A Chance for Cinema-Writing in Electronic Literature
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ABSTRACT
Computational cinema, the digital manipulation of pixels, frames, shots and sequences, is a catch-all term for the many ways digital technology can affect cinema as a system of expression. If a movie scene calls for a snowstorm, CGI can be employed to create an idealized snowstorm. Computation in this sense is used to efficiently control contingencies (weather) and direct the intentions of “the writing” or preconceived idea. But computation can also create new contingencies that add to the camera’s already complex presentation of the world. Multimedia hypertext and interactive cinema, generative and recombinant video, datamoshing and databending all introduce forms of indeterminacy into digital cinema. As digital writing becomes even more cinematic and immersive, it is important to revisit the roots of cinema art and seek its relation both to writing and the world. The ideal of “cinema-writing,” or cinécriture in the French cinema context, is one that takes the machine seriously as a tool to bring the world into thought and thought out onto the world. Cinema and writing together, as imagined by the art’s earliest practitioners and theorists, is a way to harness the camera’s unique indexicality; to extend its spatio-temporal reach and direct its signification towards narrative, but also to benefit from its dispersed realism, its opacity and its potential to escape thought and narrative closure altogether. In this paper, I explore affiliations between cinema art and electronic literature, with a particular focus on computation as an extension of cinema-writing. Through examples of cinematic electronic literature, as well as film and video art, I will present strategies for a computational cinema that welcomes chance operations into the process of signification; that seeks an “outside” within (and beside) narrative composition and authorial intent.

KEYWORDS
electronic literature; digital writing; digital cinema; computation; machine-writing.

RESUMO
O cinema computacional, enquanto manipulação digital de pixeis, fotogramas, planos e sequências, é um termo genérico para os diversos modos através dos quais a tecnologia digital pode afetar o cinema como um sistema de expressão. Se uma cena de filme exige uma tempestade de neve, as imagens geradas por computador (CGI) podem ser empregadas para criar uma tempestade de neve idealizada. A computação neste sentido é usada para controlar eficientemente as contingências (clima) e direcionar as intenções da “escrita” ou ideia preconcebida. Mas a computação pode também criar novas contingências que aumentam a apresentação do mundo, já por si complexa, operada pela câmara. O hipertexto multimédia e o cinema interativo, o vídeo generativo e recombinante, o datamoshing e o databending, todos introduzem formas de indeterminação no cinema digital. À medida que a escrita digital se torna ainda mais cinematográfica e imersiva, é importante revisitá-las raízes da arte cinematográfica e procurar sua relação tanto com a escrita quanto com o mundo. O ideal do “cinema-escrita”, ou cinécriture no contexto do cinema francês, é aquele que
leva a máquina a sério como uma ferramenta para trazer o mundo ao pensamento e levar o pensamento ao mundo. Cinema e escrita juntos, tal como imaginado pelos primeiros praticantes e teóricos dessa arte, é uma forma de aproveitar a indexicalidade única da câmara; de estender o seu alcance espacial-temporal e direcionar a sua significação para a narrativa, mas também de beneficiar do seu realismo disperso, da sua opacidade e potencial para escapar completamente ao pensamento e ao fechamento da narrativa. Neste artigo, exploro as filiações entre arte do cinema e literatura eletrónica, com um foco particular na computação como extensão da escrita-cinema. Através de exemplos de literatura eletrónica cinematográfica, bem como de filmes e exemplos de videoarte, apresentarei estratégias para um cinema computacional que acolhe operações do acaso no processo de significação; que procura um “fora” dentro (e ao lado) da composição narrativa e da intenção autoral.

PALAVRAS-CHAVE
literatura eletrónica; escrita digital; cinema digital; computação; escrita maquínica.
How do we rethink cinema as a digital writing practice? The smartphone user applies cinematic principles to capture on video life as it happens. Where to put the camera to focus attention? How to connect shots to tell of an event or place? It helps that the phone/camera is also a word processor, video editor, effects generator, sound mixer and distributor. In 2008, Adrian Miles referred to the networked and granular aspects of digital video as “softvideography.” What had been a “publication environment” that released hardcopies (owned and unchangeable) had now become an anonymous public, digital videography: a “writerly environment” in which individuals record, edit, write, link and share to a network (Miles, 2008: 14). In 2017, vernacular digital writing on blogs and social media, a networked writing that integrates video, text and image, may not always be as artful as what we have come to think of as “cinema,” but it is a form of doing and thinking cinema. While this migration of cinema from big to small screens, from spectacle to informal conversation, may signal a demise to some, it is in this chaotic mix of the digital that cinema may rediscover itself as a form of electronic writing.

Serge Bouchardon argues that electronic literature can be defined by the various creative tensions exhibited in a work of digital writing: the tension between media types and platforms, the tension between semiotic forms (text, image, sound, video), the tension between computer programming and writing, and the aesthetic tension between “material actions and the revelation of meaning” (Bouchardon, 2017: 10). The art and techniques of cinema come out of similar creative tensions; the various tensions between image, text, voice, sound and music, for example. But there are also the creative tensions between incidental machine effects and those effects guided by human intention. A camera pointed in any given direction produces a space and a system of signs. A random number generator in a computer script produces unpredictable sensory patterns. A filmmaker, like a writer with a computer, is in creative tension with what she can and cannot control.

This paper seeks affiliations between cinema and electronic literature by exploring the spatial practices of machine-writing. Using examples of well-known and lesser-known works of cinema, hypermedia, and mobile video, I focus on three spatial practices that converge when cinema becomes digital: 1) the
construction of *projective, imaginary and narrative space*; 2) the design and manipulation of *information space*; and 3) the digital flaneur’s exploration of *embodied space*. I consider these distinct yet interrelated spaces as zones where digital cinema-writing happens.

**Figure 1.** *Le Tempestaire*, 1947, by Jean Epstein.

II. WHAT IS CINEMA-WRITING?

Along with Dziga Vertov, Jean Epstein was an early filmmaker who thought deeply about cinema as a form of machine writing, in which composition and intention (the writing) is in dialogue with the natural, social and inhuman forces captured by the camera. In *Le Tempestaire* (1947), Epstein’s camera breaks with classical narrative norms and leaves the film’s skeletal plot to immerse the viewer in a raging ocean storm for nearly half the film’s duration. Epstein’s camera taps into the language of the sea, its “voice” in slowed-down rumbles, its hypnotizing patterns of tossing waves in slow, fast, forward and reverse motion. The film camera offers what writing can only approximate: the randomness, contingency and indeterminacy of the world. In cinema, images can speak and at the same time retain their opaque, silent otherness outside of human meaning-making.

*Cinema-writing*, unlike the common term *screenwriting*, is a writing that harnesses the machine’s unique indexicality – its ability to point directly to phenomena without the filter of language. Cinema-writing extends the machine’s spatio-temporal reach and directs its signification towards narrative or poetic effect. The Lumière Brothers called their portable camera *cinematographe* or “movement-writing” with the idea that it would be taken out into the world by
a movement-writer, a cinematographer. The word “cinema,” without the “graphe” or “writing” attached, has come to express the art, technology and industry beyond the single cinematographer. And yet to “do cinema,” whether as production company, artist or technician, is to follow a simple algorithm: record contingent data as audiovisual fragments and arrange them into affective and/or meaningful patterns. For example, shots edited together can easily construct a simple sentence: “A boy walks to the pond and fills a bucket with water.” The sequence of words is a sketch emerging out of a void, a figuration that engages an imaginary but undefined space. As a filmed sequence, with a child at a real pond, the presence offered by the camera effortlessly generates an excess of signs, an imaginary and projective space with depth, spatial relations and contingent details: the dried grass, glaring light on the water, the boy’s distracted eyes, a plane in the sky. The poetic power of film is less about mimesis or the successful representation of a preconceived idea, than about semantic excess; the uncanny mix of the thought and the unthought; the world made through language and the world captured just outside of language.

Cinécriture is a term coined in the 1970s by the grandmother of the French New Wave, Agnes Varda. Varda credits her role in her films with “cinécrit par Agnes Varda,” referring to her iterative process of researching, location scouting, scripting, directing and shooting (Benitez, 2014: 111). The notion of “cinécriture” echoes the thinking of early filmmakers that the film camera makes possible a human/machine utterance. Jean Epstein’s “intelligent machine,” Vertov’s “Kino Eye,” Eisenstein’s “sensuous thinking” in montage are all frame-works for binding the personal and the impersonal into a single expressive form. Modernist writers and artists, inspired by the possibilities of the new medium, became drawn “to do cinema” if not with a camera then with language itself, emphasizing its spatial, automatic and fragmentary qualities. Some turned to the film camera to relinquish authorial control altogether. Films like Vertov’s Man With A Movie Camera, Ivens’s Rain, Man Ray’s Emak-Bakia, Buñuel and Dali’s Un Chien Andalou initiated a handcrafted flâneur cinema; a cinema of drift, improvisation and chance operations. Machine writing with a camera paved the way for machine writing with a computer.
III. PROJECTIVE, IMAGINARY AND NARRATIVE SPACE

Cinema, like much of digital writing, is a spatial practice. According to Jay Bolter, all writing is spatial and different writing technologies present different kinds of spaces to exploit (Bolter, 1991: 105). The earliest films played with projective and imaginary space. A train arrives at the station and the audience in the theater ducks, as the legend goes. The projective screen space—the tracks receding into the distance, the train getting bigger as it approaches—creates the illusion of a world in three dimensions. When the train leaves the frame, the audience engages in an imaginary space, the three dimensions beyond the screen. It is this fragmentary nature of the cinema image that gives us an imaginary world, a whole.

![Figure 2. Arrival of a Train at La Ciotat, 1895, by The Lumière Brothers.](image)

Figure 3. A Girl and Her Trust, 1912, by D.W. Griffith.

Narrative space combines projective and imaginary spaces, but requires something else: the joining of shots into patterned wholes. Cinema arts are often categorized as time-based; forms concerned with pacing and development.
While most cinematic techniques traditionally serve temporal effects, they are primarily techniques to make spatial relations; relations within the frame (framing and mise-en-scène), relations from shot to shot (montage) and from shot to whole (decoupage). D.W. Griffith, who aspired to be a novelist, “discovered” narrative techniques for linking spaces in suspense novels. Parallel action, the linking of simultaneous spaces, is achieved cinematically by arranging patterns of movement in the frame and between frames. Shots designed and arranged for this kind of spatio-temporal continuity are what Gilles Deleuze calls “movement-images,” (Deleuze, 1995) where the framing and positioning of the camera are based on mobility in linked spaces. In the case of parallel action, the sense of simultaneous time is an effect of these spatial relations.

German Duarte, in his book Fractal Narrative, explores the evolution of cinema art as an increasingly complex geometry that, like the spatialization of hypertext and hypermedia, challenges classical narrative forms. For his theory of a fractal cinema space, Duarte draws on Deleuze’s study of the geometrical rather than linguistic rules that govern narrative cinema. Deleuze looks to cinema as a tool to liberate human thought from hierarchical models and linguistic metaphors. For Deleuze, the essence of montage is “the act of putting the cinematographic image in relation with the Whole, that is, to link a single object with universal time” (qtd. in Duarte, 2014: 271).

Lev Manovich’s famous example of cinema as database structure (a non-narrative list of items) is Man with a Movie Camera. According to Duarte, Vertov’s film may exhibit aspects of a database or catalog, but it is also an early example of a fractal narrative (271). Vertov’s montage forms a dense network of self-similar imagery across linked spaces: projective, imaginary and narrative. The montage of different hands working with a variety of machines does not tell a story
in itself, but the sequence is embedded within the narrative space of the city that includes the hands of the cinematographer (and of the editor) in their effort to capture it all. No longer locked into a hierarchy of narrative importance, any given shot in the film is a “momentary center in the database (the Whole) in which the Whole is reflected and which reflects the Whole in its totality” (Duarte, 2014: 340). In such a fractal structure, the film image is no longer a representation nor part of a series, but “a point of view on a site” (293).

Olia Lialina’s *My Boyfriend Came Back from the War* is an early model of digital cinema-writing that successfully translates cinematic space to the modular space of a webpage. The work is abstract in presentation, fractal in its harmony of scales, and yet expressive of ineffable emotions and human complexity. A gif animation suggests movement in life, wind in the trees, agitation outside a safe domestic interior. The opening spatial montage, an establishing shot and close-up, sets the scene for a frustrated conversation full of gaps, confessions, longing and misunderstanding. Each click of text or image further fragments the space into isolated moments. Discussions don’t go anywhere. Images appear as if to fill silences. What kind of space is this? A projective space, though abstract and cubist, suggests depths in a darkened room. An imaginary space is evoked by discrete panels that introduce gaps, intervals and off-screen space. A fractal narrative space is conjured through a montage of texts and images that suggest the past, present and future embedded in a timeless now. The work, being made of HTML elements, also presents a navigable information space.

**IV. INFORMATION SPACE**

A cinematic interface is in creative tension between the illusion of an immersive narrative space and the legible information space of user control and access to
data. To capture video digitally is to translate changing light waves into information on a grid of vertical and horizontal units. Once stored, these discrete units, the pixels, are then available for nonlinear editing and for visual effects. On the other end, the surface of a digital interface is another pixel grid available for manipulation and capture. In movies, if a scene calls for a snowstorm, manipulations of the pixel grid can be employed to simulate an idealized snowstorm. Computation in this sense is used to efficiently control contingencies (the weather) and direct the intentions of “the writing” or preconceived idea by altering pixels. As Lev Manovich conceives it, cinema, by becoming code, has lost its distinct indexicality and is now a subset of digital painting and animation (Manovich, 2001: 307-308). But executing instructions on a mathematical grid is just as much a form of digital writing. An interface, like any computer-based image, is 1) made of discrete units, like language; 2) modular in that it contains multiple layers; 3) consists of a surface appearance and underlying code; and 4) contains hyperlinks to other media elements (Manovich, 2001: 289-291).

Figure 6. Pry, 2015, by Samantha Gorman and Danny Cannizzaro.

Twenty years after My Boyfriend Comes Back from the War, another work of handcrafted interactive cinema explores the psychological effects of war. Pry, by Samantha Gorman and Danny Cannizzaro, is an app that takes the cinematic interface to new levels of complexity. The surface of engagement is projective, imaginary and narrative, but also informational. Pry’s elegant navigation, prying open/pinching closed the protagonist’s metaphorical eyes, unfolds a narrative space that appears dynamic and limitless. Text, image and sound arrive in varying temporal order depending on how the reader manually plays the information space. Reading/touching becomes an act of montage. Though the inner/outer structure provides a narrative and navigational orientation, the work plays with our understanding of how thought, memory and the body negotiate meaning and experience. What is inside and what is outside? The tension for the reader, as for protagonist, is in figuring out how this vast space is to be made meaningful. Pry does in fact have a precise scripted and coded narrative structure, perhaps even a classical one. It is organized with a table of contents, with a beginning and end, revolves around a central conflict and has a unity within a
single protagonist’s mind. However, what is depicted is the sprawling space of consciousness itself—a network of text/image associations, evasions, recursions, worlds within worlds—and can be experienced as affective cinema without necessarily solving the narrative puzzle.

![Image](image_url)

**Figure 7.** *The Ceibas Cycle*, 2007, by Evan Meaney.

Even though an interface is a highly-ordered information space, it is possible to use the pixel grid to create new contingencies, images of accident and disorder, that add to cinema’s already indexical and contingent presentation of the world. For example, datamoshing and databending corrupt a file’s code resulting in unexpected bursts of color. Glitch artist Evan Meaney creates abstract video stories that depict the digital image breaking down into blocks of abstraction. As the illusions of cinematic presence give way to the artifacts of digital materiality, the pixel grid presents the viewer with what Meaney calls “approximations of ghosts” (Meany, 2015) revealing our own fallibilities, ruptures and mortality. Another example of glitch as machine-writing is Mark Amerika’s *Lake Cuomo Remix*, a virtual walk through Google street view. Part of a larger narrative work called *Museum of Glitch Aesthetics*, the video captures the haunting glitches of Google Maps failing to render a space in and out of tunnels. The pixel grid in this case is the space for virtual “cinematography” using screen-capture software, a practice Amerika calls a “cyberpsychogeographical derive.” (Amerika, 2009)
A smartphone is a pocket cinema apparatus. The extreme portability and ease of digital devices allows for a gestural cinematography and montage of embodied space. Situationist Guy Debord described a *dérive* as a period of time when one or more persons “drop their usual motives for movement and action, their relations, their work and leisure activities, and let themselves be drawn by the attractions of the terrain and the encounters they find there” (Debord, 1956). Wandering aimlessly with a camera, a spatial practice that might be called “cinema dérive” takes its aesthetic cues from *flâneur* poets, street photographers, documentary filmmakers and even slapstick comedians. Silent film entertainers (Melies, Chaplin, Keaton) rediscovered not only body language, familiar human gestures, but all the other body movements that exceed language: trips, collisions, burbs and hiccups. Cinema *dérive* is burlesque cinema inverted. The subject is no longer the gestures and mishaps of the body in space, it is the body encountering and gesturing at the world: a cloud formation, layered reflections in a shop window, steam from an alley vent. A montage of everyday images is not a lyrical reflection of an inner world, but rather, to use Deleuzean terminology, an assemblage depicting the world in the process of becoming.
Amerika’s feature film, *Immobilité*, made with a low-resolution mobile phone, is an improvisational fiction with two performers. Rather than strive to create an immersive narrative world, the work is a dérive in and out of an imagined foreign film, in which images and moving camera effects are unmoored from the subtitles and narrator’s attempt to bring order. Amerika’s palm-held camera work is erratic, intentionally amateurish and painterly. The camera’s pixel grid has to catch up with the body’s fluid gestures in its spontaneous encounters with the performers and the landscape, resulting in unexpected blurs and trails of color. Amerika equates this form of aimless cinematography with choreography and Gregory Ulmer’s term chorography, which he (Amerika) defines as “the writing of intuition while inventing” (Amerika, 2009). In the Director’s Notebook accompanying the film, Amerika cites Brian Massumi’s description of this movement-vision as an “opening onto a space of transformation in which a de-objectified movement fuses with a de-subjectified observer. This larger processuality, this real movement, includes the perspective from which it is seen.”
Embodied cinema-writing is the hybrid body/camera encountering and reacting to an infinitely generative universe. SPACETWO: PATALAB is a visual/spatial research videoblog that has been run by Sam Renseiw since 2005. The blog, later Vine and now Instagram accounts, holds a vast archive of video doodles or “voodles” that are spontaneous cinematic investigations of space. Renseiw introduces each video with a short remix of theoretical texts related to his spatial research: Jarry, Bergson, de Certeau, Debord, Calvino, Borges, to name a few. Beyond these short texts and reflections, Renseiw, as a persona, remains a mystery. Never a presence in front of the camera, he is bodily present in his framing, montage and idiosyncratic camera gestures: walking shots, stuttering zooms, meandering glides. Renseiw’s “voice” is this gestural cinematography and intuitive montage giving shape to the spaces he encounters: the way it is framed and reflected by windows, occluded by translucent surfaces, filled with unexpected textures, geometric shapes and signs. He discovers repetitions and flows, stillness in concert with movement, the close embedded in the far. The voodles are micro-narratives of perception.

VI. DIGITAL CINEMA-WRITING AS ELECTRONIC LITERATURE

Figure 11. Histories du Cinema, 2011, by Jean-Luc Godard.

Of the remaining idiosyncratic cinema-writers of 20th century, Jean-Luc Godard points to the end of one era and the beginning of another. His Histoire(s) du
Cinema is a maddening, strangely beautiful late work that perhaps best exemplifies an ethos of digital cinema-writing; handcrafted production process, flâneur cinematography, fractal decoupage, text and image montage, and a welcoming of glitch and error. Though not interactive, Histoire(s) du Cinema looks more like a work of electronic literature than a movie.

The technological conditions for a rich cinema culture are with us. However, cinema’s new digital home may not be in the theatrical, industrial models of the past. Post-industrial cinema is, rather, a form of electronic literature. Artists and writers associated with the field of electronic literature continue to flirt with the cinematic, but there are and have been economic constraints to fully adopting the concerns and creative tensions of cinema art. The cost of bandwidth remains high for delivering video on the web, but this will be temporary hindrance. There are also creative divides. Cinema artists struggling on the periphery of an industry or art world that is in flux are hesitant about losing their art’s once profitable essentialism to an unprofitable and chaotic mix of networked media. Digital writers engaged with this very chaos want their independence from dominant modes of expression (like commercial cinema) and prefer the creative tensions between various modalities. If there is no show business, perhaps no financial reward to digital cinema-writing, what is the benefit from the now negligible effort to shoot/edit/post personal cinema? The satisfaction of making/writing one’s being? Turning attention to one’s environment, cinematically? These are noble paths for any art. In the history of cinema innovation, show business follows the chance discoveries, accidents and idiosyncratic practices of machine writers. As Edgar Morin states it, cinema art emerges not from “honorable professionals, certified thinkers, or eminent artists, but from bricoleurs, autodidacts, failures, fakes, entertainers” (Morin, 2005: 48). Perhaps the idiosyncratic practices of digital cinema-writing will one day find a market. The artful presentation of a personal and collective cosmos, engaged with narrative, informational and embodied spaces, is the source material for a new kind writing and a new kind of cinema: a digital cinema-writing that welcomes chance operations and contingency into the process of signification; that seeks an outside within (and beside) narrative composition and authorial intent.

REFERENCES


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