

For nearly a half millennium, the printing press altered social structures, fomented three significant revolutions in human achievement, and altered the way in which the human mind functioned. It made the West what it had not been before; and then, within a decade, two new media entered Western civilization, each with the same transformative power as the printing press: electronics and photography.

4. Electronic

Electricity has influenced human civilization in many profound ways; it undoubtedly contributed to urbanization and industrialization, for instance. But it was and is a profound influence on human media, because electricity forever altered the ratio between the distant and the proximate. There were, of course, handwritten letters before the telegraph was invented, but they were both extremely slow and extremely expensive. Postal services are fairly recent cultural inventions (in Europe and the Americas, 17th century); prior to such, letters had to be sent *via* courier, and sensitive correspondence continued to be delivered by courier for some time (I have recently been enjoying the Jefferson-Adams correspondence, and many of their 18th-century letters begin with an introduction of the courier, to the effect of: "Please receive Mr. Morris cordially; he is a tobacco-farmer from Virginia, and has been willing to deliver this correspondence when he visits Paris."). Perhaps the best-known courier service was the Pony Express, which, from April 1860, to October 1861, greatly decreased the time of delivery of

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[14] Wolf, *Proust*, 217-218.

East-West correspondence in the United States to about ten days (and was then rendered obsolete by the telegraph).

Samuel Morris's telegraph, however, altered long-distance communication forever.[15] Through a simple binary system of dots and dashes, electronic signals could replace the human alphabet, permitting the transmission of messages along electric lines for trans-continental distances. Correspondence no longer took weeks or months, or even the Pony Express' "rapid" delivery time of ten or twelve days; correspondence could be delivered in an instant. Within fifty years, radio had appeared, and shortly thereafter, the telephone.

Each of these electronic media permitted virtually instant communication with those who were geographically distant. In oral cultures, one could only communicate with people who were literally "within shouting distance." And in handwriting cultures, communication with those who were distant was slow. Electronic cultures have "conquered" space, at least as far as human communication is concerned.

Of course, electronic media altered substantially the ratio of distant and proximate. In oral cultures, all communication is proximate; in manuscript/handwriting cultures, nearly all communication is proximate; but in electronic cultures, many communications are distant. Most "friends" on Facebook, for instance, are not necessarily geographically proximate; our "neighbors" are no longer geographically defined (though they were defined in precisely this way in the parable of the Good Samaritan).

Electronic media are also comparatively rapid, and therefore, more frequent, for instance, than handwritten letters. We may call someone on the telephone to communicate a particular thing, and then the other individual begins talking and asking questions, and sometimes we never even get to the original point of the call. With handwritten letters, however, we can stop and take

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[15] Indeed the word *telegraph* is a combination of the Greek words τῆλε—at a distance—and γράφω—I write.

as much time as we wish—without any interruption—to say precisely what we wish to say (or what we wish to avoid saying). Handwritten communication tends to promote our considered opinions; most electronic communication tends to promote our instant thoughts, our initial reactions or replies to what others say. To put it generally (and there are many exceptions), we might say that handwriting promotes more thoughtful communication; whereas telephone promotes less thoughtful communication. Further, because of the rapidity, electronic media are "biased" toward *quantity* of communication; whereas handwriting is "biased" toward *quality* of communication. We could easily make twenty or fifty phone calls in a day; only Thomas Jefferson could write ten to twenty handwritten letters in a day.[16]

The effect of this on journalism was profound. Setting type is fairly time-consuming, as is the process of distributing the physical bulk of newspapers (Those of us who delivered Sunday newspapers on bicycles know whereof I speak.). Early newspapers appeared fairly infrequently. Indeed, as former Librarian of Congress Daniel Boorstin observed, the first American newspaper (1690) was only printed once monthly, unless, as the editor said, "if any Glut of Occurrences happen."[17] "News" was any important event that happened in the last month. Newspapers, therefore, had a certain ratio of event-to-commentary that favored commentary. After all, with two or three weeks to think about something, there was more time to reflect on its consequences than if it had happened only hours earlier.

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[16] In fact, assuming he wrote 18,000 letters (the standard estimate) over roughly fifty years, that averages about one per day, though many of those were ten or more pages long. One letter per day may not seem significant, until one recognizes the many other things Jefferson did: He served in the Continental Congress, was principle author of the Declaration of Independence, governor of Virginia during the war, minister/ambassador to France, Secretary of State under George Washington, an accomplished farmer and architect (not only UVA and Monticello, but the Virginia Capitol building in Richmond), an industrialist (had a nail factory), and oh, just for good measure, was the third President of the United States. So he did a few things in addition to writing 18,000 letters. Princeton began the process of publishing his letters in 1950, and they are now either finished or on the final (41st) volume. Curiously, despite such a rich correspondence, Jefferson wrote only the one book, *Notes on the State of Virginia* (which, as a native of that commonwealth, I have read with appreciation).

[17] Boorstin, *The Image: A Guide to Pseudo-Events in America* (New York: Atheneum, 1975), 7.

Imagine, as an illustration, *The Federalist* papers. Published over about a year's time, 85 separate papers by three authors commented on a single event, which had not even yet happened: the ratification of the proposed federal constitution. In most printed editions today, the papers constitute nearly 300 pages of commentary on a single event (though, obviously, a significant one).[18] That is a profound event-to-commentary ratio, heavily weighted toward commentary. The news medium of the day was weighted heavily toward rational discussion of a few, publicly significant events. Electronic media, by contrast, favor the rapid reporting of many events (whether consequential or not), in an effort to "scoop" the competition. Such "reporting" scarcely permits time for reflection or commentary.

An example of this urge for rapidity occurs to me from my days in graduate school. On March 30, 1981, John Hinkley, Jr. shot President Reagan in an assassination attempt. Also shot that afternoon was Reagan's Press Secretary, James Brady. At some point in the telecast, Dan Rather solemnly reported Brady's death, and urged a "moment of silence" for "slain Press Secretary James Brady." Well, as we all know, Mr. Brady was not slain that day; indeed, he lived for another thirty-three years, and did not die until August 4, 2014. Such a journalistic blunder, while utterly inexcusable, would not have happened when newspapers were printed monthly (or even weekly or daily); there would have been plenty of time to determine such fine distinctions as to whether a human was alive or dead.

5. Photographic (Ellul, McLuhan, Postman)

At roughly the same moment in time that Samuel Morse developed the telegraph (1844), Louis Jacques Mande´ Daguerre developed the photograph (1839), an invention that altered

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[18] And, while the so-called "Anti-Federalist Papers" were not a coordinated effort, they were voluminous. The standard collection by Herbert Storing and Murray Dry constituted seven volumes, containing the writings of 88 different authors. Storing and Dry, eds., *The Complete Anti-Federalist* (Chicago: University of Chicago Press, 1981). In its current (2007) three-volume edition, it contains 1,836 pages.

profoundly the ratio between language and image. It would be several more decades before

either the electronic or the photographic media had widespread social impact, but when they did,

the monopolistic reign of Gutenberg was over. Photograph did for image what the printing press

did for manuscript; in each case, a once-rare, expensive, hand-crafted thing became

commonplace, inexpensive, and mechanically reproduced. Prior to photography, only the

wealthy could afford to have a hand-produced painting in their home; after the photograph,

images became commonplace.

Images, compared to print, are non-rational. They are not necessarily *ir*rational, but they

are *non*-rational. They do not make propositional statements, statements that can be rationally

evaluated in terms of assumptions, evidence, or reasoning. The common reading experience

(especially in non-fiction) of putting a finger or bookmark in a page, to check whether chapter

three is consistent with chapter one, or whether the author's definition is the common definition

in the dictionary, or whether a statement corresponds to *Encyclopedia Britannica*, is nearly

impossible to do with an image. Images leave an emotional impression on us, but they do not

make testable, debatable, claims. Exposure to them, therefore, does not cultivate human

rationality the way exposure to written language does. Neil Postman put it this way:

> To be rationally considered, any claim…must be made in language. More precisely, it
> must take the form of a proposition, for that is the universe of discourse from which such
> words as "true" and "false" come. If that universe of discourse is discarded, then the
> application of empirical tests, logical analysis or any of the other instruments of reason
> are impotent….The move away from the use of propositions in commercial advertising
> began at the end of the nineteenth century (by which time images were commonplace in
> advertising as elsewhere).[19]

Similarly, though perhaps non-intuitively, images do not cultivate imagination the way

printed language does. When reading Tolstoy's *Anna Karenina*, each reader must "create" in her

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[19] Postman, *Amusing Ourselves to Death: Public Discourse in the Age of Show Business* (New York: Viking, 1985), 127, parenthesis mine.

mind a mental image of peasants laboring during harvest in the fields, and, in fact, no two of those mental images are likely to be identical. A reader from Kansas may very well picture flat fields, whereas a reader from our western Pennsylvania may likely envision rolling fields. Either way, however, the mind is required to "translate" alphabetic characters into verbal/phonetic realities, into conceptual realities, into visual realities. Brain scans disclose remarkable amounts of electronic activity in the brain when such reading takes place; whereas viewing an image of peasants laboring in a field produces very little neurological activity. Viewing images, therefore, promotes neither of the two significant properties of the mind: rationality and imagination (which, today, we might refer to as "left-brain" or "right-brain," but all cultures have recognized both properties, however they have labeled them).

Images have tended, therefore, to alter the ratio of emotion-to-reason; the human has, of course, always been both an emotional and a reasonable being, but images foster the emotive dimension at the expense of imagination and rationality. In the process, images have altered a number of cultural realities, including politics and health.

Political life has been profoundly altered by images. The kind of reasoning exhibited in *The Federalist* (and anti-Federalist) papers will not fit easily into an image. More importantly, the photograph "favors" some people more than it does others. During the Nixon-Kennedy debates, those who heard the debates on radio thought that Nixon had prevailed; but those who watched on television thought Kennedy (who was much more photogenic) had won. Kennedy himself after his election attributed his election to the televised debate. If we back up to an earlier time, consider Postman's observations about President Taft:

> …It is implausible to imagine that anyone like our twenty-seventh President, the multi-chinned, three-hundred-pound William Howard Taft, could be put forward as a presidential candidate in today's world. The shape of a man's body is largely irrelevant to the shape of his ideas when he is addressing a public in writing….But it is quite relevant

on television. The grossness of a three-hundred-pound image, even a talking one, would easily overwhelm any logical or spiritual subtleties conveyed by speech.[20]

The influence of image goes beyond the electoral dimensions of political life. By the mid-twentieth-century, all political propagandists had recognized the power of image. Germany's Leni Riefenstahl, an actress-turned-producer, was arguably one of the finest film producers of the mid-century, so Hitler selected her to produce *Triumph of the Will*, the most ambitious film propaganda to date (and, possibly, since).[21] Why didn't Hitler simply distribute his own book, *Mein Kampf*? Would not his own book have been a better representation of his own ideas? Possibly so, but he did not care about ideas; he cared about political manipulation, and he knew that a good film would beat a good book for such emotive/manipulative purposes.

One of Hitler's opponents was the then-young Jacques Ellul, who participated in the French Resistance when still a teenager. Not surprisingly, he later wrote a significant volume about propaganda, and especially about the role of mass media and image in the process.[22] It was Ellul who rightly observed that propagandists are not "brain-washers." Propagandists do not aim at changing opinion; they aim at changing behavior, and they are perfectly content to bypass the mind entirely if they can do so by appealing to emotion alone.

In our current moment, the largest, most influential propagandists are advertisers. They have refined the art that Stalin, Hitler, and Mussolini were just learning. They, too, have learned that image's appeal to emotion is much more effective than language's appeal to reason. Many will recall the Nike commercial, perhaps two or three years old now, that has no language in it at all. It begins with a 2-3 second image of a woman jogging, then moves to a slightly briefer image

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[20] Postman, *Amusing Ourselves*, 7.

[21] There was considerable discussion, after the war, as to whether Riefenstahl should be regarded as a Nazi collaborator, and/or whether to be charged with war crimes. She survived the controversy, and indeed, outlived most who were there at the time, dying on September 8, 2003, at the ripe age of 101.

[22] Ellul, *Propaganda: The Formation of Men's Attitudes*, trans. Konrad Kellen and Jean Lerner (New York: Alfred Knopf, 1966).

of some other athletic activity, and each subsequent image is briefer, and briefer, until just near the end when there is a virtual explosion of image after image, that it finally fades to a black screen on which appears the Nike swoosh. The commercial undoubtedly cost Nike a considerable amount to produce, and perhaps even more to put onto commercial television; yet they obviously believe that the results will justify the expense—millions of dollars of revenue generated without a single propositional statement, by image alone, appealing to our emotions.

Observers of health trends (especially those of us who teach in college or university settings) have raised the question of the relationship of eating disorders to "body image," without always realizing that "body image" has two words in it, one of which is "image." Diagnosis of such disorders was comparatively rare until the 1970s, but it has been common since. It is possible that the medical profession was not looking intently in that direction (though the occasional reference to "wasting disease" appeared occasionally in the 18th and 19th centuries), but it is also possible (I believe likely.) that the phenomenon is the result of an image-saturated culture, in which we are bombarded with images of people who are unhealthily thin. I am sure the matter is not explicable merely in terms of images, but I would be surprised to find that such images had no effect.[23]

6. Our Current Digital Era

In the early days of the digital era, some of us Media Ecologists were not convinced that the digital era was a distinct era. After all, it shares the traits of the electronic and image eras, so what is new? What is new is portability, and therefore, near-ubiquity. The television and telephone of my childhood were tethered to a wall in a room somewhere, and could (therefore)

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[23] A nice summary of the other possible mental-health factors can be found in Emily Deans, M.D., "A History of Eating Disorders," *Psychology Today* (online), https://www.psychologytoday.com/blog/evolutionary-psychiatry/201112/history-eating-disorders.

be evaded if one desired uninterrupted quiet. Digital devices are small, ordinarily wireless, and portable, so, like the poor, they are with us always. The telephone might have interrupted us several times daily (depending on where in the house we were), and the television might have provided its own "white noise" in a room somewhere, but neither was nearly as disruptive/distracting/alarming as the various digital devices are. Laptops, pads, and smartphones routinely interrupt us throughout the day. Not surprisingly, an acute culture observer such as Todd Gitlin (who wrote, among other things, the fascinating book, *The Sixties: Years of Hope, Days of Rage*, in 1987) has written *Media Unlimited: How the Torrent of Images and Sounds Overwhelms Our Lives*.[24] Gitlin has rightly observed that the digital world exposes us to a "torrent" of images and sounds that "overwhelm" our sensibilities, forcing us to tune out (rather than to tune in) in order to survive. Gitlin and others have observed (at a minimum) three tendencies of digital media: Distraction, ghetto-izing (Murray called it "Coming Apart."), and divisive public discourse.

Distraction

Because of their portability, and because they literally have alarms, many/most digital devices constantly disrupt our concentration, whether concentrating on our work tasks, on our conversations with others, or on deep reading. To Gitlin's voice we add those of Winifred Gallagher, Maggie Jackson, Mark Bauerlein, Nicholas Carr, et al.[25] Maggie Jackson, dependent upon the work of Mike Posner, reminds that our brains are capable of three different kinds of attention: alarming/alerting attention, orienting attention, and executive attention. Most species that survive have strong alarming attentiveness, otherwise they would have been prey to other

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[24] Gitlin, *Media Unlimited* (New York: Henry Holt, 2002).
[25] Maggie Jackson and Bill McKibben, *Distracted: The Erosion of Attention and the Coming Dark Age* (Prometheus, 2008), Mark Bauerlein, *The Dumbest Generation: How the Digital Age Stupefies Young Americans and Jeopardizes our Future (Or, Don't Trust Anyone under Thirty)* (New York: Tarcher, 2008), Winifred Gallagher, *Rapt: Attention and the Focused Life* (New York: Penguin, 2009), Carr, *The Shallows*.

species. The human (and apparently only the human) also has an entirely different kind of attentiveness, called executive attention, which is the kind of attentiveness that effectively turns off both alarming attention and orienting attention, in order to focus/concentrate on some reality or individual.

Because of neuro-plasticity (that we discussed earlier), however, the brain that is frequently distracted gets better at being alerted while getting worse at concentrating. Yet focused concentration is essential both to our social development and to our intellectual development. Socially, it is attentiveness that enables us to notice the subtle changes in voice or body posture that are critical to understanding and sympathizing with others. As the French mystic Simone Weil observed:

> Those who are unhappy have no need for anything in this world but people capable of giving them their attention....The love of our neighbor… is a recognition that the sufferer exists…as a man, exactly like us, who was one day stamped with a special mark by affliction. For this reason it is not enough, but it is indispensable, to know how to look at him in a certain way. This way of looking is first of all attentive.[26]

And no great intellectual matter was ever solved without concentration; even Albert Einstein once observed, "It's not that I'm so smart, it's just that I stay with problems longer." Of course, some of us might quibble over terms with Einstein here, and might even suggest that staying with problems longer *constitutes* "being smart." But we surely agree that a mind that is at home with pop-ups, alarms/alerts, ringtones, and other digital distractions is not a mind that will easily comprehend the Fundamental Theorem of Calculus. Nor will such a mind enjoy a 900-page Tolstoy novel, or Aristotle's 500-page *Nicomachean Ethics* or Plato's similar-sized *Republic*.[27] This erosion of executive attention is largely what caused Emory's Mark Bauerlein to refer to the digital natives as "the dumbest generation." Every benefit in life has a cost; and the primary cost

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[26] Cited in Alan Jacobs, *A Theology of Reading: The Hermeneutics of Love* (New York: Westview, 2001), 54.

[27] And, as Neil Postman observed, our post-television sensibilities would also prohibit us from listening to the Lincoln-Douglas debates, which often lasted for five hours or more.

of digital connectedness is distraction, and distraction impedes our social and intellectual development.

Ghetto-izing

When the Internet was first up and running, it was frequently called "The World Wide Web." I now call it "The Word Narrow Web," because, for a variety of different reasons, the digital world ordinarily narrows the outlook and experience of most people. Our "friends" are largely limited to those who use Facebook (or whatever social networking program we use). While it is possible to make new acquaintances online (There are even dating services.), many people spend so much time maintaining their Facebook account that they scarcely have time to make new acquaintances; and the new acquaintances they make are those who already are linked by common interests or friends.

Similarly, Google's logarithms send us to places we have ordinarily already been (or those similar to them). For commercial reasons, Amazon, Google, et al. constantly direct us—either via pop-up ads or search protocols—to places where we are likely to find products we already like. If you have never tested this before, and/or did not realize it, sit down at a table with two or three friends one day, each with your laptop; pick a topic and enter it into your respective search engines, and you will find that you do not get the same results. The search engines "remember" your browsing history and "steer" the search where they think you want to go.

Specialized news services with their own agenda appeal to like-minded people. Conservatives are much more likely to get their news from *Fox* or *Drudge*; liberals are more likely to get theirs from *Huffington Post*. There are few, if any, news services that have the common ear of the American republic; each of us gets our political commentary from those with whom we already agree.

Of special concern to many Media Ecologists is the way digital devices "ghetto-ize"

adolescents, shielding them from interaction with adults. When in the car on a family trip, each

child is likely to be "podded up," listening to his or her own music. When together at family

gatherings, the young people are texting and tweeting friends rather than interacting with uncles

and aunts. Their digital devices connect them to others who are their age, who share their

interests; they rarely "over-hear" adult conversations. As Emory's Mark Bauerlein put it:

> Instead of opening young American minds to the stores of civilization and science and
> politics, technology has contracted their horizon to themselves, to the social scene around
> them. Young people have never been so intensely mindful of and present to one another,
> so enabled in adolescent contact. Teen images and songs, hot gossip and games, and
> youth-to-youth communications no longer limited by time or space wrap them up in a
> generational cocoon.[28]

All young people in every generation have dreaded to be separated from their peers. In my

generation, however, this dread was only encountered physically—on the playground, at the bus-

stop, etc., we did not wish to be excluded. But today's adolescents are constantly wondering

about whether they are out of the digital loop of Facebook, Twitter, etc., and so they constantly

use their digital devices to remain connected to their peers. As Notre Dame Sociologist Christian

Smith put it:

> One of the striking features of emerging adulthood is how structurally disconnected most
> emerging adults are from older adults…Most emerging adults live this crucial decade of
> their life surrounded mostly by their peers—people who have no more experience,
> insight, wisdom, perspective, or balance than they do. It is sociologically a very odd way
> to help young people come of age, to learn how to be responsible, capable, mature
> adults.[29]

Charles A. Murray has lamented the fragmented/polarized nature of American economic and

social life, saying that we are, as he puts it, "coming apart."[30] Digital technologies contribute to

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[28] Bauerlein, *Dumbest Generation*, 10.
[29] Smith, *Lost in Transition: The Dark Side of Emerging Adulthood* (New York: Oxford, 2011), 234.
[30] Murray, *Coming Apart: The State of White America, 1960-2010* (New York: Crown Forum, 2012).

this cultural centrifugal force; ironically, the web that could connect us "World Wide" has actually tended to connect us to those who are already very much like us.

Divisive Public Discourse

If electronic news altered the ratio of commentary-to-event, digital news exacerbates the process, because digital news is around-the-clock. To attract viewers (and, therefore, advertising revenue), each digital form of news must present its product in an attention-arresting manner. Hyperbole routinely replaces caution. Since the 1938 radio broadcast of H. G. Wells' 1898 novel, *War of the Worlds*, those who desire the public's attention have noted the public's insatiable appetite for Apocalypse. Public events are routinely presented as if the survival of entire civilizations (or significant sub-groups thereof) were at stake.

Complex issues become not only over-simplified; they become dichotomized/polarized, without space for nuanced or intermediate positions. The general tendency of humans to dichotomize was already noted by, e.g., the late-Harvard paleontologist Stephen Jay Gould: "From the dawn of recorded rumination, our best philosophers have noted, and usually lamented, our strong tendency to frame any complex issue as a battle between two opposing camps."[31] Note how quickly the question of gay marriage moved into merely two camps: pro and con. Very early, the mediating position (same-sex civil unions) was largely removed from public discourse, leaving only the most polarized options. Or consider how digitized news presents gun control: Nearly always it is pro-or-con, as though there were no mediating positions. Yet one can promote and support the Second Amendment (as I do) and still agree with many aspects of gun-control legislation, such as no firearms in courthouses or federal buildings, no firearms on airplanes, no firearms in houses of worship that restrict them, no firearms for those judged

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[31] Gould, *The Hedgehog, the Fox, and the Magister's Pox: Mending the Gap Between Science and the Humanities* (New York: Three Rivers, 2003), 81. Cf. the entire chapter five, "The Dynasty of Dichotomy," 69-112.

mentally defective, etc. When the NICS[32] was developed in 1993 via the Brady Law, I recall almost no objections being raised by those of us who promote the Second Amendment (though many of us question whether it actually does any good). Mediating positions exist on almost every matter of public policy, but many/most digital news sites recognize that they must appeal to a particular constituency that has already become polarized.

To understand the digital world, we must recognize how quickly it was taken over by commercial forces. By 2013, more commercial revenue was expended on the Internet than on television. And, as with television, the fee structure is determined by viewership. The marketers realize that there is little market for judicious, nuanced, complex discussion of public issues; people log onto web sites that over-simplify, that dichotomize, that tend toward a pro-con, we/they polarizing of public policy issues.

"So What's a Mother To Do?"

For a host of reasons (mostly commercial), the digital world is not going to disappear; nor, in my opinion, should it. Its many conveniences and several efficiencies are very beneficial. Like every benefit, however, the digital world has its costs, and wise people will make efforts to reduce those costs. Among the words of advice commonly given by Media Ecologists are these:

•Single task (so-called "multi-tasking" is now proven to be a myth).

•As a courtesy, do not distract others. Do not yell into your cellphone when you are around other people (Due to the terrible signal-to-noise ratio, cellular communication is very difficult to hear, and, as with people who are becoming deaf, the instinctive reaction is to speak louder.). Either turn off your ringtone when you are with others or set it on a low volume setting. I do not permit the use of distracting digital devices in my classes,

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[32] National Instant Criminal Background Check System.

and would only do so if the course required their use. For any academics, I recommend that you follow the same practice.

•As a courtesy, minimize the use of digital devices when you are with others socially.

•If performing a task that does not require being connected to the Internet (e.g., writing a letter), turn the web (and email) off, to avoid distractions and alarms. Similarly, it is wise to keep your smartphone off whenever you are performing a task that does not need it. You can always check for messages later.

•Develop habits that will cultivate your executive attention. If you haven't read a novel or poetry recently, begin doing so. Listen to an entire symphony, at a single sitting, without interruption (If you cannot do that, then listen at least to a single movement of a symphony at a sitting.). Do away with so-called "background music." It cultivates distraction (and, contrary to common belief, it does not improve academic performance), and trains you to "tune out" to music rather than to "tune in" to music.

•Do not use digital devices (or permit their use by your children) during meals. Young people are already too isolated from adults.

•Do not "surf the web." If there is information you need to find there, find it and log off. Flitting from site to site, skimming superficially, cultivates alarming attention at the expense of executive attention.

•If you are a liberal, get your news from Fox or Drudge for a week every now and then; if you are a conservative, do the same with Huffington Post. You will at least understand how your neighbors and fellow citizens think.

•Do an occasional "digital fast" for a day or two, to realize how addicted you have become to your digital devices; and consider the occasional weekend "sabbatical" from them in order to enjoy family and/or friends without outside distractions.

Conclusion

Our digital moment is not the first moment in media history; it is the sixth. Cultures have negotiated media changes before, and will negotiate them in the future. Like love, however, the digital world is a many splendored thing. While it connects us to information and to people who are distant, it disconnects us from those who are near, and distracts us from serious thought and reflection. While theoretically it *could* connect us to a broad social circle, in most cases it narrows our circles to those who are like us.