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Vilém Flusser's Digital Galaxy

Vilém Flusser, **Does Writing Have a Future?** (Nancy Ann Roth, Trans.), Minneapolis: University of Minnesota Press, 2011, 178 pp., $58.50 (hardcover), $20.00 (paperback).

Vilém Flusser, **Into the Universe of Technical Images** (Nancy Ann Roth, Trans.), Minneapolis: University of Minnesota Press, 2011, 192 pp., $60.00 (hardcover), $20.00 (paperback).

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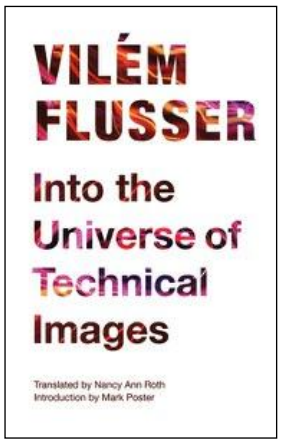
In the late 1970s, the Czech-born émigré and philosopher Vilém Flusser (1920–1991) was lecturing on communication theory in France. The Commodore 64 and Apple Macintosh computers, as well as Minitel, were "new" media in the 1980s. Computational media, telecommunication, and automation compelled Flusser to look more deeply into the emerging digital galaxy, and he turned to media theory at the zenith of his interdisciplinary career.

Into the Universe of Technical Images and *Does Writing Have a Future?* are part of a media theory trilogy, originally published in German, that also includes *Towards a Philosophy of Photography*, which was published in 1983 and translated in 2000. With the advent of microcomputing, Flusser came to understand the camera as a programmed apparatus, the ancestor of all apparatuses that exemplify the subordination of thinking in letters to thinking in numbers.[1] The other two books, published in 1985 and 1987, respectively, were written in a period of accelerated electronic and computational media change. A decade before the Internet revolution and two decades before the mobile communication revolution, Flusser describes a tendency for images to become electronic and apparatuses to become smaller and cheaper. He uses metaphors of the 'web' and the 'net' to illuminate "telematic society." His deeply historical, richly philosophical, and sometimes prescient essays stand at the entrance to the postindustrial communication era. He sees past fleeting technical innovations to long-term processes of transformation. His writing about writing delves into the human migration from alphabetic codes and historical consciousness to binary computer codes, systems thinking, and cybernetic consciousness. As indebted to Norbert Weiner's cybernetics as he is to Edmund Husserl's phenomenological writings, Flusser prefers the metaphor of the "global brain" to Marshall McLuhan's (1962) "global village," and he expands his definition of electric media as neuro-prosetheses to the point where machines simulate thinking. Like McLuhan, who believed the message of electricity was implosion and that cybernation would usher in a new single, organic consciousness, Flusser believed that another human, connected, cocreative world was in formation.

[1] For a review of *Towards a Philosophy of Photography,* among other books by Flusser, see Cubitt (2003)

As Mark Poster's introduction to both volumes states, these translations will bring Flusser's thinking to a wider Anglophone audience. First-time readers also have the benefit of Anke Finger, Ranier Guldin, and Gustavo Bernardo's (2011) first English-language introduction to Vilém Flusser. For Poster, Flusser stands out—along with McLuhan, Baudrillard, Benjamin, Innis, and Enzensberger—as "one who presciently and insightfully deciphered the codes of materiality disseminated under the apparatuses of the media" (p. xi.). Poster also observes that in Flusser's outline of the history of communication technology, writing and time are in the foreground.

In this way, Flusser predates Bernard Stiegler's (1998, 2009) media philosophical work on technics, time, and the industrialization of memory. For Flusser, as for Steigler, technics constitutes time. For Steigler, following Aristotle, life is the conquest of mobility; for Flusser, following the second law of thermodynamics, life is the conquest of entropy. From an existential angle on our solitary being-toward-death, technical images encode the intention to become immortal and forget our absurd human existence. What Flusser adds to phenomenology and cultural studies of language, identity, experience, history, memory, and writing are cybernetic theory, informatics, and telematics. What concerns him is not only the time of history, consciousness, and life and death, but also questions of technological convergence, social structure, automation, discourse, dialogue, creativity, play, and politics. A spirit of networking infuses his thoughts about being in the world, digital culture, and global society. His proto-postmodern media theory reconfigures classical philosophical concepts like consciousness, time, and memory, mixes in cybernetic concepts like information and feedback, and then adds some new concepts to the toolkit for analyzing media such as "apparatuses," "envisioning," "functionaries," and "keys." Unlike the cyberoptimistic digital discourse of the subsequent decade, Flusser's writing keeps the perils and threats of a telematic society in sight. As "self-programming" becomes a part of the human project, he recognizes the flipside of linear progress in technocracy, fascistic patterns of communication, and the dispossession of human agency to judge and decide.



Into the Universe of Technical Images takes a long view of communication history, with a focus on writing and technical images. For Flusser, writing inaugurates history. That is, historical consciousness is generated by writing, and dependence upon writing inscribes a linear temporality upon history. By "writing," he means alphabetic writing, making him open to Derrida's (1971) critique of phonocentricism as ethnocentricism. However, within a Hellenocentric paradigm, Flusser highlights how the tables between letters and numbers have turned toward the mechanization and manipulation of numbers by computers.

Flusser's main argument is that beginning with the photograph, the universe of technical images alters how we experience, perceive, and value the world. When writing is supplanted by technical images, the concept of time as being linear collapses into a nonlinear now. On one side of the great transformation, we have historical society and the culture of writing; on the other, we have a technical image culture and a telematic society. In his account, technical images owe their existence to technical apparatuses, but they cannot be defined without delving into our being-in-the-world and the intersubjective nature of communication. As programs becomes autonomous, humans become "functionaries" within military, political, industrial, cultural, and

administrative domains. The primal gesture of *homo sapiens* in the natural, infinitesimal universe of particles and quanta is to reach out our hand to pause our lifeworld. Technical images arise to grasp the ungraspable and visualize the invisible. After four millennia, our technological form of human life is lived mainly at our fingertips; we have become button-pushing, key-stroking humans. Human memory is too limited and slow so we develop artificial memory. Flusser believes not only that artificial intelligence augments human intelligence, but also that it is leaving it behind. The technical apparatus of digital media thus appears on the horizon as an impending technocultural revolution in thinking and memory.

To develop this argument, *Into the Universe of Technical Images* is organized into 20 chapters whose titles, except for the first and last, are infinitive verbs: "To Abstract," "To Imagine," "To Make Concrete," "To Touch," "To Envision," "To Signify," "To Interact," "To Scatter," "To Instruct," "To Discuss," "To Play," "To Create," "To Prepare," "To Decide," "To Govern," "To Shrink," "To Suffer," and "To Celebrate." Each chapter deals with a separate, current problem, most of which remain relevant to media studies and the digital humanities today.

The first problem Flusser addresses is how to distinguish technical from traditional images. Traditional images make their first appearance on the wall of caves in southwestern and southern France. These prehistoric cave paintings are models for action in a magical and mythical universe. Technical images, such as photographs or computer-synthesized images, are not images but symptoms of chemical or electronic processes. The former are based on observation of objects, the latter on the computation of concepts. The former are like mirrors that can be decoded as signs, the latter are projections that can only be decoded as programmed. Flusser claims that for the first time in history, consciousness becomes the power to envision—to concretize the abstract. This "hallucinatory power" is both more visionary and more superficial than is past thinking. Even scientific discourse and technical advances proceed by visualizing the abstract on a computer screen. He is not content to write the history of the image code; his essays take on the critically important task of exploring what sway we humans still have over this power.

In Flusser's five-step ladder of communication and cultural history, a process of abstraction leads humanity from concrete experience to calculation and computation—the level of technical images. Image-making mechanisms contain programs to counter-program the universe, which tends toward entropy. Existentially speaking, the answer to death is "to inform" in the sense of giving form to. It is here that a major contradiction or inner dialectic emerges. Apparatuses are programmed to generate improbable situations, but these information situations become more probable as the program runs. Hence, the true meaning of automation is the self-governing computation of accidental events.

Based on a comparison of natural and cultural history, Flusser represents history as a dialogue between entropy and negantropy. Abandoning "historical progressivism," he draws attention to the cycle of nature-culture-waste-nature. The cybernetic paradigm encompassed organism and environment while dematerializing information. Once information becomes separated from material supports, he reasons, telematics will solve the problem of waste. He anticipates a future when material media will disappear as the support for immaterial information. By the end of the 2000s, arguments for the disappearance of physical media became common. From a digital, materialist, and eco-critical perspective, however, the day that the information substrate disappears will never arrive. Cloud computing, to take a current

metaphor of immaterial computational media, promises to "green" all ICTs and store all information. But the increased electricity needed to run the server farms and cooling systems may not come from sustainable, renewable sources. Cloud computing coexists with integrated circuits, memory modules, hard discs, fiber optic cables, routers, and other network appliances. At the same time, planned obsolescence, cross-platform marketing campaigns, and the adoption of "smart" mobile media will increase the growing pile of cell phone–only devices and toxic e-waste.

Flusser echoes McLuhan when he posits that the technical image is the message. They no longer signify anything except models and programs. As such, the rise of technical images effects a reversal of the vectors of meaning. As programmed projections rather than depictions, technical images "do not show us their meaning; they show us a way we may be directed" (2011b, p. 49). He presupposes that the "semantic and pragmatic dimensions of technical images are identical" (ibid.). If this is the case, the criticism of technical images should be based on the criteria of programming, their "trajectory," and the "intention" behind them. Flusser goes even further by calling for the reinvention of cultural criticism and classical sociology. Rather than focusing on discursive centers, Flusser recommends that cultural criticism begin with "silly telematic gadgets" and trade historical categories for cybernetic ones. He suggests sociologists turn their attention away from mediations between people and objects toward the interaction between technical images and people. Flusser's attention, however, never strays from the flow of information between humans and intellligent machines.

In the final analysis, Flusser views technical images as having a "penetrating force" all their own. He sees evidence for this in the rupture of political and private space, as well as in the disintegration of social forms. Due to feedback loops, images become like their receivers want them to be and receivers become like images want them to be. He tells us that senders of the world should stop functioning and receiving—being programmed by technical images—and start reprogramming. This do-it-yourself principle can be found in the history of alternative and autonomous media, but sharing and modifying programs has become central to the free software movement copyfarleft (Kleiner, 2010), and the "secret war between downloading and uploading" (Lunenfeld, 2011, p. xiv).

Flusser experienced Nazism in Czechoslovakia and military government in Brazil. We may distill his discussion of technical images and politics into a manifesto for changing the surface rather than altering the structure of information society. In the first place, Flusser wants us to recognize that the cultural revolution is technical rather than ideological. From this, it follows that "really effective revolutions have always been technical" (2011b, p. 62). His list of revolutionaries includes Nicéphore Niécpe, Auguste and Louis Lumière, and the "nameless inventors of computer technology" (2011b, p. 63). True revolutionaries, he asserts, neither appear in images nor are they opposed to images; they are opposed to "integrated circuits" and "actively promote dialogical, rewired images" (2011b, p. 67). Accordingly, "revolutionary visualization" by photographers, filmmakers, video makers, and computer programmers would seek to break the consensual feedback loop between images and persons and also bring new interpersonal relationships into being. Following Husserl and Buber's idea of dialogue as a supreme value, Flusser thinks net dialogues to counter discourse and enhance democracy are possible. But this possibility will be unrealized so long as governments or commercial institutions monopolize sending and as long as people lack the political will to collect and assemble themselves.

Flusser has much more to say about the posthistorical than he does about the postpolitical. He claims that when historical events are played out in the timeless present as "live" media events, we enter into the posthistorical circularity of technical images. In this sense, the television and satellite transmission of the fall of the Berlin Wall and the Tiananmen Square protests of 1989, or the release of Nelson Mandela in 1990 played out in a virtual geography that collapsed the present and the past into a late 20th-century "now." In the last decade, democracy has become even more subordinated to the economic and what Harold Innis referred to as the obsession of present-mindedness. We can imagine that Flusser would have appreciated how Occupy Wall Street was enabled by horizontal telematic dialogue, for example, how the "99 percenters" assembled themselves, using Facebook and Twitter, in New York's Zuccotti Park, how they made decisions in general assemblies using the "people's microphone," and how the movement was rapidly transnationalized.

One significant thread running through Flusser's reflections is the question of freedom. In general, he argues against those who have posited that automation leads to the end of human freedom. In the pretelematic context, production and evaluation are combined, and freedom is a question of criticism and censure; in a telematic context, freedom is a technical question because automation enables all human beings to become "critics both of themselves and of all others" (2011b, p. 121). Thanks to propositional calculus, he speculates about the arrival of automatic criticism and filters that eliminate "everything redundant, all kitsch, all gossip, but also erase it from memory, as if such accidents and excesses had never happened" (ibid.). Today, we have filters to manage the flow of incoming e-mails or undesirable digital content, automatic text-generation software, and artificial-intelligence-produced book-like products. Even if programs can filter information, gather text, and organize it into a book, we will still be able to make metajudgments about programming automated critics and write reviews of robot-books. Flusser avoids falling into a "void of infinite regress" (2011b, p. 120) by reasserting human intelligence over artificial intelligence and also the inherited right to say "no" and reject telematics (2011b, p. 122). However, the basic negative freedom Flusser stresses must be complemented by the positive freedom to control the fate of information about ourselves. The actual scope and locus of user agency is restricted by technological dependency—the "black boxing" of technologies and their networks and intellectual property regimes. Since Flusser's time, we have seen the rise of a myth of user agency and interactivity, the digital lock-down of culture, and the enclosure of the information commons.

Overall, Flusser's critique of the present encompasses divergent trends. The telematic society is characterized as both the first self-conscious, free society and also as a structure for realizing catastrophes. In the last chapter of *Into the Universe of Technical Images*, however, he presents a preindustrial form of communication—chamber music—as a "model for dialogic communication in general, and for telematic communication in particular" (2011b, p. 162). He describes parallels and divergences between pressing a piano key and a computer keyboard, and he goes on to stress the similarities between the universe of music and technical images. By becoming music, technical images escape their semantic dimension. Flusser's musical model of telematic society privileges and aligns composition and computation in a world of "pure art, of play for its own sake" (2011b, p. 166). He concludes by framing his own essays as a fable of a fabulous universe of technical images and society filled with hope, fear, and trembling.

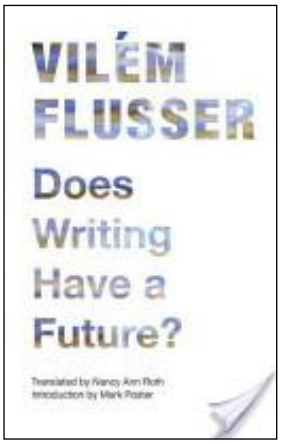
The circuits and cycles of the coming telematic society can be virtuous or vicious. The chapter titled "To Suffer" is followed by the chapter titled "To Celebrate." On the one hand, telematic society appears to be the realization of a Platonic utopia where everyone contemplates images and pursues leisure. On the other hand, the economy is still running in the background, automating the production and distribution of goods. Flusser insists that a Platonic utopia is impossible because humans suffer. Suffering is cerebral because it is rooted in perception and sympathy. He aligns economics and medicine because they have suffering and death in common. From this perspective, the aim should not be to protect the body as private property but to alleviate suffering. With new, better methods of prolonging life, dying will be redefined as a "dialogically negotiated agreement to forget" (2011b, p. 148). Flusser's concern is the right to cease suffering. After the 2008 financial crisis, we can see an alignment of the economy and medicine that goes beyond the problematic of euthanasia. Suicide has become financial, political, and literal. As one clinical physiologist and NGO administrator characterized the Greek debt crisis and surging suicides: "The economic environment is the pathogen and suicide is the symptom."

Telematic society, Flusser continues, is steering toward "continuous cerebral orgasm" (2011b, p. 128) and an "emerging cybernetic functional consciousness" (2011b, p. 129). The social structure of telematic society follows the model of the ant colony that forms a superbrain "composed of single ant brains assembled like a mosaic" (2011b, p. 130). Here, he is in the company of those who have speculated about superbrains since the 1970s. At the IBM Almadin Research Center, project manager Dharma Endha Moda is currently working to discover, demonstrate, and deliver the core algorithms of the human brain in order to build a cognitive computing chip. On the one hand, in 2009, neuroscientists using supercomputers built the first real-time cortical simulation that exceeds a cat's cerebral cortex. Other research has investigated the commmunication pathways in the long-distance network of the macaque monkey's visual cortex. On the other hand, the philosopher Slavoj Žižek (1996) has written about the bad negativity that arises when computers mimic brains and brains mimic computers. What would be negated if the gap between brains and computers were to be completely closed is the intermediary of a mind that is not a computer.

If we follow Flusser's path, all past human life, work, suffering, activity, and passivity are reframed as *prehuman*. His media theory strives toward creating and storing new information to make our human condition more acceptable. From Flusser's resolutely cybernetic-humanist standpoint, the human is essentially negentropic. In the two decades since his accidental death, the surveillance society would come to haunt his dream of an open, telematic, social system. Systematic, conscious creativity, which Flusser believed begins with telematics, has become an alibi for cognitive capitalism. He associates automation with increasing leisure and tells us that the problem is we do not know how to be properly idle. The problem Flusser did not foresee is that once the boundary between work and free time dissolves, work expands to fill free time. Recently, this led Clay Shirky (2010) to theorize the digital content that is produced in our free time as "cognitive surplus." This line of thinking about the do-it-yourself digital content production neglects the blurring of work and play and the problem of free or low-cost digital labor. Furthermore, human intelligence tasks are now being "crowdsourced" to online freelancers competing with each other to do the work that humans can still do faster than can a computer, like matching an image to a line of text for a penny per "HIT." Flusser's emphasis on telematic society's "cerebral-net character" needs to be balanced by an analysis of "envisioning" as immaterial labor and programming industries.

In the first sentence of *Does Writing Have a Future?*, Flusser answers the question by stating that "Writing, in the sense of placing letters and other marks one after another, appears to have little or no future" (2011a, p. 3). This book about writing was written on the cusp of the new orthographic writing machines—word processors—and a new way of writing: programming. Rather than merely announcing and extolling how written codes have been surpassed by more effective codes, these essays are occasions for Flusser to ask what is distinctive about writing, how notation differs from inscription, what we do when we write, and what we call critical thinking. In sum, the informatics revolution makes the alphabet superfluous, and this has consequences for consciousness and our model of criticality.

Flusser refers to writing consciousness as historical consciousness. Before notation, thought could not be historically structured. With the mechanization and automation of writing, machines write faster than we can. If—and today, this is still a big if—artificial intelligence becomes smarter, Flusser thinks we can let automated machines make history and concentrate on something else. One key variable is speed. When writing picks up speed by means of brush and quill, literature can be written to be read quickly. Due to orthographic rules, the gesture of writing is "hectic and intermittent" and we write "hastily and schematically (the full stop, rushing toward the future" [2011a, p. 19]). What links writing in lines and critical thinking is an inner dialectic between thinking ahead and contemplative pauses. But when teletype replaces typewriters and you have a speedup of printed text by videotext on terminals, writing is uninterrupted, and this inner dialectic comes to an end. "Apparatuses have no existential brakes; they don't exist, and they don't need to come up for air. And so we can leave progress, historical thinking and action to apparatuses. They do it better" (2011a, p. 21). Flusser would be satisfied then to "leave progress, historical thinking, and action to apparatuses" so we can become open to the "concrete experience of the present" (ibid). This is not as naive or as simple as it may sound. He thinks that after we emigrate up to the "universe of technical images," we will be able to look down upon the history that will be written by apparatuses. In this complex process, writing "cannot just be overcome" and telematization "stumbles upon literal thinking, on letters" (ibid.). Nor do we arrive at the end of history, for apparatuses will use other codes to write and make another history that is "no longer history in the literal sense of the word" (ibid.). In our transition to a posthistorical, postliterate, electromagnetic condition, thinking by alphabetic writing and our ears is transcoded into thinking numerically with our eyes.



Subsequent chapters of *Does Writing Have a Future?* closely examine alphanumeric code, texts, print, instructions (also known as programming), spoken languages, poetry, ways of reading, deciphering, books, letters, newspapers, stationeries, desks, scripts, the digital, and recoding. By the end, Flusser shows that writing proceeds by means other than writing. An important turning point in this book, which anticipates writing "with and for apparatuses" (2011a, p. 55), comes in the chapter titled "Instructions." One of Flusser's purposes in this chapter is to dispel the "terror of programs" (2011a, p. 56). While computer codes are new, writing programs—in the sense of prescribing models—can be considered as old as writing itself. With the rise of programming, "all behavior has become profane, scientific, apolitical and people are free to give such behavior meaning. History and the mode of thought that produces history, is

over. A new, posthistorical mode of thought is arising that assigns meaning to absurdity" (2011a, p. 59).

Flusser is acutely aware of both gains and losses. There is much that cannot be written by alphanumeric codes that can be written by digital codes, but "spoken language would lose its intermediary position between thinking and writing" (2011a, p. 61). Communication scholars who have long held that symbolic thought and communication are multimodal may appreciate the moment when programming sets itself free of alphanumeric writing in Flusser's thought. Sound recording releases spoken language from the alphabet, video clips displace "poetry" from records and cassettes, and "speaking will merely assist (as, say, gestural codes do today) the dominant codes" (2011a, p. 69). But if "digital codes are ideographic in the sense of making concepts (ideas) visible" (2011a, p. 61), this visual turn is also grounds for skepticism. Literary thought is not translatable into mathematical thought, and the differences between linguistic and sociogestural modes of communication remain irreducible to codes of calculation and computation. Flusser himself believes spoken language continues to be a uniquely productive code under digital conditions of culture.

Does Writing Have a Future? begins with a chapter titled "Superscript" that announces the author's intention and ends with a "Subscript" where the curtain on the 3,000-year-old drama of written culture comes down. To think any further, Flusser feels he would have to use digital codes. When we say our computers are "alphanumeric" machines, we are trying to build a bridge over the growing abyss between a residual alphabetic model of consciousness and a dominant digital consciousness. In closing, Flusser frames his writing about writing as a petition "in support of writing," and he signs it in "protest against the threat of secondary illiteracy" (2011a, p. 161).

Flusser's media theory trilogy is an important contribution to the tradition of essay writing in media studies. His essayistic thinking, his phenomenological lens, and his "twisting path through a thicket of problems" (2011b, p. 169) makes his theorization of codes in combat dramatic and stimulating. He attempted to write media theory ahead of his own time. These works give code and gesture due attention, and they make a convincing case for understanding apparatuses and decoding programmability in relation to temporalizing consciousness and creativity. His tone oscillates between enthusiasm, guarded optimism, and pessimism. Taken together, they put the universe of technical images at the crossroads of aesthetics and telematic society.

Should we be troubled when Flusser writes that "all ethics, all ontology, all epistemology will be excluded from pictures, and it will become meaningless to ask whether something is good or bad, real or artificial, true or false, or even what it means" (2011b, p. 128)? Is it the case that "the only remaining question is experience (*aistheton*, 'experience')" (ibid.)? For readers interested in ethics, ontology, epistemology, or hermeneutics, this may sound like a descent into postmodern sophistry. For those working in cultural studies, there may be a sense of discomfort in his reduction of complex reality to the aesthetic dimension. Perhaps his phenomenological reductionism of all objects to "perception" and "experience" in Husserl's (2008) "living present" also falters because phenomenology presumes an "ego" as a standpoint outside of the phenomena of lived experience and forms of embodiment that can capture the underlying unity of the "purely aesthetic" as an ideality. And yet Flusser's theorization of consciousness rightly emphasizes the materiality of storage media and memory, which leads us to the new

informational materialism. Moreover, when he writes that "cybernetic feedback between acting and being acted on characterizes experiences, and this feedback is the way the images exert control" (2011b, p. 129), he steers us toward Deleuze's (1995) "control societies." Although the scientific "black box" of apparatuses and its language of functional propositions makes humans into "functionaries," Flusser does not shudder to think of society as a cybernetic machine or of humans as automatons; to the contrary, he finds resources of hope in the imaginative power of *hommes ludentes*. His media theory was unique for its time, and it remains rare today, because he conveys a sense of the existential stakes. His media trilogy deserves close reading and discussion within and beyond graduate seminars. To read further into his writings, we would need to assess the phenomenological/cybernetic approach in which his theory is embedded. But we are very fortunate that Flusser did not repudiate writing so he could portray how human-machine relations and the essence of writing have been altered in the age of information and communication technologies.

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