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Vilém Flusser's Theories of Photography and Technical Images in a U.S. Art Historical Context[1]

In the field of art history the photography specialization is fairly new and the discourse is dominated by a handful of voices that came to prominence in the nineteen-seventies and eighties. Interviewed three days before his death in 1980 Roland Barthes noted, "there does seem to be a kind of 'theoretical boom' in photography … People who are not technicians, historians, or aestheticians are becoming interested in it."[2] Geoffrey Batchen has written that by the time Barthes's most important essay on photography, the short, book-length *Camera Lucida* was published in 1980, "Susan Sontag and Michel Tournier had just published their own books on photography (Sontag's is in Barthes's bibliography), and [in that same interview Barthes] also points out that the University of Aix-Marseilles had recently accepted a proposal from Lucien Clergue for a doctoral program in photography—'but in the Chemistry Department!' To these events, we might add the establishment of a photography collection at the Musée d'Orsay in Paris in 1978, the special issue of *Cahiers de la photographie* published in 1981 … and the creation of the Centre de la Photographie in Paris in 1982."[3]

In the United States, photography entered through art history because photographs could be studied as aesthetic objects using formalist methods—although, echoing Barthes's surprise, some scholars have suggested that photography be approached in different ways.[4] But virtually the whole canon of photography theory was written in Europe, the United Kingdom, or the United States. Primary among these are the essays of Walter Benjamin, which were only being translated and disseminated in English in the late nineteen-sixties and seventies, and Barthes's writings. Initially bent on demonstrating how everyday images functioned like sign systems that depoliticized the ideological messages contained within them, Barthes is best known for *Camera Lucida: Reflections on Photography* (1980), a slim volume composed shortly after his mother's death.[5] *Camera Lucida* is an example of the late Barthes and his development of a "third form" of writing that might be called "paracriticism" or

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[2] Batchen, "Palinode," *Photography Degree Zero,* 17.

[3] Ibid., 17.

[4] See Michel Frizot, "Who's Afraid of Photons?" in *Photography Theory,* James Elkins, Ed. (New York: Routledge, 2006), 269-275. Interestingly, Frizot is also one of the few photography scholars who claims Flusser as an influence.

[5] Roland Barthes, *La chamber claire: note sur la photographie* (Paris: Cahiers du Cinéma, Gallimard, Seuil, 1980); *Camera Lucida: Reflections on Photography*, trans. Richard Howard (New York: Hill and Wang, 1981).

"paraliterature."[6] Standard for Barthes, it is structured around binaries: Photography *in opposition* to Cinema[7] and the famous *studium*, or ostensible subject of the photograph versus the *punctum* or "prick:" an accidental detail unintended by the photographer that creates an idiosyncratic locus of signification.

Criticisms of *Camera Lucida* are legion: the text is limited in its application because Barthes focuses primarily on photographs of people—and particularly an apocryphal photograph of his mother, taken when she was a young girl, which is not reproduced in the book. Moreover, Barthes's fidelity to realism is anachronistic at a moment when truth in photography was being questioned. Nonetheless, despite its limitations, *Camera Lucida* is still a benchmark of photography theory, arguably "the most quoted book in the photographic canon."[8]

Along with Benjamin and Barthes, a surprisingly small body of texts has come to function as the photography-theory canon: Siegfried Kracauer, André Bazin, Susan Sontag, Rosalind Krauss, Pierre Bourdieu; artists like Martha Rosler, Victor Burgin, Allan Sekula, and Jeff Wall; and more recent historians and theorists like Georges Didi-Huberman, Geoffrey Batchen and Ariella Azoulay.[9] Another voice in the theory of photography is barely mentioned in U.S. scholarship, and his work is only recently being read in art schools: Vilém Flusser, who was also based in southern Europe in the eighties and taught at various schools in the area and participated in numerous conferences before being absorbed into the curriculum of German media studies. Despite recent interest in Friedrich Kittler, Flusser's friend and German media-theory colleague, however, Flusser has been virtually ignored in U.S. art history.[10]

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[6] Nancy Shawcross describes Barthes' late writing as a "third form," between essay and novel in *Roland Barthes on Photography: The Critical Tradition in Perspective* (Gainesville, FL, 1997), borrowing Barthes' use of the term "third form" in *The Rustle of Language*, trans. Richard Howard (New York, 1986), 281.

[7] Barthes, *Camera Lucida*, 3. Italics in original.

[8] Batchen, *Photography Degree Zero*, 3. Batchen describes *Photography Degree Zero* as a response to the "ubiquity" and "fatigue" around the primacy of *Camera Lucida*—a collective attempt among scholars in the United States and Britain to either "bring *Camera Lucida* back to life or, better yet, get it out of our systems altogether," Ibid., 4.

[9] See Siegfried Kracauer's "Photography" (1927), in *The Mass Ornament: Weimar Essays*, translated and edited by Thomas Levin (Harvard University Press, 1995), 49-61; Rosalind Krauss, "Photography's Discursive Spaces" (1982) in *The Originality of the Avant-Garde and Other Modernist Myths* (MIT Press, 1985), 131-150 and "Notes on the Index: Seventies Art in America" in two parts: *October*, Vol. 3 (Spring, 1977): 68-81 and *October*, Vol. 4 (Fall, 1977): 58-67; Martha Rosler, extract from "In, Around, and Afterthoughts (on Documentary Photography)" (1981) in R. Bolton, ed., *The Contest of Meaning*, 303-325, 334-341; Victor Burgin, ed., *Thinking Photography* (London: Macmillan Education, 1982); Allan Sekula, "On the Invention of Photographic Meaning" (1974) in Vicki Goldberg ed., *Photography in Print: Writings from 1816 to the Present* (Albuquerque: University of New Mexico Press, 1981), 452-473; Jeff Wall, "'Marks of Indifference': Aspects of Photography in, or as, Conceptual Art" (1995) in Douglas Fogle, ed., *The Last Picture Show: Artists Using Photography 1960-1982* (Minneapolis: Walker Art Center, 2004), 32-44. One might also add Peter Wollen, Laura Mulvey, art historians like Carol Armstrong, Geoffrey Batchen, Georges Didi-Huberman, Christopher Phillips, and Abigail Solomon-Godeau. Nonetheless, the canon of photography theory is still rather narrow and somewhat different in Europe and the United States.

[10] It should be noted that in the U.S. Barthes had the particular support of Sontag, although his writings on photography eclipsed hers, as well as Rosalind Krauss and Annette Michelson, who co-founded the *October* journal in 1976. And while

One might confine Flusser's texts on photography to the trilogy he wrote in the nineteen-eighties: *Towards a Philosophy of Photography* (1983)*, Into the Universe of Technical Images* (1985)*,* and *Does Writing Have a Future?* (1987) and the essays and criticism he wrote for journals like *European Photography, Camera Austria, Leonardo,* and *Artforum.* However, the seeds of Flusser's "photophilosophy," as he called it, date back to texts like *The Force of the Everyday* (1972)*, Natural:Mind* (1979)*,* and *Post-History* (1983), in which he suggested using information and communications theory to think about objects and images and proposed his initial ideas about programming and the eclipse of writing by images.[11] In *Post-History,* Flusser used concepts garnered from cybernetics and game theory like "codes"—and particularly, "apparatus." Moreover, he began to lay out a theory of technical images that included photography, but encompassed the entire emerging realm of digital images. In the essay "Our Images," included in *Post-History* and dedicated to (or written as a dialogue with) Marshall McLuhan, Flusser writes: "Technical images are essentially different from traditional images. Traditional images are produced by *men* and technical images by *apparatus* … apparatus *transcode symptoms into symbols,* and they do it in function of particular programs. The message of technical images must be deciphered, and such decoding is even more arduous than that of traditional images: the message is even more 'masked.'"[12]

The essay "Our Images" in *Post-History* includes several keywords that will reappear in Flusser's writings—particularly in glossaries at the back of the different translations of *Towards a Philosophy*: surfaces, screens, color (the "technicolor" of the codified world, with television, advertisements, and shop windows and their "irradiate messages"), history as text, "textolatry," and magic. In *Towards a Philosophy of Photography,* his best known text, Flusser would theorize the "photographic universe" through four technical categories: image, apparatus, program, and information. The back of the book included a lexicon in which he defined these and other terms. Writing itself becomes an "apparatus" (a "toy that simulates thought") and one can see his interest in game-theory arising in other definitions, such as the "Functionnaire" ("person who plays with and as a function of an apparatus")—not to be confused with a "Photographer": "a person who tries to make photographs with information not contained in the camera program."

Flusser is included in most German photography theory anthologies—e.g., Hubertus von Amelunxen and Wolfgang Kemp, eds., *Theorie der Fotografie IV, 1980-1995* (Munich: Schirmer/Mosel, 2000) or Peter Geimer, *Theorien der Fotografie* (Hamburg, Germany: Junius, 2009)—he is not included in most U.S. photography theory anthologies. A very brief mention (one sentence devoted to *Towards a Philosophy of Photography*) appeared only recently on Oxford Art Online's "Photography theory" entry, which was authored by Jae Emerling, who included Flusser in his *Photography: History and Theory* (Abingdon, UK; New York: Routledge, 2012), 191-196. See www.oxfordartonline.com (accessed June 26, 2014).

[11] See Vilém Flusser, *La Force du quotidien* (Paris: Mame, 1972); *Natural:Mente* (São Paulo: Duas Cidades, 1979); and *Pós-história: Vinte instantâneos e um modo de usar* (São Paulo: Duas Cidades, 1983).

[12] Flusser, *Post-History*, 96.

This last term, "program," is particularly insightful. Reading photography through the computer might seem counterintuitive, but the computer makes explicit what the camera and chemical photography do not: that it runs on software. As Flusser wrote in the essay "Art and Computer": "Computers are apparatuses that process information according to a program. This is the case for all apparatuses anyway, even simple ones, such as the camera. . . . In the case of the computer, however, this condition is particularly clear: when I purchase a computer, I have to buy not merely the apparatus (hardware) itself but also the programs (software) that go with it."[13]

Photography in its larger context runs on a program, too. Fashion photographs, art photographs, war photographs—all are identified by certain markers "programmed" into their appearance and dissemination. In *Towards a History of Photography,* Flusser would elaborate on the key concept of apparatus, including a section that starts with an etymological explanation: "The Latin word *apparatus* is derived from the verb *apparare* meaning 'to prepare.' Alongside this there exists in Latin the verb *praeparare,* likewise meaning 'to prepare.' To illustrate in English the difference between the prefixes 'ad' and 'prae,' one could perhaps translate *apparare* with 'pro-pare,' using 'pro' in the sense of 'for.' Accordingly, an 'apparatus' would be a thing that lies in wait or in readiness for something, and a 'preparatus' would be a thing that waits patiently for something. The photographic apparatus lies in wait for photography; it sharpens its teeth in readiness."[14]

It is important to note that Flusser's discussion fits within a larger, robust discourse around "apparatus" that stretches from Bertolt Brecht to French thinkers like Louis Althusser and Michel Foucault—and more recently, Giorgio Agamben. The fidelity to realism that haunted Barthes's and other theorists' writings is also gone: photography is now an apparatus that transforms phenomena into codified information. For Flusser, the traditional distinction between realism and idealism is overturned such that "it is not the world out there that is real, nor is the concept within the camera's program – only the photograph is real."[15] Rather than viewing images as representations, Flusser saw technical images as projections and illusions. They participate in a telematic dialogue that produces a "school for creativity, a school for freedom."[16] And instead of focusing on the "indexical" nature of photography, which art historians have tended to do, Flusser focused on "symptoms"[17] and on the

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[13] See Flusser's "Kunst and Komputer" in *Lob der Oberflächlichkeit* (Bensheim: Bollmann, 1993), 259. Quoted in Sjoukje van der Meulen's "Between Benjamin and McLuhan: Vilém Flusser's Media Theory" in *New German Critique* 110, Vol. 37, No. 2 (Summer 2010): 193.
[14] Flusser, *Towards a Philosophy of Photography* (Reaktion), 21.
[15] Flusser, *Towards a Philosophy of Photography* (Reaktion), 37.
[16] Ibid., 171.
[17] Claudia Becker, "Image/thinking," *Philosophy of Photography* 2, no. 2 (2011): 255.

"joining of the camera and its photographer"[18] in a relationship that was "revolutionarily inverted" because the human was now serving the machine.[19]

This is not to say that he ignored the idea of index: in *Towards a Philosophy of Photography* Flusser wrote that, "to all appearances" technical images "do not have to be decoded since their significance is automatically reflected on their surface—just like fingerprints, where the significance (the finger) is the cause and the image (the copy) is the consequence."[20] A couple of years later,[21] he described photographs as "practically worthless supports of information" and reiterated that "if we are to grasp the photo (and post-industrial culture in general), we must concentrate upon the camera (and the apparatus in general)."[22] Moreover, he moved ahead in a direction which he hadn't articulated before: toward the immateriality of the technical image. Citing a recent exhibition at the Centre Pompidou in Paris titled "Les Immateriaux," which showcased electromagnetic images (particles, satellites, intestines during digestion, mathematical equations, and holograms) he postulated that "photos are about to emigrate from their material support into the electromagnetic field, to abandon their chemistry: they will no longer be seen on paper but on screens."[23]

Flusser elaborated upon this in the essay "Immaterialism," in which he described "images without material support (for instance holograms)" as inaugurating a profound cultural revolution in which "the very pillars of Occidental culture, 'matter,' 'spirit,' and 'form' have fallen."[24] This idea of permanence and "immaterialism" has been disputed to some extent by later media writers,[25] as well as photographers who have pointed out that digital photography labs are more "material" (that is, expensive to maintain than chemical ones) and many images have been lost in the frantic transition from one format to another over the last decades.[26] Nonetheless, Flusser's concept looks forward,

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[18] Ibid., 196.
[19] Ibid., 197.
[20] Flusser, *Towards a Philosophy of Photography* (Reaktion), 14.
[21] Vilém Flusser, "The Photograph as Post-Industrial Object: An Essay on the Ontological Standing of Photographs," *Leonardo,* Vol. 19, No. 4 (1986): 329-332.
[22] Ibid., 330.
[23] Ibid., 331.
[24] Vilém Flusser, "Immaterialism," unpublished Manuscript, Vilém Flusser Archive at the University of Arts, Berlin, No. 2748. Original in English. Republished in *Philosophy of Photography*, Vol. 2, No. 2 (2011): 215-219.
[25] "Digital media is degenerative, forgetful, eraseable. This degeneration makes it both possible and impossible for it to imitate analog media. It is perhaps a history-making device, but only through its ahistorical (or memoryless) functioning, through the ways in which it constantly transmits and regenerates text and images." Wendy Hui Kyong Chun, "The Enduring Ephemeral, or the Future Is a Memory," *Critical Inquiry* 35 (Autumn 2008):160.
[26] See, for instance, a description of the costs of buying and maintaining workstations, high-level scanners and printers and increased costs for staff, software, tech support, and constant retraining of faculty and staff and the difference between printing from old negatives and obsolete digital image files given by Bob Thall, Chair of the Photography Department at Columbia College in Chicago in *Words Without Pictures* (New York: Aperture; London: Thames & Hudson, 2010), 340-342.

toward the "cultural revolution" of immaterial images rather than backwards, mourning the death of the photography.

Flusser also brought in terms that have been essentially forbidden from both photography theory and philosophy like magic: "Such space-time as reconstructed from images is proper to magic, where everything repeats itself and where everything partakes of meaningful context. The world of magic is structurally different from the world of historical linearity, where nothing ever repeats itself, where everything is an effect of causes and will become a cause of further effects. For example, in the historical world, sunrise is the cause of the cock's crowing; in the magical world, sunrise means crowing and crowing means sunrise. Images have magical meaning."[27]

The humans who invented writing in the second millennium B.C. "transcoded the circular time of magic into the linear time of history."[28] Our magic is different from their magic; it is post-historical because it conjures tricks with abstractions—that is, the particles which make up technical images. Prehistoric magic dealt with myths; post-historical magic with programs. And magic is worthy of its own definition in the lexicon at the back of *Towards a Philosophy of Photography*. It is defined as "existence in a world of eternal return," emphasizing the circular, feedback-loop of post-historical existence and the end of linearity.[29] This provocative use of the term "magic" may be one of Flusser's greatest contributions to current photography theory. For instance, interviewing Michael Taussig for *Cabinet* magazine and referring to Taussig's book *The Magic of the State* (1997), photography writer David Levi-Strauss commented, "[*The Magic of the State*] has tremendous relevance to my own investigations into the political uses of the magic of images. For the book on photography and belief that I'm writing now, I take permission to use 'magic' first from Vilém Flusser's groundbreaking work in *Towards a Philosophy of Photography*, and move from that into the 'science of images' developed in the Renaissance, especially by Giordano Bruno, to theorize the current state of image politics. Anyone living in Bush & Co.'s United States cannot help but draw parallels between the spirit-possession politics and image magic of *The Magic of the State* and the current situation here."[30]

Similarly, one can see in the last decade and a half of art a proliferation of interest in the metaphysical in which the term "magic" becomes the most provocative—and yet, as Levi-Strauss points out, appropriate—term one can. There has been a return of interest in spirit photography, ghostly avatars on the Internet, and the "magic" of photograms, which, like Talbot's images, "draw them-

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[27] Ibid., 7.

[28] Ibid., 7.

[29] Ibid., 60.

[30] See See David Levi-Strauss's "The Magic of the State: An Interview with Michael Taussig" in *Cabinet*, Issue 18 (Summer 2005). http://cabinetmagazine.org/issues/18/strauss.php. Accessed August 22, 2014. Also see Michael Taussig, *The Magic of the State* (London: Routledge, 1997).

selves." Exhibitions like "Strange Magic" (Luhring Augustine, New York, June – July 2007) and "A Rabbit as King of the Ghosts" (Mitchell-Innes & Nash, New York, June – August, 2006), curated by artists Justine Kurland and Dan Torop referenced this specifically. The latter was accompanied by this statement: "This is a photography exhibition about magic. For us, the photographer is a seeker of mystery and the act of photographing casts a spell that turns the banal into the supernatural. The works displayed here propose a history of photography which emphasizes the spiritual over the rational."[31]

Echoing Benjamin, who famously decreed that literacy in the future would consist of the ability to read photographs rather than texts, Flusser wrote, "the present is marked by our post-historical illiteracy."[32] Flusser felt our facility to read technical images would develop through "technical imagination":[33] a mode of criticism that addresses production as much as the image. In "Photo Criticism," published in *European Photography*, Flusser argued, "The task of a 'correct' photography criticism is to render explicit the complex co-implications between man and apparatus that result in photographs … The sorts of questions the critic would have to ask himself … before he can apply criteria such as 'perfection' and 'information,' are these: What sort of camera has produced the photograph? In what part of the world, with which techniques, and against which cultural, political and historical backgrounds, was this camera produced, and in what ways does it differ from other cameras available on the market? … To what degree did the camera program deviate the photographer from his intention?"[34]

As Jae Emerling points out, in one of the few survey texts on photography theory in U.S. art history that includes Flusser, "the demands he makes on criticism stemming from his reading of the photographic apparatus is quite nuanced; it helps us orient ourselves in a 'photographic universe' that is undoubtedly becoming more automatized, free of human agents, and so ubiquitous as to be nearly invisible."[35] This can also be linked to photography's theorization within art history. Despite his involvement with the São Paulo Biennial and close relationship with artists like Mira Schendel and Samson Flexor,[36] Flusser felt that the category of art was elite and decadent and "the modern distinc-

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[31] Press release for "A Rabbit as King of the Ghosts" at Mitchell-Innes & Nash, New York, June 27 – August 11, 2006. http://www.miandn.com/exhibitions/a-rabbit-as-king-of-the-ghosts/works/1/ Accessed August 25, 2014.
[32] Flusser, "Towards a theory of techno-imagination" (1980), *Philosophy of Photography,* Vol. 2, No. 2 (2011), 200.
[33] Flusser, *Post-History,* 98.
[34] Ibid., 24.
[35] Emerling, *Photography: History and Theory*, 192.
[36] Flusser would devote chapters in the "Dialogues" section of *Bodenlos* to each artist and the book includes photographs of each one in the backyard patio of Flusser's home in São Paulo. There is also a reproduction of a portrait of Flusser by Flexor from 1968 in this section.

tion between science, politics (including technology) and art is both unfeasible and pernicious."[37] Focusing on the photograph—but also art photography as a separate, rarified category—was a mistake.

So, given the prescience of Flusser's writings and their relevance within both art history and media theory after the digital revolution, why have they been left out of the U.S. photography theory canon? One could cite a number of factors: biography, geography, and language. U.S. art history has only recently abandoned its obsession with the medium and moved closer to media theory, but it is important to note the comparisons between Flusser and other theorists like Marshall McLuhan and Jean Baudrillard. Flusser claimed to have less in common with McLuhan or Jean Baudrillard than with Edmund Husserl or Martin Buber,[38] because of his phenomenological and dialogical leanings. Janine Marchessault and Rainer Guldin have supported this, arguing that McLuhan and Flusser were writing not only from "polar ends" of the Americas, but also different theoretical ends. McLuhan is a "formalist,"[39] while Flusser is interested in the feedback loop of objects and the phenomenological messages they provide.[40] Sjoukje van der Meulen adds Benjamin back into the equation: whereas McLuhan welcomes the defeat of writing, Flusser considers the image culture instigated by mass media to be "a serious challenge to historical consciousness and critical thinking."[41] Moreover, where McLuhan theorized a "global village" of media technology, Flusser reconfigured this into a "dreaming global brain controlled cybernetically through technical images."[42] With regard to Baudrillard, there is much overlap in terms of thinking about language and then electronic media—specifically images, codes, and representation. Flusser was even prone to use the world "simulation," at times.[43] But for Baudrillard, the *simulacral* is a "real without an origin," a *hyperreal* in which representations effectively replace reality.[44] For Flusser, whose entire family was killed in the holocaust, reality is not

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[37] Flusser, "How should photographs be deciphered?" in *Philosophy of Photography,* Vol. 2, No. 2 (2011), 211.

[38] See Andreas Ströhl's "Introduction" to Flusser's *Writings*, x.

[39] Formalist in his "inability to engage in any meaningful way with political economy or structures of power." Janine Marchessault, "McLuhan's Pedagogical Art," *Flusser Studies* 06:12.

[40] Janine Marchessault and Rainer Guldin, "Introduction," *Flusser Studies* 06: 6.

[41] Van der Meulen, "Between Benjamin and McLuhan," 186.

[42] Flusser, *Into the Universe of Technical Images,* 125. More recent writers have challenged McLuhan's idea of the global village and representations of the internet as a disembodied space in which nation, race, and gender were transcended. See Wendy Hui Kyong Chun, *Control and Freedom: Power and Paranoia in the Age of Fiber Optics* (Cambridge, MA: MIT Press, 2005). Also see Tara McPherson's "U.S. Operating Systems at Midcentury: The Intertwining of Race and Unix" in *The Visual Culture Reader,* ed. Nicholas Mirzoeff (New York: Routledge, 2012), 591-604. She argues that operating systems recreated the social "modularity" of postwar neo-liberalism, and how critical theory itself has function as an "operating system."

[43] In *Towards a Philosophy of Photography,* for instance, Flusser describes apparatus as simulations of Cartesian thought.

[44] Jean Baudrillard, "Simulacra and Simulations," *Literary Theory: An Anthology, 2nd Edition,* ed. Julie Rivkin and Michael Ryan (Maiden, MA and Oxford, England: Blackwell, 2004), 365.

at issue; the question is how apparatus can be shaped to avoid outcomes like Auschwitz, the Brazilian military dictatorship, or future totalitarian regimes.

What is important about Flusser is that while much photography theory has confined itself to the discussion of images and their context, Flusser's theories embrace a larger field. In art history, despite the decades-long critique of formalist critics like Clement Greenberg and the declaration of a "post-medium" condition,[45] meta-art historians like Peter Osborne have pointed out that many postmodernist readings only served to reinscribe the idea of medium back into fields like photography, which are still relatively new to art theory.[46] (And even Osborne, who attempts to open up photography theory by establishing a "distributive unity" of photographic technologies and practices, falls into a similar trap by locating photography "in the image itself" rather than extending it to notions of camera and apparatus.)[47]

Similarly, in media theory, Lev Manovich struggles with similar issues in his recent book *Software Takes Command*. Including Clement Greenberg in his discussion of medium versus media, and finding Greenberg's notion of medium-specificity untenable, Manovich ultimately argues for an "aesthetics of hybridity" that relies on software as a "metamedium" (drawing from Alan Kay and Adele Goldberg's 1977 "Personal Dynamic Media," which used the term "metamedium").[48] Manovich uses evolutionary biology as one of his models, and Flusser's writing on photography must also be seen in this light: texts like *Vampyroteuthis infernalis* and his "Curie's Children" column in *Artforum* further collapse concepts like "nature" and "culture" (which he was already doing in books like *Natural:Mind)* and hierarchies (human/non-/post-human) spinning out of this. This puts Flusser closer to thinkers like Donna Haraway, with whom Flusser should be, but has rarely been compared.[49] More recently, theorists like Bernard Stiegler have picked up this thread, considering the mutual constitution of humans and technology and the way in which media affect time.

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[45] See Rosalind Krauss's *A Voyage on the North Sea: Art in the Age of the Post-Medium Condition* (London: Thames & Hudson, 2000).

[46] Osborne argues that Krauss's famous essay, "Sculpture in the Expanded Field" held onto the idea of medium, rather than disposing of it entirely, and her student, George Baker, does that with photography in his essay "Photography's Expanded Field," *October 114* (Fall 2005): 120-140.

[47] See Peter Osborne, "Photographic ontology, infinite exchange" in *Anywhere or Not at All: Philosophy of Contemporary Art* (London and New York: Verso, 2013), 131.

[48] See Lev Manovich's discussion of the Dynabook, the invention of Kay, Goldberg, and others working at Xerox Paolo Alto Research Center (PARC) in *Software Takes Command* and Alan Kay and Adele Goldberg, "Personal Dynamic Media" in *The New Media Reader,* 393-404. Also see Seymour Papert quoted in *The New Media Reader,* 392. The other overlap with Kay et al., Papert, and Flusser is their emphasis on learning and children: these computer pioneers of the 70s were working with children as their "user communities" and Flusser acknowledged in *Does Writing Have a Future?* that children would learn new media more easily, and adults would have to be "sent back to kindergarten."

[49] See Donna Haraway's *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (New York: Routledge, 1989); *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991); and *Beyond the Cyborg: Adventures with Donna Haraway* (New York: Columbia University Press, 2013).

Part of the reason Flusser wasn't adopted in U.S. photography theory is that, while he participated in many photography conferences in Europe, he was more aligned, particularly in the seventies, with U.S. media theory, lecturing on new media at the State University of New York at Buffalo and participating in "Open Circuits: The Future of Television" (1974) at the Museum of Modern Art in New York.[50] And yet, writers concerned with similar ideas *were* embraced in U.S. theory and academia. Baudrillard, Paul Virilio, and Gilles Deleuze, were particularly championed within U.S. art history[51]—but they offered an apocalyptic theory of the image based around notions of exhaustion and control.[52] Flusser's approach is often labeled utopian or fantastical (a kind of science fiction), but it reflected his trajectory as a refuge who had seen the worst of "apparatus" and who had rejected Marxism as more ideology.

Flusser's theory of technical images served as a conduit for addressing a larger "crisis of history" in which written texts could no longer function in their codifying role: "With writing, history in the narrower sense begins as a struggle against idolatry. With photography, 'post-history' beings as a struggle against textolatry."[53] Flusser's last book in the technical image trilogy, *Does Writing Have a Future?* would not even seem to belong to a trilogy on the image; after all, it is about writing and the linear flow of the alphabet, words, and text. But it is also about historical consciousness: the acknowledgement that writing was invented to displace images and now writing itself is being replaced by technical images.[54] Critical reading, a method championed by the Enlightenment, has turned against itself "like Ouroboros," swallowing its own tail. (Notably, Flusser uses the Frankfurt School as a prime example, writing that their discourse and arguments are "a confused massacre to end all lies by means of lies.")[55]

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[50] For instance, see the correspondence between Flusser and Gerald O'Grady, Director of the Center for Media Study at SUNY, Buffalo. Fluser Archive, English correspondence, binder 55, numbers 1-12. "Open Circuits: The Future of Television" was sponsored by Electronic Arts Intermix (EAI) and held at MoMA, January 23-25, 1974. It was unusual because it was organized by figures not employed by the museum: artist Douglas Davis, Gerald O'Grady of SUNY, Buffalo where he headed the Center for Media Study, and Fred Barzyk of WGBH in Boston, founder of the New Television Workshop. The conference also included presentations by Hollis Frampton and Hans Magnus Enzensberger.

[51] Recent discussions have only begun to uncover the Francophilic biases of U.S. art history, from the founders of the *October* journal to François Cusset, *French Theory: How Foucault, Derrida, Deleuze, & Co. Transformed the Intellectual Life of the United States.* Trans. Jeff Fort (Minneapolis: University of Minnesota Press, 2008) and Anaël Lejeune, Olivier Mignon, and Raphaël Pirenne, Eds., *French Theory and American Art* (Berlin: Sternberg Press, 2013). For the influence of French theories of vision on art history, see Martin Jay's *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought.* Berkeley and Los Angeles: University of California Press, 1993.

[52] Jae Emerling compares Flusser to Baudrillard, *Simulacra and Simulation,* trans. Sheila Faria Glaser (Ann Arbor: University of Michigan, 1994); Virilio, *The Vision Machine,* trans. Julie Rose (London: British Film Institute and Bloomington: Indiana University Press, 1994)); and McLuhan, *Understanding Media: The Extension of Man* (Cambridge, MA: MIT Press, 1994).

[53] Flusser, *Towards a Philosophy of Photography* (Reaktion), 18.

[54] Vilém Flusser, *Does Writing Have a Future?* trans. Nancy Ann Roth (Minneapolis and London: University of Minnesota Press, 2011), 147.

[55] Ibid., 92.

In *Post-History,* Flusser described the difference between "discursive" and "dialogic" society where a) discursive knowledge speaks of objects and the dialogic speaks of Others and b) discourse moves in one direction and is dictatorial whereas dialogue is about mutual interaction and exchange. Western society, he wrote, is currently marked by a predominance of the discursive over the dialogic, and even the dialogues created—at least by the mass media, where we get the bulk of our information—exist as a feedback loop rather than a democratic dialogue.[56] In *Into the Universe of Technical Images,* Flusser describes a possibility for breaking this impasse: *telematics.* The word, he says in the beginning of the essay "To Discuss," comes from "telecommunications" and "informatics." What is interesting about this, particularly to photography historians, is that Flusser suggests here how the histories of photography and telegraphy have hitherto been seen as separate, and that they could more aptly be linked. Regarding telematics and the joining of different technologies, he writes, "We have only very recently become aware of the principle of calculating and computing, that we have only recently realized that the same principle applies to both communication through the radiant streaming of particle elements (telecommunication) and the grasping of particle elements as new information (the production of technical images) … Thanks to the telegraph, information is instantly accessible everywhere. And yet it didn't occur to anyone at the time that photographs could be telegraphed."[57]

To place this in the contemporary moment, Flusser's theories seem particularly appropriate at a time marked by recent global uprisings and revolutions and a backlash against the idea that apparatuses simply "control" society. If French thinkers from Foucault to Deleuze, followed by Michael Hardt and Antonio Negri and younger U.S. scholars like Alexander Galloway, have focused on "societies of control," to use Deleuze's term borrowed from William Burroughs,[58] and "sites of confinement,"[59] Flusser wasn't so ready to foreclose on the liberating power of images, technology and apparatus. The control-scenario was a distinct possibility: "Taking contemporary technical images as a starting point, we find two divergent trends. One moves toward a centrally programmed, totalitarian society of image receivers and image administrators, the other toward a dialogic, telematic society of image producers and image collectors. From our standpoint, both these social structures are fan-

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[56] See Vilém Flusser's "Our Communication" in *Post-History,* 51-58.

[57] Flusser, *Into the Universe of Technical Images,* 79.

[58] Gilles Deleuze, "Postscript on the Societies of Control," *October* 59 (Winter 1992): 4.

[59] Gilles Deleuze, *Negotiations: 1972-1990* (New York: Columbia University Press, 1995), 177. Quoted in Poster's introduction to *Into the Universe of Technical Images,* xxi.

tastic, even though the first presents a somewhat negative, the second a positive, utopia. In any case, we are still free at this point to challenge these values."[60]

Elsewhere, Flusser described how totalitarian society is "discursive," emitting information via single channels like the newspaper or television, while democratic society is "dialogic," like a telephone, carrying information both ways:[61] "Everybody will become capable of collaborating in the elaboration of information (within the limits imposed by automation). Democracy has become technically possible for the first time since the industrial revolution."[62]

If this sounds quixotic, one must contrast it to the reigning discourse in both art and media studies. Calls for mobilization by media theorists like Hans Magnus Enzensberger were often met with criticism by other writers—notably Baudrillard)[63] and compared with the techno-utopianism of mainstream publications like *Wired* magazine in the nineteen-nineties. In both art history and media studies, the next iteration was the writings of Gilles Deleuze and Felix Guattari.[64] And there is certainly overlap between Flusser and Deleuze in their evocations of Kafka as a model, Deleuze's assertion that the society of control is marked by codes ("the code is a *password*"), control society placing humans in a "continuous network," and history shifting from "simple machines" (levers, pulleys, clocks) to "machines involving energy," and finally, computers.[65] (Although, for Deleuze, this also corresponded with a "mutation in capitalism," whereas Flusser rejected the Marxist model.) In younger writers like Alexander Galloway there is a new generation of theorists who argue that fluid, dehierarchized networks create even tighter forms of control,[66] while Benjamin Noys, see thinkers in

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[60] Flusser, *Into the Universe of Technical Images,* 4. While I am not going to the Flusser's idea of a telematics society in this essay, he defines it as "The technology that would enable the current discursive circuitry into dialogical circuitry … an amalgam of *telecommunication* and *informatics*" (79) and a "telematics society would be a dialogic game in systematic search of new information" (94). I am also not exploring Flusser's use of "dialogic," which derives from Martin Buber.

[61] Flusser, "The Photograph as Post-Industrial Object": 331.

[62] Ibid., 331.

[63] See Jean Baudrillard's "Requiem for the Media" in *For a Critique of the Political Economy of the Sign,* trans. Charles Levin (St. Louis, MO: Telos Press, 1981), 164-184. Despite his position on the "immateriality" of new media, Flusser was against the idea of "simulation"—that images were in any way "unreal." In the bibliography of "The Photograph as Post-Industrial Object" Flusser wrote that the last part of the essay was written "in preparation for a discussion between Jean Baudrillard and myself on German television, scheduled to take place on February 26, 1986" (332).

[64] Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia,* trans. Robert Hurley, Mark Seem, and Helen R. Lane (Minneapolis: University of Minnesota Press, 1983); from the French *Capitalisme et Schizophrénie. L'Anti-Oedipe* (Paris: Editions de Minuit, 1972); and *A Thousand Plateaus: Capitalism and Schizophrenia Part II,* trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987); from the French *Capitalisme et Schizophrénie, tome 2: Mille Plateaux* (Paris: Editions de Minuit, 1980).

[65] Deleuze, "Postscript on the Societies of Control," 5-6.

[66] Alexander Galloway, "Protocol," *Theory, Culture & Society* 23 (2007): 317-320. It is important to note that Galloway is talking here about protocol, "the technology of organization and control operating in distributed networks" (317), but there is some overlap with his argument at Flusser's on technical images, and Galloway also writes that protocol exists in contemporary computer networks as well as biological and bioinformatics networks, with which Flusser was concerned in others essays, like the "Curie's Children" series in *Artforum* and *Vampyroteuthis infernalis.*

the continental tradition as *affirming* rather than adequately critiquing the negative conditions of the present.[67]

Recent writings have signaled another shift, however, towards pragmatism, the post-critical,[68] and away from the more apocalyptic media theorizations of writers like Baudrillard (whose currency in U.S. art history declined after the eighties).[69] Moreover, criticism has undergone an ethical turn[70] in which writers like van der Meulen also locate Flusser's writing.[71] Moving closer to media theory as a model, Flusser's position becomes more clear, since it was influenced by Norbert Weiner's conception of cybernetics and Weiner's postwar concern—after working under Vannevar Bush on the Manhattan Project—about the "great engineer who never thinks further than the construction of the gadget and never thinks of the question of the integration between the gadget and the human beings in society."[72] For Flusser, "we must *neither anthropomorphize nor objectify apparatus* … Freedom is conceivable only as an absurd game with apparatus, as a game with programs …Whether we continue to be 'men' or become robots depends on how fast we learn to play: we can become players of the game or pieces in it."[73]

Art historians and critics have often been skeptical of terms like "freedom," leaning instead toward the "control societies" model.[74] However, a recent issue of *Artforum* that included Flusser's essay "Cows," which was originally published in *Natural:Mind,* provided a different perspective. In the introduction to a special section devoted to risk and crisis in the environment, technology, economy,

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[67] Benjamin Noys, *The Persistence of the Negative: A Critique of Contemporary Continental Theory* (Edinburgh: Edinburgh University Press, 2010).

[68] Molly Nesbit, *The Pragmatism in the History of Art* (Pittsburgh: Gutenberg Periscope, 2013); Hal Foster, "Post-Critical," *October* 139 (Winter 2012): 3-8 and Bruno Latour, "Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern," *Critical Inquiry* 30 (Winter 2004): 225-248.

[69] "Reproduction is diabolical in its very essence; it makes something fundamental vacillate. This has hardly changed for us: simulation (that we describe here as the operation of the code) is still and always the place of a gigantic enterprise of manipulation, of control and of death, just like the imitative object (primitive statuette, image of photo) always had as objective an operation of black image," Baudrillard, "Simulacra and Simulations," 376.

[70] See my essay "Ethical Criticism" in *The Brooklyn Rail* (May 3, 2013), but also Jacques Rancière's "The Ethical Turn of Aesthetics and Politics" in *Critical Horizons* 7:1 (2006): 1-20 and earlier texts like *Mapping the Ethical Turn: A Reader in Ethics, Culture, and Literary Theory,* edited by Todd F. Davis and Kenneth Womack (Charlottesville, VA: University Press of Virginia, 2001).

[71] "[*Towards a Philosophy of Photography*] ultimately intersects with philosophy, or more precisely with ethics, because according to Flusser the essence of photography touches on the question of 'freedom' in the modern sense of the word since Kant's *Groundwork of the Metaphysics of Morals*." Van der Meulen, 197.

[72] Ibid., 71.

[73] Vilém Flusser, *Post-History,* trans. Rodrigo Maltez Novaes (Minneapolis: Univocal, 2013), 25-26. The other thinker Flusser might be aligned with is Gregory Bateson, who was similarly interested in applying cybernetics and information theory to human and "communicational" problems. See particularly Bateson's "Cybernetic Explanation" and "From Versailles to Cybernetics" in *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology* (Northvale, NJ and London: Jason Aronson, 1972).

[74] Some recent examples might be Jonathan Crary's *24/7: Late Capitalism and the Ends of Sleep* (London and New York: Verso, 2013), which posits sleep as the only remaining refuge, or form of resistance, left in the networked, instrumentalized, "expanding, non-stop life-world of twenty-first-century capitalism" (8).

and geopolitics, *Artforum* editor Michelle Kuo questioned whether global systems of control are really that "seamless and totalizing:" "To believe that such systems can't fail—that they are infinitely powerful, adaptable, resilient, that even their collapse is premeditated—is to presume a kind of humanistic faith in man-made techniques of control. It is, in other words, to assume yet another kind of technological determinism: one that fails to understand the unexpected risks and ruptures, the accidents that may render received wisdoms about power and agency and causality obsolete … we should question any simplistic assumption of an all-seeing, omnipresent governmental or financial power."[75] Flusser, of course, employed the consciously old-fashioned term "freedom" rather than "agency:" "Human freedom no longer consists in being able to shape the world to one's own desires (apparatuses do this better) but to instruct (program) the apparatus as to the desired form and to stop (control) it when this form has been produced. Here a new freedom arises, which apparatuses are supposed to serve."[76] This new "freedom" was questioned in Flusser's day: Manual DeLanda pointed out in his 1991 book *War in the Age of Intelligent Machines* that once "synthetic intelligence *does* make its appearance on the planet, there will already be a predatory role awaiting it."[77] Recent theorists like Gregoire Chamayou and Derek Gregory have applied this logic to the use of military drones.

So how could a theory of technical images contribute to human freedom? Throughout *Towards a Philosophy of Photography* Flusser asks, "Where is there space for human freedom?", —finally answering his question at the end of the book: Freedom is playing against the camera. "So-called experimental photographers" provide "a model for freedom in the post-industrial context in general."[78] This is evident in the photographer who alters the program of the camera—not an artist, *per se*—but also in developing a criticism that questions the production of images and a philosophy of photography, since "it is the only form of revolution left open to us."[79] As Flusser wrote, "If the photograph is becoming a model, then it is no longer a matter of replacing a tool with another tool as a model, but of replacing a type of model with a completely new type of model … the basic structures of our existence are being transformed. We are not dealing with the classical problem of alienation, but with an existential revolution of which there is no example available to us. To put it bluntly: it is a ques-

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[75] Michelle Kuo, "High Risk: Art, Environment, Crisis" in *Artforum* (September 2013).
[76] Flusser, *Into the Universe of Technical Images,* 73. Also see Grégoire Chamayou, *Théorie du drone* (Paris: La fabrique, 2013) and Derek Gregory, "Drone Geographies," *Radical Philosophy* (Jan/Feb 2014) http://www.radicalphilosophy.com/article/drone-geographies and his excellent blog www.geographicalimaginations.com (accessed March 24, 2014.)
[77] Manuel De Landa, *War in the Age of Intelligent Machines* (New York: Zone Books, 1991).
[78] Flusser, *Towards a Philosophy of Photography* (Reaktion), 80-81.
[79] Ibid., 82.

tion of freedom in a new context. This is what any philosophy of photography has to concern itself with."[80]

Photography as the site of revolution is picked up again in *Into the Universe of Technical Images,* where Flusser argues that, unlike Che Guevara or Ayatollah Khomeini (his examples)—that is, revolutionaries who appear in spectacular images that turn them into "entertainers"—the true revolutionaries of our age do not appear in images. Rather, "we can see them by looking through the images … Revolutionaries can manipulate the images so that the people begin to glimpse the possibility of using these images to initiate previously unimaginable interpersonal relationships, that the images could be used for dialogue, the exchange of information, and the fabrication of new information."[81]

Ariella Azoulay has recently articulated a similar political and ethical role for photography: as a "civil contract" in which the subject of a photograph, even when s/he might be identified as a "victim," exists as a "citizen" in the realm of photography, communicating and potentially bestowing upon the future viewer a sense of agency and responsibility.[82] Meanwhile, Flusser's prognostications were at times almost immediately affirmed: in 1990 he wrote about the televised execution of Romanian dictator Nicolae Ceaușescu, an insurrection in which the revolutionaries were not present in the images.[83] A recent parallel might be drawn with Facebook and the Egyptian revolution of 2011, which writer and photographer Ahmad Hosni described as inexorably linked with Facebook, in which "initiating and maintaining a chain of mobilization, politicization, polarization, and eventual monopolization surpassed any role played by any single political individual or entity."[84] Flusser himself seemed to describe the ethos of social media in his essay "To Instruct," in *Into the Universe of Images*: "Technical images are currently connected so that their senders are at the center of society, places from which the images are broadcast to scatter and disperse the society. They are precarious places. When you approach them, whether to take part (to join in the broadcasting) or to criticize (to remodel the circuitry), they present themselves as illusions … A button pressing is under way, a noise that is becoming steadily quieter. The critics confirm that each time a button is pressed, an order goes to some medium to send out an image."[85]

Similarly, in his "Warning" at the beginning of *Into the Universe of Technical Images,* Flusser claims that we're in a "utopia," a "fabulous society" filled with alternative possibilities—not just for the

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[80] Ibid., 79.
[81] Flusser, *Into the Universe of Technical Images,* 66-67.
[82] Ariella Azoulay, *Civil Contract of Photography* (Cambridge, MA: Zone Books, 2008).
[83] Vilém Flusser, "Das Politische im Zeitalter der technischen Bilder," *Volkszeitung,* August 17, 1990.
[84] Ahmad Hosni, "Seen in Action: Notes on Politics and Aesthetics on Facebook," *Afterimage,* Vol. 40, No. 3 (November 2012).
[85] Flusser, *Into the Universe of Technical Images,* 70.

definition and interpretation of images, but for new forms of consciousness, politics, and society.[86] As his long-time editor Andreas Müller-Pohle put it shortly after his death, Flusser's writing was an investigation that reached beyond photography, in which the camera served as a "prototype for the ontologically conditioning apparatuses of postindustrial society" and photography theory a tool for developing an "ethics of photography."[87] For Flusser, this was not just achieved through photography, but the idea of a "telematic" society that would facilitate dialogue. Near the end of *Into the Universe of Technical Images,* Flusser asks, "What do I actually mean when I say of telematics that it permits a dialogical programming of image-producing apparatuses? For one thing I certainly mean that there will be no centralized senders but that each image-maker, sitting before his terminal, will be able to program his own apparatus. I mean that all these individual programs will be measured against one another, enriching and correcting one another, and that there will be an ongoing dialogical programming of all apparatuses by all participants; that people of the future will be distinguishable from the functionaries of today in that unlike functionaries, they will program rather than be programmed. But by dialogical programming, I mean, in consideration of celebration and festivity, something far more basic. I mean roughly that which Buber called 'dialogic life.'"[88]

Invoking Buber, Flusser attempts to get around a few things. One is the idea of ownership, which has become central in debates about the Internet. The other is the idea of "self." Here, in the last pages of the book, he includes another rare citation: that he is thinking of "one's own" and "another" in terms of programing, "as Heidegger did in *Identity and Difference* and as the debate between Sartre and Foucault tried to do."[89] But the "I" in his conception is just "a nexus point in a dialogical web" in the superbrain of networked society.[90]

To sum up (using a favorite Flusser device: the last paragraph summary), Flusser's relevance as a photography theorist is as follows. Rather than looking back and mourning the demise of chemical photography, he looked to the present and future of digital imaging, expanding the concept of "photography" to consist of one among many technical image forms: photography, video, film, television, holograms, computer images, and even social media, which only rose after his death. Flusser's theories embrace a large field of communications, information, and media theory—as well as the idea of *telematics*—and while his best known text, *Towards a Philosophy of Photography,* includes the word "pho-

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[86] Flusser, *Into the Universe of Technical Images,* 3-4.
[87] Andreas Müller-Pohle, "Der Tod des Anderen: Über Vilém Flusser," *Kunstforum International* 117 (1992): 85. Quoted in Sjoukje van der Meulen's "Between Benjamin and McLuhan," 187.

[88] Flusser, *Into the Universe of Technical Images,* 154.
[89] Ibid., 154.
[90] Ibid., 92.

tography" in its title, and he subsequently wrote criticism and essays for photography journals, he was clearly aware of entering the context of photographic discourse and using it as a platform for an expanding philosophy of images, dialogue, and, finally, human freedom.

In this sense, one might compare Flusser's adoption of photography theory as an adaptable form to the U.S. art world's embrace of certain strains of French theory that couldn't find a home elsewhere—a phenomenon that is only now being discussed.[91] Where Barthes's *Camera Lucida* pivoted around a personal mourning that might be projected onto the demise of chemical photography, Flusser saw an end (but without nostalgia) to writing and a rise of technical images in which numerical (computer) code would prevail over linear text. Lastly, where North American and British writers were coming generally out of materialist philosophies or the structuralism and poststructuralism of Barthes and Lacan, Flusser's theories were couched in a different set of discourses: Husserl's phenomenology and Heidegger's *Dasein* and technological writings; Wittgenstein's early language writings; Buber's dialogic *I and Thou;* Ortega y Gasset's ideas of history; and the information theory of Claude Shannon and Norbert Weiner.

One thinks of Flusser's comment to his friend Abraham Moles, the French communications theorist: "Have you ever though of using the new communications technologies (not for 'teaching' it to others) [but] to articulate your ideas?"[92] And the São Paulo Biennial, in which Flusser, in his brief role as technical director, proposed to restructure the exhibition around ideas derived from communications theory rather than the national-pavilions model still used in the Venice Biennale, the oldest international exhibition of its type. Rather than a "rhetoric of the image" or the idea that images might be read in their social context, Flusser proposed a different way of thinking: not just images but apparatuses, which might be as small as the camera or as large as society. Photography, he made clear, was not a discrete entity or a medium, but a *model* of apparatus. It was part of a universe of technical images defined temporally as *post-history*. Producing and reading these technical images would contribute to our altered post-historical consciousness, and it was a vital project: "The task of a photographic philosophy is to reveal this struggle between man and apparatus in the realm of photography, and thus to contribute to a possible solution to the conflict … if such a philosophy of photography were to succeed in its task, this success would be of importance not only in the realm of

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[91] See François Cusset, *French Theory: How Foucault, Derrida, Deleuze, & Co. Transformed the Intellectual Life of the United States.* Trans. Jeff Fort (Minneapolis: University of Minnesota Press, 2008) and Anaël Lejeune, Olivier Mignon, and Raphaël Pirenne, eds., *French Theory and American Art* (Berlin: Sternberg Press, 2013). For the influence of French theories of vision on art history, see Martin Jay's *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought.* Berkeley and Los Angeles: University of California Press, 1993.

[92] Cited in Anke Finger, Rainer Guldin, and Gustavo Bernardo, *Vilém Flusser* (Minneapolis: University of Minnesota Press, 2011), 24.

photography but also for post-industrial society in general. The photographic universe is only one among many apparatus universes, and it is not the most dangerous one at that … the photographic universe may serve as a model for post-industrial existence in general, and that therefore, a philosophy of photography may serve as a point of departure for any philosophy which has the current, as well as the future form of human existence as its subject."[93]

In shifting our attention from reading images and parsing the institutional histories of photography to information and programming, Flusser's proposal is radical. At the time, reading photography through information and software might have seemed counterintuitive since these were the very technologies challenging photography. But while the production and dissemination of photography changed, the idea of apparatus and program didn't go away—instead, it become elaborated by the computer and "immaterial" images. The reign of technical images which Flusser saw replacing writing would become our most important venue for dialogue in a "post-catastrophic" world, and Flusser's writings serve as a model for an interdisciplinary approach, a road map for a new type of criticism—a "technical imagination"[94]—that addresses production as much as the image and renders explicit the complex relationship between humans and apparatus. "We need such a philosophy because it is the last form of revolution which is still accessible for us," Flusser argued.[95] His writings provide a method that can serve not only art historians and scholars of visual culture, but anyone concerned with the production, interpretation, and dissemination of technical images. And his ideas of the camera and computer as models of apparatus that control society, and whose programs might be creatively challenged to disrupt totalitarian apparatuses, give his writing an ethical and political import that stretches far beyond photography theory.

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[93] Ibid., 54.
[94] Flusser, *Post-History,* 98.
[95] Ibid., 59.

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