What lies behind modern technology? The approaches of Marshall McLuhan and Vilém Flusser.

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It is Heidegger who defined the essence of modern technology as *Gestell* (Enframing). According to him enframing refers to the urging of humans to reveal *alētheia* (truth) as ever present. Enframing is the essence of modern technology, because modern technology is rooted in *technē*: it is a means for sourcing true forms and ideas that exist prior to the figures we perceive. Thus, for Heidegger, enframing is "destining," from which "the essence of all history … is determined" (24).

Both Flusser and McLuhan researched the visible, but their thought was also based on a reflection on the meaning of the historical determination of media in consciousness. The approaches of both McLuhan and Flusser seem somewhat different, and yet the message seems to be complementary. They both delve deep into history. McLuhan's belief in the three major technological innovations (see below) bears a close resemblance to Flusser's belief in the pendulum swing that allows for "linear-text type culture" to be pushed into the background, firstly by the technical image (the photograph) and later by the interactive-hybrid culture of the technologically- modulated image and the interconnected database, thereby causing a shift in consciousness as the logic of the alphabet is overcome by the mathematical logic of the technical image. Thus, both McLuhan's and Flusser's thinking starts with the transitioning from oral histories towards the inherent logic of the alphabet and its subsequent molding of human thought processes. McLuhan's trinity of visual space, audio space, and the tetrad certainly imposes itself holistically. Visual space is the mind-space of a civilization that has proceeded from the last four millennia of linearity, relying heavily on the left, quantitative hemisphere of the brain. Acoustic space is a projection of the right hemisphere, based on qualitative thinking (holistic and multi-centred, rather than mono-centred).

Simultaneous understanding of both systems is necessary for our world's survival as that is what enables integrated awareness. The tetrad becomes crucial for the understanding of the current cultural shift between visual and acoustic space. After all, the tetrad, according to McLuhan, is a means of focusing awareness on very hidden or unobserved qualities in culture and technology. For McLuhan, the nature of media determines the nature of society. He writes, with David Carson in The Book of Probes, "[o]nce a new technology comes into the social milieu it cannot cease to permeate that milieu until every institution is saturated." The McLuhans (Marshall and his son and collaborator Eric) are technological determinists, but, with the discovery of the tetrad, they become true phenomenologists. (According to phenomenology, society and technology co-constitute each other). The tetrad, or Four Laws of Media, according to the McLuhans, refers to enhancement, obsolescence, retrieval, and reversal. McLuhan's phenomenological concern with the laws of media, the functioning of media itself, and the speci!c objects produced in this context is self-explanatory. The tetrad further incorporates such probes as the cliché-archetype and the rear-view window. All the same, I would certainly be overwhelmed if we could actually reconstruct prehistoric thinking via the methods of the tetrad, rear-view, or retro-programming. Perhaps this is merely a phantasm of contemporary echoes of the past that live within my memory functions as a residual suspicion about the historical categorization of media? On the other hand, as McLuhan notes, "[v]ideo related technologies must produce a form of psychological death for all mankind [sic] by separating it permanently from the natural order, the book of nature, through narcissus-like self-involvement," a conclusion reached by McLuhan operating on three analytical levels at once: the perceptual, the historical, and the analogic.

We are truly in the midst of reinterpreting the ideas and praxis connected to the legacies of Marshall McLuhan and Vilém Flusser. Additionally, we find ourselves in a world where recent

developments in technology have fundamentally changed the structure and core of communication, and are therefore replacing one culture with another.

I will begin by presenting two positions that should assist us in understanding the nature of media, its historical basis, our current technological environment, and its social and psychic consequences, as well as the course of events that will unfold before us in the foreseeable future:

- Flusser's idea about "linear-text type culture" being pushed into the background by firstly the technical image (the photograph) and later by the interactive-hybrid culture of the technologically modulated image and the interconnected database, thus creating the basis for a philosophic and functional shift in technical imagery in the twenty-first century. Flusser's understanding of history incorporated the idea that letter-type culture, which had articulated thought, given it direction, and introduced the segmentation of time, has found itself at the margins. The "image" is once again placed on the throne, although this time, of course, these are not images like those found in the caves of Altamira and Lascaux, but images that are technologically modulated. According to Flusser, the logic of the alphabet, which directed thinking, i.e., linear, numerical form and historical consciousness, for a long period of time, is already overcome by the mathematical logic of the technical image.

- McLuhan, on the other hand, believed that there are three key technological innovations: the invention of the phonetic alphabet (a point similar to Flusser's observation), which took human beings outside the sensory balance by giving dominance to the eye; then the introduction of moveable type in the sixteenth century, which represented the blueprint of all mechanization to follow; and finally, the invention of the telegraph in 1844 which heralded the electronic revolution that would retribalize human beings by restoring the lost sensory balance.

As mentioned previously, McLuhan additionally introduced a triad of new terms to the discourse of media culture: visual space, acoustic space, and the tetrad. Essentially, Visual space refers to the mind-space of civilization that has been present for the last four millennia of linearity, relying heavily on the left, quantitative hemisphere of the brain. Acoustic space is a projection of the right hemisphere based on qualitative thinking (holistic and multi-centred, rather than mono-centred). It is "a space that has no centre and no margin, unlike strictly visual space, which is an extension and intensification of the eye" (McLuhan [c] 240). McLuhan also points out that simultaneous understanding of both systems is necessary for our world's survival, as that is what enables an integrated awareness. The tetrad in this constellation becomes crucial for the understanding of the current cultural shift between visual and acoustic space.[i] In tetrad form, the media artefact is not neutral or passive, but an active *logos* or utterance of the human mind and body that transforms users and their ground. The tetrad becomes additionally important as it includes McLuhan's "probes": rear-view window syndrome;[ii] cliché-archetype dynamic, etc..

The new technology in McLuhan's understanding thus becomes a revolutionizing agent, one that alters consciousness: "… video-related technologies must produce a form of psychological death for all mankind [sic] by separating it permanently from the natural order, the book of nature, through Narcissus-like self-involvement, a conclusion reached by McLuhan operating on three analytical levels at once: the perceptual, the historical, and the analogical" (McLuhan [a] xiii).

According to Flusser, nature is a system in which information is constantly being parsed in accordance to the second law of thermodynamics. Human beings oppose natural entropy not only by acquiring information, but also by storing and disseminating it, which makes them different from all other beings in nature. This human specificity is called *spirit*, and culture is a consequence of this

specificity. For Flusser, the process of manipulating information is called "communication." In the first phase of this process, we are dealing with the creation or production of information, and in the second phase, with the deployment of memories with the aim of storing them. This results in a fundamental change in our way of thinking, which indirectly links to the processes of the expansion of consciousness.

"But those taking snaps and documentary photographers, however, have not understood 'information.' What they produce are camera memories, not information, and the better they do it, the more they prove the victory of the camera over the human being" (Flusser [b] 59). Flusser emphasizes two significant aspects of the technical image: its capacity for memory and its mathematical logic. The concept of memory is seen by Flusser as one of the foundations of civilization, as it implies the specificity of the human being:

> Unlike other creatures, we do not only pass on inherited but also acquired information, we do not only have a genetic by also a cultural memory. This faculty of storing acquired information and of making it available (retrievable) to others is almost uncanny, as it is contrary to our natural condition. In accordance with the second law of thermodynamics all information within a closed system (as for instance human society) must decay in time and yet the sum total of all cultural information available to us is continuously increasing. According to the principles of biology, acquired information cannot be passed on, and yet each human generation inherits a sum of cultural information exceeding that of its parents. Putting it differently, it is thanks to the cultural memory we are anti-natural beings.
> (Flusser [a])

In terms of the "mathematical logic" of the technical image, Flusser developed the philosophical and practical hypothesis of the apparatus-operator complex. Andreas Ströhl, in his introduction to the English language anthology of Flusser's *Writings*,[iii] points out that Flusser used phenomenological methodology to recognize the apparatus-operator complex as "the motivating force … behind all contemporary social and technological change" ([a] xii).[iv] Further:

> In our context, an *Apparatus* is a machine that transforms texts into technical images and/or distributes them. Examples of these kinds of apparatuses are the photo camera, the public relations agency, the film industry, the television station, or the museum of modern art. The apparatus is based on technical and political programmes. In other words, it is highly ideological and always biased. There is no value-free technology – especially not when it comes to the production of images, meaningful surfaces. (Ströhl [b])[v]

Through these lenses, we are able to perceive all other apparatuses, including the social apparatus, in a political spectrum reflecting the socio-political consequences of the technological revolution. We may therefore take Flusser's thinking about the apparatus as one of the foundations on which to build further research on the effects of media on our contemporary culture. In fact, we are confronted with radically new types of media in the twenty-first century. Flusser and McLuhan hinted at that. Biotechnology, genetics, nanotechnology, and quantum computing all appear on the stage. The speeding-up of the message presents itself as obvious. Therefore we have to look into what degree have the categorizations pointed out by McLuhan and Flusser withstood the test of time? Has the framing of media philosophy as such in the second half of the twentieth century survived the explosion of the media practice of twenty-

first century social networking? Given that information is now almost entirely mediated in some way through screens and media, how does that affect what we believe and what we make of ourselves?

This state of consciousness requires, to use McLuhan's term, a balanced human being. As McLuhan put it, technological innovations, being extensions of human ability and senses, alter the sensory balance, an alteration that inexorably reshapes the society that created the technology in question. This is very close to the position held by phenomenology, which holds that society and technology co-constitute each other. In this respect, we can point to Martin Heidegger's phenomenology as a fundamental critique of the technological attitude (underlining the necessity of another beginning of thinking);[vi] Albert Borgmann's characterization of the technological attitude as manifested in our contemporary relationships with particular technologies;[vii] and Don Ihde's phenomenology of the human/technology relationship.[viii]

For the phenomenologist, technology is a condition of society. For Heidegger, technology is not just an artifact but something that already emerges from a prior technological attitude towards the world (12). He claimed that "[w]hen we are seeking the essence of 'tree,' we have to become aware that that which pervades every tree, as tree, is not itself a tree that can be encountered among all other trees. … Likewise, the essence of technology is by no means anything technological" (4). What Heidegger means by this point is that the isolation of a particular "understanding of being" makes technology possible. Another important point which Heidegger makes is the distinction between Object (*Gegenstand*) and Thing (*Dinge*). This is not merely word play but a paradigm shift in which the integrity of Aristotelian substance is broken down, as *das Dinge* has encoded in it the possibility of gathering together the contents of the universe. This position results in a profound change, as basically Aristotle's belief that relations among objects leaves the essences of those objects unchanged can no longer be applied. The

relations between Things becomes crucial; Things have different features according to where they are situated and the context in which they are placed. Heidegger identifies Plato's articulation of *technē* as the foundation upon which contemporary technology builds. According to Heidegger, technology is the extreme danger that "threatens man with the possibility that it could be denied to him to enter into a more original revealing and hence to experience the call of a more primal truth" (28). Yet, on the other hand, technology also holds within it a saving power in order to recapture the essence of science; according to Heidegger, the essential unfolding of technology "harbours in itself what we least suspect, the possible arising of the saving power" (32). This creates for us the paradoxical situation where *technē* represents the beginning and the end, an overwhelming threat to human existence as well as its salvation.

In some respects, Heidegger's position on art resembles McLuhan's as they both believe in art's saving power. Heidegger called for the "second beginning of thinking" and the meeting of the world in historical time-space; this space can only be built by art. McLuhan claimed that it is the artist, rather than the scientist, who has the insight to perceive these relationships and foresee trends, as it is "inherent in the artist's creative inspiration … [to be] subliminally sniffing environmental change" (McLuhan [c] 237). After all, he claimed that "art at its most significant is a Distant Early warning System that can always be relied on to tell the old culture what is beginning to happen to it." "The artist," according to McLuhan, "has had the power – and courage – of the seer to read the language of the outer world and relate it to the inner world. … It's always been the artist who perceives the alterations in man caused by a new medium, who recognizes that the future is present, and uses the work to prepare the ground for it" ([c] 237). To summarize: "[t]he artist is the person who invents the means to bridge between biological inheritance and the environments created by technological innovation" (McLuhan [b] 98).

However, any diagnosis of the current media situation must include the socio-political moment of a global crisis, the overlap of the techno-scientific sphere and social networking, and the creation of a common, instantaneously-created social space. Vilém Flusser's recognition of the Apparatus-Operator complex as the motivating force behind all contemporary and social change suggests that the structure of the apparatus is never politically or aesthetically neutral. McLuhan states that "[w]hen man is overwhelmed by information he resorts to myth." Paul Levinson, in his "The Soft Edge: A Natural History and Future of the Information Revolution, further states that "[m]edia and technologies are transformative and not just additive." The task we have before us is therefore to understand the transformation through which we are going as a species and, perhaps, to define the role of art within this process. McLuhan has made clear that "we shape our tools and thereafter our tools shape us," and, more famously and succinctly, "the Medium is the Message" (to which Derrick de Kerkhove has added that "not only the medium, but also the context is the message"). It is between these two camps that our current thinking about media has a chance for a dialectical breakthrough. At these points, the differences between McLuhan and Flusser become apparent by deconstructing the intersection between media, philosophy, and affirmative media thinking. This project as a whole also refers to the increasing re-contextualization of relations between the state apparatus, media networks, techno-scientific protocols, and cultural systems where contemporary biopolitical notions converge. The sociological, political, linguistic, artistic concept of cultural memory is achieving a quantum leap in its existence. Second-order cybernetics and syncretic thinking penetrate deeper into society. The transcendence of post-historicism, the study of consciousness, and even the dissemination of biologic life via electronic networks also help create a certain biopolitical moment in the modern allocation of life and the formation of power relations by introducing new strategies of political discourse and knowledge distribution, along with an altered conception of geographical distance

and the increasing speed of communication, wherein life, politics, and economy intersect in the globally connected society. Nature and society have become intrinsically intertwined, making the schematics of understanding media increasingly complex. Any valid media theory of the twenty-first century must refer to the fact that capitalism and technology go hand in hand in distributing life over digital networks. Our ever-changing media environment allows for the Internet and other technologies to be used for the digital dissemination of data (including biological stock) through information networks on demand or by necessity, thus creating a new situation where digital perception has become a digitally packaged commodity. In a post-digital, post-biological world, we have the ability to code life into symbols, and our ability to interpret these symbols has changed the very notion of what we understand as life. Today, information has become "coded life," being positioned in global communication networks, which allow for attributing a qualitatively different set of meanings to life in general, including new concepts concerning the management of life. The merging of information and technologies is capable of changing the core of global relations, as is indicated by the proliferation of international intellectual property policies and genomic databases. Numerous ontological questions about the nature of technology come into being. We can deduce in a phenomenological fashion that technology structures society, but, equally, society forms technology. The characteristics of these interactive processes are engrained into the general modus operandi with regard to standard technological processes, as well as in accepted modes of thinking about technology. However, we should point out that the danger lies in the fact that the novel ways of politicizing technology and media tend to create an increasingly programmed society, abundant in control mechanisms based on a coding system that alters the dynamics alongside the relation between the collective and the individual.

Endnotes

[i] Cf. McLuhan [b] 129.

[ii] According to McLuhan, "because of the invisibility of any environment during the period of its innovation, man [sic] is only consciously aware of the environment that has *preceded it*; in other words, an environment becomes fully visible only when it has been superseded by a new environment; thus we are always one step behind in our view of the world. Because we are benumbed by any new technology – which in turn creates a totally new environment – we tend to make the old environment more visible; we do so by turning it into an art form and by attaching ourselves to the objects and atmosphere that characterized it, just as we've done with jazz, and as we're doing with the garbage of the mechanical environment via pop art. The present is always invisible because it's environmental and saturates the whole field of attention so overwhelmingly; thus everyone but the artist, the man of integral awareness, is alive in an earlier day. In the midst of the electronic age of software, of instant information movement, we still believe we're living in the mechanical age of hardware. At the height of the mechanical age, man turned back to earlier centuries in search of 'pastoral values.' The Renaissance and the Middle Ages were completely oriented toward Rome; Rome was oriented toward Greece, and the Greeks were oriented toward the pre-Homeric primitives" ([c] 238).

[iii] I salute the publication of this important material as Flusser's original thinking on the nature of the mediated image is just beginning to be felt in the English-speaking world due to the fact that he mostly wrote in German and Portuguese, and English translations were lacking.

[iv] Flusser was very much concerned with the ways our minds function and how they have functioned throughout history. He based much on his belief that the discovery of writing has moulded our brains' operations in a certain way of linear thinking. What I find most intriguing about Flusser is that his writings essentially theorize on the epochal shift that humanity is undergoing in the form of a pendulum swing – from what he termed "linear thinking" (based on writing) toward a new form of multidimensional, visual thinking embodied in photography and digital culture. For Flusser, the rise of the technologically modulated image is reminiscent of another age – prehistory, when it was paintings on cave wall that held this defining position. Flusser also notes that our thinking had not been linear for a great part of our human history. It was the image that was on the pedestal, determining our thinking in the pre-historical period, until it was replaced by linear thinking, modeled on writing, as humans entered the historical period. Flusser's reasoning is that now the pendulum is about to swing in the opposite direction and that, in our age, the image is returning in a grand way, this time as the electronic image. The invention of the photograph in the 1830s was the decisive element in this respect. Of course, this new form of thinking is being enriched by the day, with digital and computational information defining our time.

[v] It is worth noting that Flusser is a phenomenologist, concentrating on the connection between man and technology, as well as the realm of following mental processes. The issue of consciousness is quite important to him.

[vi] Most notably in his "The Question Concerning Technology," which we will address more fully later in this text.

[vii] Cf. Borgmann, Albert. *Technology and the Character of Contemporary Life*. Chicago: UP, 1984.

[viii] Cf. Ihde, Don. *Technology and the Lifeworld: From Garden to Earth*. Bloomington and Indianapolis: Indiana UP, 1990, and *Bodies in Technology*. Minneapolis: Minnesota UP, 2002.