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2003

<https://doi.org/10.25969/mediarep/17603>

Veröffentlichungsversion / published version
Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:

Noland, Carrie: Review on Servoalve. In: *Dichtung Digital. Journal für Kunst und Kultur digitaler Medien*. Nr. 28, Jg. 5 (2003), Nr. 2, S. 1–10. DOI: <https://doi.org/10.25969/mediarep/17603>.

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Review on Servoalve

By Carrie Noland

No. 28 – 2003

1.

I want to begin by evoking a scene that is familiar to many of us who have small children. In an artificially lit room, a small child sits either on the floor or at a desk, her body doubled over, her head dropping toward the page before her, one cramped fist clutching a writing implement. The child is attempting to write letters. The concentration of both mind and body is impressive, the stillness and focus strangely moving. This child wants very badly to learn how to write, and probably simultaneously, to read the letters of an alphabet.

Child psychologists approximate that an American child spends the largest part of her time between the ages of 5 and 8 mastering the rudiments of these culturally privileged arts¹. The acquisition of literacy is a painful and arduous process, a discipline in the strongest sense. It is no accident that literacy training appears in Michel Foucault's *Discipline and Punish* as the exemplary disciplinary occasion, one in which the kinetic body is produced by the tasks it is called on to perform². Although Foucault's interest is in the seventeenth century, the scenario he describes is applicable to our time as well. The skill of correct handwriting was one of the many theatres of corporeal discipline that arose during the seventeenth century, a period so relentlessly dedicated to standardizing the unruly, libidinal body. Not only were the hands and fingers carefully choreographed by vigilant instructors of orthography, but elbows, spine, feet, and even stomach, too, were forced to coordinate their movements and maintain predetermined and conventionalized positions with respect to one another. "A well-disciplined body form[ed] the operational context of the slightest gesture," Foucault recounts, and thus good handwriting during that period—and, ostensibly, during our own—"presupposes a gymnastics—a whole routine whose rigorous code invests the body in its entirety, from the points of the feet to the tip of the index finger"³.

Learning to read, cognitive scientists have found, is no less rigorous; reading impacts the body—and of course the mind—in ways researchers in a variety of fields are still trying to understand⁴. A study conducted in the 1980s demonstrates that learning to read, although normally an activity requiring less corporeal investment than learning to write, actually has effects on the nervous system that are long-lasting rather than confined solely to those moments spent in acts of reading⁵. For

instance, the eye movements of a child only just beginning to recognize letters will be exceedingly erratic; the eye races up and down, to the side, and at oblique angles in a pattern that resembles more closely the pattern present when examining a large field of visual information. In other words, the child looks at a text in the same way she looks at a drawing, or at the world itself. The eye movements have not yet been tamed, regulated, disciplined to accommodate the efficient reading process. However, as a child learns to read more quickly, the eye movements fall into a tightly restricted pattern, fluctuating between a smaller and smaller range of highs and lows, and hardly ever gliding to the side. Such learned, but unconscious and involuntary control of eye movements accompanies the cognitive acquisition of the skills of reading. And this alteration of the physical body, the kinetic body, and the nervous system itself, is permanent. The child can now “read” according to a more precise, but limited pattern of visual information retrieval.

I cite this experiment in order to bring home the point that reading is a type of training that not only produces a reader, but also produces a text. In other words, the letters on the page that are confronted by the illiterate or barely literate child *are not the same letters on the page* that are confronted by the literate child. The previous letters were lines and shapes as well as letters. They were houses and trees and snakes before they were H’s and T’s and S’s. They were drawings before they were the particles of words, icons before they were signs, because *that is how the eye looked at them*. The moving, erratic, busy, intuitive eye, the curious and hungry eye, did not yet know what it was looking at, did not yet know how to look at what it was looking at. The physical eye had not yet become a trained, acculturated eye, and the text was not a static set of letters but instead a moving, animated, self-transforming screen for the imagination.

As Joan Brooks McLane explains in *Early Literacy*, small children do not distinguish between drawing and writing. And in fact, as educators now recognize, many “pre-literacy” skills are acquired through imaginative activities involving paint, crayons, magic markers, and make-believe play⁶. Researchers have long known that the child’s earliest attempts to write take the form of “griffonnages,” seminal scratchings that can lead either to the embryonic characters of a language or, alternatively, to depictions, letters or lines⁷. The teleology of culture demands that we see the child’s acquisition of literacy—and therefore her reduction of lines to letters and depictions to characters—as progress. The child has learned to read; the eyes have been stilled; and the bulk of the child’s adult life will henceforth be spent reading and writing texts rather than viewing or making drawings.

And this, for the authors of texts at least, is a good thing. After all, authors need readers. Rarely has an author—and here my focus will be on the authors of poems—lamented the acquisition of literacy, for, in order to be understood and appreciated, the text requires mastery of specifically the kinds of discipline that end up de-

privileging or eliminating entirely the kinetic and visual properties of marks on the page.

2.

What is so revolutionary about digital poetry, in contrast to the poetics of the past, is the remarkable degree to which it insists upon those very capabilities that have been either lost or merely suppressed in our “progress” toward literacy. Similar in this regard to concrete and visual poetics, digital poetry also reawakens the eye, encouraging us to experience the letter as a visual unit. However, digital poetry goes even further in transgressing the boundary between the matter and meaning, drawing and inscription. By integrating animation, digital poems restore to letters the earlier kinesis they once enjoyed⁸. In many digital poems, letters move; they are displaced, they appear at any point on the page/screen, thereby reinventing their support as an illusionist, three-dimensional field, or as film stock, unraveling in time. As Stephanie Strickland states elegantly, digital works play on the “view/read cusp”; “whereas sound layered on sound creates new sound,” she notes, “and image on image makes a new image, alphabetic text, superimposed on alphabetic text *or* on image, does not reliably yield legible text. & one flickers between seeing the viewable and reading the legible”⁹. (See article Concrete Poetry in Analog and Digital Media in *Paris Connection*)

It is specifically this “flickering” or “oscillation” between an inscription’s two distinct phenomenological modes of being—viewable or legible—that the French artist, Servovalve, exploits in the work entitled “nurb”—to which I shall presently turn.

For those of you less familiar with recent innovations in digital poetry, I want first provide a rough and rapid taxonomy. Not all digital poetry emphasizes either the visual or the kinetic aspects of the letter. There is a large body of work that is nothing more than print-based poetry that has been distributed on-line. A Website such as Ubu.com, for instance, faithfully gathers together and “publishes” on-line the most interesting innovative poetry from the beginning of this century up to the current moment. But much of this work does not take advantage of the digital medium. A second category of digital poetry would be poems distributed on the web that have not been previously published, and therefore take advantage of the immediacy and large-scale dissemination that the web provides, but nonetheless fail to employ any of the other advantages of the digital medium. Any word processor could produce these kinds of poems on ubiquitous software such as Microsoft Word. (And one thinks here of Alan Sondheim, who distributes several poems a day on a listserve run by Jim Andrews called “webartery.”) Poems composed with HTML, DHTML or Javascript code manipulation would constitute the third category of digital poetry.

These are poems that are generated either by playing with code in an intentional manner (producing pre-conceived effects in a controllable way) or by programming an algorithm and seeing the aleatory textual results.

The fourth and broadest category of digital poetry is the one that I want to focus on here. Although I will be confining myself to a discussion of FRENCH digital poetry, it should be understood that the poems I'm examining are part of a transnational body of work evolving over time within a tradition of innovative textual manipulation that is only just beginning to theorize itself (to construct a poetics) and to archive itself (to determine a canon). This fourth category is what I will call "animated" digital poetry. The works in this category generally employ one of two readily available software animation programs: *Flash* or *Director*. *Director* was the first to come on the scene in 1987 (followed by *Flash* in 1996 or 97). Both allow users to make letters move around the screen, morph, change size, font, and color. It also allows for viewers to interact with the "text," transporting words or letters from one place on the screen to another by dragging the mouse, or making them disappear and reappear by clicking the mouse. Digital poems animated with *Flash* or *Director* tend to resemble short animated films in which the words or letters move about like cartoon characters.

A relatively sophisticated example would be Philippe Castellin's "La Poésie est la somme," in which words of the same font but different colors—such as "infini," "l'étroit," "toujours," "formes," "l'intérieur" and so on (as well as the author's name and the date of the poem's composition—1999)—float around the screen in directions and at a pace determined by a pre-programmed algorithm. The words—all appearing in upper case letters—circulate for a while, then cease moving abruptly and hold their positions for three seconds, just long enough to create a visual impression for the viewer but not long enough to provide a readable text. The viewer responds to the kinetic quality of the radiant words by following their movement with her eyes, thus tracing out a variety of optical paths that a "normal" text would never produce. The learned response to text is challenged, un-done by the addition of animation. When the words finally stop moving, the viewer seizes a kind of snapshot of the whole even as she focuses, perhaps, on one or two words that shimmer into legibility. Thus, the poem never seems to contain the same words twice, and the visual aspect of the poem in its entirety never resolves into a stable entity. Presumably the permutations of the syntax, the content, and the visual aspect of the poem are limitless. The viewer is "reading," in a sense, but also struggling to go beyond the acquired habits of reading to make sense of a text—as a visual and kinetic object—that refuses to settle into what Paul de Man might have called a "totalizing metaphor," remaining caught instead in seemingly limitless metonymic extensibility¹⁰.

Director can produce results that present an even greater challenge to the acquired habits of the literate viewer than *Flash* tends to. While *Flash* creates simple

animations, similar to those used for film titles, for instance, *Director* can be used to program long-term sequences involving a greater variety of transformations of characters and their interaction with images¹¹. *Director* is generally employed when an author wants to blur the distinction *between* text and image. This blurring, of course, already occurs as soon as the letters of the word begin to float, revolve, vibrate, or displace themselves (either through interactive procedures or according to pre-programmed codes). But far more dramatic permutations of text can be achieved when the transition between a line and a letter occurs smoothly in a temporal continuum. *Flash* animations tend to be jerky and jumpy as letters appear and just as suddenly disappear, or “flash” on and off the screen. In contrast, *Director* animations exploit the continuity they can achieve between one phase of a letter’s appearance and the next.

Both types of animation share a propensity, however, to privilege the letter over the word as the salient element of composition. Jim Andrews, a Canadian web artist, explains why:

“I’ve been drawn for years to visual poetry, particularly lettristic visual poetry that deals in syllables and letters as opposed to words, phrases and sentences& because in the digital realm the shapes of letters are more various than the shapes of words, which tend to be elongated rectangles. And, as a programmer, a letter is typically a continuous thing on which various transformations/animations are more visually appealing and suggestive than on whole words or sentences. Letters are characters. They have more character than words do.”¹²

Thus, a graphic artist—such as Andrews—is much more likely to concentrate programming resources on those elements of written language that have *visual* interest: the more varied graphic “character” of letters accordingly brings them into prominence in digital poetry. It could be said that digital poets write poems with letters, not words, and that “reading” such digital poetry becomes a matter of attending simultaneously to the graphic materiality of the letter *and* its phonetic or semantic value as it appears in a word.

3.

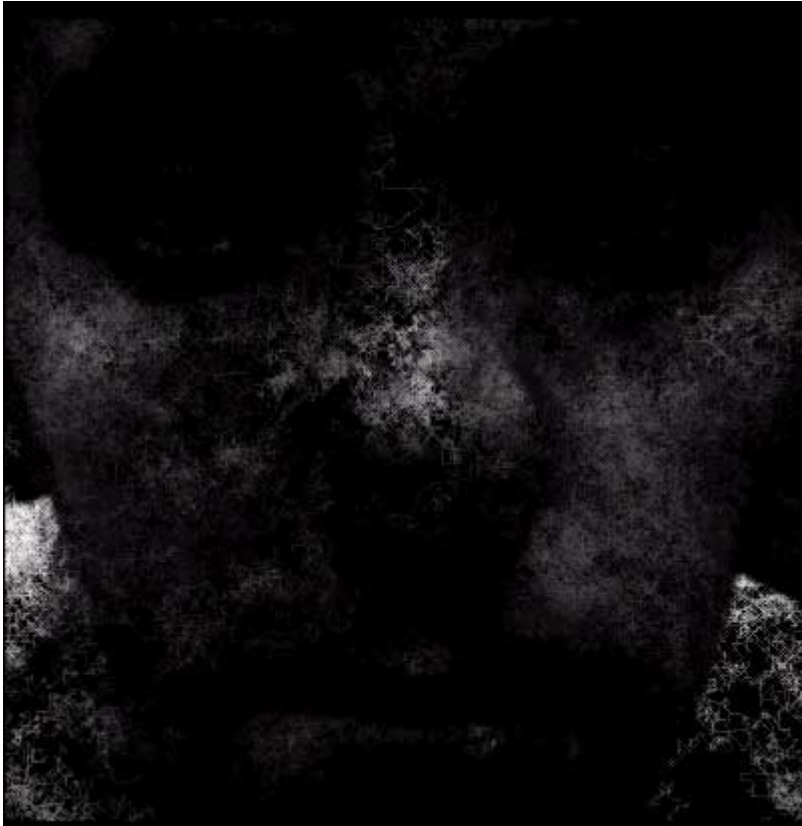
In “nurb,” the digital poem I want to focus on before concluding, servovalve (pseudonym for the French author-programmer Gregory Pignot)¹³ has mobilized temporality to lead the viewer from one type of viewing practice—reading in the more restricted, conventional sense—to another kind of viewing practice—watching, or reading visual images in the larger, less semiotically rigorous sense¹⁴. “Nurb” is in

fact based on the play between these two types of reading, and the two types of inscriptions that correspond to them respectively. The author continually challenges the distinction between lines used to write letters and lines used to produce depictions. Composed of ten discrete sections, “nurb” constitutes one of the most extreme examples of a digital poetry drawn precariously toward the pole of graphic art.

Some scholars might even question whether it should be called a “poem” in the first place. (It has no overt “semantic” content.) Yet I would argue that “nurb” is poetic to the degree that it remains fascinated with the graphic materiality of inscription, and with this materiality’s most fundamental units: letters. What “nurb” develops is the insight that, at its most decomposed level, a letter is a set of lines, horizontal, vertical, oblique, and curvaceous, and that a depiction, at its most decomposed level, is a set of letter-like lines, or that it depends upon the same linear and curvaceous forms as the characters of a language.

The first three sections of the “poem”—entitled “iiiiii”, “x-liner”, and “electrotomy”—investigate verticality and horizontality, and contrast these types of linear inscriptions with spirals or unpredictable, erratic lines that suggest depth in three dimensions as opposed to the flat surface of a page. Section four, “carbon”, abruptly introduces another kind of line, a rapidly moving squiggly line evocative of the tiny motor movements involved in handwriting. However, here, it turns out that this kind of line is constitutive of nothing other than a representational depiction. The viewer waits patiently as four or five squiggly lines fill in the black screen with white contours, producing over time the full portrait of a human face. Each time the process is re-initiated, the lines begin at a different point on the face (and I believe they depict a different face, as well). Just as pixels are the constitutive units of a cartoon face (and, in fact, if you stare long enough at any screen you eventually identify the individual pixels of an image), so, in this case, the line is revealed to be the constitutive element of the depiction.

Section five, “ohon”, works to blur the distinction between printed font, handwriting, and abstract linear forms. In the middle of a black screen, words referring to what sound like pharmaceuticals—Thoridazine, Teldane, Droleptan, Quinidine, acide aminé, acide formique—flash on, then dissolve into bars of light, are struck by flying line fragments, or become the pivots around which an illegible figure, resembling a handwritten word, spins. At certain points, the shooting line fragments slow down enough to be recognized as words, and the bars of light resolve into recognizable lettering. The viewer’s reading strategies are thus taxed to the limit. Not only must the eyes constantly flit around the screen erratically in order to “read” the words, but the very point at which letters become legible is the site of a readjustment, an anamorphic rupturing, a split-second switch of gears from operating within what Jean-Francois Lyotard has called “l’espace figural” (in which one finds images) to operating within “l’espace graphique” (in which one finds text)¹⁵.



carbon

The remaining sections six through ten ("lignedefuite"; "go.s.cell"; "fil"; "erdro"; "cone82") involve interactive procedures; the viewer can alter the activity or the directionality of the shapes and lines by dragging the mouse. In two of these sections—#8 ("fil") and #9 ("erdro")—the reader/viewer can actually "write" on the screen. As the viewer drags the mouse to the left in "fil," the line is extended to the left, while in "erdro," the movement of the viewer's fingers is recorded as a series of vectors radiating out from the point where the movement began. In this way, writing (here, on the screen) is explicitly reconnected to the kinetic body of the viewer. Movement is evoked as rhythmic inscription, as the trace of the body's force exerted upon a surface. The viewer ends up "reading" not a text, but the movements of his or her own digits (and, by extension, limbs).

Thus, in works like Servovalve's "nurb", reading in the traditional sense is both solicited and put to the test. The regulated, disciplined linear movement of the eye is challenged by less conventional "reading" practices, equally necessary for interpreting the screen but engaging at the same time activities associated more closely with viewing and touching. The eye is, in a sense, liberated from the constraints placed on it by traditional acts of reading. To this extent, digital poetry calls for a process of de-skilling: "readers" of these "texts" are being asked to break the patterns of visceral response that they have taken such trouble to acquire. Yet at the same time, digital poetry calls for a process of *re*-skilling; it demands the acquisition of new skills. Reading poetry on the web—especially poetry created *for* the web—will very likely teach us a whole new way of reading, and, by doing so, will provoke an interrogation of the boundary between the letter and the image, the eye and the body, the movement and the line.

Notes

1. David R. Olson in *The World on Paper: The Conceptual and Cognitive Implications of Writing and Reading*. "among our most valued skills is our ability to make use of written texts, namely, our literacy. The primary function of the school is to impart what are called 'basic skills,' reading, writing and arithmetic, all of which involve competence with systems of notation. Public expenditure on education is rivaled only by defense and health and a major portion of children's formative years are spent in acquiring, first, some general literate competence and second, in using this competence to acquire such specialized bodies of knowledge as science and history" (Cambridge: Cambridge UP, 1994, p. 1).
2. In this regard, we shouldn't forget Marcel Mauss's seminal "Techniques du corps."
3. Michel Foucault, *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan (New York: Viking, 1979), p. 152. The manual Foucault cites is *Conduite des écoles chrétiennes* by J.-B. de la Salle (B.N. Ms. 11759, 248-9): Pupils must "hold their bodies erect, somewhat turned and free on the left side, slightly inclined, so that, with the elbow placed on the table, the chin can be rested upon the hand, unless this were to interfere with the view; the left leg must be somewhat more forward under the table than the right. A distance of two fingers must be left between the body and the table; for not only does one write with more alertness, but nothing is more harmful to the health than to acquire the

habit of pressing one's stomach against the table; the part of the left arm from the elbow to the hand must be placed on the table&,"and so on (La Salle, 63-4).

4. Literacy studies in anthropology is a huge field. The seminal study is Jack Goody's *The Domestication of the Savage Mind* (Cambridge: Cambridge UP, 1977), but see also Walter Ong's *Orality and Literacy: The Technologizing of the Word* (London: Methuen, 1982) and the more specialized essays in D. R. Olson, N. Torrance, and A. Hildyard, eds., *Literacy, Language, and Learning: The Nature and Consequences of Reading and Writing* (Cambridge: Cambridge UP, 1985).
5. See Serge Netchine, "Espace de lecture et lecture de l'espace chez l'enfant" and Guy Denhière, "La lecture et la psychologie cognitive: quelques points de repère" in *Espaces de la Lecture*, ed. Anne-Marie Christin (Paris: Centre Georges Pompidou, 1988).
6. McLane, Joan Brooks and Gillian Dowley McNamee, *Early Literacy* (Cambridge, MA: Harvard UP, 1990).
7. See also Bruno Duborgel, *Imaginaire et pédagogie* (Toulouse: Privat, 1992) and Serge Tisseron, "All Writing is Drawing: The Spatial Development of the Manuscript" in *Yale French Studies*, vol. 0, issue 84, Boundaries: Writing and Drawing (1994).
8. As Melanie Klein notes in "Le rôle de l'école dans le développement libidinal de l'enfant," [The Role of School in the Libidinal Development of the Child], children learning to read and write invest letters with barely bridled kinetic and libidinal energies (*Essais de psychanalyse*, intro. by Ernst Jones, trans. Marguerite Derida, preface by Nicolas Abraham and Maria Torok [Paris: Payot, 1967]). These energies are subdued and channeled, the body is stilled, and letters become standardized and assume their "correct" horizontal positions, as the child learns to write properly. Creating legible characters of a language has a good deal to do with stilling the libidinal energies and dramatic movements out of which representation, of any kind, is generated in the first place.
9. Stephanie Strickland, "Moving Through Me as I Move: A Paradigm for Interaction," <http://califia.hispeed.com/Strickland/>
10. Paul de Man, "Phenomenality and Materiality in Kant" in *Aesthetic Ideology* (Minneapolis: Minnesota UP, 1996). It would take me too far afield at the moment to explore de Man's theory of the materiality of the letter with respect to animated poetic works, but it is something I hope to attempt in the future.
11. Director animations are capable of producing 30-50 frames per second, whereas the usual quantity for Flash animations is 12 frames per second. Obviously, a program that provides more visual information within a brief interval is able to reproduce movement more accurately and convincingly.

12. Jim Andrews, "Nio and the Art of Interactive Audio for the Web" (see interview with Andrews in dichtung-digital.org 1/2002).
13. The author-programmer's website contains biographical information (we learn that he/she is French and born in 1971), and even allows you to get in touch with him/her via e-mail, but no name is provided. "Servo-valve.org" is described as a "chrono-illogical accumulation of sonographic pieces, a search for another way of staring at a screen." My gratitude to Jim Andrews for providing Servo-valve's "real" name. See [http://dian-network.com/con/servo-valve/index.html](http://dian-network.com/con/servo-<u>valve</u>/index.html) . I am speaking here about an early version of "nurb" archived at [http://www.servo-valve.org/nurbnolan.html](http://www.servo-<u>valve.org/nurbnolan.html)
14. For an approach to the visual as a "language" of signs, see Louis Marin, *Etudes sémiologiques* (Paris: Klincksieck, 1972). It should also be noted that Servo-valve also employs an audio track during large portions of "nurb." The track is composed mainly of mechanical noises, swooshing sounds, or barely melodic riffs that sound as if they had been produced electronically on a synthesizer. For an account of Servo-valve's use of music, I refer my reader to Jim Andrews's interview with the web artist.
15. See *Discours/figure* (Paris: Klincksieck, 1985), especially the section entitled "La Ligne et la lettre" (211-212).