AN IPHONE IN EVERY HAND: MEDIA ECOLOGY, COMMUNICATION STRUCTURES, AND THE GLOBAL VILLAGE

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Media ecologist Neil Postman once remarked that "A medium is a technology within which a culture grows; that is to say, it gives form to a culture's politics, social organization, and habitual ways of thinking." To what extent has the current "new media" (TV, print, and social and Internet media) created a common globalized media environment and culture?

If one thinks of media in their everyday life, patterns emerge that validate the late Neil Postman's hypothesis—we all have heard variations on the following: "Have you got Facebook?"; "all the news sites are saying..."; and the ubiquitous "have you heard about so-and-so in the blogs?" Superficially, these examples seem like banal excesses of a leisurely culture with an overabundance of free time to spend on entertainment. However, probing further, it underpins a certain truth that Postman and his colleagues in the Media Ecology Association and scholars frequently cite—that new media technologies do not just *add* to a culture, they *transform* it completely. In doing so,

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the old ways can only be comprehended in what Marshall McLuhan called "the rear-view mirror." Throughout the history of our species, humans have sought to "conquer time and space through speech, art and architecture, through writing and printing, and through various forms of transportation."[1] Through humanity's advancement through technology, we have also made vast changes that have had global repercussions.

In the nineteenth century, the Western world, at the very least, gained access to instantaneous communication technology: the telegraph, the first ever electronic (electrically powered) method of telecommunications. This evolved and expanded with the invention of the telephone, fax machines, radio, television, and innovations such as copper and fiber-optic cable, and satellite communication—all part of the pre–computer mediated communication (CMC) revolution carried over into the "new" media culture that forms an integral part of our modern experience.[2] In the late 1980s, personal computing became more affordable and with it, telecommunications were integrated with this new technology. From this watershed, French philosopher and sociologist Jacques Ellul proposed that the convergence of media and communication technologies (print, video, audio, and telegraph) on the computer has

> ...set up networks in society that have nothing whatever to do with ancient networks or traditional structures...We cannot continue as before. Simply because the computer is there, we cannot ignore it. When the railroad and the automobile came on the scene, those who wanted could still travel by horseback. But now there is no choice. A businessman cannot acquire a computer just because he likes progress. The computer brings a whole system with it...the technical system has become strongly integrated...offices, means of distribution, personnel must all be adapted to it.[3]

The computer has penetrated the lives of almost all people on the planet, arranging them into an interconnected, "retribalized human community within which sight and sound are global in extent," as media scholar Marshall McLuhan noted, which he termed the "global village." The mediation "space" is often now referred to as "cyberspace."[4]

This global village has thrust mankind into a new "information age" or era in which human communication is "growing so fast as to be in fact immeasurable," and as media ecologist, communications scholar, and Catholic priest Walter J. Ong professed, "making human consciousness something other than what consciousness used to be" instead "moving into...a situation where, in principle, everything that is known or has been known can be made

accessible to everyone everywhere everytime."[5] If this phenomenon is truly global and we take the premises of Postman's axiom as true-to-fact, then there indeed exists a globalized culture, which these new mediums are shaping and re-shaping from day to day and even hour to hour.

This article seeks to explain, using media ecology as an analytical framework, whether globalization and the technological "information age" brought on by new media convergences (Information Communications Technology and the computer, Internet, social media—YouTube, Facebook, Skype, etc.—and smartphones) that we currently experience are a transformative and total cultural phenomenon. Before one can determine the how and why, one must first define, contextualize, and reify precisely what they are looking at. Do they really have a "new" stranglehold on culture or are they just extensions of what we have experienced previously?

A "New" Media Ecology

Media ecology is an exploration into, as Marshall McLuhan defined it, "the matter of how media of communication affect human perception, understanding, feeling, and value; and how our interaction with media facilitates or impedes our chances of survival. The word ecology implies the study of environments: their structure, content, and impact on people."[6] Media ecology serves as an interdisciplinary approach that converges on studies of language, media analysis, education theory, radical constructivism, communication theory, philosophy of mind, anthropology, and even humanistic, non-Aristotelian epistemologies such as (the itself) interdisciplinary General Semantics pioneered by Alfred Korzybski in 1933 with the publication of *Science and Sanity*. Essentially, media ecology can be styled as the academic study of communications and media technology and its impact on human affairs.[7] Professor Lance Strate, Communication and Media Studies at Fordham University, suggests that "we need to study the new ways that we communicate in the present. And, if we want to understand the present, we need to put it into historical context."[8] Media ecology is distinct as a field of scholarship and analysis as much as it is interdisciplinary and reflexive. However, there are many approaches to theorize and explain a "common global media environment and culture."

Though media ecology could be viewed as simple media criticism, it is not. Scholars like Robert McChesney or Noam Chomsky analyze the ownership of the media concerns and whether it affects the production, exhibition and distribution of content. Media ecology takes a broader view, concentrating on media technologies and their place in shaping society.[9]

It views media as a culture all into itself, influencing the overall (global) culture and actors and viewers in the media as (a) "cultural production," much like French sociologist Pierre Bourdieu's theory of *The Field of Cultural Production.*[10] Though incomplete (and limited mostly to literature and art and, only briefly, journalism), the "field"

> ...theorizes interconnections between different areas of endeavor, and the degree to which they are *autonomous* of each other. The major fields Bourdieu tends to write about are the economic and political fields, and a composite of the two, which he calls 'the field of power'; the educational field; the intellectual field; and various cultural fields, including the literary field, the artistic field, the scientific field and the religious field.[11]

These fields are all bound together by capital—be it creative or monetary—which provides the worth, promulgation, and influence of the content created. Though useful in understanding in where the content of the media is "coming from" and why, it falls flat in explaining media both as a culture and as a culture-producing entity. But what are these new mediums that construct a global culture?

New Media as a "catchcry" or "buzzword" is a higher-level abstraction that attempts to convey computers (from the desktop to the hand-held) connected to the Internet to carry images, audio, video, and text, as well as real-time telecommunications as a medium. These all converge and overlap one another—one text can be connected to another via hyperlinks over the World Wide Web, which could also have video content embedded within that can be produced by virtually anyone and seen by the same amount of people; these texts are no longer constrained by the producer/consumer divide—they are in constant change, are interactive, and are amorphous in nature.[12] As McLuhan and Fiore provide that "all media work us over completely... [being] so pervasive in their personal, political, economic, aesthetic, psychological, moral, ethical, and social consequences that they leave no part of us untouched, unaffected, unaltered," so too our culture on a global scale falls under this umbrella.[13]

If we take new media as the conduit for a globalized culture "best understood as the meta process of an increasing, multidimensional worldwide connectivity," then the media as a culture shares points of habit and organization around the globe that contribute to the overall structure of this speculative "global village" or "network society."[14] The most obvious and fundamental medium enabling a network society is the Internet, accessible via computer or device which resembles its function.

No Space in Any Time

Media was fundamentally developed to traverse the limitations of a preliterate, oral culture—orality could only sustain communication within a predetermined perceptual space, the immediate surroundings of the speaker and the listener.[15] We have sought, as a species, to reduce the tyranny of communicating information over vast distances first by substituting the "ear for the eye" in writing and print and then increase the speed of transmission of these messages by inventing more and more sophisticated transportation mechanisms to theoretically extend our perceptual space to reaches hitherto unknown and beyond.[16]

These methods of transport were then supplanted by electricity and the telegraph, telephone, and eventually wireless technologies such as radio and television. These mediums enabled one to broadcast information to a vast amount of people instantaneously and across great distances. In the computer age, these forms have melded into a seemingly singular form of telecommunications, information media, commerce, and even cultural production as well as a new type of user-generated (i.e., non-professionally) and read "social media."

In the "old days," to fashion a metaphor, the medium was the slip of paper and the transmission method was horse and cart; the new global medium is the multimedia computer and the transmission method is the Internet.[17]

The computer and the Internet—the dominant form of Information Communications Technology (ICT) on the entire planet—can be likened to a device that can simultaneously write, publish, and be read from; a conduit from which audio and video can be captured, edited, and displayed; and a terminal from which all these elements can be transmitted to other either over existing electronic communication networks or wireless. The metaphor that is used to convey this "space" in which the computer traverses is *cyberspace*—as Rosanne Stone defines:

> [Cyberspace] can be characterized by virtual space – an imaginary locus of interaction created by communal agreement. In its most recent form, concepts like distance, inside/outside and even the physical body take on new and frequently disturbing meanings.

Though Strate et al. emphasize that cyberspace is

> the conceptual space where words, human relationships, data, wealth and power are manifested by people using CMC technology...but is not identical with communication through computer media but rather the context in which such communication occurs.[18]

Though thought to emerge in the United States, cyberspace is a meta-
phorical landscape that encompasses the entire world over and even beyond
our atmosphere, as satellites are used to facilitate this "space" and "time."
The media is not only everywhere and everytime as Ong posits but also the
transformative impetus toward a globalized media culture (or more specifi-
cally, media as culture.)

Globalization is "an inevitable element of our lives. We cannot stop it
any more than we can stop the waves from crashing on the shore."[19] Glo-
balization grew out of a desire for individuals to open up new markets and
methods to handle information and information flows across great dis-
tances. Globalization as an abstract concept has created a new symbolic
and semantic environment that "reaches right around the globe, which is
organized, in very large part, by media transnational corporations."[20] This
environment also has its constituent parts and actors—human beings—that
arrange themselves not into societies but into "networks," as a structure,
the communications between the nodes in the network termed as "flows."[21]
The "flows" required massive amounts of ICT infrastructure development
globally to prop up these networks and facilitate cyberspace. For example,
international telephone connections to and from the United States grew
500% between 1981 and 1991, from 500 million to 2.5 billion.[22] The com-
puter was in its infancy in 1991 as a global networking conduit, but in the
latter part of the twentieth and early part of the twenty-first century, the
computer as well as the computer-enabled "smartphone" took off as a part
of a media culture. In the beginning, email and hyperlinked text-based web-
pages were the most obvious form of content to be found and transmitted
online. This expanded into the embedding of images, audio, video, and
interactive games, leading to the development of user-oriented publishing
such as the weblog or "blog."[23]

All throughout this period, non-Web-based media also emerged in the
form of instant messaging with applications such as ICQ, Internet Relay
Chat clients, and MSN Messenger being freely available for download and
use. Transmission of larger files (movies, music, and books) was mediated
by peer-to-peer networks such as Napster, Kazaa, and BitTorrent. In 2005,
"Web 2.0" arrived. This "new" web was driven by user-generated content
and social media, distinct from the old "static" Web 1.0 to "dynamic" web-
pages that could be altered by end-user input—much like the collaborative
and user-alterable "wikis," made famous by Wikipedia, that can store easily
accessible and hyperlinked information with embedded video, audio, and

images. These new forms of "social media" are open to all that can connect to them; they have a dual function of producing/consuming user-made content and for CMC-based social networking; and unlike traditional media, it has no physical space and may be read in fragments and/or nonsequentially.[24]

With the promulgation of wireless technologies such as Wi-Fi or 3G WiMax (high-speed wireless voice and data transmission) being embedded into "smartphones"—i.e., mobile phones that act as "miniature, mobile" computers with abbreviated (or in some cases, full-featured) applications. These so called 'apps' mirror similar programs and the communications ability of desktop or laptop computers—the most popular being the Apple iPhone along with Research in Motion's BlackBerry series, Nokia, and Google's operating system Android, which powers Samsung, LG, and other phones. Mobile computing via smartphones are a new form of media that deals directly with the "moving human body and the ecological interrelationships among the virtual space of the Internet, the enclosed space of the installation, and the open space of everyday life."[25] As such, mobile smartphones now feature GPS technology to enable other users to locate their whereabouts through websites and other social media platforms.

So what measurable impact have these new media technologies as cultural devices actually had on globalization in forming a new global media culture?

It has, for the most part, transformed the global culture, at its fundamental essence, into a *participatory culture* that sees the computer not as a new "steam engine" but rather something much more revolutionary in terms of human organization on a global scale—the new "mechanical clock."

It Is Everyone's Turn, All the Time

If the technology is the medium in which a culture grows, the interactive and user-oriented nature of these technologies have given rise to a participatory and "mash-up" culture in which the ways of producing and accessing content are deconstructed, uploaded, mixed, converged, and reconstructed through computers and smartphones mediated by online platforms; it becomes a "participatory culture" as defined by media scholar Harry Jenkins:

> [That] contrasts with older notions of passive media spectatorship. Rather than talking about media producers and consumers as occupying separate roles, we might now see them as participants who interact with each other according to a

new set of rules that none of us fully understands. Not all participants are created equal. Corporations—and even individuals within corporate media—still exert greater power than any individual consumer or even the aggregate of consumers...Consumption has become a collective process.[26]

This participatory culture is explained as being part of a continuum of "people moving through time, [with] each group or generation of people possessing a distinct sense of self" which superficially can be determined by the explosion of users of social media platforms such as video site YouTube, Facebook, or "short form blogging" site Twitter; Facebook itself has over 500 million users, which is approximately 1/12 of the entire population of the world.[27] Even though this does not explain whether this participatory culture has given rise to new methods of globalized culture or habitual ways of thinking, rather it could be seen as an extension of the Habermasian "public sphere" that has "re-tribalized" itself into smaller subsets of societal or subcultural networks instead of a "traditional" citizenry gaining access to democratic institutions via the media "fourth estate."[28] The computer at the very least and the new "participatory culture" at the very most can be likened to the revolutionary power of the mechanical clock.

A computer is built on a time-telling function—time regulates the processing of information by creating a sense of "dramatic, fictional or symbolic time as well as a sense of past, present and future."[29] Computers, like clocks, are self-operating machines; they manufacture no physical products. They are geared toward production rather than distribution; community over the product; service over commodity and creating "economically effective links between people and information" such as regulating starting and ending times for social/economic/political engagements; and enforcing deadlines for the furnishing of media owners for cultural production (such as copy, films, images, or other marketable material)[30] For example, all people across the known world began to

> "...work, sleep and eat by the clock" and began to "regulate their actions by this arbitrary measurer of time, the clock was transformed from an expression of civic pride into a necessity of urban life...the computer too has changed from a luxury to a necessity for modern business and government.[31]

Digital, computer-measured time is not just a quantitative measurement but a concept—represented as a sequence of numbers—digital *information*. This conceptual "cyberspace" also gives rise to "cybertime" signaling the end of space-conquering societies in lieu of "time-conquering" information societies. "Cybertime" is a polychronic time, which involves many things

occurring simultaneously—McLuhan argues that such a time is "character-istic of many non-Western cultures and increasingly, of electronic cultures."[32]

This lends itself to the concept of the space nonspecific "cyberweek" in which timezones are made irrelevant by computer-mediated communication and the time-as-information society.[33]

Leading from that, sociologist Manuel Castells' theory of the information society stems almost directly from the computer-as-time binder meta-phor where, in the 1980s, "the information revolution began with a restructured capitalism...creating a global society that is connected by networks."[34] Globalization, according to sociologist Anthony Giddens, is "the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa" that is itself mediated by the mechanical clock, universal Gregorian calendar, and, of course, ICT and CMC technology.[35] For example, the microblog Twitter opted to change its local time for main-tenance in the US to allow Iranian anti-government protesters to post or "tweet" their stories of abuse and army crackdowns following the 2009 disputed election as foreign journalists were barred from entry to the country.[36] One such ubiquitous application of this new media technology is the social networking site Facebook.

Facebook's primary purpose is to "share information with people you know, see what's going on with your friends, and look up people around you."[37] On the site itself, we see the ability to write short- or long-form blogs, upload pictures, videos, links to other websites, and integrate other social media and "like" cultural products into the "timeline" of social inter-action, which is the central focus of the site. If we take the concept of cybertime and Bordieu's position that "a social environment consists of a multiplicity of social fields in which agents produce practices" of which Facebook is a "social field," its "agents" the users.[38] There is a distinct extension of the "social mind" insofar that Facebook creates a "present of past and future things"—one can reminisce with friends in their network about past events and organize future events by inviting networked friends.[39] For example, a conversation can happen in real time using the instant messaging system or in a bulletin board system format of comments on posted material forming "threads"—"a lively back and forth of discus-sions that could have lasted days, weeks years...scrolling down the screen [gives the illusion] as if they were taking place in real time, which for the reader watching them flow past on the screen, they are."[40] Naturally,

Facebook is a computer mediated experience that requires the use of one or an Internet-enabled smartphone. It is popular and enables us to maintain relationships, pass time, become part of a community, and entertain us, much like traditional media did in the past, for example, spending time with friends to see a movie.[41]

Facebook is only part of an autonomous, automatic, and self-augmenting network system fuelled by the interaction of those in a network society, according to Ellul.[42] But this brings us to a larger ecology of media that encompasses our use of media as the message and media as metaphor—media as language itself.

The (In)Conclusion

Postman in his magnum opus *"Amusing Ourselves to Death"* wrote the easiest way to see through a culture is to "attend to its tools for conversation."[43] Currently, all our conversation, save for face-to-face contact, is mediated, at some level, by computers and the Internet—the tools—and the conversation—the exchange of messages—is happening globally in which any user of a computer is theoretically part of this "globalized conversation."[44] But what is the nature of the language of this conversation—the "driver" of conversation that makes it possible?

The Sapir–Whorf hypothesis presents the formation of language is "not merely a reproducing instrument for voicing ideas, but rather itself is a shaper of ideas."[45] The computer and the Internet and all its various convergent and multimedia forms not only have produced new platforms for communication, they have, in fact, shaped a new way of organizing and regulating ideas: the way humans interact with one another and conduct their business, their politics and their education of future generations.

For example, politicians embrace social media not to appear "with it" and appeal to a younger audience (or at least give that impression) but rather as a political necessity as the media as culture shifts toward a "global village" based on CMC, ICT, and social media.[46] As soon as television and computers were made available for classrooms, teachers began to include them in their curriculum as a learning device as well as their proper use.[47]

It is questionable to conclude if this culture really has been radically "transformed." However, if the medium is the message and these mediums change over time, the cultural changes are also tangible and material. For one to connect to the Internet, one must purchase a computer or smartphone and an Internet connection (be it wireless or cable)—a computer or like

device is now a near universal fixture in Western homes, much like the television and telephone before it.[48] This global communication culture has undoubtedly had a material impact on our politics, our economics, and our cultural production and reception. It has "given [to us] as it has taken away" insofar that we "worship" technology as Postman says, but it is almost undeniable; we as humans are now completely different as a people, as a society, and as a networked global "village."[49]

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