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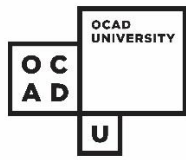
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The Five Ages of Communication

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The Five Ages of Communication

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Media ecology began with Harold Innis and Marshall McLuhan and the insistence of these two pioneers of media ecology on the dynamic role of media and technology in the economic, political, social, and cultural environments in which they impacted and in which they dominated. Innis performed his analyses before the advent of computing and McLuhan completed his work before the introduction of the personal computer and the Internet. As a consequence they never quite distinguished between electric media and electronic media which as I will show are quite different media. They also developed their ideas before linguists and cognitive scientists such as Merlin Donald had added to our understanding of the origin of speech and in particular the patterns of pre-verbal hominid mimetic communication. As a result as reported in Chapter 2 (p. 34-36) Innis and McLuhan identified three communication eras, oral, written and electric. The purpose of this section is to update this division and show that there are actual five distinct periods of human communication namely, the pre-verbal, the oral, the literate, the electric and the electronic ages.

Although Innis and McLuhan think of oral communication as the first form of human communication there was an earlier form of communication identified by Merlin Donald (1991) as mimetic communication. It consisted of pre-verbal vocalizations (grunts, cries, laughs, screams and moans), hand signals, facial gestures and body language. Donald (1998, pp. 60-62) claims that, "mimetic skill is a powerful device for communication: it can convey requests and commands, capture and hold the attention of others, show or declare, establish and maintain contact, refer explicitly to actions or events, demonstrate, oversee the actions of others and convey emotion." "Mimetic skill represented a new level of cultural development, because it led to a variety of important new social structures, including a collectively held model of the society itself. It provided a new vehicle for social control and coordination, as well as the cognitive underpinnings of pedagogical skill and cultural innovation. In the brain of the individual, mimesis was partly the product of a new system of self-representation and mostly the product of a supramodular mimetic controller in which self-action may be employed to 'model' perceptual event representations. Many of the cognitive features usually identified exclusively with language were already present in mimesis: for instance, intentional communication, recursion, and differentiation of reference" (ibid., pp. 199-200).

If mimetics, which pre-dated speech, provided such an adequate system of communication and representation of perceptual events, then it would seem that the principal function for the emergence of language is conceptualization as I have claimed (Logan 2000) or symbolic representation as Deacon has claimed (1997).

We can therefore define the mimetic era as the time of pre-verbal communication which very well may have been a purely pre-human hominid phenomenon, but it is the form of communication from which human speech evolved.

Given the critical role played by mimetic communication I believe that it is useful to add the mimetic era to McLuhan's classification of communication eras. Looked at from this perspective one begins to re-evaluate McLuhan's characterization of oral communication patterns. McLuhan claimed that oral communication has the following properties when contrasted with written communication:

	oral	versus	literate
1.	simultaneous	versus	sequential and linear
2.	all embracing	versus	fragmented
3.	concrete and experiential	versus	abstract
4.	intuitive	versus	rational
5.	mystical	versus	causal
6.	inductive	versus	deductive
7.	generalist	versus	specialized
8.	acoustic/tactile	versus	visual

These ways of characterizing oral verbal communication change somewhat if the comparison is made with mimetic communication instead of written communication. With verbal oral communication human thought becomes conceptual versus perceptual and therefore is more abstract, less intuitive and less experiential than mimetic communication. Verbal communication is sequential in the sense that one word follows another obeying the rules of syntax and hence there is a sense in which verbal communication is sequential and more rational and deductive than mimetic communication. Verbal communication is also more rational, causal, and deductive than mimetic communication because it is based on concepts and therefore allows for planning. McLuhan's notion of figure/ground is the easiest way to understand this shift in the characteristics of oral communication when we change from a comparison with written communication to one with mimetic communication. Verbal communication still remains acoustic/tactile and nonvisual but it is more acoustic and less tactile compared to mimetic communication where the emphasis is on signaling with gestures, body language and hand signals. The comparisons are one of degree and not of an either/or dichotomy. Oral communication still has a rich component of hand signals, gestures, body language and tonality so it is a mixture of acoustic and tactile.

In light of this understanding I would suggest that the table above be modified in the following manner:

	mimetic	oral	literate
1.	simultaneous	sequential spoken words	sequential and linear
2.	all embracing	all embracing	fragmented
3.	concrete, experiential i.e. perceptual	conceptual	abstract
4.	instinctive	intuitive	rational
5.	mysterious	mystical	causal
6.	conditioned/inductive	inductive	deductive
7.	generalist	some specialism	specialized
8.	tactile/acoustic	more acoustic less tactile	visual

Basically rather than a polarity between oral and literate there is now a spectrum stretching from mimetic to literate. One could even increase the range of the spectrum by subdividing the literate era into the ideographic, alphabetic and print eras in which the characteristics of linear, sequential, fragmented, abstract, rational, causal, deductive, specialized and visual become more intense as one passes from ideographic to alphabetic to print forms of written communication.

The Distinction Between the Electric and Electronic Eras

The second communication era I wish to add to the ones identified by Innis and McLuhan can be created by making a distinction between electric and electronic communication. McLuhan's era of electric communication bifurcates into a purely electric era consisting of mass media such as the telegraph, the telephone, cinema, record players, radio and television and an electronic era embracing digital technologies including computers (both hardware and software), the Internet and the World Wide Web. The electric communication era stretches roughly from the middle of the nineteenth century to the middle of the twentieth century whereas the electronic or digital communication era begins with the advent of computers 55 years ago when the first computers appeared.

Neither Harold Innis or Marshall McLuhan lived long enough to see the two post-1980 revolutions of personal computing brought about by microcomputers and the Internet/World Wide Web. If they had had the opportunity to observe these two phenomena I believe they would have made a division similar to the one I am suggesting here.

While the dissemination of electronic information parallels in some ways that of electric information there are some very important differences. The users of electric media are merely passive consumers of information whereas the users of electronic media can interact actively with the information they access. They can also use these digital media to reorganize information and create new forms of knowledge. There is a cognitive dimension to the use of computers which is totally missing with mass media. Computers have proven to be important educational tools whereas education films or television have had only a marginal impact, principally as providers of information but not very much on the cognitive level. Mass media provide the user with a flow of information over which they have no control other than to turn the device off. With digital media the user is in control.

Although McLuhan tended to lump computers with other electric media he did devote a separate chapter to automation in his 1964 book *Understanding Media*. In that chapter he reveals that he was well aware of the cognitive dimension of digital media when he wrote the following two quotes: "Men are suddenly nomadic gatherers of knowledge, nomadic as never before—but also involved in the total social process as never before; since with electricity we extend our central nervous system globally, instantly interrelating every human experience" (McLuhan 1964, p. 358). "The very same process of automation that causes a withdrawal of the present work force from industry causes learning itself to become the principal kind of production and consumption. Hence the folly of alarm about unemployment. Paid learning is already becoming the dominant employment and the source of new wealth in our society....The peculiar and abstract manipulation of information [is] a means of creating wealth" (McLuhan 1964, pp. 351 & 354).

The Ecology of Media and Ecosystems as Media

The line of research on the origin and evolution of language led me to the conclusion that a media ecology approach connects all aspects of communication and informatics and embraces not only the study of media but also the study of technology and language and the interaction of these three domains all of which form an ecosystem. Traditionally an ecological system or ecosystem refers to a biological system consisting of a natural physical environment and the living organisms inhabiting that physical environment as well as the interactions of all the constituents of the system. A media ecosystem is defined in analogy with a traditional biological ecosystem as a system consisting of human beings and the media and technology through which they interact and communicate with each other. It also includes the languages with which they express and code their communication.

There is a certain interchangeability between language, technology and media. A language is both a technology and a medium; a technology is a medium and it may also be considered a language since it possesses both a lexicon and a syntax (i.e., the procedures for its use); and a medium is some form of technology and also in a certain sense a language. If this is the case then why have we created three categories to distinguish between media, technology and language. What we have are three separate phenomena which were narrowly defined but became related to each other through the construction of metaphors. Language once referred exclusively to speech as the etymology of the word indicates. *Langue* in French is both a language and the tongue and in English *tongue* refers to either the organ in the mouth required for speech or a language. A

technology originally referred to a hardware configured tool but came to denote any technique for organizing information or work. A medium in media studies originally referred to an environment through which communications was mediated but McLuhan expanded the scope of the term by showing how technologies such as the clock or the assembly line had effects very similar to traditional communication media such as the printing press or the telegraph.

The study of media, language and technology and their effects revealed the overlap of these three categories. Languages and technologies mediate and create environments like media. Media and languages are both techniques and tools and just like any other form of technology. Media and technologies are languages of expression which like a language communicate information and have a unique semantics and syntax of their own. Given these overlaps I claim that the ecological study of media can not be restricted to narrowly defined "communication media" but must also include technology and language and the interactions of these three domains which together form a media ecosystem.

Ecosystems whether they are biological or media based evolve as the constituents of which they are composed co-evolve through their interactions with each other. The five communications eras I have identified, the mimetic, the oral, the literate, the electric and the electronic represent the various stages in the evolution of the media ecosystem from the origins of human life to today's communication environment.