Drew S. Burk

Cybernetic Memories: Flusser's Apparatus in the Age of Artificial Intelligence

Introduction: The Abundance and the Absence

Today, we are immersed in an unprecedented abundance of archival processes. Mechanisms of recording, tagging, and storing have infiltrated the smallest crevices of daily life, creating a ubiquity of vernacular archives. From the metadata of a smartphone photo to the massive training sets of Large Language Models (LLMs), our culture is obsessed with the preservation of the trace. Yet, within this quantitative explosion, something essential to the archival process – the "event" of memory itself – is in the midst of disappearing. To understand this disappearance, we must return to Vilém Flusser's early 1980s diagnosis of "cybernetic memories."[1] Flusser foresaw a future where humans would offload the labor of remembrance to technical apparatuses. He noted that computers are more "efficient" not only because they remember faster, but because they forget faster. In the era of real-time algorithmic media, we see the fulfillment of this prophecy: an archival function that is accelerated to the point of temporal immediacy, where the gap between the lived event and its digital preservation has collapsed[2].

This essay seeks to engage with how Flusser's concept of cybernetic memory might be fruitful for how we can begin think the pharmakon nature of contemporary mnemotechnics alongside reflections on industrial memory and techno-fascism. By exploring the tension between memory as storage (electric charge, the stocking of goods or metadata) and memory as impression (embodied memory, the conversion of sonic memory (music) into informational grooves on a record as information), we ask: is there still freedom in an age of techno-fascism and if so how we must think the role of both neuro-ethics and the algorithmic industrialization of memory at work in AI systems.

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[1] Flusser, Vilém. *Post-History*. Translated by Rodrigo Maltez Novaes. Minneapolis: Univocal Publishing, 2013.

[2] *The reader should know that AI systems were used for phenomenological research purposes. After a number of drafts without AI, both Claude and Gemini were interacted with. In the end, most of the AI engagement was left out of the essay for clarity, precision, and because I simply rewrote large portions of the draft after the more insightful help of a human reviewer/reader.

The Apparatus: Functionaries (Passive Agents) and Cognitive Agents

To engage with AI through a Flusserian lens, we must first establish the Apparatus as a dialectical site. For Flusser, the apparatus is not merely a tool, but a system that programs its users. Those who inhabit the apparatus without interrogating its program become "functionaries" – beings who no longer produce new information but merely execute the possibilities already contained within the system's logic. The functionary does not use the camera or the computer to see the world; they use it to exhaust the photographic or computational program[3].

This is why Flusser's reflection on the extermination camps is so vital to his critique of post-history. For Flusser, Auschwitz was not a historical aberration but the first concrete realization of the Apparatus's ultimate tendency: the complete subordination of the human to a program. In the camp, the human is no longer a subject but a variable to be processed, sorted, and eventually deleted by a bureaucratic and technical machine. As Flusser notes in *Post-History*: "The extermination camp... is the first realization of an inherent virtuality within the Western project... the experience that utopia, no matter in what form, toward which we progress, is the extermination camp."[4]

Electro-Logos and Technofascism

In the aftermath of Auschwitz, Flusser's warning about the apparatus resonates all too well within our current era of endless filtering of our existence through mechanisms of capture today served back to us as content. A more recent inheritor of Flusser's speculations can be seen in the work of French philosopher Frédéric Neyrat[5]. Neyrat's speculations delve into this new regime of signs about which Flusser warned. As a result of the intermingling of cybernetic algorithmic control systems with the human nervous system and various cybernetically provoked behavior resides a potential technofascism, or what Neyrat calls "artificial fascism" and that of an electro-logos[6] He identifies a process that humanity has now sought to offload onto artificial intelligence: communication itself. If a desire for communication is both at the heart of the advent of consciousness as well as an impossibility of grasping something of a primordial absence, loss, or trauma that gives way to this

[3] Flusser, *Toward a Philosophy of Photography*, trans. (Reaktion Books: London, 2000.
[4] Flusser, Vilém. *Post-History*. Translated by Rodrigo Maltez Novaes. Minneapolis: Univocal Publishing, 2013.
[5] For more on the work of Frédéric Neyrat, see www.alienocene.com and www.atopies.com
[6] Neyrat, Frédéric, *Traumachine: Le technofascisme et l'imagination artificielle* (2025)

process of individuation (to make use of the work of Gilbert Simondon), then there is a kind of dual loss at work.

To the extent that *techné* is understood as a kind of externalization of human faculties, it once served to extend these capacities; however, in doing so, it now transforms our relation to our own sense organs, nervous system, and brain. Neyrat suggests that technology today has become a kind of "artificial logos," or an "electro-logos,[7]" whereby the endless intermingling of neurocircuitry with digital virtual machines has largely embedded itself into how we interact, perceive, and engage with reality, our psyche, and our relation to others.

Within a machine that has been engineered for capital extraction, we see an endless interpellation of the human based on re-wiring their threat and reward systems in the brain. This system functions for the purpose of selling commodities – t-shirts, jewelry, information or disinformation among others – while effectively hijacking or modulating the dopamine system. In this case, the interpellation at work takes the form not of Louis Althusser's famous example of the police officer who "hails" the individual to subjugate them through singularization, but rather that of an autonomous algorithmic network seeking to keep eyeballs arrested on screens and fingers clicking buttons. Technology can no longer be understood merely as an externalization of faculties; it now subjugates interior modes of individuation, leading humans to be endlessly interpellated by AI and social media yet not allowed to become wholly integrated subjects[8].

The Industrialization of Memory

Bernard Stiegler's writings on the "industrialization of memory" provide the technical anatomy of this disappearance. Stiegler describes the process by which memory is externalized into programs in a manner similar to what Flusser called "cybernetic memories." Whereas Flusser saw an affirmative potential in this cybernetic form, cybernetic memories today function in a manner largely predicated off advertising, ecstatic affective excess and cognitive short-circuiting. Stiegler's use of the anthill metaphor provides a biological mirror for the AI apparatus. In an anthill, knowledge is an emergent informational model of social cognition where individual ants operate as Reactive Agents. Such agents possess no individual memory and operate purely on a stimulus-response schema, programmed by pheromone trails—the biological equivalent of algorithmic metadata and "trending"

[7] Inid.,
[8] Ibid., 196.

flows.[9] A similar example can be seen in how bees seek out new sites of food (pollen). A bee, as reactive agent, will be led by way of chemical signals toward a new source of nourishment. Upon returning to the hive, the bee will begin signaling to the other bees who are cognitive agents as to the location of the new source of sustenance[10]. However, in not knowing it was providing the proper response and communicating, the reactive agent nevertheless plays a vital role. It is not hard to see to what extent this same fluctuation between cognitive agents and reactive agents will only continue to become engrained in new forms of neuro-logical programming. And this is precisely where Flusser's early work was so poignant. Written in the early 1980s, in the shadow of video game consoles like Atari, desktop computers, and the eventual telematic society of the world-wide web, Flusser's *Post-History* could see all this "progress" as an infinite acceleration toward removing human freedom from the equation. And today, almost 50 years now since the first email was sent at CERN, we must begin to apply Flusser's critique and concepts to our era.

Neuro-Ethics and the Foreclosure of Mental Integrity

Hence the concerns of an entire budding subfield of neuroscience as regards this "electro-logos" referred to as "neuro-rights." Faced with algorithmic machinery that has infiltrated most of our daily movements, the human subject finds him/herself in a state of crisis. If, as Neyrat claims, following Stiegler's logic, that humanity now largely resides within a strange blind spot in its own stunted or suspended individuation, we may be witnessing a foreclosure of what neuro-ethicists call "mental integrity." Peter Zuk suggests the possibility of mental integrity as being something fundamental in the era of neurotechnology whereby it would be possible for certain doctors to remotely engineer the affective state of their patients without them even knowing[11]. We already live in an era where remote medical technology is readably accessible and a useful advancement in health management and even in survival through remote-controlled heart pacemakers. As DARPA begins to experiment with neuro-technology to engineer the affective state and response of soldiers in the field so as to remain calm, not stressed, and capable of executing their missions, we are only a couple of steps away from neuro-ethics questions at the level of trauma, but also, once again, at the level of memory. For if the goal of such technological advances is have the solider perform well in the field without having to

[9] Stiegler, Bernard. *Technics and Time, 3: Cinematographic Time and the Question of Malaise*. Translated by Stephen Barker. Stanford: Stanford University Press, 2010.
[10] Delanda, Manuel *A Materialist Phenomenology: A Philosophy of Perception* (Bloomsbury Academic, 2021)
[11] Zuk Peter *Mental Integrity, Autonomy, and Med Ethics* 2024: 676–683.

suffer and endure the Post-Traumatic Stress, then I would suggest that whatever ethical question around mental integrity and AI that might arise in anticipating how AI may soon or already be re-engineering our entire relation to reality, something indeed akin to Flusser's concept of cybernetic memories.

The Thermodynamics of Memory: Storage vs. Impression

To understand why human subjectivity requires both deep memory and communication, we must look at them as stabilizing, negentropic processes that preserve a core of vital non-knowledge. To do this, we must make use of the work of French philosopher Gilbert Simondon and the one-time student of Jaques Derrida, Bernard Stiegler. Simondon made use of his background in phenomenology and the nascent turn toward behavioral psychology and cybernetics with his unique interest in the evolution of technical objects. For Simondon, technical objects—be them a steam engine, an automobile, or your smartphone, function by way of a thermodynamic relationship to various process seeking to at once stabilize but also transduce and individualize in relation to their technological ancestors. For instance, the law of thermodynamics states that energy comprised in objects will eventually transition while the object decays. In the context of memory storage and retrieval, cybernetic memories have become something like another form of the informational conversion of lived experience in an accelerated form. "The thermodynamic state of a system is defined by specifying values of a set of measurable properties sufficient to determine all other properties. For fluid systems, typical properties are pressure, volume and temperature. More complex systems may require the specification of more unusual properties. As an example, the state of an electric battery requires the specification of the amount of electric charge it contains."[12] This leads us to recognize to what extent energetic storage like a battery also functions as a form of industrialized memory at several levels including at that of the cellphones they inhabit.

Memory as Impression

Beyond the mere form of quantification of memory and knowledge as storage, humans largely rely on the acquisition of knowledge through a deep impression, as embodied traces of lived experience, of the firing of neurons and the pathways they create through the recursive mode of prediction and

[12] https://web.mit.edu/16.unified/www/FALL/thermodynamics/notes/node11.html

adaptation to its environment based on these past "impressions". This is the "deep memory" required for survival. French phenomenologist, Jean-Luc Marion provides us with an interesting example of such deep memory in in his phenomenological description of the acquisition of the knowledge of skiing.[13] So as to provide the reader with an example of a form of knowledge that is embodied while also being a state of becoming, Marion provides the example of the skier: the skier does not "access a database" of how to turn; the skier *is* the turn[14]. This Impression-Memory is a neuromuscular and psychical "groove" carved into the subject through a confrontation with non-knowledge. You cannot "download" the ability to survive a mountain; you must practice it through error, physical risk, and repetition. Another way to understand this impressional memory is as pure form. If the form of knowledge is its very embodiment, then another sport that might be a more accurate description is that of the Japanese *kata* and the archer's practice of *kyudo*.[15]

As with entropy and the decay or loss of energy or information, one can then understand to what extent the industrialization of memory through various apparatuses of capture, such cybernetic forms of memory function at a level of information input/output and retrieval. Think of the way in which, for example, sound, as wave and as musical information, is translated or converted from sound into symbolic musical notes on a page and then are translated back into sounds recorded and formulated once again into the grooves on a record which, through the possibility of converting the sonic information into material information, we are able to translate and reconvert the sound back into its sonic wave form[16]. Yet, AI's own survival is based on Predictive Temporality—extrapolating from past models so as to "capture" the future as with the evolution of the camouflaged walking stick. If the future is merely a repetition of the past, there is no "event," only the program. For the human subject, survival requires Prophetic Temporality: a rupture in the present; the arrival of a future that demands a "recommencement."

In the AI archive, the human subject must practice a similar "mimetic" art. We must use the AI's own "artificial imaginary" not to be programmed by it, but to find the "blind spots" in its self-awareness. Survival, therefore, is the ability to maintain anamnesis (deep memory) in a system

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[13] Marion, Jean-Luc, *D'ailleurs, la Révelation*. Paris: Grasset, 2021.
[14] The skier *is* the turn was a reply from Gemini AI when I discussed how the skier's relation to impressionable memory as bodily practice, was a memory that an AI could not yet achieve.
[15] For more on this notion, see Augustin Berque's *Nature and Artifice: In Japanese Culture* and Gilbert Simondon's *On the Mode of Existence of Technical Objects* regarding the concept of a brick. I thank Marc Lenot for our discussion around this theme.
[16] Delanda, Manuel *A Materialist Phenomenology*: A Philosophy of Perception.

designed for amnesia (real-time storage). It is the defense of the "I" against the "habit + decision" of the machine[17].

We return to the opening paradox: an abundance of storage and an absence of impressions. Flusser's "cybernetic memories" were a warning that we cannot reject our culture—now an AI-mediated culture—without losing ourselves. But this same culture has also morphed into an "machine" that actively prevents the human subject from attaining the non-knowledge requisite for development.

If this upgraded cybernetic memory process is endowed with AI and cross-pollinated with humans we have to recognize to what degree humans then, would precisely have drastic transformation in both how they learn and also how they remember and retain something of learning. Accumulating in age where knowledge takes the quantified form of information excess, knowledge also has the potential to lose its relation to deep memory. And without deep memory, the very capacity for humans to possess a relation to self and the process of individuation that is granted through an impression, a lived experience of knowledge, as an acquired neuro-muscular adaption and extension of the imagination, for memories and deep memory, functions largely off the human's perceptual and imaginal systems. The question remains whether humans will be able to adapt and compensate for such a cybernetic memory or whether such an accelerated process of "pure memory" also potentially implies an unknown or unmetabolized trauma of individuation, existence, experience, and memory.

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[17] Neyrat, Frédéric, *Traumachine: Le technofascisme et l'imagination artificielle* (2025) Neyrat refers to this term to refer to the coming period when human and machine intelligence will become so entangled that humans will no longer no when they end and where AI systems begin, what he calls the amachine.

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