

CYBERTEXT YEARBOOK
2002–2003

*Edited by
Markku Eskelinen & Raine Koskimaa*

**CYBERTEXT YEARBOOK
2002–2003**

with a special section on
ERGODIC POETRY
guest edited by
Loss Pequeño Glazier & John Cayley

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INTRODUCTION

Towards Ergodic Maturity

Markku Eskelinen & Raine Koskimaa

“Between 1982 and 1983 I was very unsatisfied by what I then considered as a blind alley of visual poetry. Aware of the multiple directions the genre had taken in the twentieth century, I experimented with different media (...) billboards, Polaroid cameras, artists’ books, fine graffiti, electronic signboards, video, mail art, photocopiers, videotex, and finally holography.”

Eduardo Kac, interviewed by Simone Osthoff for *Xenia 2*

Welcome to the third volume in the Cybertext Yearbook Series – this time we ended up putting together a double issue, and decided to give you both thematic unity and diversity in the same package. Once again we made slight alterations to our editorial policy and the main ingredient in that was outside expertise in the form of distinguished poets John Cayley and Loss Pequeño Glazier, who had complete freedom to guest edit the section on ergodic poetry. We are not ashamed to admit our unreasonably high expectations were fulfilled.

The second part of the yearbook is a series of supplements to previous yearbooks and continues their strategy of showing diversity within diversity from muds, vogs, and generators to biopoetry, élekcriture, and hermenutia. From our viewpoint ergodic, electronic and digital literatures (all denoting slightly different clusters of specimen) are best handled with care and without reducing the legion of practices to the jurisdiction of any orthodoxy. As traditions, institutions, texts, contexts and technologies intersect, multiply, and transform each other, and it’s not just the word that does not stand still, it’s very hard and sometimes even futile to nail your gaze to only one trend whatever its strange or not so strange attractors.

It was relatively easy to choose to focus on ergodic poetry. First of all, such poetry seems to be seriously, curiously and undeservedly underrepresented in current discussions on new media and literature. Secondly, its transition to the digital realm or era was much less dramatic and hype-ridden than what was the case with prose (and especially so with the hypertext *hystory* and its predictable cycles of denial, projection, accusation and blame that could be summed up in a mock-derridean slogan “there should be nothing outside the hypertext”). Consequently, the discussions and developments of digital poetics were not conceived, constrained and distributed, or placed and misplaced, along the axis of print versus digital, nor were they stuck with the average simplifications of interactivity and non-linearity, and last but not least their chief theorist-advocators were not clueless educators only slightly past their equally but pardonably clueless Aristotle. In other words, what we have here on ergodic poetry is for the most part a mature discourse, which is, to invoke or paraphrase the classic defense of the Russian Formalists, a discourse of specifiers. So, thirdly, this move gives us the freedom to be what and where we want to be with this series of yearbooks.

In the company of specifiers the arrival of a new medium is not very dramatic, or at least it is not welcome with overblown and dichotomising hysteria both advocating and excising zero tolerance towards overlaps. Consequently, in poetry anything goes in what comes to the medium, and it is still poetry. This, in turn, has many beneficial consequences. Theorists are less likely to get stuck with and paralysed by no-win debates over territory and are more likely to focus on much more detailed argumentation. In this kind of doubly creative environment theorist-practitioners flourish and produce first-class poetry and poetics to go with it. In short, poetry continues to be in the only stage of progress literary history knows: undecidable yet active. To remind us of an all-too obvious and painful alternative, the debates around narrative issues still suffer from astonishing non-sophistication (in the form of story-arcs, Aristotle and pre-narratological theories in general) the missing link consisting of the most advanced approaches 20th century literary theory could offer. This blocks and undermines the way to the necessary renegotiations between texts, traditions, and theories on the one hand, and even more importantly between texts and readers (and the adjustments of their expectations) on the other.

If we take a quick tour through Aarseth’s *Cybertext* and especially the chapters on hypertext fiction, text generators, textual adventure games,

and MUDs, it is easy to see certain advances (and survival strategies) stemming from well-established expectations and scholarly interests. The main attractions in the last two genres are or were gameplay and community-building sociality, and they are still there even though most action has moved into graphic adventure games and Massively Multi-Player Online Role Playing Games. Story generators still form a challenge to AI research (chess is easy as Selmer Bringsjord put it) and that motivation is not very likely to go away for quite a while.

The case is very different with the post-twilight hypertext fiction. The best part of it obviously continues the traditions of experimental prose and seems to have inherited all the problems that used to go with the territory, but sadly there's still an alarming lack of educated hordes of readers and theorists familiar with the inheritance. The SimCity type of ghetto is still there, but crack dealers with their quick fixes seem to have replaced the Black Panthers. One may wonder how this could happen to the magic formula of splitting called hypertext that was once thought to be so native to the human mind not to mention the most intuitive way of thinking known to it.

One more reason why taking up ergodic poetry as a topic is so important is that it shows us how there is, and has been, a rather long and very lively tradition of e-lit quite distinctive, if not totally separate, from the Nelsonian hypertext tradition. Beiguelman, Bootz, and Kac of the authors presented here could be referred to as examples. Newer e-poets today unashamedly draw on both traditions, and, always already free from the prison-house of the narrative, show what Maria Damon describes "exuberant happiness". It is a wholly another world, moving from ergodic prose to ergodic poetry, and the peculiar flavour of e-poetry is well caught in Damon's notion – although here the reference point is totally different – of "a kind of serenity born of aesthetic certainty" (142).

Naturally, to make a clear distinction between ergodic prose and poetry is highly artificial. There is the grey area between prose and poetry in general, but digital textuality and ergodics seem to be especially inclined to dwell on this very grey area. Talan Memmott's article in this volume, and especially his highly acclaimed work "Lexia to Perplexia", serve well to illustrate this point. But since we are now giving it over to our guest poets, let's just remind ourselves (without plunging too deep into the German philosophy) of the usage of the concept of poetry, where all literature (or at least all literature worth reading) is seen as 'poetry'; we think it might

be appropriate to understand poetry this widely, when reading in the Dialectory Intrologue “when they [countercultural communities] make literary objects in new media that allow them to be silly, sillious, serious and exquisite, that is poetry”.

* * *

This double yearbook marks the halfway point of our initial five-year’s plan for five or six yearbooks. The next two issues are both under way already. The first of them will focus on games and ludology, and it will be guest co-edited by Gonzalo Frasca, one of the contributors to the first *Cybertext Yearbook* back in 2000. With the generous help of dedicated specialists in Arabic, Chinese, Ibero-American, Russian, and Sanskrit literatures (and many others), the second cybertext yearbook-in-progress will take you through the international history and pre-history of ergodic literature.

After the current double-issue we intend to have a little break. Thus, from now on, this series will loosen its annual schedule to something closer to a book every two years. With this we want to guarantee enough time for the preparation of the forthcoming special issues, as we are expecting nothing less than groundbreaking work, well worth the wait.

* * *

We would like to express our gratitude to Sari Taimela, Tuija Saesma and other people at the Research Center for Contemporary Culture who spent their time reading, commenting and copy-editing the manuscript at its various phases, and to Laura Sullivan who helped in copy-editing the Ergodic Poetry section. Especially warm thanks go to Leila Aho for, patiently, turning the manuscript into a book.

**PART I:
ERGODIC POETRY**

DIADUCTORY INTROLOGUE

Loss Pequeño Glazier & John Cayley

<DIALOGUE>

John Cayley: We have decided to proceed interactively through our program of essays, as two – apparently two – commensurate entities. As you read our exchanges, will you be able to tell how we were embodied? What was our gender? To what extent were we modulated by machinic processes? How would you have read us if the paratextual programming of this introduction – the form of its editing and layout – had made us appear to write as one entity? Despite our stated focus on digital poetics, we trust that such questions linger in the virtual text-of-inscription (as Philippe Bootz might say) while we address the papers themselves.

For the papers do turn on such issues, issues concerning the social, political and ideological implications of poetic practice in digital media, in networked and programmable media. You may have expected that they might focus on poetics more narrowly, that they would be chiefly concerned with novel poetic formalisms or the relationship of form and theory. Discussion of electronic literature has sometimes appeared to be fixated with this relationship. There are essays here which are so focused, but we choose to frame them top and bottom, in our dialogic introduction, by highlighting the two pieces of writing most concerned with an engaged ‘social informalism,’ as Bruce Andrews names it out of an established tradition of avant-garde practice; while Maria Damon discovers and examines some of the less established, marginal social formations of poetic writers which the network has facilitated.

Loss Pequeño Glazier: Apparently two entities or two voices – or as one? Or are we perhaps being overheard and, as we get up to leave the upscale bar area of the restaurant, we are met with smiles, perhaps even inviting laughter, by the two at the next table? Do you think we’re being

overheard in this conversation, too, and wanted in the same way? Embodied or not I hear the clicking of the keyboard. I do occasionally like to be embodied: the lobster is just so much more succulent that way. And I dare not even mention what ecstasy it is to be in a human body after it has been skiing for two days.

In like manner, I feel the collection of essays presented in this special section will be considerably worthy of physical engagement. It might be of interest that we solicited the articles to be included and that we were extremely discriminating in the contours of these issues. When you look at the contents, one sees a range of perspectives, crossing gender, generation, genuflection, and geography. Further, the range of voices, from practitioner to theorist, and points in between, hopefully will express a continuum of interest informing the project as a whole. What I think is crucial at this point was to engage the field as it is happening, to do what rarely happens elsewhere, keep the focus squarely on the “poetry” in “ergodic poetry.”

The striking thing about this stage in digital poetry – and you know I have not been one to shy away from suggesting one apply aesthetic judgment to the “reading” of such works – is the register of “newness.” Crucial to finding sign posts in this trackless field of new snow, one that morphs and shifts like drifts whitening out the Buffalo winter landscape, are ideas of what might constitute identity in the digital clime. There have been some inklings of this, specific panels at various Digital Arts and Culture conferences (one legacy of which is the yearbook in which this special section is appearing), specific panels at hypertext conferences, parts of some literary gatherings, a few publications along the way, and the disembodied congregations on listservs. The most tangible feeling though, may have been E-Poetry 2001, the world’s first digital poetry festival which took place in Buffalo, New York, in April, 2001, three and a half days of readings, panels, and conversations on e-poetry. I had originally planned the event in the spirit of famous (print) poetry festivals of the past, Vancouver in 1963 and Berkeley in 1965, when many of the movements in innovative contemporary poetry of that period solidified. In a similar sense, E-Poetry 2001 was the most upbeat digital gathering I have ever been, too. This was the first time that numerous digital authors, many of whom had previously worked together for years, even saw each other embodied for the first time! (Well, some bodies were seen to a far greater extent than others, but no matter.) For me, particularly, certain specifics of what sorts of communities might underlie “ergodic poetry” became evident.

As you mention, the articles by Damon and Andrews follow the thread of such emergent frames for locating this activity. A crucial poet and theorist, Andrews, of course, was also the editor of *L=A=N=G=U=A=G=E Magazine* (with Charles Bernstein) which was the focal point of the defining literary practice of that period. As such, he is an inestimable presence to a sense of community and to the relevance of radical practice. Damon is a scholar and reader who works across a wide range of strikingly relevant community, gender, and ideological formations. She has also worked extensively with Miekal And, an engaged New Media artist who, from a remote communal village in Wisconsin, has been at the cutting edge of experimental publishing and poetry for several decades. Janez Strehovec is another relevant critic here, providing a specifically European perspective. A participant of several of the gatherings mentioned above (and a previous contributor to the *Cybertext Yearbook*), his vision has always struck me as particularly informed and sweeping in scope. He initiates his investigation both in terms of historic European avant-garde movements and in terms of the trendier vantage point of computer games, investigating digital poetry as an extension of “the soft(ware) word”. His energetic survey carries us through several modes of thinking, with practitioners seen through the lens of Net culture.

JHC: Yes, I am always heartened by Strehovec’s enthusiastic critical performances, committed to newness as cyborg networked eruption. His utopia is the word as never before seen: the dynamic moving and morphing word, the rave word that spins and mixes poetics as intermedia. This is not utopia as a regime of literary-theoretical promise established nowhere. Which thought returns us to the past, from “new” cultures to what now seems “old” in the impacted, telescoped hyper-history of new media, where this qualifying “new” threatens to conceal within the term itself its own historical articulation. Philippe Bootz provides us with a poetics of electronic poetry based on a critique of its supposed historical origins, in hypertext. He does this by dissolving hypertext in the more general theory he resolves. It would have been possible and might have been desirable for us to put together a collection of essays on digital poetry with no mention of hypertext. Perhaps now is the time to lay the ghost of hypertext to rest, in this context at least. Bootz’s projects in electronic poetry date back at least as far as Ted Nelson’s coining. He is a pioneer of electronic poetics, a prominent practitioner of long-standing, and a founder-editor of *alire* the first periodical devoted to electronic literature. As such he represents

a tradition and practice that arose in parallel with the hyper-context that tends still to be more familiar to us. Bootz points out that Nelson's discovery of hypertext was the response to a *documentary* problem. It was never intended, by Nelson, to answer or address any problem of poetics, and it is arguable that Nelson, for one, was never even particularly interested in so-called narrative or fictional or indeed literary uses for hypertext. Bootz points out that writers – in his particular experience chiefly French poets and writers – simply discovered new-to-them compositional media in programmatological systems and went on to solve poetic and literary problems by exploiting emergent characteristics of the media. They made things that made poetry, without regard to a pre-existing theoretical or software form. Bootz as co-practitioner then goes on in the guise of Bootz-theorist to elaborate his “Procedural Model” which accounts not only for hypertext but also for other (arbitrary numbers of) literary machines many of which do directly address poetics. He provides us with some good tools of thought and also applies them fruitfully, by the by, to the work of another of our contributors, Jim Rosenberg.

In the English-speaking world, Rosenberg is, perhaps, *the* pioneer of poetry that is made and delivered in new media. Rosenberg is also known for his insistence on technical and theoretical relations with hypertext and its research community, while in many ways – as Bootz makes clear – his practice both extends and denies it. Here, he has given us a superb little paper which asks what kind of “notebook” is required by a new media writer. The “writer’s notebook” of print culture is just that; however, when, for example, we are about to make something, a poem, in which, as Bootz puts it, “the ergodic activity of the reader is itself read as a sign,” then what tools will we use to record the “notes” and other raw material of such potential signifying activities? This brings up many questions concerning why’s and wherefore’s around the design and engineering of new media systems, tools and projectors. Word processors and even hypertext systems get built, but there is, as yet, no off-the-shelf software for poetic animation (to mention what is merely one example of a potential poetic figure). Instead, we all spend our time misdirecting Flash to similar ends. Flash wasn’t made for poetry.

Thinking about it, can you, my divinely mediated interlocutor, think of any major practitioner of whatever it is we identify as digital poetry who has used vanilla hypertext for a significant poetic project?

LPG: Of course there would be some prime examples in codex form, such as Jorge Luis Borges. (Io sono at swoons over the writings of Borg-

es!) Despite all the high end, cranked up, crackpot multi-gigabyte CPUs burning the sinister world-polluting fuel of Adobe and Macromedia high end consumer products, I don't think his cunning elegance has yet to be surpassed. Maybe *codex* is the only true vanilla hypertext?? (And one should note that vanilla elegance itself, like basmati rice, might be the choicest flavor.) But your question is an interesting one, though you are putting me somewhat on the spot in front of this international audience of poet-practitioner-theorists. I'm feeling most human! Please everyone, close this introduction for a moment while I think!

[Rebooting...]

One would imagine that somewhere such a text exists. Just HTML, black text on a white screen, like the splendor of a sun-baked 52 Buick on a winding Habana Vieja side alley. I am also quite interested in your comment about the misdirected use of Flash. As you know, having been there, both at "Language & Encoding: A Symposium for Artists, Programmers, & Scholars" (Nov. 8–9, 2002) at the Univ. at Buffalo and at "New Media Poetry: Aesthetics, Institutions, & Audiences" (Oct. 11–12, 2002) at the Univ. of Iowa, I drew quite a bit of fire (friendly or not, the bullet-holes still rend too-human flesh) for even suggesting that Flash might not be ideal to our purposes. This extended even to vigilantes of scholars hunting us down for late night grudge matches over the pool table, where you may recall, our team sank the cue ball shooting the eight ball (that one atom blackly transcending atomic theory) at the crucial moment. (I think this similarly occurred in Providence, too.) Thank goodness there's no cue ball in e-poetry theory ... in this field we can stay on our table while everybody else lays down *their* coins! (Je blague – bien sur!) I bring up these recent conferences because, as we have been discussing the idea of community formations, I think it was apparent from these (all too) real world events that there is also a body of scholarship developing. The works by Bootz and Rosenberg here provide a very clear foundation. Of scholar-practitioners who are central and who were probing these issues early, there are few left (i.e., still addressing poetry rather than having gone after the high rolling life of related genres) maybe, besides Bootz and Rosenberg, just you and me. Bootz and Rosenberg delineate one approach to the medium however, one that truly could be called "historic" in their insistence on hypertext as *the* paradigm. (Of course, their use of the term is more sophisticated and more expressive than most link-noders could possible conceive.) One question that interests me is, beyond such foundational theo-

rists, what scholarly communities are in formation. In this vein I'm not talking about marquee scholars. Those will have their entitlement of an inordinate share of the attention – or maybe not. In any case their work is not at issue here.

I think what is crucial to the work we are presenting in this special section is that we are bringing forward newer voices that might provide some fresh and keen insights into the field. Charles Baldwin and Lori Emerson stand out in this regard. Emerson's essay provides a key breadth of vision. After identifying a triad of key texts in the field (Aarseth, Manovich, Glazier), Emerson does an incredible job of explicating the posthuman thread as initiated by N. Katherine Hayles. In this regard, I find it remarkable how she extends her analysis into contemporary practice. Her examination of Kenneth Goldsmith's *Fidget* in this context provides a fresh look at his piece, one that adds significant context to the whole issue of embodiment. Baldwin picks up a topic that has been debated at a number of recent critical gatherings on both sides of the Atlantic (or both sides of that smaller Atlantic, Die Nordsee, for part of that debate), the relation of code to practice. He touches notably on the writing of Florian Cramer, an active thinker in this area. I have strong views on this point, of course, and I have long been in agreement with the value of, as you have put it, "code that works." I have otherwise referred to some of the work being done in the arena of non-working, visual, or dysfunctional codeworks as being works of "pseudo-code" practice. In this vein, one review of *Digital Poetics* noted that certain specific practitioners were not mentioned in the book's topologies of practice. Well that *was* my intent, because the book *is* trying to define a *specific vision* of the field. I do think there is a line, admittedly elusive and permeable, that separates what, in the new medium, we might call "poetry" from other engagements. No firm line can be drawn but it makes sense to at least sketch in a guide line, indicating some scene of action. I think it is a remarkable observation Baldwin makes when he says, "Codework may involve a new genre alongside an emerging field of digital poetry". This may be the truest expression of where we are. I would suggest that, though the line will be crossed throughout this collection of essays, one will not find codework authors really present here. To address "Ergodic Poetry" I find the distinction between codework and poetry a fundamental one and, to paraphrase and recast one of your comments, it is "language that works" rather than language of surface dynamics or code as curiosity, as interesting as that can be at times. Baldwin

suggests the term “software art”, a term I like inasmuch as the emphasis is on writing our own software. Obviously, this smart suggestion is plagued by the fact that most people will think of commercial products any time “software” is mentioned. But, back to the basics, I’m not unhappy with “poetry” as a term. As the title of this special section indicates, the editors have perspicaciously not asked us to address “ergodic writing” or “ergodic text”. The temperament of poetry can offer much when it comes to thinking through such practices of *working* language. Dare I suggest, within the context of networked and programmable media, we propose a continued use of the term “poetry”, oh venerable voice across the Atlantic?

JHC: Dear human, I really didn’t mean to put you on the spot like that, but then you hit it anyway, as expected. I’m now much looking forward to our next road trip: “sun-baked” sounds good when you’re clicking away in soggy Keats-ville. I think that these very phrases, by the way, are like Bootz’s notion of the “anchor,” seemingly for him the one instantiated aspect of a “classic” hypertextual model that provides a literal “doorway” to the full potential of the virtual text-of-inscription that is addressed by an author, be she writer or poet. Unsurprisingly, for us poets, this demonstrates – I mean right here, in mid codex (yet again, and “comme d’habitude”) – how poetry, when it is poetry, has always done the job so well of providing “doorways behind each of which a reader might discover much more information that was immediately apparent,” precisely by being “anchored” in a practice of vessel-making, be it Keats’ urn or some ocean-spanning cybership. “Node, link, navigation” pales in the play of our poetic embodiments. Think how “vessel” ambiguity defers navigation – how far? From where to where?

And no, I don’t think that we should be afraid of the term “poetry” or be unprepared to distinguish it from the codework Baldwin addresses. Only that “poetry” has an impoverished common usage that is often far from the way I think of it, as “a trial of language.” As such, I would allow a wide range of linguistic practice to be counted as poetry where common usage might find no formal features to recognize it as such. For me to deny (some particular type of) codework poetic status would be to claim that it does not make a significant trial of language, that, perhaps, it simply *uses* language in another, or in some relatively novel mode, as conceptual linguistic art rather than poetry.

Of course it’s hard for me to avoid the fact here that Baldwin takes me on directly in the debate over code and codework. I’m glad, by the way,

that this debate enters into our selection, and that we can provide links outward to some of the existing contributions. Whether codework is poetry or a new genre, still leaves many questions concerning the role of code and coding in all language-making – be it documentary, narrative, poetic, etc. – unanswered. Baldwin makes a neat move when he suggests that it may not necessarily be critically significant to say, as I have, that code, as incorporated into the interface-text, is broken, does not work. As he says, precisely its failure to work – and how this failure, for example, reflects on the fetishisation and commodification of productive “power” that dominates technomedia – may be part of an aesthetic which becomes a genuine trial of language (and society) and therefore also poetic in my sense. Nonetheless, when, at the end of his essay, he turns back to Rosenberg, he turns back to work in which the code is hidden and working – unlike in most codework. How this hidden working of a text-that-is-not-the-text yet functions as an intrinsic property of atoms of signification, the discrete material of poesis: this question remains an obsession for us, and needs more work.

We’ve got this far, fellow all-too-human, having touched on all but the essays of Simanowski and Beiguelman, both of which also take us outside the usual frames of reference for poetry as it is commonly constructed.

LPG: But to an informative outside, it is clear.

JHC: Simanowski discusses Simon Biggs’ *Great Wall of China*, a text generator based on Kafka’s prose. He discovers a poetic – “language as an *individual* house of being” – that emerges from the entire system that Biggs has made. Again, if Biggs’ work is poetry, it is not because of its raw materials, but because of the way it addresses language-making. I keep coming back to Bootz’s theorizations (partly because I have attempted to understand and translate them for our selection), and Biggs’ work is a good example of how the reader is – very explicitly – cut off by coding and mediation from any direct experience of what the author experiences as Bootz’s text-of-inscription: the particular dataspace or linguistic world of the piece as it is composed but before it is (actively, ergodically) read. Instead, the reader must maintain a relationship with language that literally constitutes a text-of-reception. The question is: when do we call such a relationship poetic and when do we not?

Beiguelman acknowledges her roots in international and Brazilian visual poetry and outlines some of that history for us here. How do you find that or some other poetic translated in her contribution and her work, my sun-baked Buick?

LPG [tail fin glimmers nostalgically]: Actually, next month literally, I will be back to the sun-baked Buicks and chan chan so these metaphors are not off the chart. (Especially also since the avatar has noticed that though the thermostat in this house is set to 70 it will only heat to 62. Given the 8 degree F. temperatures out there, this could seriously affect our processing speed!)

So, like the eruption of bats when one pokes their nose into one of the Mammoth Caves, here is a flurry of thoughts, most Kentuckian in contours and continuities and dammit because one likes the banjo and harmonica! (I have even heard one of the editors of this section playing the latter in the byways and back alleys of the Motownesque digital metropolis of E-Buffalo.) I think it amounts to what one would think “poetry” means in this day and age. Is it, like the stuff that wins “poetry” awards, some stiffened stricken regurgitation of modernism? I’m not saying that modernism can’t be beautiful. I have enjoyed hours too numerous to count immersed in that intoxicating aesthetic. But I do find it problematic when workshop aesthetics or modernist practice tries to label itself as “new”. As if the crop contents of adult birds that is regurgitated into the beaks of the nestlings can be considered “new” food. Or worse yet, when such poetics of regurgitation associates itself with digital poetry, I feel that is especially heinous. It is self-serving and ideologically suspicious, denying digital poetry’s present possibility to embody completely new forms of innovation. Such moments are all too rare in just one lifetime! The uninnovative and decoratively hypertextual tries to suffocate the medium with old trappings of I-deology. This conflict raises the question of what *poses* as digital poetry vs. what *is* digital poetry. Though I admire your generous, convincing, and indisputable defense of codework as poetry-in-spirit (if not in-flesh), I wonder if the pseudocode practitioners themselves would call their work “poetry”? I think the argument that code must work has real merit, though I see there’s a lot of latitude in *how* it might work, as you explain. I see there are many axes of “working” – metaphorical, symbolic, etc. – but aren’t those really codex aesthetics? I also acknowledge your more general suggestion that “poetry” has “an impoverished common usage”. That’s why you and I turned down those distinguished professorships at Oxford! ‘Cause we couldn’t beat that poor old tired horse any longer! I would posit that even more important is to consider poetry as a way of *thinking through* the materiality of a given medium. (This is a point I stress in my writings, with Robert Creeley as an informing pres-

ence.) It gets worse when one argues for *innovative* poetry, too. Unfortunately, rather than being “a trial of language” it often seems to be a kangaroo court of L=A=N=G=U=A=G=E, a point that has been made in the literature of late. Writing poetry as a way of thinking through a medium, though, to me offers a tangible path.

But let’s propose a test case. For example, one could conceive of a work where:

1. One made visual patterns in the code;
2. Compiled it and ran the program, and;
3. Sounded out the results.

Through cycling over and over through such a process, one could adjust the visual patterns of the code to modify the sound and continue revising while sounding. In that manner, one would have the hidden quality of working code to which you refer but also the tangible quality of code as part of the material (and in this case aesthetic) struggle that brings the work of poetry to the screen.

[Clicking on main window...]

That Simanowski brings up Biggs is truly germane to this discussion. Simanowski has a particular authority, as an active digital publisher and for his tireless enthusiasm in the questions of new forms of literature. The Kafka text that Biggs uses is particularly germane because there is a poetics involved – an almost perfect poetics (of grammatical construction) – and yet I’m certain that Biggs would immediately deny he is a poet. I believe he would disavow any relation to the production of text; an aesthetic distance he rather relishes. (That’s why he had Kafka make the text!) Since the work works so extraordinarily, one would have to observe that here is a poetics of code that works.

Beiguelman’s piece offers much more of a conceptual engagement than a historical overview. Working through it closely, as I pick out a few threads and work at polishing its translation, I see that it is about poetic vision in material circumstances – exquisite relations indeed! In this sense, Brazil could be very instructive to our explorations of “ergodic poetry” because it is both isolated and connected, because it is both visual and textual, and because it is bilingual – and all works of digital media involve multilingual thinking. (Curiously, as a rule such interlingual grounding is far from the norm in the U.S. context – as it is in the British context and the

Canadian as well, Quebec included. As Beiguelman notes to me in an e-mail, “In 3rd World countries you are not allowed to be monolingual.... You are the only bilingual American I know!” (E-mail message, 8 Dec. 2002) So I see her history as a record of ways that visuality and textuality have crossed-fertilized, miscegenated, reconciled; and ways that methods and media have converged, called each other, and accommodated the shifts of history that somehow seem accentuated, if the record of Concrete Poetry is any indication, in the Brazilian context. The poetic about which you ask me is one of somehow crossing boundaries between languages while at the same time remaining “true” to the historic mission. Her article draws an affinity between those struggles and the present case. We are indeed at no less of a historic moment as we tackle the issues here before us.

I am always struck at how riled people get when L=A=N=G=U=A=G=E is raised and when I suggest that the perspective of the solitary “I” might not always be the most useful one. Immediately, the hallmark card of personal expression is pulled, as if it were a trump card and one hears the protest, “But *I* do matter.” (Yes you do. Put two quarters on the table and we’ll get to it!) I really think this lands us squarely back on the issues of community and poetics. It’s useful that Andrews enriches this collection of essays with his sense of radical practice – and that Damon provides the scope of “countercultures of practice” grounded in the likewise radical varieties of practice, from backroads Wisconsin farm country to glistening Cape Cod to the stultified cultural vacuums of La Florida. This radical approach is not necessarily addressed in this section exactly as I am addressing it here. But I invoke it as the missing dynamic in our conversations, the overlooked communal urgency in the headspun, visually mesmerized, Ted Turner media overloaded catastrophe of the medium. Radical digital poetics, “radipo”, as it has also been called, step forward! I was most struck how even the suggestion of radical practice drew such ire at a recent critical gathering (just four hours from Wisconsin). My detractors seemed to want to pose the counterargument, “Aren’t we beyond that?” I was floored. Here I had been thinking all along that the joy of this fresh new medium was nothing less than the possibility of radical practice itself! (Did I ever tell you that Berkeley has air-puffed, fat free french fries? You can eat all you want!) Radical practice, alternative community, bodies/disembodies, e-poetry festivals, and all night pool. (As long as mainly unskilled participants get to play. Who needs, zzzz, to watch those sharks sink ball after ball? Let the poetry bozos make quarters last for hours!

That's what really pisses them off...) Counter to dominant culture itself. I think that communities are defined by various landmark publications, such as this one, and by defining gatherings, such as E-Poetry 2001. We are now in the midst of planning E-Poetry 2003 in Morgantown, West Virginia (co-organized by Charles Baldwin, one of the contributors to this section). The first E-poetry cast somewhat of a wider net seeking to postulate: what would the broad terrain that *includes* e-Poetry look like? E-Poetry 2003 is much more specific, following on the heels of a lot of listserv caviling about the impossibility of even trying to define "poetry" in the digital medium. For this event we seek to draw a much closer aim on the pulsing heart of this matter, *mi pequeño amor*, where the material matters. Again it will be a festival where a community is identified; perhaps more narrowly, but there are so many more voices here now than there were even two years ago!

To answer the question of when we call such a relationship poetic and when we do not – an absolutely essential question my fog-dignified Bentley! – I would say: *when it transforms the medium*. It is a bit of an enigma to illustrate this point, I admit. Here in my northern climate I spend many happy hours on cross-country skis (if the rum-toting St. Bernard doesn't show I go out looking for it myself). Engaging the medium is much like the paradox of cross-country skiing. If you put your feet down you stop. As long as you keep the middle of the skis up (your feet) and try to glide, even awkwardly, you enter a rhythm of movement that defines, through its specifically dynamic nature, what movement is in that context. So I can't really answer your question about where to draw the line (and our dear Finnish hosts may have much more expertise on the cross-country topic than this Tejano two-stepper – though I do have more experience than they in digging cactus thorns from my boots!), but I do think that fixed texts, output as product, and/or artistic arrangements of static (and that means repeatable) visual tropes, give rise to pause. My personal satisfaction is in texts that are almost always different each time you view them, that are navigable but variable. From the perspective of performance, this seems to put the poet in the pot, flame turned full kilt, really makes the poet perform for their money. (As if remuneration even ever occurred!) From a literary perspective I'd suggest that what is the work of digital poetry *is* how it *works* – even better if this "works" is both figurative and literal. I'm only describing a specific bull's-eye of interest that, I would argue, extends from many innovative artistic experiments of the 20th cen-

tury, that has real precursors in that history, but that somehow seems to have been waylaid in the virus-conscious safe lex practices of the static 21st century. It's the action that makes sense – action on the lexical front and action on the code level, code that cranks right in front of you like a homemade ice cream machine! (Please make mine mango.)

JHC: Don't you just love it when a generator generates! Crank it right on up, I say, snow or no snow. As for me, I feel as if the fog must clear, that I must respond to the underlying question of why does it matter, however briefly but clearly as we close and open out to the essays themselves. First, oh snow-glider, your words provoke my constrained generative sino-telegraphic quatrain subroutine:

poetry thinks language trial medium
code works exquisite pattern relation
vision experiment performs radical practice
countercultural community cranks digital machine

It is important to acknowledge the ways in which artists self-identify because this does help us to be more clear about what it is they do. Are you, as an artist, willing to call what you do poetry? You are. What is poetry? It is a trial of language. At the same time it is language trying and testing your practice, in your case, digital practice. I agree whole-human-and-posthuman-heartedly that poetry is thinking through and radically reconfiguring the medium. The primary medium of poetry is language. Poetry thinks through language. Language sometimes thinks through poetry. The atoms of language – at all levels of linguistic structure, from letter to docuverse – are objects with properties and methods. They may be instantiated in the poem and they run and respond, performing the events of language. Time – duration and change – is necessary to their existence, their performance, the navigable textual spaces they generate. A program (or 'method' in this extended Object-Oriented metaphor) sets out what is to be performed and promises both the event and the intrinsic temporal character of the sign-string. Programming is emergent as an artistic practice due to recent technological history. The programmability of digital media helps us to perceive the intrinsic temporality and programmability of the sign itself. Signification is programmable at a granular level, and this is poetry. For certain kinds of artistic, aesthetic, social, and political purposes, we may both extend and override the methods and properties of tradi-

tional classes of literary objects. It matters both that we make and what we make. Therefore we must pay special attention to who is making, where they are making and why. When radical countercultural communities reconfigure and reprogram the very medium of an (inter)language that may hem them in and hold them down, when they make literary objects in new media that allow them to be silly, sillious, serious and exquisite, that is poetry, the poetry our contributors address.

LPG: I find the atomic perspective and the object-oriented metaphor, as we have passed these methods back and forth between us over time, to be very useful. In fact, they are so useful they cannot really be fully explored in this window. (As I enter textual data, it is Christmas Eve, 2002 and packets o' Saint Nick are already being piped via the flue object, locally declared to my homeranch.) Because, as you mention, it's really time to get on to the essays! I think they will mark a real beginning. I am not certain we can lay claim to defining what radical practice might be but, especially after many recent conversations at gatherings in the field, if we have at least introduced it as an object of contemplation, a jade enigma or flickering flame on the altar of if-we-are-artists-then-let's-do-more-than-reinscribe-the-same-old-doggone-dogma (a sect so radical our robes, though silky and dazzlingly bejeweled, are all open source), then we have declared this object to be of a public class. I think that is something we need to do, the two senses of this in one, take this class to the street and declare that this art should be public property. Thus declared in a responding, unrestrained quatrain:

dogma oh best to leave that old bone, err, aburied
no more shall we, soft Microsaps, merely consume – instead
odes to the grindstone, hand code, radical radiantly we
make our own objects, hence the “ergo” in “ergodic”

Thus, my friend, and to you comrades who have joined us for this conversation, I suggest we read the essays that follow – but in the spirit of things – let's make this collection truly ergodic. Read with limbs akimbo, shout aloud with passion, tear down walls, self-defibrillate, cumbia from one page to the next, let your bones sing. An ergodic poetics? Let's make the medium into our own making.

</DIALOGUE>

ELECTRONIC POETICS

Bruce Andrews

Going electronic. Radical or so-called innovative literary writing faces (& that means faces up to) the facts of life in the digital age. If you have been committed to foregrounding the processes by which language works, to the unsettling & detonation of an established medium – what then? How simpatico is this potential cyberworld as a staging area & as a reading environment?¹

Raw material: if you use language in its “unfinished” (less thoroughly socialized) state or at a molecular level, the project lends itself to the jammed, disjunctive situations of the screen with its striking dispersions or overlaps. Densities of significance can become visibly spatial, programmatically animated or varying or self-mistranslating. So at least the electronic realm can show the dependence of sense & meaning on technical mechanics, even if not on an encompassing social system of language. Can we lay out – sometimes keeping them present as separate & navigable layers – the alternative choices & building blocks of discourse as an array of hypermediated ready-mades, with the bleed-throughs of palimpsest-like sense solicited by the reading process?

If editing is a dimension of reading; if reading *constructs*.... Can the electronic process of writing offer us an active enough editing, involving us – but with some critical distance – in the aberrant, nonnarrative wanderings of textual sense? As prescribed menus & fixed choices & coherences of branching give way, a directive gets issued for choice: order off the menu! Spatially, to make a freed-up connectionism, once incessant comparisons & linkings are given a physical presence on the screen, externalizing the associations but keeping intact much of the (nonhierarchical or unimposed) experience of hypertextual (& Web) surfing. Couldn't the screen become all middle, all between, back & forth, side by side,

fostering an experimentalism of interpretation & processing, without a smoothness of the surface or familiar signposts to plausible and/or psychologizable depth? Even conventional link-node hypertext can build some of this directly into the writing's physique. And, in hypermedia, given the lure of image & sound & layering, programmable variation or retranslation as well as interactive navigability, both normative syntax & literary convention stop being the obvious way to organize the microscopic bits of language material.

How else can an electronic poetics emerge out of such "agrammars" of collage & multiple sequence, such "workings" of nonidiomatic, labyrinthine difference? The central emphasis on (inevitably social) Language (with a capital L) among literary practitioners in recent decades offered a way out of the autonomizing moves of earlier modernisms. Does the electronic world tempt us back into another version of that autonomizing? Stripping away these humanist touches (& personality signatures) of the author, we can end up with the computational logics & resistance to rhetoric of Artificial Intelligence (AI). Of course this allows for faster & more dazzling unseatings of "the personal," for mechanizing & de-authorizing the writing process. Yet the "event" of language – & the time of its literal work & play – can threaten to disappear when it gets subordinated to fixed procedural systems. Hypermediated readership may run the same risk of enthrallment to an AI model that we sometimes find in conceptual art.

As with procedural writing in general, the textuality of this electronic art may "thin out" the complexities of reception or undercut the (constitutive) emphasis on active readership – on reading as much more than the sensation of being caught up in (or cannibalized by) an algorithm. Can we banish the author as a dictatorial pseudo-presence, without reducing the mode of reception to a minimalist/behaviorist schematics?, to the coerced trip or grammar of a hidden code, a secret logic of citation & refiguration? Although textual space may get fixed or objectivized through the use of deductive systems or formalization, texts' meanings do not magically acquire autonomy. Textuality does not operate "in itself." Signification depends on readerly experience in time & space. And so, a timely electronic textuality may ask us to move beyond: not only the personalizing projections of conventional literature, but the reductive spectacles of artificially intelligent net art & the automatisms of prescriptively procedural coding; to let its space remain the staging ground for interactive trajectories of *reading making sense*.

The linguistic or semiotic “object” is a present tense “event” activated by the reader, made into an active accomplice of textual meaning. This occurs by memory & association & by the game-like play of teasing out implications: qualities that reading shares with the work performed on data by computer users – searching, linking, exchanging, classifying, resizing. But why virtualize or automatize this already navigational space of reading according to a preprogrammed taproot? Why put all this elaborate audiovisual & shape-shifting & spatially remaneuvering apparatus in the service of a straitjacketed or passive reading style? Thinking about the computer’s interface & mode of address, the distinction between *looking through* or *looking at*, between the beholder’s immersion & the reader’s active use is still (unfortunately) relevant.

I’m struck by the recent arguments of Lev Manovich’s *The Language of New Media*. He highlights the current trends in the cyberworld (& more so in its commercial precincts) toward reinstating a traditionally cinematic (or centrifugal) experience of immersion – of video playback, in psychology-centered & storytelling forms; a 3-D virtual simulation made from compositing, instead of the raw edits & exposed boundaries of the vectors of meaning created by montage. A montage aesthetic can give way in the face of a deceptive visual blend (or eye candy), a glorifying of seamless continuity & psychological captivation with an illusion of plausible depths. In the “fourth wall” traditions of VR just as much as in sentimentalizing “scenic” & imagistic literature, absorption is at the heart of fiction (& its fingerpuppet, “workshop poetry”). If we add, to this programmed calming & unshocking, the pre-set trajectory or assembly line of sequencing within an imaginary plane – (maybe even with digital immediacy fostering fantasies of relinquishing control) – we get something similar to those troubling social processes of interpellation, hailing, recruiting. As if the electronic media were ventriloquizing speech. And readers were its dummies. (Is the ghost in the machine the sum of its *receded* possibilities?)

However fashionable these trends may be, we can still highlight the other dimension of what the cyber realm offers up to contemporary writing: the “Database Logic,” as Manovich calls it, in contrast to the narrative & illusionistic form privileged by conventional cinema. Viewers’ Perception/Representation sits on one side, Users’ Control & Agency on the other. In the latter, a *database*, a structured collection of events of sense-making, is spatialized as Control within Reception of a body of material on which you can perform various operations. Here the *screen* is designed

neither to be looked through, nor looked at from a (comfortable) distance. Language on the desktop becomes an interface to an elaborate multimedia database, with huge responsibilities (for semiosis, not just information) placed at the users' fingertips. The database itself can take precedence over any prefixed menu or imposed selection. Reading's task: to reentangle, rather than decipher; you don't decipher a labyrinth. Your clicks of attentiveness pile up into a density. An opaque screen becomes an action-oriented control panel, no longer colonized (as so much traditional literary pagespace is) by 3-D illusion. You want to intensify the reading action to the point where you abolish that auratic distance which absorption into the spectacle requires.

Instead of the ribbing of a story, space turns more explicitly into a flattened navigable datasphere, an information space & more: affective, semiotic, multimediated, no longer abstracted into the blind machinations of programming or backgrounded by engrossing distraction. Resonances can be scored spatially, & not just in the layers to which clear-cut visibility succumbs.² Taking away some of the narrative coerciveness of temporal sequence, this spatializing helps to dehierarchize material, reframing & resizing its semiotic spelunking into huge leaps & shifts of scale or into the frame within frame concentrics of cascading style sheets or hypermedia stacks. Readership operates more like a search engine, with the production of meaning as the reprocessing or tactile "working" of information from a database – nonidiomatic, outside of any imposed narrative or fixity or genre. Instead of a looping or sequential preprogrammed unveiling of sense, we get Random Access Memory; outside of the prefixed trajectories of much hypertext, with the reading experience a bit homogenized, formulaic (made to fit the "little form"), something more generative appears.

We can think of the textual surface as an instrument panel, the screen as a flat & opaque workspace, given enormous fluidity, activating the user's body. *Action* replaces both the passive *representation* of conventional literature & the passive *spectacle* of animated, programmed work.³ It embraces navigation, micro-evaluations, conceptual animation, freeze-framing, editing, blending, filtering, subliminal cut & paste, time compressions & expansions, frame resizing: practically everything we need to sidetrack closure. Here the aggressively focused gaze may be as out of place as the yearning for the iconic which has bedeviled visual poetry. Instead, we want an active mapping – with "map" as a verb instead of an imposed noun.

Since *relation* is what counts within this nonlinear space, we want language able to highlight (in a literal way) its intertextual webbing of sense. The intertext is not a prescribed quest, an odyssey of replacement choices, of shutting out the margins to create some (virtual) forward momentum, as it is in some hypertext fiction. That compulsory sequencing can seem weirdly “off point” when the electronic databases give us the possibility of a more spatialized simultaneity & density. “Database and narrative,” as Manovich puts it “are natural enemies” (2001, 225). Precomputed trajectories & preselected viewpoints amount to *decisions*. By leaving them open to choice, user multiplicity opens up. It can make literature more like the composition of an online encyclopedia, of an archive – with the paratexts, the margins, the bibliographic coding included as a vertical dimension, a positioning or layering of the language material within outside contexts of implication. (McGann 2001.) Beyond the cannibalisms of metaphor, we get something more like a viral metonymy.

Reading, more like software extensions do, “performs” instead of appearing as the deductive end-product of AI logic. Of course, *surprise* can be programmed, just as it is with chance-generated procedural texts or the heavily constraint-based texts of OULIPO or its progeny. But self-created individualized surprise, which we value from our literary reading experiences (whether these are trained on sophisticated poetic texts or on the detritus of the urban flaneur) gets us beyond this. *Sound* offers examples: we have no way to capture sound in an instant; it can’t be static the way that a photo snapshot can be. And so the acoustics of electronic textuality seem obtrusive because we can’t pinpoint it in time & thus control it. Sound thus probably requires more of the specific user controls of software to make a polyvocal ventriloquism out of its raw materials. (Area for future research: a hypertextual sound poetry.) From this vantage, *software* offers a model for *reading*, & not only for the determinate proceduralisms of writing. Readership is reimagined as software use & not just as the target of programmed sequences & puzzle-solving.

Even though the meanings of language often seem more like an afterthought than the organizing principles in the digital domain, sense & its production (both narrowly linguistic & more broadly semiotic as well as social) remain key – beyond decorative (even if kinetic) visuals & sound. Language’s social resonances still need center stage, choreographed to implicate situations beyond the immediate GUI (Graphic User Interface) & to “remind” us, by interpretable social choices (& the social force) of

language, of the world(s) beyond. Semantic relations (with arrangements of time & space & grammar & typography & sound as vehicles) still top the hit list of socially relevant material. An immersive virtual space may encourage us to forget this, to vaporize everything outside the frame. If language is social, how can we make it resistant to a VR set-up? How to get beyond the razzle-dazzle (or comforting aura) of absorption, or of programmed works that make the prior socialization of the material (& the social antagonisms or dissonances built into them) seem to vanish. If the osmosis of meaning is inherent at the barest denotative (or protosemantic) level (McCaffery 2001), an algorithmic work could allegorize this in production. But *reception* carries other demands. Meaning grounds social address. Social address reconfigures meaning. If we want to probe the hailing or interpellation of social address, how can we do so in our electronic work? (Not just with avatars!)

One agenda item of radical imaginative writing continues to be to forge some *distance*, to aerate, to help readers avoid being sucked unawares into the textual dynamics. To maneuver its raw materials of language into a showing or theatricalizing of the ways that meaning is produced. To “lay bare the device” involves more than the technicalities of permutation or the long “advertisements for myself” of recitals of deterministic procedure. The *contextual* is a social arena, not a matter of machinic specification. And so we need to focus on the social horizons of the language – in the lexical choices, the grammatical choreographing of the scope & shifts in scale of relationism. A Brechtian-style distance *at the semantic level* is still valuable. (Andrews 2001.) The aim is not just a referential sociogram, a mesh of social connections among the things represented. We’re not asking for a transparent reflection of socially charged material. The task is to gain a sense of words as interfaces, implicated in prior (& *future*, imaginable) social coding. The readers’ map becomes the intertext, letting underlayers of significance show through. Sense is an elastic social game world. If you want to create a social connectionism, it has to be between the social tilts & volleys of the language; it has to reverberate off of the reader. The pleasures of anti-illusionism require active work. Reading, put more directly in charge, is intertextual. The reader is the (modifying, reconfiguring) playback device, not the target of it.

Reading style can be exploratory, as long as we’re within a navigable space more hospitable to multiple simultaneous screens or “accounts.” Without as much of a preimposed logic, or absorptive strategy, or obtru-

sive hyperlinks, the realm of *tactics* expands. Certainly the computer world offers new opportunities for nonrepresentational fragmentation, for a close-up encounter with particulars, an orgy of unfixing, or incompleteness & interferences, of simultaneity or collaged noise – made from a density of micro-referencing & intimations which can be defamiliarized, detoured, re-backgrounded & networked. Density can make for a new visual & aural immediacy, for the artful choreographing of a semiotic value coming in & out of focus. Software on the reader's side can bring this fluidity of the units to the front, to make "sense" a performative (or public relations) technology. Reading must be granted its rights to "teleaction," to control over the remote layers of significance & their opportunities for recoding. *Tactics* here might include taking active charge of the margins, the paratexts, to pop their bibliographic codes & contexts in & out of sight, earshot, hand.

Meaning's activation makes an *architecture*. So why not make full use of digital software in fabricating it? In a space less fixed by the needs of representation, subtleties in animation or design will make for an architecture liquid or dynamic enough to accommodate the text's contagion. In a vicarious way, we would reenact the production process – through the layerings & driftings of sense, not just through some phantasmagoric spectacle. We improvise an (incremental/paratactic) domicile or habitation which can "contextualize" the lyric in the form of a hypermediated Web site, actively crafted & open to user transforms or even to reader-customized markup language. To let meaning on the reader's side, beyond the mathematicizable simulations of the "Turing Man," create an architecture of difference & hybridity. The automatisms of proceduralism or algorithmic processing give way to the desktop as reader's navigation control panel.⁴ We revisit the moment-to-moment focus of gameplay, but now without even a hyperlinked net underneath us. Our only protection is intertextual & thus generative or promiscuous: we're only "secured" by the proliferation of possibilities, side by side; by the explanatory & positioning force of the words.

What types of action does this suggest? The multiple & simultaneous commands & desktop options within software programs (or software prostheses) offer up a parallel – closer to the experience of reading, for example, so-called Language Writing than of sitting still for streaming (& maybe ambient) video. For texts, look at what comes loaded with word processing programs like Word. For visual images, look at the simpler controls

over JPEG images or MPEG files with QuickTime or Acrobat's PDFs. For sound, look at the simpler controls that come with RealAudio playback or over MP3 files. Later: imagine controls & filterings & transforms as complex as those of PhotoShop or ProTools audio software or MAX/SP programming or Action Scripts in Flash. For combined text & sound & visuals, we find ourselves with Web site design as a model – in this case, the design of a pattern of multiple (possible) trajectories through a body of language, socially charged & layered, treated like a searchable database. We start to erase the line between writing & “desktop publishing,” between usability studies & the poetics of hypermedia.

In the digital domain, how would writing build its authority? (Instead of an incessant virtualizing or dazzling automaticity, wouldn't it come through the micro-referentiality of the language? through representational detail, at the word-by-word level or below in the “factory” of letters & syllables?) Electronically, scaleable, writing helps us work in miniature, not to negate these semantic “surface-charges” or powers of language, but to reactivate them at a micro-level. Should we let a vaguer overall vibrancy replace the narrower-scaled duties of reference or protosemantics? Does elaborate overdetermination & density make for visceral immediacy, or even strangeness – by close-up? Can physical movement in space replace the simulations of monocularity & psychological movement? In some depsycho-logicalizing combination of the literal & the virtual, could *user control* create enough reflexivity to suggest transparency, semblance, mimesis? The imperious subject, no longer upholstered by its typical personalizing projections into a familiar pagespace or strata of possessible meaning, could be made *object*. But as a reading protocol & not only as a writing designed to program the subject into an algorithmically skeletal shape.

One result: to allow the self to be shattered – but by *meaning*; to be laid bare as its device: by multiplicitous positioning, sensory overload & excess & special effects, with radically disjunct material, words empowered by a spatializing, by superimpositions & links & scrolling. After all, how fixed are the units & elements we want to juxtapose? Electronic writing can more readily show the mutually shape-shifting & charging & impinging & implicating of units cross-dissolving together in a collage's mutational vibration. Not: the self-scrolling & morphing text based on the prior programming of an overarching structure working its way from the top down (to “us”) – & often meant to be “impressive” rather than “readable.” But instead: an inductive experience of mutational reading, a forging of rela-

tions from the bottom up. An unprogrammable gameplay, partly because the stitches show, in a corrosive closeness of complicity & investment. Without the detachments of aesthetic distance or seamless compositing or of being “remote controlled,” we appreciate the surprises of anti-narrative. Isn’t it all about reconstellation, reconnectionism; to set words & phrases into a spatial *redialog*, based on a hybridity of multitasking: layers & stacks, switchings, multiple windows, concentric circles of significance & emblematic implicationism, a post-behaviorist arena of multimediated flesh rather than just of mathematical computation. If “Software = Us,” we move from nonreferential formalisms & procedural formalizations to a *social informalism*.⁵ A *future* – unplanned, full of inventiveness – opens up.

NOTES

1. See Stefans (2003); Goldsmith (2001); Glazier (2002); Ryan (ed.; 1999). In particular, I'd like to warmly thank Kenneth Goldsmith, Loss Pequeño Glazier, Darren Wershler-Henry, and Brian Kim Stefans for helping me start to dip belatedly into digital waters. These skeletal remarks also carry forward some of the argument in my September 2001 talk in the Textual Operations series, "The Poetics of L=A=N=G=U=A=G=E" (which is available online at Goldsmith's *Ubu.com* as well as on Darren Wershler-Henry's *Alienated.net* Web site; forthcoming on my *Electronic Poetry Center* Author Page).
2. See Drucker (2002) on the digital remediation of Charles Bernstein's *Veil*.
3. "Conversely, computer poetry that makes use of flash technology – although providing a certain degree of reader of interactivity essentially turns the reader into a passive video-viewer of predetermined authorial intentions." (Osman 2002, 369.) As Stefans notes, even as a form of "Civilized Dada," "the CP [Computer Poem] may, by inflicting its rules on the user, transform the reader into the paranoid." (2002) To imagine a readership less vulnerable to the impersonal machinations of algorithmic processing, he calls for ways to hook into convention & the everyday, the emblematic & the game, dissimulation & metastasis.
4. Manovich (2001); also Bolter (1984). And notice Rem Koolhaas's contrast between urbanity & architecture, quoted in Scholder & Crandall (eds., 2001).
5. See Andrews 1996; Andrews (2002); Andrews (2001); Andrews (1998, also included on my Author Page at <http://epc.buffalo.edu/authors/andrews>).

ATTITUDES ON THE MOVE

On the Perception of Digital Poetry Objects

Janez Strehovec

Digital poetry objects form a genre of their own that is influenced by the poetry avant-garde and neo-avant-garde, visual and concrete poetry, text-based electronic installation art, conceptual art, Net art and software art. It includes kinetic and animated poetry, ergodic and visual digital poetry pieces, e-sound poetry, interactive poetry (with collaborative authorship), digital video poetry, digital film poetry, hyperpoetry, code poetry as well as digital textscapes with poetic features. It is of importance that this genre applies an expanded concept of language based on the interactions of Netspeak and programming languages. In other words the language of zeros and ones and ASCII and HTML characters is involved in new poetic structures with striking visual, animated and tactile features. Web poetry objects is a new medium, one that enables the user to go into the poem, which can serve as a soft interface and even as an instrument that demands very active and sophisticated perceptual procedures.

How can one approach the specificity of this medium; how can one find a proper way to decode such digital literary pieces which are influenced also with the software art by Jodi, Olia Lialina and Alan Sondheim? First of all, one needs to take into account a very nature of the digital word itself by analyzing its appearance within the new media, from music video and computer games to Web pages, e-mail and SMS.

In the Web computer game *Trigger Happy* (1998)¹ users are encountering highly unusual situations, which are challenging and provocative to common forms of cultural communication of the Western world. This game, which is based on the format of the *shoot-'em-up* classic, *Space Invaders*, does not use as its shooting objects hostile newcomers from outer space or other armed zombies; the role of the moving target is assumed by

the text, not just any text, but a fragment from Michael Foucault's essay "What is an author," in which Foucault has far-reachingly deconstructed the institution of the author in a modern sense. To succeed in this game, which brings a successful player into the Web environment of a known search engine, one must break up text and destroy words, which puts authors in an undoubtedly awkward position. *Trigger Happy*, however, is by no means the only computer game in which the text of a well-known author is used as the "spiritual background," and the object of interaction at the same time. An important place among Web computer games is also occupied by Natalia Bookchin's project *The Intruder*², which is based on the text of the same title by Jorge Louis Borges. When playing this game, which poses, in a subtle way, questions of gender and aggression in the world today, the user is also interfering in the text, catching words and stopping them. A moving Borges text is running in the background while individual words are "raining" across the screen, and after they have been successfully captured in a "pot" by a user-player, they trigger the sound part of this object – the reading aloud of individual words.

The question arising here is what is the nature of the word that is entering an environment that is, nowadays, so profound as well as trendy, such as the world of computer games, the "New Hollywood," rapidly becoming one of the leading entertainment industries in the developed world.³ What is the word like when it is being shot at, or intercepted, or being used as a material for creating digital textual objects, objects which form the basis of the new Internet medium appropriate for digital literature? This question is being posed in this essay, in which our point of interest is the connection between the trendy sensitivity of today, and the creating of e-poetry, which is trying to get as close in nature as possible to the digital medium, and to abandon the norms of poetry-as-we-know-it at the same time.

The soft(ware) word

The role of the moving target can be assumed by a word, which is an object, meaning that it is an independent entity with as many perceptual as well as quantifiable features as possible. It is not defined only by its semantic, and signifying qualities; nor is a sentence, word combination, or a message its immediately superior syntactic unit. It is an entity with visual, tactile, energetic, and kinetic qualities: an independent and complex signi-

fier. The digital word as a new media object is also a soft signifier that can be modified by software because the digital word in its very nature is based on the numerical code. Such a word-object can be used as a material in new procedures for creating textscapes as well as for various manipulations within computer games. A word-object can be monitored, and modified (digitally morphed), and by means of feedback even modifications themselves can be modified. It can be set into motion, and even its intervals of coming and going are programmable. The application of a word-object, that is of a word with a virtual body, to computer games is no degradation or depreciation; quite the contrary, a word as a moving target is showing us the new nature of the digital word, which presents excellent material for creating trendy digital, and even literary-coded textuality.⁴

A digital word-body is not encountered only in already traditional hypertext fiction (the pioneer of which is Michael Joyce with his *Afternoon, a story*, from 1990); it is also gaining importance in the new generation of digital poetry objects created by means of state-of-the-art software (JavaScript, Shockwave, Flash, VRLM) designed also for kinetic text applications, where motion, with its vectors, accelerations, and intervals is becoming one of their more important features. Examples of such literary practice are the poems of John Cayley, which are full of subtle intervals, verses that circle at the back of the visible/legible field, and poems of other important authors that belong to the field of digital kinetic and animated poetry, such as Loss Pequeño Glazier, MiekalAnd, Komninos Zervos and Brian Kim Stefans. Word-objects are encountered also in more complex digital textscapes, such as *Fidget*, a Web piece by Goldsmith and Paulsen (Goldsmith 2000), *The Great Wall of China* by Simon Biggs (2000), and projects like *The Jabberwocky Engine*, an evolving literal environment where letters are joined into letter compounds, proto-words and word-compounds (Hennessy 2000).

The term “word-compound” sounds somewhat unusual; however, it is exactly the *Jabber* project that establishes an analogy between word formation, and chemical compounds. As this project emphasizes atoms are the smallest components of chemical compounds, and letters the smallest indivisible word units, so such work leads us into the world of lexical genesis of a unique kind. We come across the alphabetical proto-cloud, wherein *Jabber* is producing words by combining letters according to lexical rules and probability theory. When letters encounter one another in a “pre-soup” of letters, their bonding is determined by a probabilistic calculation: “When

two letters collide, a random number between 0 and 1 is generated, and if the number is less than or equal to the conditional probability for the two letter combination, the letters bond” (Hennessy 2000). So it should be stressed here that the semantic criterion is quite irrelevant for the bonding of letters and word parts; word parts bond into forms according to the rules of English word formation. It is important that these words can be articulated, and sound like the words we know, although their meaning is indefinable, just like the meaning of Kurt Schwitter’s poem *Ursonate*.

A relevant environment for experiencing digital words-virtual bodies is also the *Electro Magnetic Poetry* project⁵, which enables the reader-user to pick up words, and compose/create a poem from the words, which the user experiences as if they were bricks, a tactile raw material. This interactive environment provides the user with a subtle sense of touching a word, which, however, is not written down, but transferred, inserted, or placed in a particular spot. Its virtual bodily existence and independence are felt in a far greater manner on screen than on paper. While writing on paper (either with a pencil or typewriter), words are being written down in a spontaneous fashion (words come to mind, we write them down, and there is always the concept of wholeness “dangling” over them), but while moving them, or otherwise manipulating them by means of devices (such as a computer mouse), one can, metaphorically speaking, feel their weight, autonomy, and a series of their other qualities. In such a poem, a word presents a syntactical Lego brick, and while creating poetic units linguistic syntax as well as syntax of spatial relations will be taken into account.

Digital poetry objects are displayed on the computer screen as their very proper medium, and subjected to a user/reader controlled movement based on vertical, sometimes even horizontal, scrolling and on moving the mouse arrow around the screen. Digital poetry objects are set on the Web and also distributed within both physical and programming constraints of the Web page design – in other words, there is also large quantities of non-linear text and images which disturb any process of reading as-we-know-it.

In *The Language of New Media* Lev Manovich writes that

“the printed word tradition that initially dominated the language of cultural interfaces is becoming less important, while the part played by cinematic elements is becoming progressively stronger. This is consistent with a general trend in modern society toward presenting more and more information in the form of time-based audiovisual moving image sequences, rather than as text.” (2001, 78)

Within the genre of animated and kinetic digital poetry objects, a reconciliation of the word medium with time-based cinematic elements occurs, and the moving, multimedia designed words are also a striking part of a trendy movement toward a cinematic manner of representation. For example, in Claire Dinsmore's piece *The Dazzle as Question* the reader-listener-viewer is challenged by film-like suspense based on her creative uncertainty due to the film of words that runs into the visual field from different parts of the screen. Such a user is not safe and needs to take into account the text that is hidden in the moment of its decoding.

Edmond Jabès and the desert of the blank

The digital poetry objects form a genre of their own but the understanding of such programmable pieces also depends on the knowledge of tradition, from historical avant-garde art to visual and concrete poetry. The poetic and philosophic world of Edmond Jabès (author of *The Book of Questions*) is one of the gateways into the world of poetry that stresses the visual part of the signifier can be mentioned. It is characteristic of his texts that the word is constantly being reflected against the background, the whiteness, and the blank page margins and looking at it one must perceive each individual letter, spaces between letters, and punctuation. As Jabès explains, "The written word is made of void. In order to be able to read a word, the space of void is needed, the silence between one word and others. Were there not the space of void, the written could not be read, and the fragment of silence between the spoken words enables them to be heard." (1995, 104.) In *Le Parcours* (1985) Jabès evocatively says: "The book breathes through its letters as does the skin through its pores." (1993a, 29) In *The Book of Margins* he puts it this way: "Letters are the chance of the word, as they are also the legible trace of ruined words." (1993b, 59.) "We are bound by the white of the sign's whiteness and the black of the sign, become legible at its whitest [sic]." (ibid., 79.) In his preface to the book, Mark C. Taylor comments: "...silence is the white space whose withdrawal marks the emergence of the black space of the created wor(l)d." (ibid., XIV.)

Jabès' thoughts, written in a language which is neither precisely poetry nor philosophy, but a new genre of textscape enabled by applying links to various texts and authors, should be placed in a broader context of Kabba-

lah and in the understanding of the world, the major units of which are God, the Book, the desert, and the word. However, what is of importance to our approach to the visual aspect of poetry is Jabès' dialectics of the written and the absent, of signified and void, of letters and whiteness. Jabès viewed each word from an analytical perspective; he saw the word as decomposed to letters and voids – whitenesses between letters that are of crucial importance.

But what is happening to the whiteness and voids now, in the paradigm of new media and computers? Whiteness is no longer the whiteness of a page in a book, it has come to life in pixels, and the margins, too, have become sort of lively and marked. Whiteness has gained depth and voids are no longer as empty. Possibilities are opening up, metaphorically speaking, of falling into the screen, of twisting words and placing the reader's view behind the word itself, on its "darker side". Web poetry objects challenge the eye to abandon reading the text in linear fashion (reading from left to right and then skipping to a new line on the left); they destabilize the eye's position and displace it. They send it up and seconds later down the screen, direct it towards the imaginary point in the background and then force it to follow the graphic image as a synchronous journey of a word stream. Again at other times the eye is challenged to abandon reading and to try and capture the whole screen, where words in motion are functioning as image-movement, with one glance. We are now witnessing what Fredric Jameson described in the case of Nam June Paik's video installations: "The postmodernist viewer, however, is called upon to do the impossible, namely to see all the screens at once, in their radical and random difference" (2000, 214).

And what is the very nature of the letter now, when it functions as a key unit of Web poetry objects placed on the screen? The letter is being transformed into the *letter-image-body* on the move, which can be understood as a "standing reserve" (Heidegger's term) and a raw material for possible poetry generators and processes of digital morphing which reshape the letter by combining the dissolving and the warping of its visual appearance. Neither a verse nor a word but a (moving) letter is an atomistic departure point for recent digital poetry as demonstrated in a striking fashion by Mez, Komninos Zervos, and Brian Kim Stefans.

Reading digital poetry objects the user/reader is not faced just with a certain "more," with a kind of surplus on the level of kinetic perception that engages all the senses and uses the new media aesthetics in a creative way, but her efforts on the level of perception are often accompanied

by some “less.” The user of such a moving object (here we mean exclusively kinetic Web poetry objects) must decode the events on the screen quickly (she does not have much time – in fact, she does not have all the time that the reader of traditional, book bound poetry has at her disposal), and that is why her participation in the worlds of imagination created by semantic properties of text is relatively limited. Kinetic digital poetry objects come to life during motion time and require to be appreciated within a relatively limited period of perceptual time. The reader’s encounter with a film-text screen differs from her encounter with a book, making her follow a different kind of aesthetics which takes little notice of the reader’s experience of the worlds of imagination created by texts and directs the reader as the user into the textscape as an event space of the textual practices. A digital poetry object is not the starting point of an imaginary journey elsewhere nor is it the text-as-we-know it, it is itself a text-play-ground-event. It does not serve as a means of reference, it directs towards itself, towards its media suppositions, implying that not interactivity but both total immersion and participation are key devices for approaching this medium.

Attitudes on the Move

The new digital medium’s emphasis upon the word as object is also demonstrated in the project, *Cubo*, of two Brazilian authors, Alckmar Luiz Dos Santos and Gilbert Prado⁶. Their piece, *Cubo*, tested within the framework of user options that are supported by the Cortona plug-in, gives the user the possibility of encountering cube-like structured textual environments. This is a poem, in which all cube planes are fulfilled, inviting the reader-user to not only to rotate the textual cube, zoom in, or zoom out, but to immerse in it, and enjoy her telepresence in the midst of the object. Her virtual eye takes up a virtual place in the center of the cube, now reading the text above herself, the next moment under herself, beside her, or at the back of the cube. By rotating the textual cube, and through other forms of its manipulation, she is sharpening up her subtle virtual sense for telepresence in the environment of a textscape set in the depth of the screen. For practical purposes as well as for the theory of digital textuality an important development here is the opening up of mobile, and highly complex, reception, which is based on combining and complementing different ap-

proaches to digital poetry objects. We are witnessing attitudes on the move, for when encountering such textual objects the user not only occupies the position of reader, but switches to a mode typical of computer gaming in the subsequent textual intervals, or soon afterwards occupies the position of a viewer of digital images.

Digital poetry objects require from the user (defined as a hybrid reader-viewer-listener) an activity as intense and sophisticated as possible, which is based on a fluent switching between the following attitudes and modes of perception:

- 1) linear reading, as successive decoding of the words' meanings;
- 2) jumpy reading, full of forward glimpses and backward glances;
- 3) viewing words as visual 3-D objects;
- 4) tracking the movement of textual units (considering their intervals and anticipation of word-images that are still outside the visual field on a given moment);
- 5) touching, zooming and entering 3-D textual objects through interfaces;
- 6) "mouse reading" in a sense that clicking on the word can open a link or activate a computer program;
- 7) reading-viewing as program decoding due to the programmable nature of the Web poetry object (the reader/user needs to take into account the software applied);
- 8) perception of the whole mosaic-like screen in one quick snapshot;
- 9) listening to the audio soundscape of the multimedia designed objects;
- 10) navigating the spatial patterns of word-objects, images, and animated objects;
- 11) aesthetic attitude to textscape as an object that stimulates the senses.

Such a sophisticated perception requires the abandoning of traditional reading styles and therefore also of traditional reading procedures, as discussed by Roman Ingarden in his phenomenological aesthetics of the literary work of art. Attitudes on the move also require certain "cyber-reduction" in the sense of the reader-user's shift from the usual practice of textscape mean-

ing decoding. A digital poetry object user needs to stay also at the visual, tactile and aural aspect of the text, at the graphic/digital image itself, and not to use this image purely as a means to something entirely different, to literary worlds, which was the topic of Roman Ingarden's notion in his *The Cognition of Literary Work of Art*:

There is the question of the degree to which we really sensibly perceive and must perceive the individual paper and the individual flecks of ink themselves in the concrete reading of a printed book. Are we not rather immediately disposed to apprehend the typical forms of the printed "words" or the typical verbal sounds, without bringing to consciousness what the individual written signs look like? (1973, 177)

It is quite important that such switching of attitudes (perceptual modes) does not pose any bigger problems to the e-poetry user; she actually does it as part of her daily routine, which is defined by the co-existence of ontologically and modally distinct realities. At one moment she is living in a world defined by Euclid's geometry and Newton's physics, and in the next moment, without any special effort, she has to switch to a cyberspace mode, where there are no metric units, and only topological laws apply. In cyberspace mode the only thing of any significance is online connection; at one moment the reader is active here and now, moving physical objects with a quantifiable weight, while later she is already telepresent in the depth of the screen identified with the cursor. The constant change of interests – directing attention from practical goals to goals of subtle aesthetic contemplation, switching into the game-mode, or switching out of the moving-physical-objects mode – consists of actions that usually follow each other in a rapid manner, and do not cause psychological checks in the user's life.

In the sign of digital morph and animation

A digital word-image-virtual body is also an object of digital morphing. What years ago was digital image as a "material" for computer-graphical transformations and manipulations (we see them on a daily basis when watching MTV music videos), is today the digital word, and even digital letter. Digital morphing is functioning as a basis for the animated anagram

VILEVILIVE created by Jim Johnson, and it is characteristic of its basic form that it is evolving as a transformation of the words “vile,” “evil,” and “live”⁷. This minimalist piece exhibits a process distinctive to digital poetry objects by Komninos Zervos and Mez (Mary Ann Breeze). Digital transformation (or isolation) of an individual letter, or a syllable of a word, brings dynamics into that word, which is set into the depth of the screen. Words divide into two pieces, or into syllables, which have meanings other than that of the base word. Narrative effects are now being achieved by contrasting meanings of entities that were created either as a result of digital morphing effects, or by the associative reading of a series of words, which are pouring onto the screen, and essential to which is spatial and temporal syntax, necessitating the reading of paratextual characteristics, such as up-down, center-margin, sooner-later, etc. The word-image-virtual bodies in digital textscapes are mostly nouns, sometimes verbs; adjectives are quite unnecessary, for they are being replaced primarily by accentuated visual effects, defining their color, arrangement, form, sound, and motion. We are bearing witness to the birth of words that were created in and as multimedia, words that are abandoning linguistic syntax and using the effects of new media devices as well as characters taken from programming languages.

This essay deals only with the visual manipulation of the graphical image of the word in digital poetry objects, but the digital morph can also play an important role in the sound dimension of the text, as is clearly evident from Mark Amerika’s project *Phon: e: me*, in which emphasis is laid on “sound writing,” and the pictorial dimension of the text is only touched upon⁸. By listening to this e-text, in which fiction and non-fiction are intertwined, one can see that sound syntax is here in service of clearly spatial articulations (of placing and transferring) of sound entities. Words are heard as sound-bodies in a dynamic space, which they themselves co-create.

Digital poetry objects constitute a genre that has been created by merging and combining avant-garde poetics, visual and concrete poetry, new media technologies, Net art, software art and (electronic) text-based installation art. However, they represent more than just the sum of these influences, for they form a genre with its own, specific organization and features, appropriate to modern technologies. The genre is in no way a mere continuation of visual and concrete poetry by other means. This is a medium that has been adjusted to clicking and connecting sensitivity, to the logic of computer games, and to devices of total immersion; it is a medium

that requires a virtual sense for telepresence in the depth of the screen, and a virtual sense of displaced viewing. The authentic user of such e-poetry is the trendy individual of today, whose intellectual stimulation is in need less of fiction (with its plots and closures), and more of (computer and video) gaming with its unique dynamics, and possibilities for active participation in its worlds. While playing games the user may consider their fictional nature, gaining a sense of reality in the modes *as-if*, *not-yet*, and *unreal*. In her communication she uses of a new language with simplified syntax (and often, as for example in SMS messaging, language that is based on words without vowels, and numerous abbreviations), in combination with pictorial and sound elements; a multimedia and hypertext message (for example, an e-mail with a photograph, and a link to a Web page, or a Web camera) is the kind of message that really counts. *Cybercogito* – “I link, therefore I am” (Mark Amerika’s rubric) – is gaining ground with individuals active in the on-line world; reality itself is becoming hypertextual. Arguments are being made on the basis of hypertextual links, and e-literature is a medium that responds from the specifics of this new era.

Clicking and the hypertextual sensibilities developed while working with devices – keyboards, mice, joysticks, and consoles – also encourage manual actions in online communication. The trendy new media culture is highly tactile, and this tactility is a feature which accompanies the reception of digital literary objects. We are witnessing situations similar to those of computer games. A computer game is a medium that requires full engagement of the senses; the body participates in the game through the use of the hand, which has to be properly trained to handle the demanding devices (e.g., joystick and console) successfully. In *Reading Pictures, Viewing Texts*, Claude Gandelman points out the active, even tactile role of the eye, and different historical views on the relationship between viewing and touching (Gandelman 1991). The author also touches upon the figurative interpretation of this relationship in the emblematics of the sixteenth century, drawing attention to Julius Wilhelm Zingref’s Renaissance emblem *Emblematicum Ethico – Politorum*, which depicts an eye that is laid into an open palm and appears to be watching the world from this vantage point. In this example, we witness a unique displacement of the eye in the form of its insertion into a palm, which symbolizes the hand’s active and arbitrary role in creating objects. On this subject Gandelman elaborates: “In the emblem the eye is merely a pilot guiding the hand toward its objectives; in the Egyptian hieroglyph, on the contrary, the eye-sun rules

over the hand in an absolute manner, just as the pharaoh ruled over Egypt” (Gandelman 1991, 3–4).

This image is cited as a typical example of the historical tension between sight and touch, which, in the Western world’s ocularcentric paradigm, has led to a dominance of sight over touch. Sight and its ideological interpretation is the real master. This is a tradition that today is culminating in video surveillance mechanisms, video wars with smart bombs, and in the use of satellite, orbital views (of, let us say, cameras – the “eyes of weather satellites”). However, with computer games, which are undoubtedly a genre of new media based visual culture, and which produce trendy iconography (influencing fashion, life-styles, and film), we bear witness to an affirmation of the hand, realized in its functions of touching, holding, and pressing on devices. The aforementioned image from Gandelman’s book seems to be an emblem of this new situation; the player can only be successful when her eye is, metaphorically speaking, in her palm, directing her as skillfully as possible. The eye has to co-operate with the hand, to go hand-in-hand with it; only in perfect accord can they achieve the optimal effect when one is playing a computer game, which without a shadow of a doubt is also a highly tactile activity.

The unstable poem-process

The co-operation of the eye and hand is a very complex activity, turning the observer into a user, for whom it is highly relevant to be able to interfere actively in the environment. This characteristic also applies to the reader of digital poetry objects, who is far more active than the traditional reader. This type of user is addressed by the Slovenian author of electronic poetry Jaka •eleznikar, whose poetics is based on integrating the reader into the process of creating digital poetry. This integration can be found in his earliest work, *Interactivalia* (1997), where one encounters co-written texts – texts that are written simultaneously by the author and the reader, with the author, naturally, in the role of the programmer-creator of the interactive writing system. •eleznikar’s e-projects involving typing, from *Type!* through *Typescape!* to *Typescape.2*, represent this kind of philosophy, pertinent to a very particular view of the future of art and literature, and are intended especially for the reader in the role of a co-author-user of e-writing spaces⁹. Here, we have in mind the arts intended for the

trendy user of tomorrow, about which Brian Eno, a musician, in his interview with Kevin Kelly for *Wired* magazine in May of 1995 had this to say:

What people are going to be selling more of in the future is not pieces of music, but systems by which people can customize listening experiences for themselves. Change some of the parameters and see what you get. So, in that sense, musicians would be offering unfinished pieces of music – pieces of raw material, but highly evolved raw material, that has a strong flavor to it already. I can also feel something evolving on the cusp between “music,” “game,” and “demonstration” – I imagine a musical experience equivalent to watching John Conway’s computer game of *Life* or playing *SimEarth*, for example. (Eno & Kelly 1995)

Eno is concerned with the music of the future, but his point of view certainly has far-reaching consequences also for other arts, implying their switching to open systems, which are configured by their users according to their preferences.

Typescape.2 is a system for creating a textual environment in co-operation between the user and the author-programmer, who enables the user to feel a letter-body as a unit of e-textuality in an analytical, atomic manner. By pressing a key on a keyboard the user not only produces a letter, but also hears one; the letter is spoken out loud, and simultaneously visualized in an enlarged three-dimensional form. It is a word-body that has been animated to spin around its axis in different directions, or participate in the “dance” of the letters in front of, or behind, the written text. The user is given the possibility of changing the letters’ features, their colors, and their sound accompaniment (the user can choose the nostalgic sound of a mechanical typewriter instead of the spoken word), and she is also offered the alternative to send the work she has written by electronic mail, meaning that the text immediately becomes part of the cyberspace communication. *Typescape.2* produces two types of textscapes: the first one is composed of linear words, and the second one features animated letters-bodies intended for non-linear decoding.

We are directed to crucial shifts in the field of art and perception by *Typescape.2*: the reader in the role of the user, and poetry piece as a process and open structure. After the postmodernist subject destabilization (its deconstruction into a fractal subject, or multiple ego within the cyberculture) we have become contemporaries of object destabilization, in particular of objects in a persistent material form; we are the contempo-

aries of a shift to open, unstable structures. Emphasis has been shifted from artifact to event; objects with sharp edges are being replaced by processes; and the pleasure of having completed a work is replaced by dynamic, flexible experience. “Art becomes an experience rather than a physical object” (Napier & Baumgaertel 2001), as Marc Napier, a Web artist, describes this shift.

Netspeak-based digital poetry objects?

Today we are being provided with new, provocative, and challenging forms for testing experience with digital literary objects as a new genre with its own specificity, a medium that cannot be perceived as a mere continuation of visual and concrete poetry, but can only be understood through an analysis of new media, and new perception, which originate in interface culture. The problem arising here lies in the poetics of digital poetry objects: traditional devices of literary theory, even where developed through the works of literary avant-garde, and neo-avant-garde of the twentieth century, are often less successful in describing and explaining e-poetry phenomena than theoretical devices of the new media aesthetics and poetic theory. The application of structuralist, and post-structuralist literary theory (Roland Barthes is a very frequently cited author among theoreticians of hypertext fiction) is also questionable in this field, for authors such as Roland Barthes, Michel Foucault, Julia Kristeva, and Michael Riffaterre were not, in their analyses, concerned with e-textuality nor with Web literary objects. Hence, in a previous article, “The Moving Word” (Strehovec 2001), I introduced concepts that were developed within the new media aesthetics, as follows: techno suspense, techno surprise, displaced viewing, and text as virtual reality. Besides the far greater activity of the reader-user of digital, coded textuality, we are encountering a series of other problems concerning the genesis of e-textuality, with a computer as a smart machine participating in text generation. The key to creating digital textuality is machine generation through code, and this is why authors often stress the “machinic” characteristics of their work (e.g. as poetry generators, poetry engines, word machines).

When we are questioning the poetics of e-poetry, this presupposes the destabilization of verse through the application of non-linear distributed non-verbal components. We need to stress that the poetry occurs both in

the use of innovative language and in the creation of poetic (even lyric) atmospheres and processes by means of new media effects.

A fleeting look at the nature of computer programs reveals that traditional alphabet based e-textuality is not only a matter of digital literature; we are also concerned with texts made from commands and machine-readable, the material of which is composed of zeroes and ones. These are also “an alphabet which can be translated forth and back between other alphabets without information loss. It does, in my point of view, make no sense to limit the definition of the alphabet in general to that of the Roman alphabet in particular when we can encode the same textual information in this very alphabet, as Morse code, flag signs or transliterated into zeros and ones” (Cramer 2001).

Algorithmic matrices their texts that lie behind the screen have long intrigued Web artists, such as the Jodi couple, who wrote of their involvement as follows:

We learned from our first web mistakes, that an error can be most interesting. If you forget a little HTML code tag, for example; the bracket “ > “ then the text surface mixes with code and becomes liquid, it flows all over the screen. This type of dynamic, tactile text is different from hard copy. We can’t accept that print design rules define also the layout on a computer screen. Most websites still look like print. The possibilities of code and text exchange are not used, because its confusing, it is not readable. But these are the medium specific, digital material, new things. (Jodi & Baumgaertel 2001)

In his book about language and the Internet David Crystal writes about Netspeak as a novel medium combining spoken, written and electronic properties because “electronic texts, of whatever kind, are simply not the same as other kinds of texts” (2001, 48). And it is important that Netspeak is not just a language of surfaces, but also contains underlying programming language with excellent performative properties. As Net artist Jodi has done by applying the dark language of code in the field of net art, “net-wurker” Mez has made a similar gesture by inventing her new poetic language that she calls “mezangelle.” Mez uses a broad spectrum of procedures and textual devices such as ASCII characters, punctuation, interjection, abbreviation, and mathematical symbols in order to introduce a new “dialectics” into her multimedia poetry installations: investigations of meanings that arise from artificial juxtapositions and interjections. By us-

ing interjected words set off in brackets she also tries to demonstrate numerous new associations. Mez's parenthetical splitting of words changes the way the reader first reads a word; the reader must go on to read new combinations of syllables *within* the word. Her language – in her linguistic software art – thus incorporates programming, and other code languages to create a new poetic language.

The trendy digital word-virtual body which enters digital poetry objects through new media syntax raises more general questions concerning verbal media, and their mutation in the era of new media communication. It is no coincidence that this essay set out by mentioning the use of words in the genre of Web computer games, for verbal media are being integrated into all cybercultural genres. The problem and danger posed here is none other than the MTV-ization, and Mcdonaldization of the verbal, reducing the word to a “fancy signifier,” designed by means of new media special effects. The task and challenge for e-authors is thus to deconstruct such textuality, and shift the attention to the language of its code, which, however, can often seem obscure and dark, turning the computer screen into an unpleasant, even dangerous environment. This quality is apparent in some of Jodi's Web projects. Despite the tendency to simplify verbal communication (for example, in SMS messaging, and e-mails), and in spite of attractive visualizations, e-authors are still challenged by the semantic treasures of the word, which would be a shame to sacrifice to new media special effects. E-authors are also challenged by the new way of writing in an expanded sense, using DJ techniques, applied in the new literary textuality as the sampling, cutting and mixing of signification. New cultural associations are being created.

NOTES

1. *Trigger Happy*. Available: <http://www.ucl.ac.uk/slade/slide/th/title.html>.
2. *The Intruder*. Available: <http://calarts.edu/~bookchin/intruder>.
3. The word, in its confrontation with the medium of image, is the user's basic weapon in a successful commercial computer game, *The Typing of the Dead*, in which survival is dependent on the speed of typing words as a means of destroying hostile zombies. The user only has one alternative, either "type or die." In the United States profits from computer games have already surpassed those of the Hollywood film industry, placing computer games industry, right behind pop music, in the field of entertainment industry.
4. *The Intruder* and *Trigger Happy* are patches to commercial computer games and this type of intervention is becoming a genre of Net art. Artists are able to insert a different kind of ideology into the framework of commercial gaming, changing characters' genders, or even creating different scenarios and iconography.
5. *Electro Magnetic Poetry*, <http://www.prominence.com/java/poetry/>
6. *Cubo*, <http://www.cce.ufsc.br/~nupill/hiper/cubo.wrl>
7. *VILEVILIVE*, <http://spot.colorado.edu/~johnsoja/Vile.dcr>
8. *Phon:e:me*, <http://www.walkerart.org/hlframe.html>
9. *Typescape*, <http://www.jaka.org/2001/typescape2/index.html>

HYPertext *Solution/Dissolution*

Philippe Bootz

Taking my cue from the problematic outlined by Ted Nelson, I attempt an analysis of hypertext, not as a dataspace, but as a class of operations.¹ This class is viewed from two perspectives: that of the author-composer and that of the user. I show that these perspectives cannot be subsumed, the one by the other. The analysis obliges us to establish four different dataspaces for hypertext.

I further demonstrate that this interpretation is not merely speculative but permits us to understand the compositional procedures of certain digital author-composers. The work of Jim Rosenberg is analyzed in this manner.

This unraveling of the concept of hypertext then shows it to be a particular case that illustrates certain characteristics of the devices of e-literature, as described in my recently elaborated general theory, the “Procedural Model.”

Finally, certain developments in French digital poetry are presented. The familiar fundamental characteristics of classic hypertext play a marginal role in this work. More importantly, hypertextual characteristics appear to dissolve in this poetic.

Hypertext: a particular solution

The solution of a problem

We recall the problematic as outlined by Nelson:

I was looking for a way to create a document without constraint from a vast collection of ideas of all kinds, unstructured, non-

sequential, expressed in forms as diverse as those of film, audio tape, or pieces of paper. For example, I wanted to be able to write a paragraph with doorways behind each of which a reader might discover much more information that was immediately apparent from reading the paragraph.²

Hypertext is Nelson's response to a problem. It is defined, classically, as an assemblage of nodes held together by a collection of links which are activated by the user in a process of navigation. This definition invokes both a user and a dataspace. "Wandering" sometimes replaces the term "navigation" in deference to the supposed psychological disposition of the user. The concept of hypertext thus brings to the dataspace, at one and the same time, functional, ergodic aspects of its devices, and cognitive characteristics of the mental appropriation of this dataspace. This entanglement is often masked by the vocabulary typically used to speak about hypertext. Thus, we speak of "navigation within a hypertext," which implies that the hypertext is reduced to a graphic form (like a flowchart) consisting of nodes and links, and that navigation is a procedure independent of the form. However not all such graphic forms are hypertexts (think of the graphics that allow the "navigation" of vending or sales machines). "Navigation" is entirely subsumed within hypertext and thus it would be preferable to speak of "hypertextual navigation." Hypertext is not, therefore, reducible to a graphically structured, charted dataspace.

We can now ask two questions: Is there another way of understanding hypertext's three elements? And, if so, can we define hypertext without reference to the concepts of nodes, links, and navigation?

We will provide two equally correct answers which are also contradictory in a number of ways: a paradox which will be resolved by a more general theory of communication, the Procedural Model.

Hypertext as a class of operations

Proto-hypertext and the text-of-inscription

These questions lead us to wonder whether or not there might be a structurally abstract definition of hypertext. The definition given in the introductory remarks allows us to conceive of hypertext as a class of opera-

tions applied to the dataspace constituted by the “vast collection of unstructured ideas of all types” evoked by Nelson, and which we may call, for reasons of convenience, proto-hypertext. The class of operations envisaged instantiates two particular methods: a structuring of proto-hypertext and a mode of accessing the data it contains.

The structuring consists in arranging the data of proto-hypertext into a graphic form or chart. This form constitutes a new dataspace which we will call, for the sake of compatibility with the more general “Procedural Model” outlined below, a hypertextual “text-of-inscription.” This is, classically, hypertext in so far as it is seen as a dataspace and not a class of operations.

The mode of access, navigation, amounts to projecting, from the non-linear structure of the charted dataspace, a sequential structure of nodes that will be isomorphic with a structure produced by the temporalities of reading. We must insist that this projection is an operation internal to the dataspace. Whether or not this projection is realized in reading does not matter: it exists. This is what is produced by the composer-author of the hypertext when she creates the links and establishes the properties of her anchors.

From this point of view, hypertext has no need of a user; it is entirely delineated in terms of data and structure. It constitutes an organizational class of operations characterized by its complex determinate structure (its text-of-inscription) and its fundamental organizing principle (navigation). Supplementary structures which can be added to the class of operations, such as the representation of the graphic form as a micro-universe, simply reveal internal properties of the form. In the same way, various generative algorithms and navigational constraints reveal internal properties of the functions to which they are bound.

The understanding of hypertext as a class of operations applied to a dataspace describes fairly clearly and exhaustively the existing hypertextualization of documentary space, of the actually existing docuverse.³ There is nothing surprising in this, since hypertext was a response to a documentary problem. When hypertext is created *ab nihilo*, as in the case of literary hypertext, what we call the proto-hypertext is created at the same time as the hypertext. In effect one can conceive of hypertext as the structuring, in nodes and links, of a diffuse dataspace, one that may even be entirely indeterminate. It is not necessary for the proto-hypertext to be complete before a hypertext is generated. The hypertext may be devel-

oped as the proto-hypertext is reaching completion. The Internet could not have existed without this property.

How hypertext manages the global and the local

The indeterminacy described above is a consequence of the relationship between global and local which hypertext instantiates. The graphic form is a global structure but the projection realized by navigation is a function applied locally. Thus, at one and the same time, the link possesses global structural characteristics in so far as it is identified with an arc of the graphic form, and local functional characteristics in so far as it is identified with vectors of navigation.

Navigation translates as the imposition of a logical, that is, algorithmic, structure on the link anchors. This structure manages their potential activation. It awaits a potential event and produces a potential displacement. It is in fact the reader who, as navigator, is, logically, a potential agent who composes the hypertextual structure. From this perspective, navigation appears as a strategy for the administration, by the writer, of reading, one that exemplifies the programmatic character of all such strategies of reading. It is the ergodic aspect of reading which is administered in the course of navigation, not its mental aspect. The generalized form of this logical structure can be formulated as follows: ((if (anchor is highlighted and linking is permitted) then anchor is activated) or (if (linking is permitted and anchor is activated) then linking proceeds)). One can say that navigation administers the reader's virtual local displacement in the proto-hypertextual dataspace but that navigation is constituted, in the heart of the text-of-inscription, by a collection of operational commands associated locally with the graphic form.

Note also that in classic hypertext fiction, within the space of language, the hypertextual form establishes a syntagmatic relationship between nodes. In effect, a node has a sequential relationship with any other linked node.

The result of hypertextualization

The author is entirely responsible for what results from the application of this class of operations – which we call hypertext – on the dataspace of proto-hypertext. This is the hypertextual text-of-inscription. Phenomenologically, it exists as a mental representation. This text-of-inscription en-

compasses a charted structure and a set of navigational commands. It remains open, to-be-completed; this is as much a function of its graphic form as a result of given navigational commands. Thus, in the present analysis, reading remains entirely a matter of what is potential, and hypertext is a strategy of writing. The global level is an object for the author; the local is subjective.

In a hypertext fiction, the sequence of nodes produced by a reading operation may result in a rendition which is not readable as hypertext *per se*. There is no necessary equivalence between the linearization produced by hypertextual navigation and the linear rendition of data in the proto-hypertext. This difference may be exploited in writing strategies intended to resolve problems of semantic coherence. For example, in the earliest known French hypertext, *Fragments of a Story* by J. M. Lafille, semantic branchings are realized in the body of the nodes and not via links.⁴ Rather, links always represent a semantic continuity with their anchor and follow a theme to be taken up in the destination node. For example, a link whose anchor is the phrase “*photo de Doisneau*” will develop the theme “photo.” This local continuity guarantees coherence without the author having to be concerned with what has previously been encountered. But the generation of narrative continuity requires that the reader takes in the node in its entirety before activating a link. The latter’s activation charges it with all of the node’s contextual significance, and following from this a narrative continuity is realized in navigation. Such an operation of reading/re-reading is facilitated by the typographic concealment of links. It is the inverse of the strategy encouraged by HTML, which favors the marking of links over the reading of nodes. The latter operations are better adapted to documentary continuities, the former to a narrative continuities. We should note, in passing, that a poetic continuity, for instance the sort of cut-up sometimes seen in digital poetry, reveals a third way in which reading proceeds when the anchor of a link is, for example, incorporated into the subsequent node. The result of such a practice is analogous to that performed by Loss Pequeño Glazier during his live recitals of texts which do not display for long enough to be read in their entirety. When the display changes, Glazier follows the current line and simply takes up the new text. Such a reading represents a loss of data from each of the displayed texts. It is the equivalent of activating a link which is anchored by the words that one is in the middle of reading as the display changes.

As we have noted, none of the three modes of reading hypertext is same as the reading of a particular rendition as constituted by the activation of a sequence of nodes. Considered as a class of operations, hypertext is purely and simply an original strategy of writing which provides the opportunity for any number of strategies of reading, just as original, blended from the three modes of reading: documentary, narrative, poetic.⁵

*Hypertext as an unfolding*⁶

Reading as imperception

All of what is considered above can only, in practice, be managed by the author-composer of hypertext. Implicitly, our point of view was that of the author. Let us now turn and adopt the other viewpoint, that of the reader. I have always been struck, in my readings of hypertext, by the disproportionate visibility of nodes over links amongst the various phenomena observable on the screen.⁷ As a general rule, at least in the case of classic hypertext, nodes are perfectly displayed and legible, whereas the operation of the link is indexed only by the properties of its anchor, and not even always as such. The link does not manifest in any way its characteristics as an arc between two nodes. In fact, the node appears as screen-page or a sequence of pages, and the link manifests itself as an instantaneous change of page or sequence. The graphic structure of the text-of-inscription entirely disappears, giving way to the actualization of transitory visual states, the current page or sequence, situated at the same temporal point as the reader, and concealing all the proto-hypertext. Navigation as such does not manifest itself, in the first instance, as a displacement within a dataspace, nor as a logical structure, but as a set of commands for rendering data. It is clear, therefore, that the phenomena observed on screen constitute a different dataspace to that of the text-of-inscription as outlined above. In the Procedural Model, this newly observed space is called the text-of-visualization. The reader, therefore, in no way addresses the text-of-inscription, which is entirely unknown to her; the reader addresses the text-of-visualization.

A final – “perceptible” – informatic space, the only one which pertains to the reader, is constructed, bit by bit, by the reading of the text-of-visual-

ization. In the Procedural Model, this informatic space is known as the “text-of-reception.” It is a mental representation. There is no other informatic space which exists for the reader. Depending on its particularities, it may appear to be entirely linear, or as the instantiation, in itself, of a hypertextual structure. In the case of “classic hypertext,” this structure is a subset of the text-of-inscription. However, it may be entirely distinct in structure, as in the case of poems with unique readings or in the works of Jim Rosenberg. Thus, the process of navigation, which may be seen as the displacement of the reader’s point of view within an informatic space, might equally be seen as commands that instantiate an observable phenomena. The observed phenomena, or text-of-visualization, constitute the informatic space that is manipulated cognitively by the reader in a process of perception which constructs the text-of-reception.

From this new perspective, the local aspect of hypertext as a class of operations is revealed and becomes “transactive.” It becomes objective to the reader. By contrast, the global aspect of the text is the object of a process of mental reconstruction. It is subjective. There is, therefore, no globally apparent graphic structure to the manipulated space. The data forms instantiated by the actions of the reader (in her capacity of reader-actor) are shown to be emergent. Each moment of reading is anticipated, virtually, in the initial moment. The ergodic activity of reading, which realizes the successive instances, is indeed a creative and indeterminate activity, the result of the reader’s interpretation of the course of her prior reading. Thus, for the author, the acts of the reader are potential and the data structure is real; by contrast, for the reader, her reading is real and the data structure is a potentiality. Formations of data that are not instantiated do not exist. The reader is entirely unable to have any real idea of those formations that she has not yet instantiated. Sometimes, it is impossible for her to know whether or not she has “explored” all the data of the author’s text-of-inscription. The concept of navigation cannot, therefore, recuperate its supposed initial sense of a displacement in dataspace, except in particular cases – which are undoubtedly in the majority – those in which the author allows the reader the possibility of constructing a text-of-reception that is itself hypertextual and isomorphic with the text-of-inscription. In the Procedural Model this is known as a “mimetic” writing strategy. If a mimetic writing strategy is successful, then the texts-of-inscription, visualization and reception are three equivalent results of applying the same class of hypertextual operators to the same proto-hypertext. This is clear-

ly the dominant intention in the *documentary* application of hypertext; while often it is far from being the intention in literary applications.

The various instances of reading that appear in the text-of-visualization have a paradigmatic relationship with actual moments. There is no spatial displacement of data but the substitution of data formations by others that are, in a certain sense, equivalent. This equivalence is indexed by the presence of anchors: the activation of a link prevents the simultaneous activation of other links, with the result that the substitution of a particular data formation is exclusive of all others, and this characterizes a paradigmatic relationship. Thus, the sequential structure that follows from the local temporal activity of reading generates a paradigm that is perceived as syntagmatic, but is based on non-linear relationships that are dependent on the spatial, a-temporal characteristics of the global graphic form that is addressed by the author. Surely here we have an example of a poetic relationship with language. And this relationship is not established by the author or the reader, but by the device which transforms a global/structure/space into a local/action/temporality. Clearly, this transformation may be considered as a function of the device and its technologies. However, it is jointly constituted by the author's strategies of writing and the reader's strategies of reading. The sense that the relationship between nodes is paradigmatic allows us to understand the feeling of futility which sometimes arises during the reading of hypertext: "What's the point – since all paths are equivalent?"

Note that this description of hypertext in terms of a linear unfolding of a virtual dataspace resonates with Nelson's description when he speaks of "doorways behind each of which a reader might discover much more information that was immediately apparent." As he says this, Nelson uses none of hypertext's defining concepts (nodes, links, navigation). The only concept cited is that evoked by the word "doorway" which relates to the anchor, a derivative concept that guarantees the relationship between the global and local characteristics of the link.

Toppling preconceptions

The two points of view outlined above are entirely equivalent and relevant to understandings and functions that are completely distinct. The paradox of an equivalence of contradictions is removed once we remember that they do not function from the same point of view. Another way to put this

is to say that all hypertext can be analyzed as emergent unfolding when we view it from the perspective of reception, but as a class of operations when viewed from the point of view of conception. This dialogic way of analyzing hypertext is entirely in accord with the methodology recognized in the Procedural Model as set out below.

However, it could easily be objected that many hypertexts can be analyzed, in their reading, without recourse to anything outside the classic concepts. This is true, but the reason for this is not the inapplicability of the notion of emergent unfolding, but the mimetic character of these hypertexts. Other works, by contrast, cannot in any way be analyzed as interpretative readings using the classical concepts. My own work *passage* is clearly a significant example. The structure of the text-of-inscription is composed of a hypertext in which the nodes and links are associated through generators.⁸ The reader cannot make any study of these generators. It would be difficult for her to reconstitute the graphic structure and impossible to reconstruct the logic of the generative algorithms, despite their relative simplicity.

The passage from mimetic hypertexts to non-mimetic electronic works can be effected in three phases. This is the case with all type of electronic literature.⁹ The strategy of writing is the same in each case. It consists in questioning previous conceptions of textuality in order to put forward a paradigm that is more particular and specific to informatic media.

Authors of the first phase question the book as device along with the classical paradigm of text as it has been analyzed and deconstructed by Roland Barthes, Gerard Genette, and Umberto Eco. Classic fictional hypertext, conceived as text-of-inscription rather than as a class of operations, is one of the paradigms proposed as substitute. Other paradigms have been proposed: automatic generators, which may be seen as elaborated from the algorithms conceptions of Paul Valéry, and poetic animation which, by creating a temporality assimilable to the interior orality of writing, provides reading and writing for the screen with performative characteristics that are traditionally conferred by the author in the performances of sound poetry. These three paradigms are more complementary than antithetic. In putting forward mimetic hypertextual works that are still very much marked by their correspondence with the book as media device, authors do not bring out the full and specific potentialities of *informatic* devices. This is why these paradigms were developed as if they were separate genres during the 1980s, each promoting differing fundamental characteristics of such devices.

Then, in a second period, towards the middle of the 1990s, authors put into question ideas such as those above in order to evoke a more complex paradigm that would be more specific to informatic devices. This is the paradigm that the Procedural Model sets out to describe. It establishes a blend of fundamental forms, and thus a relative dissolution of separated genres in works which are analyzed as aspects of a more complex model. This phase insists on the notion of material process as opposed to algorithm generation. The perceptual investment of the text-of-visualization does not rest in the unfolding of an algorithm that entirely determines and administers its interactive possibilities. Instead, it gives equal semiotic weight to the ergodic activity of reading. The semiotic investment of the text is no longer reduced to the relationship between the meta-structure and its product as generated by an algorithm. The reader is explicitly implicated, through the perceptual and ergodic choices she makes, in the construction of the global signification of the work. Notably, works of the second phase introduce strategies of writing such as “interface foregrounding,” where the visual interfaces of works from the preceding phase are perceived to be fundamentally constitutive of a work’s meaning.¹⁰ Equally, they introduced a “double reading” in which the ergodic activity of the reader is itself read as a sign. Double reading has implications for signification beyond what can be achieved by works of the previous phase: the ergodic activity of reading becomes constitutive of the representation entailed by the work. In works of the third phase, this will lead to what might be characterized as an “aesthetics of frustration.” These works will no longer address a reader; the simple activity of reading will constitute the work. These two new elements – interface foregrounding and double reading – intervene equally in phenomena associated with the author’s strategies of writing, not merely with actual readers’ reading activities.¹¹

The informatic version of Jim Rosenberg’s *Diagrams Series 5* (1993) is typical of the transformation of hypertext during what I call the second phase. Rosenberg’s work necessitates an opening out of the hypertextual paradigm and a move towards a more general Procedural paradigm. He realized this by putting forward what is a mimetic hypertext, when seen from the point of view of its unfolding, while at the same time reconfiguring hypertext as the visualization of local processes. In so doing, the work approaches the condition of animated literature, and also gravitates towards the work as an activity that constructs a dataspace in the process of its unfolding, and which, in turn, brings hypertext closer to forms such as those produced by text generation.

The syntactic hypertexts of Jim Rosenberg

Diagrams Series 5 was issued by Eastgate in 1993. The first poem in this series was published in *alire 10/DOC(K)S: Diagrams Series 5 # 1*, and another in *alire 11: Diagrams Series 5 # 4*.

The foregrounding of interface is clearly apparent. At each stage of reading, the reader is presented with a graphic structure as the text-of-visualization. Such a structure only reveals itself in classic hypertexts under certain conditions, for instance, in the guise of a mapping of the hypertext, often as an aid to navigation. Such a graphic form, placed in a paratextual relation with classical hypertext, can only be read as external to the text-of-visualization and to the fiction (typically). It appears in Rosenberg's *Diagrams Series* as identical with the text-of-visualization, and "within" the constituents of the sign. This translation of visual elements from a paratextual to a textual position is typical of the way in which interface foregrounding is effected.

However, this graphic form does not implement a mimetic structure of classic hypertext in the text-of-visualization. The hypertextual links are not set up between nodes of data but refer to the inner workings of phrases and sentences (Figure 1a). The graphic form constitutes a syntax of the text-of-visualization. That is its textual function. It is this form in an abstract structure (Figure 1b) and not a node elaborated in natural language that is presented to the reader. The interface foregrounding seems thus to be accompanied by a foregrounding of the global and local properties of the class of operations that instantiate hypertext. In fact, this graphic form constitutes the first level of an imbricated structural system, through the levels of which the reader is able to descend by reading actively, ergodically.

The graphic form is fully coded such that the reader can, effectively, read the entire structure like a phrase composed of words composed of phrases. The work amounts to a systemic structure characterized, in the words of Edgar Morin, by the "hologrammatic principle" (1986, 104). This implementation of a syntax repositions the nodes within the same paradigmatic level while creating relationships between the assemblages of their constituent elements, such that the activation of those links that are accessible by clicking corresponds to a change of level in the system and to a syntactic "zoom."

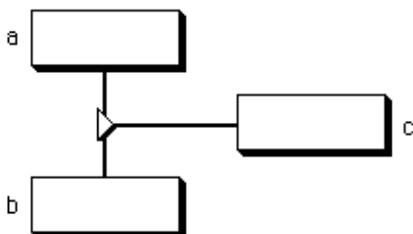
A visual structure such as this clearly makes use of the characteristics of locality that are inherent in hypertextual reading. The graphic syntax can be considered as a program for reading, which, at run time, generates

the appropriate propositions and phrases. Thus one can be made aware of how the descent through the systematic levels of enclosure is accompanied by the instantiation of a set of rules, of how the reading develops a grammar, following a deep structure to its realization on a surface. This mechanism produces nothing in itself, however; it is instantiated only by the local activity of the reader. The syntactic structure is, in effect, doubled with a paradigmatic superimposition. The set of possible constituent elements are present simultaneously on the screen, providing thus a glimpse of the global characteristics of the structure (Figure 1c). Paradigmatic exploration is effected by the approach of the mouse. The reader moves to the surface of a paradigmatic element which comes to the surface – opaque and legible – but conceals the other paradigmatic elements of the superimposition, although their presence remains marked by the adjacent outlines of rectangles that delineate them (Figure 1d). The reader’s activity masks any results previously encountered and prevents the comparison of different solutions in the choice of active paradigm, as if the text were too large to allow itself to be read. The reader is obliged to make good use of her short-term memory in order to produce a coherent reading. The paradigmatic nature of this activation is indexed by the modality of the anchor. It is not a click or a rollover that unlocks the link, it is the proximity of the cursor which effects the passage from “visible” to “legible” at the same time as effecting a shift from “global” to “local.” The data is visible globally, but it can only be read locally.

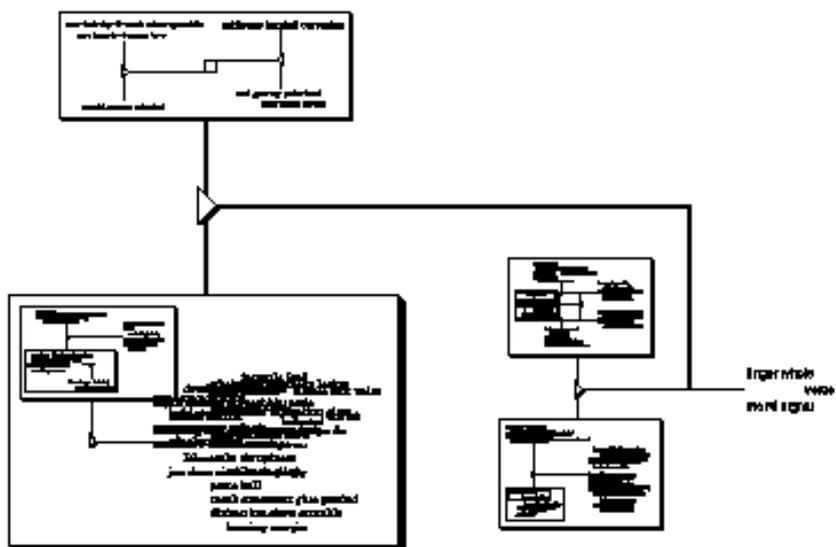
We are defining the node here in terms of graphic form, with two nodes linked by an arc. It should be pointed out that they are constituted by words, paragraphs and graphic form. To the extent that the text-of-visualization of a hypertext – we are speaking of the phenomena as observed on the screen – is represented as a recursive fractal structure, from moment to moment, a single node of data is activated. It is up to the reader, by way of her ergodic activity and through a purely cognitive procedure, to produce the text that is delineated by the graphic form. The node, as a terminal unit of data, does not exist. The activity of reading is not, therefore, a matter of navigation in data; rather it is a productive activity that transforms the visible/legible graphic form and allows the reader to unfold and elaborate the data in the mind. Because, clearly, the extent of this unfolding exceeds the capabilities of a typical reader’s memory, the reader who wishes to exhaust the data contained in the hypertext is confronted with the inevitability of failure.¹²

Figure 1a, b, c, d: Screen captures from *diagram series 5#1*

In a complex such as:



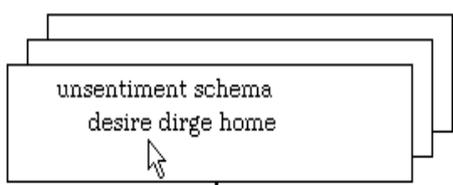
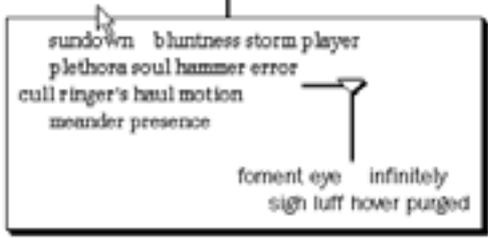
c acts as the verb, relating a and b. (The relationship between a and b is basically symmetrical.) To get to the element that acts as the verb, follow the point of the triangle, whichever way it points.



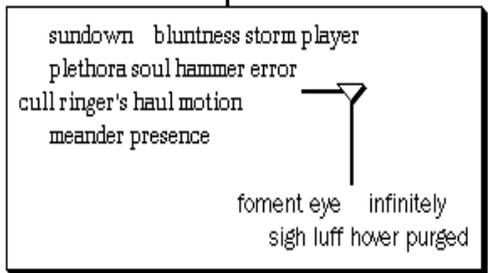


heart glow
~~hatchling~~ ~~fool~~ ~~murmur~~ ~~scavenger~~
~~missile~~ ~~minnow~~ ~~crab~~
 montage target hinge
 desire dirge home

arc madness reflex curl
 at exile
 control knot slake
 omen ware shim service
 evolve dance cutoff
 accreting



arc madness reflex curl
 at exile
 control knot slake
 omen ware shim service
 evolve dance cutoff
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*Recent developments in new media poetry in France:
towards a no-media multimedia*

The evolution of hypertext has its counterparts in all the other fundamental electronic genres. The paradigms for these genres were established in opposition to the book as media device, in response to specific problematics, and following, as they did so, lineages of the historical avant-gardes of the twentieth century, before becoming absorbed and diluted within a larger overarching paradigm. The majority of today's works employ techniques and strategies belonging to divergent electronic genres of this type within the broader global pattern. While many authors of electronic literature of the 1980s and 1990s have made works reliant on abstract global structure without encountering or generating serious aesthetic challenges, the recent work of certain authors represents a profound modulation of multimedia conceptions and practices. These authors employ strategies based on local temporal structures and, in developing their approach to multimedia, come from the traditions of sound and visual poetry rather than hypertext or generative literature. In France, I am thinking of the work of P. H. Burgaud, X. Malbreil and A. Gherban, to cite only a few.

These developments are based on the concept of the object, which takes precedence over some global notion of screen-based sound and vision. The work is inscribed in a tradition of collage, emerging from animated poetry and grounded in a literary visual tradition. There would be nothing new in this approach if informatic systems did not, as is their wont, add a *functionality* to the perceptual aspects of phenomenological structure. This seems to me to characterize informatic art which associated with private reading from its origins. It is this necessary complementarity between object and function – as exemplified even in hypertext's complementarity of graphic form and navigation – which renders the traditional notion of the sign incapable of analyzing semiotic behavior in the recent work I am addressing. The functionality, as it operates, that comes to complement the notion of the object and to direct the aesthetic of this work, is that of *behavior*.

It was Alexandre Gherban who was the first to bring to my attention the importance of behavior as a motor of informatic creativity. However,

on closer inspection, such an approach is not entirely novel. Perhaps today what we are witnessing is simply the realization of an underlying tendency in the third generation of electronic literary work. The first generation here consists of the works of initial exploration created in the 1960s and 1970s; the second comprises the pioneering works in the three genres of the 1980s and beginning of the 1990s; and the third is made up of hybrid works that shattered the genres in the mid-1990s. The realization now taking place in the recent work can only have a production influence on creative developments.

One can discover an initial proposition based on a notion of the object in *IO* by André Vallias. This work dates from 1995 and was published in *alire 10/DOC(K)S* in 1997. Later, in 2000, writing about *h*, as published in the magazine *lit&ratique*, Eric Sérandour points to the use of interactivity as a disturbance of static processes: the program itself effects an automatic transitional phase, returning to equilibrium. At this time, he invokes the behavioral independence of the work relative to the actions of the reader: the perceptible processes of the work do not respond to a reader's will. The autonomy of a work's observed processes was already fundamental to animated poetry and this notion of independence put forward by Sérandour is fundamental to the functioning of work in the form of unique readings that I have been developing myself since 1995. It is, therefore, a tradition which has, little by little, revealed the emergence of a new definition of multimedia that is certainly closer to its informatic nature and further from the classic concepts of hypertext, as also from those of algorithmic literature, as they are felicitously translated by Jean-Pierre Balpe in his theory of meta-writing.

In order to be able to understand the functioning of these works and the research which they have engendered, it will be useful, first, to recall certain results of applying the Procedural Model to the analysis of works published in France between 1985 and 2000.

Some results of applying the Procedural Model

This systematic model is founded on a postulate: mental representations are, at root, strategies of writing and reading. On the other hand, the technical function of media devices conditions, in large measure, the observable events of a work, to the extent that one cannot appreciate the work

from a purely structural, algorithmic perspective, and, neither, on the other hand, through observation of the text-of-visualization delivered by a particular machine. It is necessary to analyze the communicative transactions in a double movement: synchronic and diachronic. Analysis of the evolution of our conceptions reveals that it is impossible to separate mental representations from the technical functions that give rise to them.

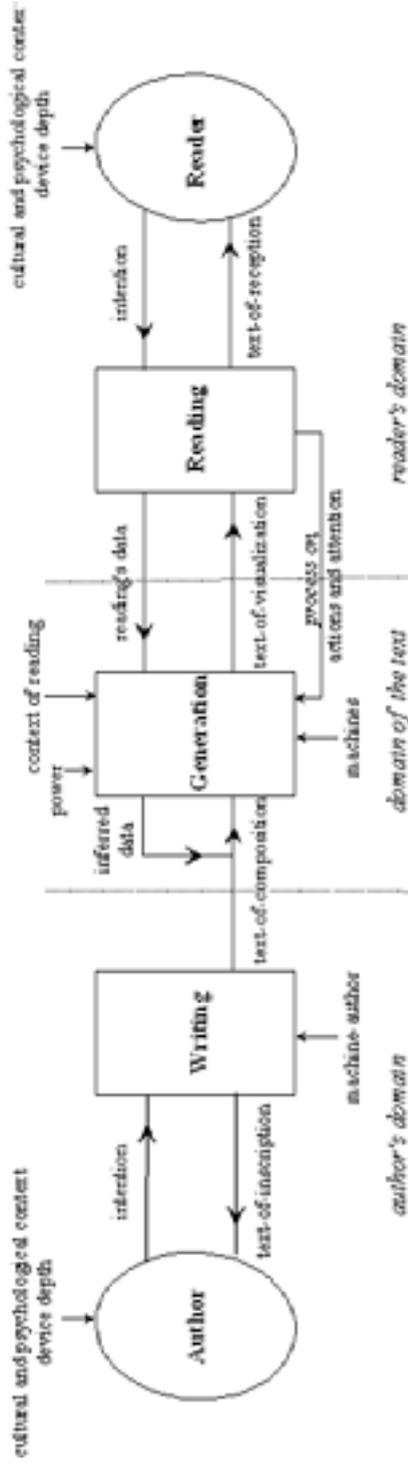
The model puts forward a psycho-semiotic analysis of the relationships between the divergent textual states already outlined above, namely the text-of-inscription, the text-of-visualization, and the text-of-reception. This model is coupled with a functional description of the communicative situation that allows us to set out in a single schema (See Figure 2) the principle properties of this situation.

A fundamental consequence of applying the model is the “separation of domains” that is elaborated in a number of forms. Through one of these, we see that the reader cannot have access – as reader – to the actual work of the author and that the author does not manipulate the observable material of the work such as it is apprehended by the reader. All strategies of writing are obliged to position themselves in relation to this separation. An extreme position is represented by the early works of non-interactive animated poetry which presented themselves as if transparent to their readers. They attempted to set out, through their programs, the observable phenomena of the poem. This effort was doomed to failure because a program is not the structural description of an observable object, but a collection of commands that evoke a process. The observable phenomena are the product of its execution. These phenomena do not constitute an object, they are transitory states with no other permanence than that provided by mental representations (the text-of-reception) which they leave in the memories of those who have read them. The opposite position is represented by that of the automatic generator which uses the separation to entirely conceal the generative algorithm. The approach has suggested to Jean-Pierre Balpe, for example, that he is not the author of the generated texts. The majority of works situate themselves somewhere between the two extreme positions, but none are able to deny the separation of domains.

This separation expresses itself by way of many properties of the work, if by “work” we mean an association of phenomena observed by the author (the source code and source texts: the text-of-composition), by the reader in her multimedia space (the text-of-visualization) and by the gen-

Figure 2: Functional model of the communicative situation (Booltz 2001, 284)

Scheme of the functional model of the communication



erative operations that transform the one into the other and which are constituted principally (but not exclusively) by the executable processes compiled on the reader's machine. The author, no matter what type of computational tool is used, works to produce events that are perceptible to the reader as an association (sequential or parallel) of autonomous objects that are ultimate endowed with behaviors and properties. These objects, depending on the nature of the work, may be recast in any number of forms (notably individual images, texts, or screen pages) and be expressed as any number of diverse informatic forms (sub-programs, scripts, agents and image-objects, maps). This diversity in no way obscures the reality of the phenomena observed by the author: that of an association of autonomous objects endowed with behaviors, interacting with one another in time and space. The author's administration of such observable events is named, in the Procedural Model, "horizontal montage" in order to indicate that the montage in question pertains to sequences of temporal objects and not merely to sequences of images. However, the montage runs in real time and the reader is aware only of its actual production, which constitutes the observable surface of the work. In actually existing examples, the visualization or, more generally, this multimedia event, presents itself as image. Of course, the implicit ambiguity does not prevent the author from working the montage as image, nor does it prevent the reader from perceiving the objects within the image, but these alternative points of view are neither systematically applied nor are they general. Notably, the horizontal montage of objects allows the fabrication of combinatorial or modulated images, as in recent works, without any idea of the reader becoming aware of the objects or of their rules of association. The notion of an enacted image seems very appropriate in order to address the questions of reception, if less useful for describing the programmatic reality of the observable events.

The second important result of applying the Procedural Model is the "autonomy of process." In this phrase, the model evokes a fundamental property of informatic work, previously revealed by theorists of numeric art, that of the autonomy of the work. More precisely, in the Model, autonomy pertains to the generative operations as outlined above. One can affirm that what inscribes the phenomena observed by the reader is created from an association of the author, the reader, and a number of technical mediators. Informatic works are characterized, therefore, by never being entirely dependent on one or other of the human protagonists in the proc-

ess of communication, neither the author nor the reader. This is the reason that the Procedural Model finds those theories very inadequate where they presume either the reader's total operational control – as is the case with the theory of classic hypertext – or where they assign complete operational control of observable events to the program – as does the algorithmic theory.

Certainly, the work of the author cannot be conceived in terms other than those of algorithm (generative algorithms) or structured content (hypertext), but this does not prevent the technical operation of the devices from refusing this logic. This is the reason that the Procedural Model does not deny or dissociate the role of either mental representations or technical operation. Because of this, in 1994, I conceived my first adaptive generator. An adaptive generator is a “pseudo-intelligent” program which attempts to instantiate itself as if it had been preconceived by the author. This refers entirely to internal processes, because output peripherals provide no input for the program. Should the program detect a difference between the states it has instantiated and those that were expected, it attempts to modify itself in order to reduce the divergence. It cannot do this, of course, while having total respect for the wishes of the author. Taking into account this autonomy of process, notably the autonomy of technical mediation, leads us necessarily to adopt a new position and role for the author. The author is not only the designer of the work but also the systems administrator of its failures. The author is forced to organize her exigencies into a hierarchy, to leave some of these to one side if need be, and to acknowledge her loss of authority in relation to the work. The assumption of this role is dramatic, particular in our present society of “information and communication,” because it rests on the acceptance and administration of the impossibility of communication. Adaptive generators constitute a special class of constrained generators, perhaps the earliest of their kind.

Constrained generators

Actually, my research is addressed to particular types of behavior. When viewed as the activity or intelligence of objects destined to be read, these behaviors conform to semiotic aims. They are the constituents of writing strategies. Two orientations determine the direction of research in my ac-

tual creative work: that of constrained generation and that of temporal semantics.

Broadly, a generator can be defined as a program that produces an output which is observable to a reader. Multimedia programming environments employ two types of algorithm, most often intermingled: algorithms of synthesis and those of realization. An algorithm of synthesis creates objects for the observable textual event from internally given forms and processes. Typical of such generators are those produced during the 1980s. They represent the algorithmic approach to semiotic manipulation, which is one facet of multimedia endeavor. An algorithm of realization produces the instantiation of an object in a form that is perceptible to reading. This type of generator represents the other side of multimedia creativity: the manipulation of perception. Typical examples of work with such algorithms are found in the animated poetry from the years 1985–90. These two aspects are naturally complementary. No work can do without one or other of them, and often they are intimately interlinked. The programs in actual use by authors often employ an algorithm of generation with a metaphorical dimension – storyboard, screen page, etc. – that relies on the background for visualization provided by the screen.

If authors wish to distance themselves from mechanistic behaviors, they are obliged to “break” the various generative algorithms by applying constraints that may themselves be algorithmic. These constraints may be addressed to each of the co-scribes of the observable events: the author, the reader, and the technical mediations. This procedure can be viewed as a modification of the expression of the initial algorithm by indirect communication between an author and one or other of her co-scribes.

The adaptive generator mentioned above is a constrained generator addressed to the instruments of technical mediation. With the program itself as intermediary, the author modifies the expression of the algorithm in measured response to the influences of this agency at the time of execution. Such modification could, *a priori*, be applied to any type of algorithm, but essentially they pertain to algorithms of realization because these are most greedy of resources, especially temporal resources (avoidance of attention, interruptions of rhythm, untimely desynchronisations, conflicts between program execution times, and so on).

A constrained generator addressed to the author herself is simply a more complex generator. For example, in an extract from a combinatorial generator, *haiku/poncture*, the constraint is manifest in the operation of a

logical if/then loop addressed to a combinatorial algorithm, as the structural analysis of the program unfolds.¹³ This loop guarantees the semantic coherence of a course of reading. It renders a semantic compatibility from the non-linearity of its combinatorial structure and the linearity of its actualization as an observable phenomenon. Once more, it is for the sake of a temporal semantics that these constraints are constructed, allowing the generative operation to do without the actions of a reader.

The making of *Variations sur passage* which I realized with the help of Marcel Frémiot at the Laboratoire de Musique Informatique de Marseille (MIM) provided the opportunity to construct a generator with constraints addressed to the reader. These constraints pertained exclusively to the work's perceptible behaviors and therefore to the algorithms of realization. They manifested themselves as an "interpretation" of the product of the algorithms of synthesis after their instantiation. To put it clearly, a combinatorial algorithm constructed a particular sequence of music that possessed a coherence and structure reproduced in each of its occurrences; however, this sequence is filled out by silences to a greater or lesser extent, in correspondence with the semantics of the work's visual behavior. The multimedia assemblage constitutes a combinatorial "focalization." Which is to say that the perception of the visual elements are focused by a sonic scheme, shifting with each rereading, and creating, in fact, semantic variations. Otherwise, the other potential results of the combinatorial algorithms of synthesis, in the sonic layer of the work, are not retained. Some of these are eliminated by rules of selection that are determined by an *a priori* assessment of undesirable perceptible effects (an impression of uniformity of tone). The combinatorial algorithm approaches, therefore, to the condition of a grammar. Here, equally, it is the temporal analysis of observed events which guides the construction of constraints.

Temporal semantic units?

As we have seen, constraints, which are structural elements produced by the work of the author, correlate strongly, from the point of view of the reader, with a temporal semantics of observable events. This new way in which the separation of domains manifests itself leads us to put forward the problem of such a temporal semantics. Independent of all other semantic factors, is a multimedia event subject to a temporal semantics?

This has always been a problem in music and the work of Pierre Schaeffer with musical objects has given rise to many theoretical approaches attempting to identify a temporal semantics. However, the systems on which he worked refer exclusively to experiences of auditory perception and are distinct from any particular theory of writing. However, they are invested in this regard with a strong universal character. They are oriented by following a dynamic semantics of perceptible auditory gestures, or a cinematic semantics of perceptible movement through a particular assemblage.

The work undertaken at MIM led to a semantic classification of audible cinematic TSU (Temporal Semantic Units). This classification can be applied to and illustrated in many examples of classical and contemporary music. Three complete works have in fact been analyzed in these terms.

The work I was able to undertake under the auspices of MIM allowed me to bring to light the close relationships between the behaviors of visual objects programmed in these works and sonic behaviors. This relationship pertains in those cases where the visual behavior is conceived as a temporal development. It seems that, in these cases, the musical TSUs can be applied to visual objects. An instance based on an extract from the newly programmed version of *passage* encouraged research into visual TSUs. In this extract all algorithms of realization for the observable events in each media were blocked with one exception. The analogous behavior based on a single parameter in the visual media with that of the musical TSUs was obvious. These “visual TSUs,” if they exist, do not account for the totality of signification. The temporal manipulation of the text, notably, is read as one of the criteria of coherence in a semantic combination. It instantiates a syntactic aspect of the whole.

A multidisciplinary program of research has been initiated at MIM with the aim of corroborating such intuitions and to set out a formalization of TSUs independent of the media in which they are expressed. Such a formalization could allow the design of generators of multimedia objects that are not determined by particular media, objects which might therefore be designated “no-media” and whose behaviors, produced by the processes of synthesis, could be realized in a variety of different media. This conception broadens the definition proposed above which treats multimedia as an association of autonomous objects (of which a number may now be “no-media”) endowed with behaviors, in interaction with one another and their readers. This definition now generalizes the notion of behavior: a behavior is a simple rule of displacement in the space represented by the phases of

the object, that is to say, a rule of variation in one or more of an object's parameters that are pertinent to a semantic point of reference.

We can confirm that this definition correctly describes the operation of *haiku/puncture*. The objects are three in number: two propositions (text objects) and a rectangle of separation. The parameters are – for the rectangle: the opacity, chromatic value, geometric position; and for each proposition: the extent, the position, and the chosen template. The behaviors of the rectangle are the rules of geometric movement, the variation of chromatic value (definitely describable in terms of TSU); the behavior of each text is produced by a constrained generator delineated by an analysis of the work's structure.

Conclusion

One would have thought, given the pronouncements of certain young authors, that multimedia poetry had given up its status as the poetry of media devices in order to take its more traditional place with poetry as content. This would be to claim that the devices of multimedia poetics were entirely understood and that authors would be better off concentrating on their content. This claim seems a little simplistic, to say the least. Admittedly, elements prefigured in these discussions do not represent as radical a departure for the reform of literature as was proposed by the work and research of the 1980s. However, they do open doors to new structures and new uses of multimedia devices. How then to best characterize the true dominant tendencies in this poetic practice? Is it still a literature of devices? Is it a literature of structural form? Is it already a literature of content?

NOTES

1. Translator's note: There are a number of terms in Bootz's original French which are difficult to translate. I will not attempt to justify my decisions in detail. However, I will set out here a few of the equivalents I have made, however provisionally, in order that they may be easier for the critical reader to deconstruct. I have preferred to translate (French) "*information*" as "data," rather than (English) "information" despite the technological connotations, because I believe Bootz's register is technical when it is theoretical, and that, generally speaking, one of the contributions he makes is to provide a discourse that is simultaneously, unashamedly, and equally invested in the technological and the literary. Hence "*espace d'information*" usually becomes "dataspace." Bootz also uses the singular, mathematical term "opérateur" where I have used "class of operations." Bootz's usage is technical and exacting. I have assumed that the primary audience for this paper (myself included) will not be as familiar as Bootz with the mathematic sense of "operator." "Class of operations" conveys more of the sense of the technical term in a literary critical register; in mathematic operators act on a mathematical dataspace and may also act on other operators. For Bootz's special set of terms for the text of a work as viewed by the various phases of his "Procedural Model" (Bootz's overarching theoretical framework), I make the following translations: "*texte-écrit*" becomes "text-of-inscription"; "*texte-auteur*" becomes "text-of-composition"; "*texte-à-voir*" becomes "text-of-visualization"; and "*textelu*" becomes "text-of-reception." Generally, this use of hyphenated terms is intended to signal that these are particular to the theoretical framework of the Procedural Model. Purely for purposes of comparison and in case this helps with the understanding of Bootz's text, I will also give an alternative (fanciful, techno-metaphoric) set of equivalents I considered: "firmware text," "software text," "interface text," and "wetware text." Interface text is a term I use in my own theoretical discussions.

Apart from this, I would just like to warn the reader that I have often translated freely and for comprehension, in some cases my own idiomatic comprehension, such that this translation should probably be considered interpretative. I did have a draft translation into English by the author to which I referred, but all errors are my own. (JHC)

2. Bootz's source for this is as follows: It was quoted, in French, in Bariault (1990) which, in turn is quoted in Laufer (1992, 42).
3. Translators note: I have inserted this reference to Nelson's term although it should always be remembered that the Web is far from realizing Nelson's preferred vision of a docuverse.
4. Published on PC floppy disks in *alire* 8, Mots-Voir, Villeneuve d'Ascq, 1994.
5. I am not suggesting that this is an exhaustive analysis of the modes of hypertextual reading.
6. Translator's note: the French here is "*deploiement*" – unfurling, spreading out, unfolding. An English equivalent with the right-seeming subliminal metaphoric associations is difficult to choose. I marginally prefer "unfolding" since plots unfold, but this should *not* be taken as binding Bootz's remarks more tightly to the narrative mode.
7. Please note that I am referring to links, not anchors.
8. *Passage* is analyzed in detail in (Bootz 1998).
9. This transition is analyzed in detail in my intervention, "Three correspondences of work and interface," in the proceedings of "Interfaces: aesthetic and political mediation" which took place at the University of Paris 13 from 30 to 31 January 2001. The text is available on line on the Web site of the University of Paris 13.
10. Translator's note: The French is "*interface inversion*." We need to bring out Bootz's sense that the interface was once submergéd as invisible paratext and comes to prominence as part of the signifying process in his second phase; his "interface inversion" is the transposition of text and paratext.
11. A number of works have been analyzed in this way, showing that strategies of writing are disengaged from their reading and from an analysis of their code, and that they rely on the phenomena of reception. I refer the reader to my recent articles

and interventions: Bootz (2000); the intervention at the University of Paris 13 (January 2001) already cited; “Lecteur/lecteurs,” a contribution to the *p0es1s* colloquium, 13 September 2001, University of Erfurt (article at the p0es1s Web site); and “Esthétique de la frustration/frustration,” a contribution to the colloquium *De la création à la réception*, March 2000, Laboratoire de Musique Informatique de Marseilles (MIM, text on its Web site).

12. This remark is the expression, based on a particular case, of a property of the aesthetics of frustration.
13. An extract from the work may be seen at the Web site of the “paragraphe” group, University of Paris 8. The site also has a structural description of the work.

QUESTIONS ABOUT THE SECOND MOVE

Jim Rosenberg

The first move being what it has always been – hearing the words. Or seeing the words; whatever way they first come to mind. Or perhaps they are not even words but fragments of words, or even letters. They come to mind and then *they must be put somewhere*: The Second Move. Of course the traditional answer to the question of where the words go in the second move is: into a notebook. Or even perhaps right into place in the poem itself. The second move is so habitual – subliminal almost – that most poets would react quizzically to even giving it a name, or thinking of it as a move at all: it is as natural as breathing. (Perhaps it *is* breathing (Ginsberg 1971; Olson 1950.)) But for the cybertext poet, this is suddenly an issue, not simple at all. What is the cybertextual equivalent of a notebook? Where do the words go when they are still only *a scrap*? Must the cybertext poet give up scrap collecting?

Philippe Bootz, in “The Functional Point of View” (1997), describes a vastly different approach. The cybertext author creates a *texte-auteur*, a kind of scenario by which the cybertext is assembled. The cybertext author becomes like a filmmaker, having to extrapolate in the mind how the final piece will work. There can be scraps of *texte-auteur* material – but these are not pieces of cybertext, they are pieces of *directions* for assembly of cybertext. The poet collects not scraps but “metascraps.” Despite all of our vaunted rhetoric about the interchangeability of reading and writing (Joyce 1995), despite all of our emphasis on the interactivity of the cybertext, the writing process is in fact not interactive at all. There is no immediate feedback between the author and what replaces “the page” at the level of scraps – at the point of the Second Move – no ability to react instantaneously to those nascent bits of word behavior and say, no, that’s not quite right. The *texte-auteur* is a one-way street.¹

The question is not how to go from the Second Move to the Third Move, but how to make a Second Move which is (instantly, on the spot) *returnable* to the First Move. A Second Move which is already cybertext. A Second Move which is already interactive. How can we say we know what interactive writing is until we have done this?

So where is the code in this second move? Where is the algorithm? And can we say we have cybertext with no algorithm? Surely there is no code at all in the First Move. The poet “hears words.” The only code is the code of the neurons. (We do still have the term “natural language” – as opposed to “formal language” – for a reason.) Must the code be written on the fly as part of the Second Move? How do we put the code into the cybertext poet’s *fingers*? For the Second Move is a matter of fingers. If the First Move is a matter of ears, of eyes, of breath, it is at the Second Move where something becomes made, some object which exists somewhere for the first time outside of the poet’s head. A *thing* has to happen. Never mind that it might be a digital thing. It is still an object, something *preservable*. It may be the Second Move but it is the First Object. The note. The scribble. *The scrap*. Something tangible. Something the poet can forget about without losing it, and have the scrap to bring back to mind. But a cybertext scrap. A word object which (already) behaves.

The question is one of arena. Where does the word object go when it is fresh, instantaneous, just born? The usual answer to this question is that it goes into some kind of cybertext authoring system. Like Flash (Macromedia Inc. 1995), for instance. But will it *play* at the Second Move? Perhaps not. Perhaps it needs a whole support structure that has to be provided along with the words. Perhaps code needs to be written first. Or backgrounds need to be made: other layers. The word at the Second Move is a vagabond with no camping equipment: it has no place to go. So it fills out a form, sits on the sidewalk, waits for the builders to arrive. This is what the *texte-auteur* is: a requisition. A request for service. A request for builders, with a list of things they need to do. In my own case, not even a word object at all, but a notation in a kind of intermediate language, e.g. “Build a word cluster here with the following layers. ...” The word has to wait, perhaps weeks, before the word object gets built, according to requisition.

So then, what is to be done, to allow a Second Move that will play, that doesn’t need the requisition form? The poet needs something to act as a notebook. As the first wet-paint home for scraps. Not just word scraps, but word scraps that behave. That can move or respond or be layered –

whatever kind of *behavior* the poet's aesthetic calls for. Behaviors that are pre-built, receptacles waiting for the words. No code needed at the Second Move because the code is already there. A *construction kit* for word objects.

Of course environments like Flash already provide an assortment of pre-built objects. So what exactly is the problem? There are several. At the moment of the Second Move, the final home of the word object scrap is: *Don't Know*. Just as for centuries the final home of a line jotted down in a notebook is: don't know. If writers have been doing this for centuries, why does software make it so difficult? The corollary: at some perhaps much later move, the poet does know: the word object does get a home. So it should be very simple to just move it, to plop it into place. With all of its interactivity or animation or behavior of whatever kind coming right along. Just as the syntax comes along with the words when you paste in a sentence somewhere. (Syntax *is* a kind of behavior. It tells how the supposedly linear word stream folds and unfolds, how parts of the word stream attach at a distance. How pieces of the text attract or repel. Places where the sockets are, other places that go into the sockets. Almost a kind of animation as the connection happens.) Cut-and-paste is so simple to use in an ordinary word processor – at some later move the results of the Second Move must be pasteable – somewhere else.

The set of kinds of objects available in Flash at the time of the Second Move is *closed*: you can't extend it. You can create new objects for *the reader*: objects that work at run-time. But what about new objects for the writer? New kinds of objects that can be used with the poet's fingers. Just after hearing the words. With no sound of code to drive away the words. Just like drawing: a swoop, a hand gesture, a motion. Clay being layered up, oozing out from the fingers as the wheel spins. The tactile feel of the words being molded into place.

And then: you play it. Immediately, on the spot. The Third Move is to play the word object fresh and instantaneous, cock your head, wonder: How do I like how this plays? Is it right? Not a question you have to wait weeks to ask, but a question you can ask on the spot. Just after having heard the words. A Third Move that happens so soon after the Second Move, perhaps the Second Move took so little time you aren't even aware of having made it. A Second Move that is disappearable, out of mind, like breathing. From the First Move to the Third Move as if there never was a Second Move, as if the Second Move is *built in* to the First Move. Second Move: go away! Recede, become subliminal.

The requisition still happens – but this requisition is for the programmer to create new kinds of objects in advance. In advance of even the First Move. This is not a *texte-auteur* for a specific piece, but a requisition for enlarging the construction kit.

So how do we do this? How do we specify the kinds of word objects we will need? We need to become almost more like sculptors than poets: we need to send an order to the *foundry* for fabrication of new kinds of word objects. But here is exactly the difficulty: There is no foundry. We have to do it ourselves.

There must be a system of *objects*. Of movable objects – movable with your fingers. Objects that allow the poet to make new kinds of objects and plug them in. Objects like an *attractor* that would pull in words or phrases or letters from a surrounding text space. Or a *repeller* that would send them away. *Kinds* of objects. (Programmers call these “classes”.) A useful variety of kinds need to be available in advance, but also the poet should be able to add more, with reasonable effort. You will say my arithmetic is wrong: If the poet adds a new kind of object to the system, what move number is this? It happens prior to the First Move. Is it a negative-numbered move? It is a move from a *precomposition layer*, a layer that may only need to be done once to support a whole series of pieces: like building a desk. Not the writing but the carpentry. Trans-writing. A producing, like the producing the programmers did who wrote the Flash development environment except that this one is *open*, allows us to add our own kinds of production alongside the ones we were handed. Open to new objects not when the piece is played but when it is written: at the point of stage and scene and frame. The poet must be able to change the way the stage works – to be one’s own stagehand.

This is not a pipe dream. There is such a system. Squeak (Ingalls et al. 1997; Guzdial 2001; see also www.squeak.org), for instance. A system that can support words as graphical objects, animations, new kinds of objects invented by the poet, objects that “carry” other objects around with them. A system that lets you move an object where you want it, drop it into place, and all the behavior (by itself and by its components) comes right along with it. A system that is available for free (including source code). A place to start.

An arena. An *object arena*. A place where small active objects (e.g. animations) can be put into a sentence as if they were words. A form of interactive writing that lets the Third Move be playing the results of the

Second Move – immediately, on the spot. The way the poet has always been able to read the line just after the Second Move – while the ink is still wet. Wetness: our cybertext composition process needs to be come wetter, like wet clay. More liquid. Or like a gel, spreadable with the fingers. The place the breath breathes into. The potter’s wheel. The clay tablet, a still flexible digital surface.

NOTES

1. Editor’s note: Please see Philippe Bootz’s paper above and my translator’s note. I translate *texte-auteur* as “text-of-composition.” Readers will have to make up their own minds about whether Rosenberg’s remarks here should also be taken to refer to Bootz’s *texte-écrit*, or “text-of-inscription.” (JHC)

DIGITAL POETRY AS REFLEXIVE EMBODIMENT

Lori Emerson

If the time should ever come when what is now called science, thus familiarized to men, shall be ready to put on, as it were, a form of flesh and blood, the Poet will lend his divine spirit to aid the transfiguration, and will welcome the Being thus produced, as a dear and genuine inmate of the household of man.
(Wordsworth, quoted in Halberstam & Livingstone 1995, 1)

When cybernetics has effectively discredited the romantic paradigm of inspiration, poets must take refuge in a new set of aesthetic metaphors for the unconscious, adapting by adopting a machinic attitude, placing the mind on autopilot in order to follow a remote-controlled navigation-system of mechanical procedures ...
(Bök 2001, 11)

The digital revolution of the last decade has let words on the loose, not just by liberating their semantic potential, as most avant-garde movements of the past hundred years have done, but in a physical, quite literal sense as well. (Ryan 1999, 1)

1

On April 15 2002 *The New York Times* announced the inauguration of TextArc.org, a Web site which can create a visual schema of any of 2,000 “literary classics” by counting each word, noting its location, and marking it onto an oval-shaped map of the text – the more frequent the word, the darker and larger it appears. This is fiction become reality twenty-one years after Italo Calvino’s facetious dream of a computer program that

processes novels in minutes as described in his novel *If On a Winter's Night a Traveller*. Just as Calvino envisioned a computer capable of “reading” novels by arranging words according to their frequency of use such that theme, mood and stylistic device can be surveyed at a glance (“What is the reading of a text, in fact, except the recording of certain thematic occurrences, certain insistencies of forms and meanings?” (Calvino 1993, 182)), so too does W. Bradford Paley of TextArc claim to have created the first accurate cyber-accountant of literature that is capable of analyzing the content and structure of, for example, *Alice in Wonderland* (whose second most significant word is “know”). While Bruce Ferguson, the Dean of the School of the Arts at Columbia University, partly endorses TextArc because it “makes a text richer and more interpretable,” clearly the merging of computer technologies and literature is helping to bring about radical change in processes of reading, writing and meaning-making – change that is not simply an outgrowth of already-established processes. As columnist Matthew Mirapaul blandly (but no less accurately) puts it, TextArc is “unromantic.”

There is a connection here to both poetry and romanticism that is no coincidence, for, given the emphasis on visuality inherent to the medium, what else do programs such as TextArc do other than foreground the materiality of words as signifiers of meaning, thereby transforming prose into poetry? TextArc also transforms the creation-process into a shared act between reader, writer and computer, and in doing so, signals (yet another) break from the model of the poet/writer as divinely inspired human exemplar, quite in contrast to the great “Being” Wordsworth foresaw would emerge out of the joint force of science and literature. In fact the philosophical underpinnings of digital poetry are particularly indicative of the unsettling of what poetry is commonly thought to be, which is inextricably linked to a departure from, specifically, the poet as privileged exemplar of human culture and medium through which we read ourselves, and, generally, the liberal humanist subject.

2

Critics in this new field of cultural production have generally attempted to articulate the intersection of poetic practice with computers in three (overlapping) ways: by providing a preliminary overview of the range and scope

of machine modulated/mediated poetry; by pointing to the ways in which this poetry undoubtedly signals “something new”; and by coining the definitive term, the term that will really stick, to describe such poetry (from cybertext to digital poetry, computer poetry, cyberpoetry, interactive poetry, Internet poetry, electronic poetry, e-poetry). But while such descriptive, even fervently hopeful, works are both useful and necessary, Espen Aarseth, Lev Manovich and Loss Glazier have provided accounts of writing in new media that are both historically and theoretically nuanced, and, precisely for this reason, their works are fast becoming foundational texts in the field.

More than the title suggests, the aim of Espen Aarseth’s *Cybertext: Perspectives on Ergodic Literature* is to lay out a much-needed theoretical framework for a theory of cybertexts or “ergodic literature” – in other words, “to provide a textonomy (the study of textual media) to provide the playing ground of textology (the study of textual meaning)” (Aarseth 1997, 15). The importance of Aarseth’s work lies, in fact, in his terminology. By using “cybertext” as a term which embraces literary communications systems ranging from hypertext, textual adventure games, computer-generated narratives, participatory simulation systems, and MUDs, he makes it clear that such textual media extend and redefine what is typically classed as “literature.” Thus, given that literary theory (concerned as it is with paper texts) alone does not provide an adequate explanation of the workings of such texts, Aarseth puts forward a theory of what he calls “ergodic” aesthetics. While he is only incidentally concerned with digital poetry, Aarseth’s work nonetheless is valuable for its insights into changes in the author-text-reader triad, and for its move away from technological determinism and towards the establishment of a literary and historically-grounded field of study.

Lev Manovich’s *The Language of New Media* similarly engages in the task of offering a historically and theoretically informed account of new media as that which constitutes something both old and new. But while Aarseth’s study is largely concerned with the textual dynamics of digital literature, Manovich seeks to provide an overarching theory of all new media in relation to the history of visual culture. Positioning his work in relation to art, photography, and video, Manovich uses the history and theory of the cinema as the basis upon which he develops a critical methodology called “digital materialism” – the scrutiny of “the principles of computer hardware and software and the operations involved in creating

cultural objects on a computer to uncover a new cultural logic at work” (Manovich 2001, 10).

The implications here for digital poetry are two-fold: that poems mediated by a screen no longer are simply alternative examples of concrete poetry – they are performances, complete with their own set of viewer/viewed relation; and further, that the particularities of the medium and materiality of computer-mediated texts cannot be ignored. Loss Glazier astutely picks up on the defining power of medium/materiality in *Digital Poetics*, in which he extends Aarseth and Manovich’s arguments to the realm of poetic practice in order to make the point that “e-poetry” both continues a longstanding avant-garde preoccupation with *poesis* and, given the change in the tools of production, marks a break from such a lineage. Specifically, Glazier explains that “... the materiality of electronic writing has changed the idea of writing itself, how this writing functions in the real world of the Web, and what writing becomes when activated in the electronic medium” (Glazier 2002, 6).

However, while any discussion of digital poetry necessarily intersects with these three works, poems by Kenneth Goldsmith and John Cayley – in their hybridization of human and machine, artist and computer-programmer – demand that we extend the boundaries of the discussion to include the critical debates around virtuality, cyberculture, cybernetics, the cyborg. And while all of these debates are more or less engaged with breaking down, extending, re-writing conventional notions of the body, they can also be said to be symptomatic of the post liberal-humanist subject: the posthuman. According to Katherine Hayles in *How We Became Posthuman*, this is a subject defined by its coupling with machines in such a way that distributes cognition between human and machine, and thereby frames matters of how we know what we know and how we are in the world in terms of reflexivity and emergence. But with the exception of Hayles’ widely regarded work, few critics have attempted to substantially bring the ever-growing body of digital writing, especially poetry, into dialogue with the posthuman, arguably the very definition of our current cultural moment.

I mean that in being mediated, modulated, generated by a computer, as well as interactive and self-generating or looping, Goldsmith’s *Fidget* and Cayley’s “Indra’s Net” are indeed concerned with textual dynamics and the medium and materiality of their own production; however, given such concerns, they are also works engaged with the merging of a textual,

human and machine body and the attendant possibility of embodiment. However, these works also complicate the notion of posthuman embodiment in that they enact the limits to which embodiment, through the hybridization of reader, text, author and machine, is possible.

3

Katherine Hayles explores the medium and materiality of technology as it has been shaped, expressed in both literary and scientific realms. *How We Became Posthuman*, which came out in 1999 with much fanfare and many reviews, is a critique of the metanarrative of the liberal humanist subject as well as a narrative about that same metanarrative transforming into the new metanarrative of the posthuman – both stories centering around how, from one period to the next, “information,” “the body,” and “the human” are perceived. We *were* liberal humanist subjects who possessed (a self, a body, goods) and whose basic right was freedom from possession by others. We have since become, and are in the process of becoming, posthumans whose self and body are informational patterns we do not so much possess as we are enmeshed in, who are not so much free from the wills of others as we are a collection of disunified patterns. In Hayles’ words, the posthuman means that “emergence replaces teleology; reflexive epistemology replaces objectivism; distributed cognition replaces autonomous will; embodiment replaces a body seen as a support system for the mind; and a dynamic partnership between humans and intelligent machines replaces the liberal humanist subject’s manifest destiny to dominate and control nature” (Hayles 1999a, 288). Nothing is left untouched, then, in this process of fundamentally changing – in every conceivable respect – how we see ourselves, ourselves in relation to each other and in relation to the world.

While embodiment is only mentioned briefly in the foregoing quote, it is crucial to every aspect of Hayles’ story of stories. Tracing our contemporary notion of information back to the Macy Conferences on cybernetics of the 1950s, Hayles shows the ways in which, first, information came to be defined as a free-floating entity separable from medium and materiality, and, subsequently, how human cognition came to be equated with computers and the body as something that can be done away with altogether. But what Hayles wants to make clear is that this was a rhetorical move

away from enaction in the world, a move in service to the erasure of embodiment; and in providing historical narratives that make obvious the constructedness of disembodiment, embodiment – defined as “contextual, enmeshed within the specifics of place, time, physiology, and culture, which together compose enactment” (Hayles 1999a, 196) – is best bodied forth by way of *narratives* that “put context back in the picture” (Hayles 1999a, 203) with a recounting of particulars.

Yet while I appreciate the spirit of Hayles’ noble dream of devising an account of the posthuman that “embraces the possibilities of informational technologies without being seduced by fantasies of unlimited power and disembodied immortality, that recognizes and celebrates finitude as a condition of human being ...” (Hayles 1999a, 5), the creation of a story about “us” is precisely what makes the realization of this dream an impossibility: by its very nature, *How We Became Posthuman* cannot be a recognition of particularity, finitude, or limited power. As a reviewer tellingly puts it, “her narrative works as a kind of fixative; it integrates its myriad components into a coherent fabric” (Brigham 2001). If to be a narrative of posthuman embodiment the qualities of emergence, reflexivity, dynamism and distributed control must be present, then Hayles’ stories which exemplify closure, cohesion and linearity are simply liberal humanist narratives.

But, to pull back from self-aggrandizing criticism of Hayles, this could, on the one hand, be overlooked, for the book does not claim to be much more than a descriptive account – in which case I am treading well-worn ground over issues of writing and praxis. The other hand, though, is far richer: this neglect to take on both postmodern science’s tendency towards anti-representationality and *dis*sensus (Bertens 1995, 127) and postmodernism’s tendency toward openness and away from meta-narratives or *grands récits* does not necessarily annul the usefulness of her notion of posthuman embodiment. It seems to me that a reworking of her definition of narrative, an emphasis on the *petits récits* in such a way that incorporates other art forms and literary genres, could better exemplify the ideal posthuman subject position. Thus, if the contextual nature of embodiment is akin to “articulation ... that is inherently performative, subject to individual enactments, and therefore always to some extent improvisational” (Hayles 1999a, 197), then science-fiction and cyberpunk are more like satellite articulations to the project of embodiment that is being taken up in part by certain digital writers.

In *How We Became Posthuman*, Hayles understands narrative as having a “chronological thrust, polymorphous digressions, located actions, and personified agents;” narrative, then, is supposed to be particularly resistant to “various forms of abstraction and disembodiment.” (Hayles 1999a, 22) Here Hayles’ definition of narrative is largely linear, causal, continuous and coherent. However, as if in response to criticism of such a narrow understanding of narrative, this past year she published an article in which she reworks her definition to mesh better with the embodiment she intends to give rise to; her shift towards discontinuous, constantly fluctuating narrative sequencing and a reflexive engagement with materiality as key features of electronic texts foregrounds the process of co-creation between reader and writer, a process that also bears with it the possibility to produce an embodied work, a work reflecting the “flux of embodiment” (Hayles 1999a, 201).¹

If posthuman embodiment is engendered through narrative that is actually more like “particularized flux,” then it has to take place on the level of form as much as content; or, as Samuel Beckett describes *Finnegans Wake*, eerily pre-dating the direction that much computer-mediated writing is taking, “form *is* content, content *is* form. [The] writing is not *about* something; *it is that something itself*” (Beckett 1981, 58–59). Not only have boundaries around “the human” been made near obsolete, but so too have boundaries between genres – for according to this schema, narrative could just as easily be called poetry and vice-versa. Thus, since praxis take precedence over typology, and if, as Hayles writes, “... embodiment creates context by forging connections between instantiated action and environmental conditions ...” (Hayles 1999a, 203), then it seems clear to me that, just as much as critically acclaimed hypertext fiction such as Shelley Jackson’s *Patchwork Girl*, digital poetry such as Kenneth Goldsmith’s *Fidget* extends the project of a posthuman embodied subject (and no doubt it can do so precisely because of the technological advances that have taken place over the five year period between the two works).

As an abbreviated gesture toward the ways in which these two works emerge out of posthuman thinking/being without necessarily diverging into the particularities of their genres, I could say that just as *Patchwork Girl* is a composite of body parts with their own stories as told by “Mary / Shelley and Herself,” so too is Goldsmith’s *Fidget* a composite of the merging of the reader’s physical and mental engagement with the text, with the author, and in turn the merging of the “real” with the virtual – the result of which could be seen as the creation of a whole-body narrative (in the widest, most distributed sense). However, one could argue that, *en route* to a mode of embodiment, *Patchwork Girl* attempts to turn away from the disembodiment of information/bodies by taking on a subject position akin to Deleuze and Guattari’s nomad:

If I clung to traditional form with its ordered stanzas ... I belonged in the grave ... I could be a kind of extinguished wish for a human life, or I could be something entirely different: instead of fulfilling a determined structure, I could merely extend, inventing a form as I went along. This decision turned me from a would-be settler to a nomad. (Jackson 1995)

While there is still the implication of prior ontological wholeness (that is, it is true, flattened and extended), complete with a story of origin and genealogy in Jackson’s work, *Fidget*, in an ironic twist, denies us the consummation of our desire for redemption from disembodiment by way of technologically mediated wholeness in that the text enacts the limits to which embodiment, through the hybridization of human and machine, is possible.

Fidget is a transcription of every movement Goldsmith made and recorded on a hand-held microphone from 10 a.m. to 11 p.m. on Bloomsday, June 16th 1997; thereafter the project became a performance, a Web project,

a musical score, a gallery exhibition, and a book. Given the practical problem of being unable to make a complete record of all movement, Goldsmith enforced certain rules on himself precisely to remove himself from the work, as agent. He writes that, “[a]mong the rules for *Fidget* was that I would never use the first person “I” to describe movements. Thus every move was an observation of *a* body in space, not *my* body in a space. There was to be no editorializing, no psychology, no emotion – just a body detached from a mind” (Goldsmith & Belgum 2002). But we are given a foreshadowing of the result of such a constraint in an epigraph by Wallace Stevens that reads, “... to fidget with points of view leads always to new beginnings and incessant new beginnings lead to sterility” (Goldsmith 2000, 5). Predictably, then, as the day and the text go on it soon becomes obvious the impossibility of just such a detachment of body from mind; the text moves from “[e]yelids open. Tongue runs across upper lip moving from left side of mouth to right following arc of lip. Swallow. Jaws clench. Grind. Stretch” (Goldsmith 2000, 8) to “Linky hung deformed gully. Whistle without lips. Get hum. Sunset eroticism breedy. Walk nine all night. Slowing down I quit time” (Goldsmith 2000, 74). In the book the inevitable interjections of the “I” turn the record into the narrative of a particular man, the work now engaging with “... so-called life-writing, the body politic ... gestural and found poem forms; a reclamation of ‘the small gesture’...” (Rickey & Beaulieu 2001, 4).

Put this way, Goldsmith’s poetics of pure practice not only is traceable to an ongoing writerly movement, but, if the “object of the project is to be as uncreative in the process as possible,” it is a twenty-first century adaptation of early twentieth-century avant garde practices (such as those of Dada and Futurism) based on notions of the automatic, the machinic.

7

A history: Tristan Tzara was one of the first of the Dadaists to use chance as a way to write out the “I” so as to generate poems whose language resisted subsumption by dominant meaning-making processes. Pre-dating cybernetics and the attendant art practices that emerged in the 1950s, Tzara’s “TO MAKE A DADAIST POEM” both was and was not a denial of individual consciousness and all its attendant conventions surrounding notions of an author, individuality, authentic poetic genius through sys-

tematic chance-operations. On the one hand the chance-generated poem was intended to better get at who that ‘you’ was – “the poem will resemble you,” (Tzara 1977, 39) – at the same time as it was intended to transcend the “you” and the “I” and the inaccuracy in seeing “you” and “I” as single, individual, unique entities. On the other hand, the chance poem also was and was not a flat-out denial of the human in favor of passive submission to an unknowable universal machine. As such, the exploration of chance was indicative of a move away from Enlightenment scientifico-rationalist discourses which dismantled God as the transcendental source of knowledge and truth only to replace this signifier with the transcendent objective gaze. Chance mechanisms were intended to rupture linearity, cause and effect, signifier and signified, the Cartesian dictum of mind over matter (and so dualistic thought in general) in order to emphasize the essence of the thing, the event, the human itself, the word as it exists in flux.

Contemporary Canadian poets Steve McCaffery and bpNichol, writing as the Toronto Research Group from 1974–75, also pick up on the notion of flux in relation to “the book machine” from their readings of Gertrude Stein: “There is now a shift away from “plot” (the old reality) and from a centrality in such narrativistic ordering, towards a new emphasis on transition (the new reality) ... This in itself allows a disjunction of the two terms in our equation: word order=world order ... The new equation should be word order=world flux” (McCaffery & Nichol 1992, 101).

8

A history: It seems inevitable that poets using chance-methods of composition should turn to computers. As early as 1960 Brion Gysin was permutating his cut-up poems by feeding them through a computer. Jackson Mac Low now relies almost entirely on computers to generate poems such as “34th Merzgedicht in Memoriam Kurt Schwitters,” which is the result of a text-selection program called DIASTEXT 4. John Cage, too, relies on a computer program to write his mesostic poems. Language poets Ron Silliman and Erin Mouré have published books of computer aided/generated poetry as early as 1981 (Silliman’s *Tjanting*) and as recent as 1999 (Mouré’s *Pillage Laud: Cauterizations, Vocabularies, Cantigas, Topiary, Prose*). And the group of writers associated with Oulipo (‘Ouvroir de littérature potentielle’) are becoming more and more synonymous

with the use of the computer for the automatic generation of poems. Although Oulipo practitioners have long positioned themselves in opposition to what they perceived as the “bogus fortunetellers and penny-ante lotteries” (Motte 1998, 17) associated with chance-generated or aleatory literature, their use of formal constraint in relation to the computer is still very much related in principle.

9

This literary lineage includes such an unlikely combination of writers as Calvino, McCaffery, Nichol, Goldsmith and Cayley – a lineage whose varied roots, despite unromantically denying authorial control and originality, are heavily invested in preserving an intact and discrete human.

There is no need here to legitimate the value of Goldsmith’s work with a rhetoric of “forefathers” and lines of inheritance. However, before moving on to an investigation of the possibility of a model of posthuman embodiment, my concern is with the problem of what I call “erasure” that seems to be inherent to the poet/machine assemblage and which may in fact make embodiment *impossible*. It is clear that notions of lineage and literary heritage are difficult to negotiate in the present time in which there are diametrically opposed pulls between those constructions which support a wide-reaching system of erasure: the dominant construction of information without a body (which is also to say without history, family, origins), matter without materiality, body without a mind, the attendant move *against* such erasure through the reinscription of wholeness, particularity, context, and the move away from erasure/inscription altogether. Ironically, the latter trend bears with it the possibility for further erasure in the desire for the new – certainly this is true of Tzara who saw himself as breaking from the past and relentlessly forging a new “new.” It is also true for Hayles (though less so, but it is difficult to fault her for not providing a literary overview that includes poetry and ranges across the entire century) and other theorists of the posthuman.

That is, despite my attempt to recuperate certain aspects of the posthuman, there seems to be a recurring problem with the concept, as well as with that which has been subsumed under the posthuman, the cyborg – especially when these concepts are used to discuss contemporaneous art works. Neither the posthuman nor the cyborg are useful concepts if they

are presented as either an evolution or devolution of the human (Halberstam & Livingstone 1995, 10; Hayles 1999a, 281) because both positions rely on categories of “human,” “being,” “origin,” “progress” – a reliance that not only inadequately problematizes the inessentiality of these terms, but that also inadvertently maintains status quo binaries of inscription/erasure, self/other, presence/absence while it tries to promote a notion of the post-human that is incompatible with any binary system. It is worth noting here that Catherine Waldby makes a similar point in *The Visible Human Project* about the persistence of what seems to me to be liberal humanist motifs in relation to figure of the cyborg:

... [it] emerges from the proposition that, if the human can be reconfigured as informational system, then the boundaries between the human and its stabilizing historical other, the machinic, become purely conventional and are open to infinite transgression ... [But] the cyborg figure emerges from its literature with an entire genealogy, a history of origins, which neglects to fully problematize the status of the human prior to the cybernetic turn ... Hayles’ more nuanced account of the cyborg posthuman ... also invokes serial, symmetrical figurations, and an attendant drive to locate a moment of posthuman origin. (Waldby 2000, 46–47)

What Waldby does not mention, however, is Haraway’s explicit claim that cyborgs are both terrible and promising, that they are the “illegitimate offspring of militarism and patriarchal capitalism” and they are also “without fathers,” unfaithful to their origins.

10

Given the framework for posthuman embodiment and the concomitant general criticisms of the posthuman I lay out above, it seems a closer look at *Fidget* and our experience of reading it is necessary to uncover what terms, if any, constitute posthuman embodiment. Given its insistence on enaction, narrative, interactivity, and a recounting of the ordinary, the theatre is a logical place to start outlining a more accurate model of what exactly our relation is to such texts.

Thinking here from the perspective of the philosopher Stanley Cavell, theatre, like narrative, is not so much a *re*-enactment of everyday life as it

is a form of life-in-process. Although it is taken for granted that the theatre presents to us fictionalized accounts of ourselves and of our human involvements, the recognition that what is presented is ourselves comes when we surrender to the characters on stage through a “standing in” of ourselves for the other. When we stand in as the other we identify with the other in such a way that our reactions to them make us more fully known to ourselves. However, because this recognition of ourselves in the other, as the other, is also always mitigated by the actor’s (bodily) standing in as the character, it is really that we stand in through the actor’s standing in. The experience of the theatre, then, is an all-embracing “physiognomic metaphor” (Wilshire 1988, 358) for our involvements as persons with persons.

Given the “right” performance piece, then, this is conceivably a posthuman feedback loop between actor and audience – a continual system of exchange between audience, actor and character, each one never unified or whole and always participating in “re-distributions of difference and identity.” As Judith Halberstam and Ira Livingstone perceptively point out, “[t]he posthuman does not reduce difference-from-others to difference-from-self, but rather emerges in the pattern of resonance and interference between the two” (Halberstam & Livingstone 1995, 2). That is, the mechanism at work in the theatre which renders self/other and audience/actor as distributed forms of identity based on particularity is the same mechanism at work in the book version of *Fidget* that goes back and forth between self and other, and reader and writer: Goldsmith enacts his body by standing in as an observer enacting his body, and we, the reader, stand in through his standing in to come home to an all-encompassing understanding of ourselves and what it means, both physically and linguistically, to “Swallow ... Grind. Stretch.” (Goldsmith 2000, 8) As Hayles might say then, in the lineage of language philosophers such as Wittgenstein, Austin, and Cavell, the book form of *Fidget* embodies both writer and reader by way of the constituting force in recounting the particularities of a life with ordinary language. Moreover, insofar as there is no “easy distinction between actor and stage, between sender/receiver, channel, code, message, context” (Halberstam & Livingstone 1995, 2), our experience of reading *Fidget* in print constitutes posthuman embodiment.

By “right” performance, I mean “right writing” as well – works which both foreground the working process, the work as work, and have openness built into them such that it becomes possible for “re-distributions of difference and identity” to take place (Halberstam & Livingstone 1995, 2). Here I am drawing on Umberto Eco’s notion of the open work which serves as part of Hayles’ platform for a poetics of posthuman narratives (characterized by fluctuation, reflexive engagement with materiality, co-creation between reader and writer):

... (1) “open” works, insofar as they are *in movement*, are characterized by the invitation to *make the work* together with the author and that (2) on a wider level ... there exist works which, though organically completed, are “open” to a continuous generation of internal relations which the addressee must uncover and select in his act of perceiving the totality of incoming stimuli. (3) *Every work of art ... is effectively open to a virtually unlimited range of possible readings, each of which causes the work to acquire new vitality in terms of one particular taste, or perspective, or personal performance.* (Eco 1989, 21)

While Eco himself admits that the last qualification for openness could be said to characterize all works of art, only recently have artists been concerned with the entire notion of openness. My interest in Eco’s schema lies in the possibility of laying the notion of an open work side by side with (narratives or simply artistic works of) posthuman embodiment, in which case it becomes clear that being a posthuman work should not depend on whether it is mediated by digital technology because print technologies also bear with them the same potential for posthuman embodiment (even though it cannot be denied that the nature of embodiment shifts in the move from one medium to the other).

That is, implicit to the posthuman is that it is *digital* technology we are interacting with, and as such, absence and presence are no longer relevant terms because we have become a collection of disunified informational patterns we do not so much possess as we are enmeshed in. As Hayles

notes, the terms inscription and incorporation are intended to give shape to posthuman subjectivity while avoiding the pitfalls of liberal humanist binaries. Two problems begin to emerge here, the first being the assumption, again, that “we” are all posthuman. Hayles writes in an essay published in *Critical Inquiry*, “The Power of Simulation: What Virtual Creatures Can Teach Us”:

... I want to insist that my readers, like me, participate every day of our lives in the distributed cognitive complex adaptive systems created by digital technologies in conjunction with global capitalism. So pervasive have these technologies become that it would be difficult to find anyone who remains completely outside their reach. (Hayles 1999b, 9)

This is to say that the posthuman only means what it does if digital technologies are in fact ubiquitous – and they are not, ironically evidenced by her own reminder to us that “70 percent of the world’s population has never made a telephone call” (1999a, 20). But, if inscription/incorporation is intended to foreground the blurring of boundaries between human and digital technology, and if the feedback loop is essential to the workings around this posthuman border blur (essential to produce emergence, distributed cognition, reflexivity), then why can we not see inscription/incorporation as looping back-and-forth between two or more entities, one of which must be a machine and a machine could in fact be a book? Here I am drawing on McCaffery and Nichol’s argument that the book is a machine which, like digitally-driven machines, has the capacity and method for storing information “... by arresting, in the relatively immutable form of the printed word, the flow of speech conveying that information. The book’s mechanism is activated when the reader picks it up, opens the covers and starts reading it” (McCaffery & Nichol 1992, 60). McCaffery and Nichol’s work helps to de-naturalize the discourse surrounding new media which not only places it over and above paper-based media, but contradicts a tendency in criticism on digitality/virtuality towards technological determinism that serves to reinscribe the erasure of history, artistic and poetic practices – something like, “digital technologies are not only the natural outgrowth of print, but they also offer us redemption from the bonds of print-based subjectivities.”

The second problem with a model of subjectivity built on inscription and incorporation, the problem of the place of culture in relation to language, is particularly relevant to the online version of *Fidget*.

The Coach House Books Web site tells us that *Fidget* “substitute[s] the human body with the computer. The Java applet contains the text reduced further into its constituent elements, a word or a phrase. The relationships between these elements is structured by a dynamic mapping system that is organized visually and spatially instead of grammatically” (Goldsmith “About *Fidget*”). The reader/viewer can choose not to interact with the text, and the text will then run through its thirteen-hour cycle in about ninety minutes. Or the reader/viewer can interact with the online version by viewing the events of June 16 at any hour, in any order, can spatially reconfigure the words, and can change the text size, color, and background. I could argue that the online version makes possible the embodiment of both reader (on the level of interactivity) and language (on the level of morphology and physical appearance). But the question then becomes, first, whether the reader/viewer interactivity that *Fidget* makes possible, which one could argue is interactivity only on the most superficial level of aesthetics, really does constitute human (or posthuman) embodiment, especially when the author’s aim is to substitute the human body for the computer? I say no, for if we have learned anything from Hayles it is that information and matter, medium and materiality are not separable – that to substitute the body for the computer participates in disembodiment as much as the attempt to equate the mind with information technologies.

Moreover, to follow a question with the question of whether language can be embodied without humans/users, again I say “no.” *Fidget* demonstrates not only that the activity and intention of the writing subject are not extractable from language, but also that culture – that is, human community – is not extractable from either the writing subject or language in general. To claim otherwise is not only akin to thinking of humans as existing solely along the axis of the vertical (the biological, the machinic), ignoring the horizontal axis (the social, cultural), but a misrepresentation of the vertical as that which is separable from the horizontal. This is to say, again

drawing from the thinking of Cavell on Wittgenstein, that language is an always dynamic system inherently based on communal-agreement.

Therefore, the online version seems to enact the limits to such embodiment not so much in terms of the feedback loop between both self and other, but in terms of the loop between human and machine. While it is clearly language being performed on the stage of the screen, *Fidget* online performs itself oblivious to its readers/viewers and there is no equivalent like it in traditional terms of the theatre – with the exception of our limited ability to change what could be called the scenery and the setting, it is performance many times removed from writer, reader, actor and audience. But, once this unbridgeable distance between reader and text is acknowledged as such, I would say that we, the readers, are forcibly thrown back on the recognition that human cognition and language use is not equivalent to computer processing. Jean-Francois Lyotard's work in *The Inhuman: Reflections on Time* on the relation between body, thought, and the technological sciences is relevant here, for his argument is quite clearly that we cannot and should not want to fulfill the dream of providing “software with a hardware that is independent of the conditions of life on earth”; he writes, “As a material ensemble, the human body hinders the separability of this intelligence, hinders its exile and therefore survival” (Lyotard 1988). It is not simply that thought is not separable from body and so cannot be conceived as a machine – it is that it should not be, for to do so is to wish for the annihilation of all bodies and so all thought.

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Digital texts like *Fidget*, then, *are* posthuman embodied works in that the reader is embodied through its reflexive enactment of distancing text from body. Conversely, and stepping away from the generalized dream of posthuman embodiment to the particular figure of the cyborg, works such as John Cayley's “Indra's Net” project can be understood as aggressively taking up (in Eco's terms of the “open work”) interactivity, movement, co-creation and continuous generation, and so here directly enacting embodiment.

Named after what was originally a Hindu metaphor “for universal structure used by the Chinese Huayan Buddhists to exemplify the ‘interpenetration and mutual identification’ of underlying substance and specific form”

(Cayley *Indra's Net or Holography*), the “Indra’s Net” pieces employ generative methods and aleatory processes to create texts for a reader who can interact with it and create for themselves an entirely “new” poem from an always original text. Cayley writes:

... in my most recent distributed piece, readers can alter the work (irreversibly), collecting generated lines or phrases for themselves and adding them to the hidden given text so that eventually their selections come to dominate the generative process. The reader’s copy may then reach a state of chaotic stability, strangely attracted to one particular modulated reading of the original seed text.

(Cayley 1998)

Given this level of interactivity that is built in to “Indra’s Net,” it is no surprise that selections from it such as “Book Unbound” have been set up either as installations in which the texts are projected onto the walls and readers/passers-by can interact with the text, change the direction of the “reading,” access explanatory material on the texts; or as performance readings with “writers/collaborators performing with the literary object as the programmatological process generates new text” (Cayley *Indra's Net or Holography*). The potentially transactive relationship of work and reader is clearly indicated in one of the explanatory notes for “Book Unbound”:

When you open the book unbound, you will change it. New collocations of phrases generated from its hidden given text – a short piece of prose by the work’s initiator – will be displayed. After the screen fills, you will be invited to select a phrase from the generated text by clicking on the first and the last words of a string of language which appeals to you. Your selections will be collected on the page of this book named Leaf, where you will be able to copy or edit them as you wish. (Cayley 2002b)

Again, with a set-up similar to that of the theatre, “Book Unbound” demands that all participants interrogate what it means to be a participant, what it means to be a reader, writer, performer – after all, in the case of the gallery installation, who or what is performing/reading? The programmed machine, the original programmer, other readers themselves who, in interacting with the poem, perform “writing,” “reading,” “performing,” and “programming” for themselves? Is it the act of interacting itself that is being performed by the human and the machine?

In being largely mediated by computers and readers/viewers, the “Indra’s Net” project, then, not only seems to suggest what well-schooled students of postmodernism might refer to as the impossibility of (as well as the constant, latent desire for) an authentic language with a firm and fully justified bond between signifier and signified but, more importantly “Indra’s Net” appears before us as an always-shifting, amorphous apparition with no material, tangible presence, existing nowhere in nature, nowhere in what we think of as “the outside world.” Even the language it maps and is mapped by has been effaced and hidden away by the absence/presence of the glow of the screen that, in being subject to the arbitrariness of the flick of a switch, also denies us the possibility of ever being able to say, “Now, the poem is present. Now, the poem is absent.” It is always neither. In this way it is also the antithesis of stasis, the embodiment of particularized flux that is in the realm of neither the human nor the non-human.

From the perspective of Haraway’s “Manifesto for Cyborgs,” “Indra’s Net” is a cyborg; interacting with it we become cyborgs; our understanding of the world becomes one informed by the cyborg vision. And, not unlike Haraway’s cyborg that is “all light and clean because they are nothing but signals ... eminently portable, mobile ... as hard to see politically as materially” because “they are about consciousness – or its simulation” (Haraway 1985, 70–71), the existence suggested (or actually perpetuated, brought on) by the self-generating/reader-driven/interactive poem suggests a cyborg world that is about “lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints” (Haraway 1985, 72). Not afraid precisely because poems such as Cayley’s open up the possibility of living the metaphor of Indra’s net, of unfinding ourselves “‘in’ the dreamlike world that the Diamond Sutra describes ... where there are no objects, only an incessant shifting of masks; where there is no security and also no need for security, because everything that can be lost has been, including oneself. Especially oneself” (Loy 1992).

Notes

1. For the more recent work, see Hayles (2001).

PROCESS WINDOW
Code Work, Code Aesthetics, Code Poetics

Sandy Baldwin

The Process Window contains general information about the state of the process, with a summary of its current threads and their states.

The odd thing about innovative literature is that no literature is innovative. The familiar but unsolvable paradox of Ezra Pound's rallying cry to "Make it new!" was exactly what made modernist aesthetics so persuasive and productive for the last century of literature. The "new"-ness of poetic innovation comes about against the background of tradition. From this view of the paradox, all novelty re-figures the past. Even if we feel ourselves well beyond modernism, the deep thrill of the new remains in its claim on the future, where each innovation opens a temporal difference within the continuities of literary history. Making it new seems to liven the present with the future. If we are to take Niklas Luhmann seriously, this paradox underlies "art as a social system" (Luhmann 2000, 199–201). The paradox of innovation is that the need to produce new-ness as part of society's self-maintenance is exactly matched by systemic resistance to re-defining the whole, i.e. no innovation can create something actually innovative enough to displace the system. The systematicity of literature, as an institution, is built on this paradox of an innovation that is never more than a repetition.

Integrating literature and information processing in terms of Luhmann's unified systems theory is one possible answer to the paradox. Shannon and Weaver's *Mathematical Theory of Communication* already invoked a concept of literature as exemplifying information density. Luhmann's theory of functional differentiation assumes that society is composed of closed subsystems. Within this theory, making it new is a dynamic maintaining the openness of sub-systems to the environment; for social sys-

tems to accommodate openness, they must internally copy and reflect the distinction between system and environment. Luhmann recognizes that innovative literature assumes this function within the artistic system. One implication is that the auto-telic language focus of contemporary poetics is less a response to a postmodern loss of reference (or something similar) than a self-referential code within a language increasingly employed as an instrumental tool for exchange and commerce. Innovative literature is a meta-code ensuring the stability of the system – in this case, literature – through pure self-reference. This is evident in the popular role of literature: it must produce results that are declared important but are not taken seriously. In this way, the system maintains stability.¹

The proximity of literature to the root association of poetry as *poiesis* or “making” suggests a more dynamic role than internal self-maintenance. As a regulative meta-code, however, the poetic principle is found today in information processes of coding and re-coding. According to Vilém Flusser’s media analysis, every techno-image means a text, i.e., every screen or page is text – markup or op code – written to bring about an image. In response, we produce more writing to explain these techno-images. Techno-images are programs for bringing about texts. Critical texts are plugins, continuing the program under the guise of explanation. As a result, we now need to balance the materiality of inscription, and material acts of making or *poiesis* in specific storage media, with the transcoding of text and image, arriving at something like a poetic materiality of transcription. Instead of the “marking” implied by inscription, we are dealing with programs saturated by code without being marked. As a result, the ancient relation of material and form no longer holds: the artist once sought forms within matter; today, the artist channels raw material into machines to create forms through software. Digital media are so many modular devices for directing and forming flows of matter. (Flusser 2002)

The question remains whether the meta-code of innovative literature involves external reference as well as self-reference. No doubt, Luhmann’s description is accurate enough, though it does little to explain why literary innovation remains so compelling despite all paradoxes. That is: it works well as a description of “art as a social system” but less well as an account of literature itself. The insistence on systematicity does not solve but merely shifts the paradox of innovative literature. Rather than take this as a failure of Luhmann’s rather grandiose theory, it points out the asystematicity of literary innovation. Luhmann’s theory offers a displaced version of lit-

erary aesthetics within the rigorous sociological rubric of systems theory. Literature becomes a provisional closure, the institutional site for the introduction and assimilation of innovation. In this account, innovative literature is a medium, a meta-code for observing the dynamics of social systems. Unsurprisingly, this returns us to the paradoxical non-closure of system innovation. The poetic point of systems theory is that innovative literature – as making, *poiesis* – does more than simply thematize the integration of newness into the system: it is what creates the dynamism of the system in the first place.

The following essay attempts to underline the role of this poetic in terms of recent debates about the work of computer code in literary texts. Code appears in the text as a kind of residue or catalyst of machinic processes. The text is “contaminated” by code. In light of the topic of “ergodic poetry,” I want to ask what this residue amounts to: what is the work of code-work, and how does it relate to other practices of poetry, especially digital poetry? There is no doubt about the fact of this remainder but intense debate about its reading. The debate takes shape around the question of reference: is the fascination with code simply a kind of reflex to an increasingly technological society (codework as aesthetic ideology)? Or is code an external reference to machinic systems and states outside of but “touching” the textual system (code as hermeneutic)? Does codework “instantiate a genuinely ‘performative’ textuality, a textuality which ‘does’ something, which alters the behavior of a system” (in John Cayley’s critical paraphrase)? My goal is less to arrive at this or that solution than to emphasize the poetic at work, showing that each position displaces but does not do away with the paradox of innovative literature. My starting point is the rallying cry for “electronic space *as a space of poesis*” in Loss Pequeño Glazier’s recent *Digital Poetics: The Making of E-Poetries* (5). For the odd thing about innovative literature is that all literature is innovative. Any given poem will be innovative in purely conventional ways, readable for its experimentation and for its relation to a reasonably stable tradition of experiment. On the other hand, innovation must always remain open and possible. Glazier’s central claim bears close attention: it will be through the over-reaching of poetry as the exemplification of digital media, particularly within the current interest in programmable poetry and codework as literature, where innovation shines through as a cultural process within and against literary tradition.

[...] a poem is a large (or small) machine made of words. – William Carlos Williams

[...] a computer is nothing but a means for a memory to get from one state to another. – Dr. Joachim Weyl, opening remarks to the Macy Conference on Self-Organizing Systems

Unreadability of this world / All things doubled – Paul Celan

Must we admit that code is written for the computer, no more and no less? True enough, digital code is compiled into machine instructions to execute on a microprocessor, and the fact that humans can write and read code is purely to ensure that the code be “well-formed” and compilable. Code is “machine-readable,” and its appearance for us is a supplement to processes occurring on certain microswitches, invisibly printed below the wavelength of visible light. At the same time, this supplement is more or less a window into the black box. As Florian Cramer puts it in his recent essay “Digital Code and Literary Text,” “the namespace of executable instruction code and nonexecutable code is flat” (Cramer 2001). Simply put, this means that the same set of symbols are used in executable code and human-readable text, but Cramer’s point lies in the consequences: one cannot tell by looking whether a piece of code is executable or not. In fact, every code is “potentially executable depending on whether there’s other code [...] capable to process it as machine instructions” (Cramer 2001). Since Cramer extends his definition of code to all text – as coded and subject to algorithms, whether implicit (e.g., grammar) or more explicit (e.g., procedural poetry) – the result is that there is no way within the terms of this argument to distinguish between a given text and executable machine instructions. Every text is the instructions for a possible machine. If all language is formalized and coded, it is equally true that there is no way to circumscribe and stabilize the context of forms and codes. Code purports to be readable by humans and machines, and this presumption accounts for the fascination of the concept “code,” offering a hermeneutic of something beyond codes, something machinic and post-human. Cramer echoes Flusser’s analyses, where code is defined by “*the possibility to losslessly translate information from one sign system to the other, forth and back, so that the visible, audible or tactile representation of the information becomes arbitrary*” (Cramer 2001, emphasis in original). As a result, Cramer arrives at a radical, anti-material position: there is no such thing as “digital media,” despite the many appliances we

all now own. There is only digital information with this or that “arbitrary” material instantiation. The essential translatability of a given code outweighs its internal structure: if code is the extended mapping and binding of tokens against a domain, it must already contain the possibility of re-mapping against other token-domain bindings. This definition of information determines its qualification as code. Digital code becomes a medium when materialized as an image, a text, a computer, and so on. Code is independent of its hardware. Here Cramer exactly up-ends Friedrich Kittler’s influential “media materialism.” If Kittler reduces everything to hardware and voltage differentials, Cramer expands software algorithms to concepts that computer programs exemplify without ever exhausting (Kittler 1990).

Cramer adds that it is the fact that one “cannot tell from any piece of code whether it is machine-executable or not,” which provide the “principle condition” of “codework.” As coined by Alan Sondheim, codework is a flexible designation for a range of artistic practices. Sondheim allows the term codework to cover “just about anything that combines tokens and syntax to represent a domain,” but in practice, the work is characterized by the appearance of computer code as part of the text (Sondheim 2001). The contrast is significant: between a broadening of concept to include almost all uses of language and a restriction of practice to works which thematize the definition. Codeworkers explicitly set their work in opposition to writing practices that produce complex multimedia surfaces that conceal or hide the code involved beneath layers of image and text, claiming instead to make code manifest. One way or another, codework is a matter of appearances, of visible residues or catalysts for processes fundamental to the text.

Cayley’s recent essay “The Code is not the Text” supplies the critical response to Cramer, showing that the too easy critical assimilation of the display and thematization of code to a “revelation of underlying, perhaps even concealed, structures of control” involves a kind of category mistake (Cayley 2002). The appearance of readable structures of technological control is a mere appearance. And yet, I am interested in defending codework beyond its critical takedown. In its overreaching insistence that something is transcribed, codework names a new poetic moment of innovation and invention. It only names this moment, identifying the momentum of invention within code, but exactly this naming is enough. The insistence that something is transcribed, even in the face of code as fiction or simu-

lacrum, makes evident what was contained and shared within the concept of code all along. In what follows, I discuss Cramer and Cayley as opposing poetic strategies around the paradox of code. Indeed, these arguments are tightly intertwined. Cramer describes the inspiration for his essay in an abstract Cayley wrote for the German “p0es1s” conference. What interested Cramer was Cayley’s insistence that one may consider the poetics of digital code in terms of the poetics of literary text without subscribing to the new metaphysics of Friedrich Kittler’s “radical post-human reductionism.” In turn, Cayley’s essay, which grew out of his “p0es1s” presentation, is in part a critique of Cramer’s own reductionism. This circularity indicates the complex of issues involved.

Cayley’s stated aim is to “disallow a willful confusion of code and text” (2002a). He does not oppose the possible relation of code and text, only a reductive identification of the two. There is no absolute separation, but there are protocols or modes of address to be respected. Cayley’s approach analyzes metacritical readings that then draw critical implications; he raises questions of how we move from meta-critical statements to particular examples and practices. It is not that one cannot move from criticism to practice, but rather that such a movement must be supported by “a set of relationships – relationships constituted by artistic practice – between a newly problematized linguistic materiality and represented content” (Cayley 2002a). For Cayley, these relationships characterize innovative literature. Cayley’s initial examples, moving from the critical reduction of narratives of code as concept to the reality of digital code itself, situate the critique of codework in the broader context of critical understanding of media technology. He focuses on the referential mix-up between things represented or thematized in language and the things themselves. Nothing could be more commendable and pragmatic as critical practice, especially coming from a poet and thinker who seamlessly combines theoretical insight with poetic invention.

Cayley’s argument targets the claim that something is transcribed or contaminated in codework. This insistence “brackets” questions of the “address of specific code segments and texts” (Cayley 2002a). That is, playful integration of code into text overrides possible algorithms or procedures involved in the code. Cayley continues that this bracketing leads to a simplification of the “range of positions of address,” so that one is left with a generic notion of code and text – “flat namespace” means nothing else (Cayley 2002a). The flattening of distinctions is a way of extracting an

effect of “contamination” by simplification and a way of bracketing rigorously distinct levels and interrelations between texts into a kind of “literal topography” of shared symbols. By contrast, Cayley would enforce the gaps between levels, where materially identical symbols are processed differently according to their means of addressing. As a kind of rhetorical counter-measure, Cayley provides a list acknowledging these many levels: “machine codes, tokenized codes, low-level languages, high-level languages, scripting languages, macro languages, markup languages, Operating Systems and their scripting language, the Human Computer Interface, the procedural descriptions of software manuals, and a very large number of texts addressed to entirely human concerns” (Cayley 2002a). He adds a footnote indicating the complexity of the HCI as an entire set of levels on its own. Clearly, there seems a marked distinction between scripting language and markup, on the one hand, and assembly code and word processing text, on the other.

Cayley does grant that codework can be understood as a self-referential practice allowing discussion of code as a sign across a range of discourses. The shell of broken code activates the semioticity of the notion of “code.” As nothing but shell, this code of code organizes other issues of “identity, gender, subjectivity, technology, technoscience, and the mutating and mutable influence they bring to bear on human lives and on human-human and human-machine relationships” (Cayley 2002a). No doubt, these issues are important but Cayley’s point is that none deals with the material specificity of digital code. Cayley’s critique appears decisive: the revelation of the truth of digital media offered by the codework aesthetic proves empty. What seemed like revelation is in fact a kind of revelation-effect within the cultural codes of the technoscientific imaginary.

To some degree, Cayley’s arguments against the codework aesthetic can be turned from a poetic problem into a debate internal to literary history – into questions of defining the history and framework for the emergence of digital literature, and, consequently, questions of defining what will count as digital literature. Cayley, with reference to Glazier’s book, argues strongly for continuity between innovative poetics and digital poetry. These arguments see continuities of poetic method and individual influence, most particularly in relation to the process-oriented poetry of John Cage, Jackson Mac Low and others. In this argument, digital poetry fits within the larger framework of innovative literature. By contrast, the codeworkers seem relatively uninterested with establishing genealogies.

They do not claim alternative genealogies but seek to establish a difference, a break in literary history. More specifically: the codeworkers are interested in establishing a literary avant-garde apart from the L=A=N=G=U=A=G=E aesthetic and tradition that informs Cayley and Glazier. While Cayley and Glazier, to a greater or lesser degree, see digital poetry within the larger movement of innovative poetics, the codeworkers see codework as a new and possibly revolutionary poetics. Or, in a slightly different formulation, codework may involve a new genre alongside an emerging field of digital poetry. This solution replaces the question of the work of code with a question of genre definition. In this case, codework is concerned with the emergence of digital code, whether functional or not, while digital poetry becomes a part of “software art,” which requires digital code in order to operate but typically does not make this code visible. Software art may involve straightforward textual processes or dazzling multimedia surfaces, but the aim is to use code to enable artistic production, not to display code. The digital poetry of Glazier, Jim Rosenberg, or Cayley himself, to name only a few from the field that Glazier delineates in his book, offer exemplary instances of electronic poetry integrating software algorithms and techniques to expand the possibility of language art – all without the explicit presentation of code. With this distinction in place, one could then proceed with typologies and internal stylistics for each genre, comfortable with their neat functional differentiation within the artistic system.

Neither of these solutions are particularly persuasive in overcoming the critical impasse over codework. The differences in genealogy and genre prove to be more surface impressions than deep differences. Cramer and Cayley remain remarkably close on many points, not in the least of which is their interest in a critical genealogy which includes Fluxus and the procedural poetics of Cage and Mac Low. Moreover, Cayley is decidedly not against the presentation of code – he even offers some codework of his own as evidence for how to do “codework in the strong sense.” The difference lies neither in literary history nor in genre; these themes are symptoms of the more fundamental poetic problem.

Cramer’s conclusion bears close attention. He concludes with the declaration that his hypothesis on the nature of digital code is “perfectly verified by codework poetry.” He insists on a kind of aesthetic effect literalized in codework: it will “teach us to pay more attention to codes and control structures coded into all language” (Cramer 2001). Cramer as-

serts a force released and become palpable as language in codework poetry. The revelation of this force is in some way adequate yet separate from the force itself – revealed in the medium of language. This force remains hidden in any workable code – it is only revealed in performance – and codework extracts it as writing.

Now, Cayley's target is what he sees as the pseudo-revelation of an immediacy of code and text. His argument tries to give a technical explanation for the performance of "force" but does not explain away the performance itself – Cayley, after all, presents a fascinating sample of his own, a Hypertalk poem/code originally in the earlier essay "Pressing the 'Reveal Code' Key." This "human-readable" text is also "segments of interpretable, working code" (Cayley 2002a). (Or so he says, as there is no way to tell from looking whether the code is compilable or not.) Cayley's point is that his poem adequates code and text, or concept and performance, with no confusion or flattening of levels, creating a codework that can bring about "changes in the body of literature, the literary corpus, both its 'material substrate' and its 'codes of representation'" (Cayley 2002a). So, this is "codework in the strong sense."

Cayley's careful correlating and enumerating of distinct levels and strata of meaning reassuringly controls what is revealed, but the paradox of codework is that the effect of revelation occurs even without such claims for precision. The execution of code over-reaches any physical explanation. For Cramer, the codework practitioners prove their point all the more in frequently working with "plain ASCII text" rather than hypertext or multimedia. Not only does codework employ ASCII text with no software or plug-ins; not only does it employ non-functional or broken code, which may be extracted and edited from a context where it did once work; but codework may also employ invented code, fictional constructs presenting a kind of simulacra of code.² In fact, this fictionality is central to Sondheim's definition of codework. Here, Cayley's question of address and reference is overreached to the point of absurdity: not only is codework no longer code but also it may never have been code – it may never have worked. Cramer drives the point home: "The contradiction between a complex techno-poetical reflection and low-tech communication is only a seeming one; quite on the contrary, the low-tech is crucial to the critical implication of the codework poetics" (Cramer 2001). But what is the critical implication of the low-tech?

The answer seems to lie in Cramer's definition of code algorithms, elaborated across several essays. The empty revelation of code reflects the execution of an algorithm that exceeds any possible physical performance. Cramer's favorite example of an algorithm is La Monte Young's Fluxus piece consisting only of the instruction to "Draw a straight line and follow it" (Cramer 2001). Cramer points out that "the instruction is unambiguous enough to be executed by a machine" while at the same time "thorough execution is physically impossible" (Cramer 2001). For Cramer, this example generalizes to all algorithms: there are only failed implementations of algorithms. In any particular execution of a code, the algorithm remains conceptual and mental. Cramer adds that if "such implications lurk in code, a formal analysis is not enough" (Cramer 2001). No amount of formal analysis will adequate the structure of software to its cultural forms.

Codework addresses this paradox through an "aesthetic extremism" (Cramer 2001). Cramer's definition of an algorithm sees no difference between code executed on the computer or printed in a book, or, for that matter, "executed in the mind of the reader" (Cramer 2001). The work of code is in the reader or observer, not in the physical kinetics of this or that screen or poem. Codework teaches us to "pay attention" or more frequently leads us to "reflection." The work of reflection completes the work of codework, and the broken fictionality of codework only increases this reflexivity. The failure of the algorithm in its contingent materiality is its success in concept, a success that is experienced and read but in no way visible in the text. The fictionality of codework is the guarantee of this experience. In this sense, Cayley is absolutely right: the codework aesthetic is literally meta-physical, since it implies a movement beyond any physical movement.

The aesthetic reflection produced by codework is the concept of the code algorithm stripped of its contingent materiality. The fictionality of codework – its innovation – is central here. As fiction, codework lays bare our fascination with code as external reference, as genuine performance. It is the performance of this fascination that codework extracts. One is left with a kind of "hyper-reflection," in the sense alluded to by Maurice Merleau-Ponty in his posthumous writing, a blindspot in consciousness containing the invisible infrastructures of perception. Thus: codework as hyper-reflection on the reflexivity of all codes, on the inaccessibility and distance between code and text, and on the conditional opening of exactly the levels of coding Cayley invokes.

There is little point here in dispelling the metaphysical presuppositions of the codework aesthetic – what is “force” after all? – since both sides of the argument take it for granted. This aesthetic is central to our notions of digital poetry. Jim Rosenberg’s hypertext poems, invoked by Glazier as “one of the most valuable investigations currently underway” in digital poetry (Glazier 2002, 137), are written in terms of a similarly impossible conceptuality and contingent materiality. Rosenberg defines hypertext as a way of representing a network that could be represented by “other means than using a computer – on paper, for instance” (Rosenberg 1996). At the same time, Rosenberg takes hypertext as a way of thinking not yet possible in any given technology. That is, hypertext is an approach to poetry first and only secondarily a function of technology.

Rosenberg’s poems are “simultaneities”: piles of words, stacked clusters of word “skeins,” following his insight that such juxtaposition is “the most basic structural act” (Rosenberg 1996). Mousing over “opens” the simultaneity to reveal an individual skein, a scatter of words and phrases, with “vertical” relations indicated by changes in font. The simultaneity is a poem that emits readable texts. Each text is the outcome of the user’s mouse interactions with Rosenberg’s programmed relations between skeins. Appearances are conditioned by the user’s attention via the structure perception-mouseover-poem. The poem is an opening. While it is possible to speak of particular textual conditions enabling Rosenberg’s work – the tradition of Mac Low’s simultaneities, the availability of easily programmability HyperCard stacks, etc. – none of these adequately accounts for what happens as individual skeins appear and disappear. The simultaneity remains in a kind of quasi-space and -time prior to the text. Mousing over is the real time of the poem. The resulting words are not inscriptions but transcriptions of the user’s movement and attention, all within the conceptual algorithm of the poem. As a “fundamental micromaneuver at the heart of all abstraction,” the simultaneity produces a minimal possible world, a phenomenology of momentary objects (Rosenberg 1996). Rosenberg argues that we should try to think of hypertext as “a medium in which one thinks ‘natively’” (Rosenberg 1996).³ The paradoxical task is to think of the technology that would be adequate to “an individual thought” that “is entirely hypertext” (Rosenberg 1996). Rosenberg writes a poem for technology not yet available. In this disjunction of grand conceptual apparatus with its instantiation in digital media, Rosenberg’s work is innovative by means of its own failure – and this recognition is in no way intended to

mean that Rosenberg's important project is a failure. These poems mark the structural relation between a poem and itself as an act of innovation. The poem is innovation's "*mode of disappearance*," as Jean Baudrillard puts it (1993, 213).⁴

The poetic code, particularly within the systematicity of literature and digital media, is not a simple reflection or afterimage of technical functions but the opposite: the complexity of the concept of "code" is a metaphor for poetic innovation. The drive towards a poetics of code, focusing on systems of constraint between natural languages and artificial languages, is built on the absent point of reference between code and text. It matters little whether this point pivots around the precision of different levels of coding or on the translatability of codes (between strong or weak code-work). The point is rather to read the irreducible poetic invention that enables systemic cultural reflection, "to read what was never written," in Walter Benjamin's words (1978, 226). "Code as writing" means that the singularity of poetic invention provides the mediation needed to conceptualize information. Systems theory, and its extension to all information exchange, is a metaphoric explanation of what poetic innovation brings about.

NOTES

1. Compare Luhmann's analysis of "the modernity of sciences" (2002, 61–75).
2. Cayley is explicit that his target is critical discussion of code-work and not codeworkers themselves, and carefully brackets several of the most prominent of these writers, showing that his critique does not apply in every case. At the same time, the practice of contaminated and invented languages, best characterized by MEZ's "mezangelle" is clearly the most problematic codework practice for Cayley.
3. Editor's note: Rosenberg uses "natively" here metaphorically, from the technical usage where, for example, code is "native" to a particular operating system, i.e. system and code are designed for one another, with no additional or mediating encoding or compilation required.
4. This concluding chapter of Baudrillard's *Symbolic Exchange and Death* is a valuable contribution to analysis of poetry, often overlooked for his more well-known essays on simulation.

ALEATORIC AS ENLIGHTENMENT
Simon Biggs' Deconstruction
of a Kafka Text

Roberto Simanowski

Aleatoric and Literature

Simon Biggs' project "The Great Wall of China" (2000) uses the English translation of Kafka's unfinished story "Beim Bau der Chinesischen Mauer" as a database to create a new text. The text is generated on mouseover contact, either on the four verses beneath the image, on the ten Chinese signs in the middle of the screen, or on the text block on the right-hand side. The block is divided into ten sections; the letters in the contacted section appear in a larger font and continue to generate text relentlessly until the contact is broken. There we can read sentences like: "These communes hopelessly scrutinize these gradually pure realities or must rapidly quote any mightily taken couch." The sentence has been formed "on the fly," as Biggs writes in the Introduction: "through object-oriented and behavioral programming techniques, based on pattern recognition, redundancy algorithms and Chomskian Formal Grammars." In this way correct syntactical formation is ensured: article, subject, adverb, verb – everything shows up in the right form and order, and the four verses always generate an a-b-a-b rhyme. What we don't know, however, is what the sentence is trying to say.

We have entered the realm of nonsense poetry which takes chance as one of its main principals. However chance is used – throwing the dice, taking drugs, or cutting words out of a news paper – it is an aesthetic means of going beyond traditional, familiar and predictable ways of seeing

and describing things. It sets out to overcome the old, shallow tracks of creativity. The usual second step, however, is to work with the result, to polish the sentences, to make sure they do contain some sort of meaning. Without this *ex post facto* treatment, without this correction of chance, one would be stuck with a kind of *semantic horror vacui*, as Holger Schulze puts it in his extensive and stimulating study “Das Aleatorische Spiel” (2000).

The relation between literature and chance began long before the computer. Schulze recalls the combinatorial poetry of the baroque, the experiments in the automatic writing of Gertrude Stein at the end of the nineteenth century, Raymond Queneau’s “Cent Mille Millions de poèmes” from 1961, and William Burroughs cut-up poetics. The computer opened new possibilities for combinatorial writing, which have been used by the Stuttgarter Gruppe around Max Bense since the end of the fifties, to name only one example¹. The computer allows authors to produce text in various random ways, but it can also generate the desire to fool the reader by simulating a real author. One famous example is the Turing test², which has a person communicating with two sources she cannot see, one of which is a real person while, unbeknownst to her, the other is a computer. A well known example of this in the realm of literature is William Chamberlain’s book *The Policeman’s Beard is Half Constructed*, published by Mindscape in 1984, written by Racter, the computer program. Other instances of computer generated, random literature are the eighty poems of “Die Reisen. In achtzig flachen Hunden in die ganze tiefe Grube” by the Austrians Franz Joseph Czernin and Ferdinand Schmatz, or more accurately, by their computer program, as they revealed after *The Resident* had been published and the critics had praised their book.

Simon Biggs does not aim at such deception. Nor does he intend to produce meaningful sentences, equipped to fool their readers. He wants to speak, instead, about producing meaning by consequently refusing such meaning. To quote Christiane Heibach: “Biggs uncouples the reader’s search for meaning from the script and shifts it to the process of transformation; the reader finally contemplates her own act of perception” (Heibach 2000). However, there is more to say about Biggs’ transformation of text since there is more to the interplay between Kafka, software, and the user. Let us first have a closer look at Kafka.

Kafka

Kafka's text from 1917 was found unfinished in his estate but provided – thanks to its extraordinary quality – the title of a posthumous anthology of Kafka's stories. That the story was important to Kafka as well is proven by the fact that he extracted the enclosed legend of the imperial messenger for his story "Ein Landarzt." In it, a messenger sets out to convey the dying emperor's last words, addressed to every single person in his realm. Since the way is long and full of obstacles, the messenger is on the road for ages. Indeed, his undertaking is hopeless, for nobody ever has and no one will travel from the empire's center to its farthest frontiers in order to transmit the message. But you, the narrator adds, are sitting at your window looking forward to the arrival of the message this evening. This is typical of Kafka: while the messenger is still on his way, a message about him has already arrived. It is certain that there is a text, but it is not yet certain what it is. Can one ever hope to know it? The messenger – who is called Hermes in Greek mythology, much closer to Kafka and his readers than Chinese mythology – has the key we are waiting for.

Kafka's story reads like a parable of the reading process as such: the text is already there, but without hermeneutic efforts it will not tell us very much. Without hermeneutic interpretation, it is as if the text is still on its way, as if the messenger hasn't yet knocked on our door. This holds true especially for Kafka's own texts, which are linguistically so simple that they have become a staple of foreign language instruction in German, yet they remain ultimately inscrutable. This text by Kafka, for instance, refuses to reveal what the emperor has said. However, since Hermes, the messenger in Kafka's story, never appears, the message will never arrive no matter how long the potential recipient waits for it at the open window at night. Only the lack of message, the message about the messenger, is known. Kafka does not provide an explanation for how this can be in a pre-telegraphic age where there is no faster medium of transmission than a messenger. Could there have been a second, much faster messenger? This explanation is unlikely for the emperor is the emperor and will have the very best messenger at hand. Moreover, a second messenger would

reduce the story to a banal race narrative – something we, as scholars of literature, know that Kafka would never have written.

If there is no second messenger, the message about the messenger must already have been known. He does not arrive from the future but from the past, as an anthropomorphic figure. Longing for the message is the ever-present longing for meaning, for the holy word, be it that of God, the emperor, Marx or anyone, who promises to make sense of our lives. For this we wait looking at the open window in those moments when we have time to ask questions of Why? and To What End?

The question about sense is already discussed in the story's first part, which focuses upon the construction of the wall itself. The wall, one is told, provides the foundation for the new Tower of Babel. Once the former has been finished, the latter will be built. The symbolic significance of this biblical tower is well known. God caused it to collapse because it was presumptuous of men to try to come so close to God. Their punishment was the diversity of languages, which caused misunderstandings and was intended to prevent a second attempt. And indeed: ever since, people have been talking and trying to come to agreement. But because the language is the house of everybody's being, people fail to settle their differences – even individuals within one nation are hardly more successful. Unity can only be achieved, if everybody lives in the same house, and this requires a wall.

Another much more recent, much shorter, much more effective and controversial wall clarifies what walls are supposed to do. The wall in Berlin was a similar attempt at sealing people off in order to erect a Tower of Babel, which in this secularized version aimed to provide access to the Truth rather than to God. Truth is accessed by excluding difference and deviant meanings, by the suppression of polyvocality. This method is as well known in the West, although it has never been applied with great success³. The aim is to fill people up with certainties and provide them with a particular point of view.

This process of assigning meaning by specific regulation has been questioned in detail in the last century. Sometimes the approach of critical theory was not itself reflected upon critically, which led ultimately to the substitution of traditional walls and towers with other walls and towers. The linguistic turn, however, addressed the tower as such by describing how the process of assigning meaning is related to its varying circumstances. The critique of representation has shifted its focus from space to time. Derrida's keyword *différance* refers to the double sense of the Latin

“differre” which means postponing as well as differentiating. Putting things off makes them different: signification is an ongoing process. According to Derrida, because signification never ends, one can never reach the truth. The imperial messenger will never arrive, unless, of course, one turns to the first person who pretends to be this messenger. Herein lies the difference between Derrida and Saussure. The latter still believed in the arrival of a transcendental signifier. Kafka’s story and Biggs’ language machine subscribe to Derrida’s view rather than to Saussure’s.

Software

There are two important aspects of Biggs’ “The Great Wall of China”: the text is incomprehensible, and it changes upon mouseover contact. The incomprehensibility of the text, which uses the linguistic material from Kafka’s story, mimics the nonappearance of Hermes in the story. However, this incomprehensibility is not static. The user’s turn to the text – which normally signifies the hermeneutic effort and is marked here by each new mouseover contact, – always changes it. Each new “reading” generates a new text and a new textual meaning from the same underlying text. With Biggs’ text generator the change happens literally in the material letters of the signifier itself.

In contrast to normal readings and processes of signification, it is not statement or meaning that is important here. Statement A doesn’t change into statement B. Rather the statement as such changes but remains incomprehensible for the reader in either case. This incomprehensibility is not only due to the fact that providing sense is much more difficult for the language machine than providing correct syntactical formation. The fact that there is no process of meaningful signification in the first place draws our attention even more to this very aspect of signification. We understand the act of change without having to understand its starting point or result.

This is the moment that literature turns into conceptual art. By drawing our attention to the act of signification from the outset “The Great Wall of China” tells us about storytelling without telling a new story. Its aesthetic paradigm is the allegory, which comes straight to the point and has no narrative body beyond this point, in contrast to the symbol, which is the aesthetic paradigm for Kafka’s story.⁴ Thus, in the phenomenology of digital aesthetics, Biggs provides a good example of how, working in a digital

setting with literature can generate not literature but art.⁵ However, it is not enough for the text to be incomprehensible or to turn incessantly into another text. We should not forget that the user herself is the one who triggers this process.

User

The user isn't only unable to read; she is fooled again and again by her hope of finally becoming a reader. Biggs included all 4335 words of Kafka's story and has constructed his program to generate an infinite number of sentences from it. The text actually never ends, although the reading could be stopped after the first sentence of nonsense. But can one really stop? Or is the situation the same as in Kafka's story: people waiting for the messenger, although he has been expected for ages, but without knowing whether today might not be the day of his arrival? How does one know that Biggs' text won't ultimately provide readable sentences?

However, this is not the chief point of interest arising from the fact that the user causes a never-ending production of text. The actual question is: who is the author? Kafka? Biggs and his language machine? Or the user? Of course, it is the user, but only after Kafka and Biggs. Here we have to return to a point already discussed above. The new focus is language as *individual* house of being.

The user's participation in the production of text brings her role as author into the discussion of her act of perception. This participation does not intend or amount to the "co-authorship" of reader-determined text combination, which in the early hypertext debate was overrated as the "embodiment" and "vindication of postmodern literary theory."⁶ Here the reader's role as author is understood in terms of reading as autobiographical act. This thesis is the constructionist follow-up to Iser's reader-focused theory of perception. Bernd Scheffer states in his prolegomena to a constructionist theory of literature: "Readers, even professional readers (critics and scholars of literature) act as "autobiographers": What we perceive, what we recognize, experience, and know, is the result of a continuous not written and sometimes even not linguistic 'self description'" (1992, 182).

The epistemological basis of this thesis lies in the assumption of cognitive self reference of living systems, that is, in the assumption that percep-

tion is bound to concepts possessed by the perceiver (reader) who assimilates and accommodates received information according to these concepts. For radical constructionism, during the process of reading signification absolutely depends on individual concepts of perception and understanding. Thus radical constructionism declares the author's death and the text's powerlessness over and against the reader. Such a radical statement cannot be justified, as "The Great Wall of China" precisely conveys: the individuality of the act of signification has its limits in that it functions only under certain conditions. The reader can't do everything with the text. What are these conditions? Who is responsible for them?

The absolute denial of sense in Biggs' text provokes the question: what conditions must be provided before the self-referential cognitive system can make meaningful use of received information? The answer is that conditions must be provided on whose ground the self-referential cognitive system established itself. The correct syntactical formation of sentences is one important aspect, but it is not enough. The sentences have to evoke meanings that are familiar.

Thus, the external world comes back into the internal, society back into the text. The cognitive system doesn't arise out of nothing; first it has to be constructed. This process takes place within the social systems of which one is a part, and it is influenced by the discourses in which one participates. In these settings, concepts are made, which later govern our ways of perceiving and understanding. The autobiographical act is under social control, and the place of signification actually lies outside the individual subject. By randomly generating sentences, which correspond syntactically but not semantically with our concepts, Biggs' piece makes us aware once again of the supra individual, the binding and shared conditions on the basis of which our individual acts of signification take place. We can operate successfully only within the frames other people have set up for us.

Intermedial Interaction

After this reflection we can only agree with Christiane Heibach, who considers "The Great Wall of China" a work about the de-semanticization of writing, which draws attention to one's own act of perception (Heibach 2000). However, as we have seen, the work does not only deny meaning. It also provides a key to understanding this denial, albeit only insofar as

readers perceive *all* parts of the work, including the text used as database to create de-semanticized text. This paratext already addresses the question of meaning and signification and helps us understand the overall project.⁷

“The Great Wall of China” is the transformation of Kafka’s story into digital rhetoric. It embodies the non-appearance of Kafka’s messenger as a textual performance of nonsense. While normally hermeneutic efforts start with the first contact with the text, in Biggs’ piece these steps are separated again and therefore brought to our attention. On this basis each aspect of reading and understanding can be discussed: the ongoing process of signification, the reader’s role within this process, and the impact of context on the reader’s concepts. While Kafka’s story about the construction of the Chinese Wall is about the importance of the wall within the hermeneutic process, Biggs’ piece permanently pulls down the wall.

Biggs’ project operates above (or beneath) rather than between the lines. It turns the hidden message in Kafka’s story into a *visible performance* on the surface of the screen. “The Great Wall of China” is the appropriation of literature for a project of conceptual art. Although the piece already refers to literature in its title, it denies access to this literature. At the same time it presupposes the reading of this literature because only after reading can a user understand and appreciate the digital setting and the conceptual idea behind it. Biggs’ “The Great Wall of China” is intermedial in two ways: 1. It appropriates literature for a digital interactive project – i.e. intermediality as content transposition between media, for instance, from literature to painting or film. 2. It brings together two types of perception: reading (the Kafka text) and seeing (the performance of this text on the screen) – i.e. the concept of intermediality, as applicable to concrete poetry.

This double intermediality prevents Biggs’ piece from becoming an event of interactive nonsense production. The danger of such status always exists in digital media, whose message is speed, dynamism, and click activity. However, as my reading of “The Great Wall of China” has shown, whoever perceives this piece only at the level of interaction with the language machine on the screen misses the deeper interaction with the text *before* the machine. If one does not read Kafka’s story, one cannot appreciate its digital adaptation.

NOTES

1. See interview with the member of the Stuttgarter Gruppe Reinhard Döhl in *dichtung-digital* 4/2001. Available: <http://www.dichtung-digital.com/2001/07/4-Auer-Doehl>
2. See <http://cogsci.ucsd.edu/~asaygin/tt/ttest.html>
3. On information policy in the USA see Noam Chomsky – <http://www.zmag.org/chomsky> or *FAIR* the magazine of the Media Watch Group – (available: <http://www.fair.org>).
4. See Georg Wilhelm Hegel: *Vorlesungen über die Ästhetik*, Part 2, Chapter 3, B 2.
5. For a discussion of the difference between digital literature and digital art see Simanowski (2000).
6. See Landow (1997, 65) and Bolter (1992, 24). For a discussion see: Simanowski (2001).
7. Using Gérard Genette's terminology (1997), one could define Kafka's story as the "hypotext," which is taken up by Biggs' project as a "hypertext." Such an approach, of course, is rarely helpful since Genette understands hypertext in terms of transformation instead of combination – non-sequential writing – as Nelson coined the term originally in 1965.

Giselle Beiguelman

Tracing the work of some leading Brazilian visual and concrete poets, this essay discusses links, crossovers and points of divergence with e-poetry.

It aims neither to define boundaries nor to make simple ontological proposals; these are dangerous since all cultural differences fade when poetry is reduced to its supporting medium (magnetic, printed, or digital).

The Brazilian Visual Poetry, an exhibition presented at the Mexic-Arte Museum (Austin, Texas, 2002) and curated by Regina Vater is a good example of how these fields are both different yet similar.¹

A conceptualization of such practices is urgent. Otherwise, the tendency is to follow a reductionist point of view that stresses the predominance of supporting medium over content.

Crossovers

The associations between Brazilian concrete poetry and e-poetry are many. Critics stress their importance for poets devoted to digital media.² It is important to explore these associations in order to discover what we learned from past traditions. Are e-poets doing something different or just updating what was already done in other media?

The particularities of the Brazilian position in the production of concrete poetry, especially in the 1950s and in the international milieu, can be understood in the postwar historical context. Haroldo de Campos, one of the pioneers in the field, states:

Concrete poetry wasn't born by spontaneous generation or mere idiosyncrasy. It wasn't something so isolated. On the contrary, it was an international movement, translinguistic, that had resonance

among poets of many countries, from East to West. The novelty was that the Brazilians were, from the first hour, involved in that experience as founders of the movement.

This movement was born from a historical necessity: the retaking, in the 1950s, of the first avant-garde movements. [...] After the Second World War there was a movement in all artistic fields towards the recuperation of those efforts that Nazism and Stalinism had marginalized as “degenerated art” and “decadent art.” (Pignatari & de Campos & de Campos 1996)

If this explains the Brazilian prominence in the “concrete arena,” it does not make clear why the movement is still considered a point of reference for digital media. Another comment made by de Campos is a good point of departure for such a consideration.

In poetry it was imperative to recuperate the revolution started by Mallarmé (“*Un Coup des Dés*”) and amplified by Pound, Joyce, Stein, Cummings, Apollinaire and other vanguard movements of the first decades. The concern was to continue to knock down the verbal structures of contractual discourse, a discourse insufficient to embrace the universe of imagination and sensibility. (Pignatari & de Campos & de Campos 1996)

As a matter of fact, this is what e-poetry, especially in works conceived for the Web, could have as its mission statement: knocking down the verbal structures of contractual discourse and melting different poetics into a hybrid tradition.

Beside those objectives, e-poetry shares important characteristics with visual and concrete aesthetics. Both resist verse conventions, appeal to multiple senses, and use multiple media to expand the poetic object, working beyond *and sometimes without* words.

In short, concrete poetry can be defined as poetic practice that, following Joyce’s “verbivocovisual” strategies, organize the text according to its graphic and phonic values. It suppresses syntactical links between its elements to stress the work’s paramorphisms (as Pignatari described, or paronomasias, by the way of Jakobson).³

From a lyric point of view, technical innovations pioneered in the 1950s are important because they are at the core of e-poetry. Concrete poets made poetry more consonant with the materiality of language, breaking the linear structure of the traditional print format. They allowed multiple

readings and viewpoints through the exploration of the graphic possibilities of the text.

This non-linear approach, which necessitates that readers use their imaginations to organize meaning and content, laid the groundwork for the introduction of space into the temporality of language, an issue intrinsic to any cyberpoetic work.

Moreover, both poetic systems depend on the reader's participation in the meaning-building process and on the fusion of media content. For these reasons, these systems demand and produce new paradigms of reading, opening new reading horizons.

It is true, as pointed by Pignatari (paraphrasing Borges), that "any innovating poetic movement creates its own precursors" (Pignatari & de Campos & de Campos 1996). In this sense we can say that one of the most important contributions of concretism to e-poetry was the absorption, in the 1960s, of non-verbal elements into the poetic composition.

Concretism opened space for new genres of visual poetry like the boxes and posters produced in the 1970s by Edgard Braga (1897–1985),⁴ who not only expanded literary supports but worked, like no other Brazilian poet, to produce poetry beyond phonetics, playing with the "rise of language" in order to subvert its borders. (Santaella 2001).

Most of the international anthologies that mention Braga show poems that highlight how he explored the movement of words, the balance between form and content, transforming semantics into content in ways that resemble the work of Eugene Gomringer.⁵

In spite of this, it is in his calligraphic works, made of different materials and supports like stones, walls, and charcoal, that Braga's poetry points to a subversion of limits of what is visual art and what is poetry.

His "The Mask of the World," for instance, restores the ideogram symbology releasing poetry from idiomatic language. The same gesture appears in many poems of "Tatuagens" (1976) and "Murograma" (1982), revealing its differences with the visual poetry of the 1970s, more committed to the resignification of mass media and the invention of new dimensions of pop art (as it is patent in the work of Omar Khouri, for instance).⁶

This kind of subversion explains why can we credit Braga with being a paradigmatic creator for those working today with new dimensions of language and its intersections with non-verbal arts.

Intersections that mean implosion, visual guerrilla action and electronic intervention can be found in the work of Waldemar Cordeiro (1927–1971),

who, in the 1970s, coined the concept of *arteônica* (art + *electronica*) and made pioneering efforts with computers and the arts in 1968, working with Giorgio Moscati, from the Physics Department of the University of São Paulo at that time.

“A Mulher que Não é B.B.” (“The Woman who is not B.B.” 1971) is an expressive example of his challenging approach. It follows his series *Derivadas* (*Derivates* 1968), a series focused on processes of translation and recreation of photographic materials through digitalization.⁷

In that piece, a portrait of a Vietnamese girl was processed in perforated cards, resulting in a disturbing image of that period. This work relates to politics, anthropology, art, science, and mass media, stressing all those tensions by submitting them to a new language system: computer binary code.

Cordeiro advanced notions of appropriation and reinscription processes in creative practices mediated by electronic media. He eroded the borders between visual art, technology, and information.

We know that modernist avant-guard practitioners used such points of reference extensively, but we also know that they never have been so important as they are now. What makes us still think about Cordeiro’s work is his mastery in bridging conceptual differences between hybridism and media agglutination.

Links

Digital environments are practical and functional for multimedia works. They make production that demands simultaneous resources (audio, video, animation, etc.) easier and cheaper.

But the use of digital tools or digital support does not introduce *per se* any different epistemological attribute in the building of the meaning process, a condition of any form of digital poetics.

Not by chance one of the first critical works devoted to computer arts (*Art et Ordinateur*, 1971, by Abraham Moles) used Cordeiro’s works (*Derivates*) to introduce the fourth chapter “Poetics, Literature and Information.”

If contemporary literature is the art of the spacialization of language temporality, no matter if is verbal or not, his work is representative of this mobilization. It pushed poetics towards a hybrid practice that makes itself through the interpenetration of media and by its interstices.

Nevertheless, the first attempts directly committed to the exploration of new media for literary purposes were made only in the 1980s by Julio Plaza and Eduardo Kac, in pieces that used videotext and holography.⁸

By the same time contemporary Brazilian multimedia poets like Arnaldo Antunes, Walter Silveira, and Lenora de Barros were able to reinvent concrete procedures in their works, introducing photography, video, audio, and computer graphic arts. But they did not demonstrate any interest in applying this background to digital environments.

The question here is not whether or not they used computers and software in order to produce their works. Of course they used digital technology, but nothing that has the same poetic strength and degree of invention they reveal in their other works, which are outstanding.

As to work in digital media, for many years the important explorations made by Julio Plaza in electronic panels and with videotext in the 1980s, though appreciated at the time for their novelty, seemed to be isolated exercises. This did not change until they influenced the work of other artists in the 1990s.

A decisive moment in this movement happened in 1985, when Plaza, with Augusto de Campos, Décio Pignatari, Moisés Baumstein, and José Wagner Garcia began a collective research project called *Triluz* (*Trilight*), realized and coordinated by Plaza, that aimed to “marry words and images to light.”

Presented at the Museum of Image and Sound, in São Paulo, the exhibition showed poetic projects made with holography⁹. One year later, it was expanded and presented at the same place in another exhibition “Ideologia” (“Idehologie”).

Important holographic works were launched there, including “Space-time/Espazotempo” by Décio Pignatari, a poem that reproduced the DNA model; “Arco-Íris no Ar Curvo” (“Rainbow in Curved Air”) by Plaza, a work in the form of the Moebius Ring; and the internationally known “Poema-bomba” (Bomb-poem, 1983–1997) by Augusto de Campos.

By that time Kac was also working with holography for literary purposes and trying to conceptualize what he called “textual instability” and the “fluid sign”, working simultaneously with the “Olho/Holo” (1983) anagram and its theoretical implications.¹⁰

Plaza’s work can be considered the precursor of a new poetic tradition that incorporates new media in composition, reinventing new uses for its material attributes, and reconfiguring its functionalities. In this sense, we

could say that in his work Plaza anticipated one of the crucial demands of poetry conceived for online spaces.

Kac's research on holography and videotext expanded the possibilities of electronic media for poetic creation. He incorporated specifics of concrete art from Rio de Janeiro, usually called "neo-concretism," revealing more about the idiosyncrasies of Brazilian culture in the 1960s than about its conceptual strategies.

Those differences are defined in opposition to the bidimensionality of the works produced by the Campos brothers and Pignatari from their beginnings to the interactive three-dimensional poems that had to be manipulated by the viewer in order to be read (produced by Ferreira Goulart, among others, in Rio de Janeiro by the end of the 1950s).¹¹

These experiences were decisive for the development of a new media poetry capable of challenging the limits of the book interface, transforming the reader's role by giving her a role in the process of the text creation and not only in meaning elaboration.¹²

Nonetheless, it was only in the 1990s, with the work of Philadelpho Menezes, Alckmar dos Santos, and André Vallias, that a systematic investigation of e-poetics began, an investigation of what could be an e-poetics and how it could be related to concrete and visual poetry.

Menezes explored new sensibilities with a focus on the investigation of the processes of the reconstruction of meaning from one medium to another, not by linear translations, but by the traversal of different symbolic protocols towards an intersigned practice. He devoted his attention to the problem not only theoretically, but also in practice. This practice resulted in his CD-ROM *Interpoesia*, made with Wilton Azevedo.

About this he wrote:

The intersigned fusion conducts, after all, the creative exercise towards the fusion between the text genres, where the poetry penetrates the field of theory, tale and encyclopedic information. Everything proceeds to the creation of big systems of communicating chambers where the narrative fiction, the game, the poetry, the scientific research, the daily information and the interpersonal contact can be moments of the same productive exercise. The fusion of genres is, furthermore, natural to interpoetry: visual poetry, sound poetry, theoretical text, encyclopedic information, fiction, lies, games, all are possible paths within the interpoem.¹³

dos Santos, a poet and a scholar devoted to research on digital literature, introduces other important nuances in this process of transference and fusion, moving our attention from the environment to the interface. He explored the complicity and fugacity that are embedded in the relation between reader, author, and work, relations involved in the reading experience on the computer screen.¹⁴

Vallias, a well known web designer and digital artist, is very close to Lenora de Barros and Walter Silveira. With strong links to Augusto de Campos, he has been completely devoted to the specifics of digital poetics.

He defines himself as a language designer who aims for a non-logic-centric poetics. Devoted to mathematical compositions since the early 1980s, his “Nous n’avons pas compris Descartes” (1990) is an incredibly concise and deep reflection on the tensions between the poem and its support, through the conversion of the page into a Cartesian grid.¹⁵

The title excerpts a poem by Mallarmé and figures a new reading experience – three dimensional space and its potential to configure a reading environment.

Vallias says that in “A Leer” (1997¹⁶) he pursues a poem as an “open diagram,” something that orients “a leer,” for our telematic society. His “laborinthic anthology” (“antologia.laboríntica”) is a long work-in-progress that mixes languages (Spanish, Portuguese, German), other authors’ texts, sounds, and signs to explore directions, durations, and limits in poetic practice and reading.

Divided into multiple windows “A Leer” is almost a tribute to the concrete tradition and its debt to the thoughts and poetics of Mallarmé and Cummings: the mixing of media into the message.

Distances

The publication history of “Un coup de dés” is well known, particularly the importance to Mallarmé of how the poem appears on the printed page.¹⁷ He was one of the first artists to deal with typography and layout as constitutive elements of the poem, paying attention to their importance in the reading process.

Conscious of the technology available at the time and of its relevance to a poetics tuned to the sensibility of his historical moment, Mallarmé revolutionized poetic creation by establishing the complicit agreement be-

tween art and information sciences that are so important for digital poets of nowadays.

Cummings, another important reference point for the Brazilian concrete poets, was indifferent to the vast population of gadgets and machines that, since the beginning of the twentieth century, are part of American culture. Well known was his resistance to technological progress.

Paradoxically, writing on Cummings, the Brazilian semiotician Lucia Santaella argues:

It is not possible to understand his [Cummings'] expertise in building his poems without considering the *sui generis* resources made available by the typewriter as a machine. There is, in his poetics, a peculiar sensibility with the written language that is specially mediated by the typewriter. It stresses the visual and sensitive values of the blank spaces, lines and digits (the letter as the finger touch on the machine) that would be unconceivable in a calligraphic work. (1987)

This engagement between material poetic resources and poetic meaning construction is intrinsic to any serious digital work; it is enough to quote here the work of Silvia Laurentiz and Arthur Matuck to stress its importance.

Few artists could face the difficulties implicit in Haroldo de Campos's statements on translations as transcreations as Laurentiz does in her work "Econ" (1998), concerning the poem "O Eco e o Icon" (The Echo and the Icon) by the Portuguese poet Ernesto Manuel Galdes de Melo e Castro¹⁸.

Laurentiz in fact recoded the poem by creating a special architecture for it in a VRML environment. The artist says "Econ is an interactive space poetry, a new reading form, evoked by the plasticity of the words – position, shape and color – and by spreading sound in distinct zones."

The poem is not just revisited but is in fact recreated, opening it for new senses, while stressing its original meanings. It announces the necessity of thinking about the new forms of transcreation that challenge the limits of language, expanding its meaning to relational information.

A completely different approach to transcreation is that of Arthur Matuck who brings French Oulipo principles to the e-poetry scene. In his "Literaterra" ("Landscape", 2002¹⁹) he explores the input movement determined by the Web reader and configured by the Web developer.

The algorithmic “Landscape” deals with automated generative processes and with new partnerships between creator, reader, and machine, in a phrase: with new reading and writing contexts.

The work is not concerned with grammar manuals, sequential arrangements, or originality. It operates through appropriation of submitted text, discovery of meanings, the use of random patterns, and combinatorial reasoning. Made of fragmented texts and databases of words that must be arranged by the reader, every word typed in “Literaterra” is reset by the program and linked to a group of ideas.

It is possible to deconstruct words, to define their classes, and also to explore the series and collections already stored by other “Literaterra” inhabitants (the landscapers). A useful “set up” allows the customization of the interface according to reader preferences.

Nevertheless, one should be conscious that everything submitted to “Landscape” becomes collective property and might be used freely by other landscapers. By doing so, more than transferring and recycling Oulipian ideas to the Web, Matuck celebrates the instability of the electronic word and its deep connections to the materiality of the digital media.

Matuck’s work celebrates the kind of materiality that it is not determined by the objects that allocate content but by what is intrinsic to the reading experience: the materiality that, as states N. Katherine Hayles, “emerges from the interplay between the apparatus, the work, the writer and the reader/user” (Hayles & Gitelman 2002). Such a materiality allows contemporary literature to mix the interface into the message.

In this sense we can say that the particularities of the digital poetics of such a work are not defined by mixing the interface into the message, but in the productive means that result in the work.

In digital environments, what is seen, perceived, and experimented with is a result of monitor pattern and quality, connection speed, browser versions and models, plug-ins and boards, and operating systems, among many other computer and networked conditions that are configured and established by the reader.

Since it is hypertextual, digital writing is relational writing, and the online reading experience is a browsing experience. It occurs in simultaneous windows and, with the proliferation of handhelds, mobile phones and electronic panels, in increasingly fragmented reading spaces; it occurs not as an activity in itself, but in between, while doing other things.

Recontextualization of meaning, assemblage, and discontinuity are the key words of such a phenomena; here can be seen the link between the digital poetics of Vallias, Laurentiz and Matuck and concrete practices, as well as the connection to a post-national literature.

If concrete poets, following Cummings, and above all Mallarmé, could redefine poetic practices by trusting the unity of the page (Mallarmé 1974), e-poets are teaching us, as well as learning themselves, to deal with the transitory and fluid liquid field of digital media and Net reading conditions.

E-poetry in this context expands and redirects not only the reading support, but rather the reading interface itself. Ubiquitous, those interfaces are more and more disconnected from the conventions that attach representations to supports (Lichty 2001; Derrida 1973).

Disembodied by the multiplication of meaning across different platforms, e-poetry in this sense creates its own poetics by the interpenetration of interfaces into simultaneous and discontinuous messages – messages that, from now on, are made of a liquid textuality that challenges us to understand the hybridism of our times.

NOTES

1. For the electronic catalog of *The Brazilian Visual Poetry* (see <http://www.imediata.com/BVP/>. For different concrete practices, see Solt (1968, also available on line at UbuWeb: <http://www.ubu.com/papers/solt/index.html>).
2. See, for example, Glazier (2002).
3. Pignatari & de Campos & de Campos (1996) and Greene (1992, reproduced at <http://www.ubu.com/papers/decampos.html>)
4. A physician, born in the north-east of Brazil, Edgard Braga is not well known and there are only a few articles about his impressive work, most of them written by other prominent contemporary poets, like Haroldo de Campos and Régis Bonvicino, who was the editor of *Desbragada*, a collection of Braga's work.
5. A few examples available in English are the translations of Braga's poems made by Edwin Morgan in *Concrete Poetry* (Chapbook 9), Fall 1996, pp. 29–33. An exploration of Braga's and Gomringer works can be found in an essay by Paul Kloppeborg ("Concrete to Computer: The future of visual poetry") published in the electronic magazine *Perihelion*. Available: <http://www.webdelsol.com/Perihelion/p-theory.htm>.
6. Some of Khouri's works were published by "Arteria" magazine, which was distributed in plastic bags with white envelopes inside. Examples of his works are available at *Antologia Virtual: Anos 70 – Poesia (Virtual Anthology – The 1970s Poetry)*. Available: http://www.itaucultural.org.br/index.cfm?cd_pagina=572.
7. For a detailed explanation of the technology used by Cordeiro and Moscati, see *Arteônica*, catalog of the exhibition presented at the sixth Sibigrapi (Brazilian Symposium on Computer Graphics and Image Processing) in Recife, September 1993, pp. 10–15. Available: <http://www.visgraf.impa.br/Gallery/waldemar/catalogo/catalogo.pdf>.

8. One of the videotext works by Julio Plaza made in 1983 is on line. It is an exercise in intersemiotic translation of a poem by Paulo Leminski “Lua na Água” (Moon on Water). Available: <http://www.leminski.curitiba.pr.gov.br/arquivos.htm>.
9. By this time, Wagner Garcia (1983) and Moisés Baumstein had already worked with that technology in their works of art but their works were not devoted to poetry.
10. The piece was presented at the Museum of Modern Art, in Rio de Janeiro, in 1985, and developed with Fernando Catta-Preta. Many samples of Kac’s holopoems, along with his texts and essays on the subject, are available at the artist’s web site at <http://www.ekac.org/holopoetry.html>.
11. For a critical analysis of the intellectual conflict, see Reis (2002).
12. It is difficult not to remember here Barthes premonitory words: “L’enjeu du travail littéraire (de la littérature comme travail), c’est de faire du lecteur, non plus un consommateur, mais un producteur du texte” (Barthes 1990).
13. Philadelpho Menezes, «Interactive poems: intersign perspective for experimental poetry». Available: <http://geocities.com/Paris/Lights/7323/philadelpho.html>. See also his *Interpoesia*, CD-ROM (with Wilton Azevedo), Educ/Mackenzie, 2000.
14. For some of Alckmar dos Santos digital creations, see. *alire* 11, CD-ROM, Mots-Voir, Villeneuve d’Ascq, 2000.
15. Conceived for printed surface, the poem was updated for the web. One of its versions is at <http://www.refazenda.com.br/aleer/page/nous.htm>.
16. [Http://www.refazenda.com.br/aleer/](http://www.refazenda.com.br/aleer/).
17. See, for instance, “Page-proofs for page 5 of *Un Coup de Dés*.” Available: <http://www.uia.ac.be/webger/ger/joyce/ucdd.html>.
18. [Http://www.pucsp.br/~cos-puc/interlab/in4/entradai.htm](http://www.pucsp.br/~cos-puc/interlab/in4/entradai.htm).
19. <Http://www.teksto.com.br/>.

ELECTRONIC POETICS ASSAY
Diaspora, Silliness and ?Gender?

Maria Damon

Until I received an e-mail from Loss Pequeño Glazier asking me if I had anything to say about gender and e-poetry for a *Cybertext Yearbook* issue on “ergodic” (“difficult,” “writerly”) poetry, I’ve resisted entering the world of electronic poetry criticism despite a seemingly good fit between me and the subject.¹ Over the last six years I’ve gotten involved, through collaborating with poet and publisher mIEKAL aND, with the world of electronic, Web-based, mostly hypertext poetry. I’ve been to conferences and festivals, and our work (notably *Literature Nation*, *eros/ion*, “Erosive Media/A Rose E-missive,” and “Semetrix”) has been shown, mostly through aND’s entrepreneurial spirit and Web renown, in exhibits around the world. So one might reasonably assume I had some interest in the theorizing the subject, which is also a subfield within a hot new field currently known as “new media studies.” The reason for my resistance must be less obvious to all but me. My engagement has been not as a theorist nor even as a fully immersed practitioner at the level of the medium – aND is the techno-wizard and design genius – but more as a sort of participant/observer, fellow-traveler – a platonic groupie, an anthropologist semi-wistful but not quite willing to “go native,” a permanent apprentice – at this point I’m thinking GENDERGENDER as an obvious if subtextual category to characterize this list of characterizations. And in fact, our relationship has been quite gendered in traditional ways; he was the techno-wizard who can learn any system in no time, while I did the fluffy, lyrically fragmented writing (though he writes, too, his style is decidedly less baroque and more “experimental” than mine) and the pretty photography that he then defamiliarizes with groovy programs and an equally groovy confidence in his know-how. This writing has been a source of

energy, enjoyment and expansion, and I have not held it to any critical standards nor taken any initiative in seeking publication opportunities, as aND has posted our work on his Web site which is housed at my institution.²

Insofar as dealing with the realm of digital poetics critically is concerned, there has seemed to me to be no social urgency, no acute need for my advocacy in the field, as there is for the kind of micro-poetries, populist verse, marginalization or extreme eccentricity, the pathos of which has heretofore commanded my attention and labors. Advocacy for “ergodic” digital poetry as opposed to argotic poetry would be a mere plea for recognition for a usually overlooked subfield within poetics, rather than an intervention related to larger issues of social justice, or even the many theoretical offshoots from the post-1968 era that have come into play around those issues: post-colonialism, gender and sexuality theory, ethno-racial studies. In fact, it may be worth questioning what the investment or collective interest is, embedded in the term “ergodic,” in maintaining a distinctly modernist division between an “avant-garde” or “writerly” text/aesthetic and the plethora of other possibilities that take advantage of this new, quintessentially postmodern medium. The e-poets I know in the “experimental” world – that is, those who write the sort of work that seems to carry over from the print-(or visual -art, or musical) avant-garde to the digital medium – seem by and large to be a happy lot. In fact much of the work – like Jim Andrews’s “Nio,” with its swinging a capella soundtrack, or Komninos Zervos’s several works with their cartoonish, childlike playfulness – conveys a sense of freedom and even joy, perhaps a sort of rejoicing at being (virtually) freed from the body, like the exuberance of participants at gravity-defying thrill-rides at carnival midways. Even works that don’t exhibit the same kind of exuberant happiness – and I’m thinking here of, for example, Brian Kim Stefans’s beautifully unruffled “The Dream-life of Letters,” John Cayley’s pastoral riffs on Wang Wei, or Reiner Strasser’s many globally conscious projects – have a kind of serenity born of aesthetic certainty, a self-contained sequential orderliness that elicits admiration of a closed object, although there is plenty of movement *inside* the objects. Not the kind of messiness that signals lack, longing or desperation, and towards which I feel critically drawn.

Perhaps I found the messiness and anxiety lacking because when I arrived in the e-poetry world I was already pretty well jacked in to a situation of institutional privilege and security myself (well, let’s not exaggerate: a tenured position at a second-rung land-grant research universi-

ty), with little serious sense of material struggle from which position to empathize with the tattered fringes of the scene. Perhaps it was because, other than with mIEKAL's deliberately tenuous and dramatically alternative lifestyle at Dreamtime Village, an anarchist community in rural Wisconsin, my only firsthand contact with e-poets was at the E-Poetry 2001 Conference/Festival, a wonderfully expansive international symposium dominated by lovingkindness and goodwill to all, with an explicit caveat against "quoting Adorno," a prohibition, as I took it, against cultural pessimism as well as against the cultural cachet acquired by dropping the pessimist's name. The internationalism of the conference was an opportunity for utopian celebration of mutual recognition, a chance to join in on "hey baby, they're singing our song" or "we are the (unacknowledged legislators of the) world," rather than an opportunity for identifying and tracking differences born of different material and political circumstances – an analytic perspective that had been part of my intellectual training and generational hard-wiring. Where's the cultural studies, the materialist angle? Simply celebrating the much-vaunted "access" enabled by the Web – the opportunities for instant publication, the short-circuiting of the protracted "vetting" system of print publication – didn't seem sufficient intellectually or politically to compel my thinkerly energies, especially since so many others had made similar points years ago, and with more eloquence and conviction than I could muster. Also, quite simply, I have been reluctant to contaminate my little ludic space, my ergodic garden, with the professional concerns of meeting rigorous analytic or critical standards. But contamination is the point; thinking aloud about the circumstances of my own production, for example, as well as that of the writers whose work I like to study, becomes a form of materiality here.

Why hadn't I seen it before? Considerations of performativity, diaspora, fragmentation, identity and access, all issues that preoccupy me, are central to Internet poetics. The messy, broken aesthetic, the lyric-gone-awry that Nathaniel Mackey calls an aesthetic of "discrepant engagement" in a series of critical essays that examine "dissonance, cross-culturality and experimental writing," is not alien to Web art, and is not inherently uncongenial to the medium that many experience as sterile and hypermediated (Mackey 1994). In fact, much work on the Web derives its power precisely from explicitly working the boundaries of what we consider organic/inorganic, from the Australian artist Mez's use of "code" (or protocol) punctuation to convey linguistic/ affective/bodily brokenness to

mIEKAL aND's explicit concern with networking between the worlds of "permaculture" and "hypermedia" (neologisms that help to convey the utopian ambition of integrating the botanical and the wired, the premodern and the postmodern). That Mez's work is knotted, self-interruptive and challenging while aND's is multisensory and expansive (see, for example, *Seed Sign* and *Flora Spirae*) suggests that there are innumerable ways to foreground, theorize and embody in Webwork the issues of nature/technology, body/machine, organicity/inorganicity, life/death, and other such binary oppositions.

In what follows, however, I will approach these issues obliquely, from an angle not usually found in considerations of either engagé critique or cyberpoetry: that of the inanity and foolishness to be found in certain throw-away texts. Why fill up the pages of *The Cybertext Yearbook* with analyses of the spontaneous, intentionally ephemeral poetic detritus that follows when I could spend my time enshrining serious work in this contribution to developing a "secondary literature on electronic poetics"? Because it is messy, hit-and-run, proliferative work that creates a texture, a discursive thickness, a culture, out of and against which any e-canon (or, in Talan Memmott's more apt phrase, "provisional shortlist") emerges and derives its significance.³ Attending to the subcultural textures, the "white noise" or the ongoing processes (processes of both development and devolution of language and meaning) of a literary locus – what I call "poetic activity" rather than "poetry" per se – reveals its values, its sociality, its – to use a phrase from a bygone political and cultural era – "relevance" to everyday life. So, in addressing e-poetic culture, I'm decisively not trying to establish an alternative canon but rather to attend to writing *processes*, and to writing that embodies a "space-taking" or "world-making" post-literary vision.

Diaspora

The aesthetic of "wrongness," which has preoccupied me in several studies of what others would consider doggerel as well as of work that bears traces of disintegration of some kind – that of, for instance, Hannah Weiner, Bob Kaufman, John Weiners – can be found even in as high tech and sophisticated a medium as Web poetry. All of the many, sometimes contradictory characteristics enumerated above (no one could possibly, for

instance, term Mackey's work "doggerel," and he might argue that the latter category of verse acquires its lowly status precisely through its clumsy attempts at "rightness") are particularly apposite in discussions of Alan Sondheim's work. Sondheim, who comes from the (post-punk/Fluxus) avant-garde art and music world of 1970s New York City, has taken issues of process to heart so deeply that each time he presents at a conference or reading is a spontaneous, one-of-a-kind performance: he displays videos and photographs, and plays soundtracks accompanied by his live typing response along the bottom of the computer screen. Often there are four things to look at simultaneously – more than one of them is moving – as well as a compelling sound component that drives the piece rhythmically. Mastery and dissolution are both on overwhelming display, a frenetic dispersion of letters, words, images, sounds. The performance is both abject (much of the work involves ludicrous and/or disturbing nudity in kind of self-parodic exhibitionism, syntagmatic fragmentation or other indices of a failure of communication; much of the thematics of the text-in-process is Kristevan, psychoanalytic, confessional, preoccupied with polymorphous perversity, etc.) and perfect (the performances always seem to hang together aesthetically as well as narratively or theoretically – whichever mode is appropriate to the given piece and, in spite of the sensory overload, they always last exactly as long as they're supposed to for any given venue). These live performances are hypnotic; unstoppable semio-sacred garbage pours across the screen, or pulsates in several overlapping frames, like tarot cards come to exhilarating but terrifying life in a dance that predicts the sublimity of failure, the excess of absence, the abundance of loss. Sondheim's embrace of all info-human detritus and debris mandates a sense of unfinishedness; though it is not celebratory in theme, its endless generativity and scattering suggests some kind of diaspora-machine, swirling out material with a hangdog-humorous, Beckettian persistence in the face of the impossible. Sondheim dwells in impossibility, which is the same realm as Dickinson's eerily indeterminable possibility.

My first exposure to Sondheim's work was through the Poetics Listserv, to which I was introduced by the poet Charles Bernstein in 1995. The list, despite the limitations endemic to that form, opened a world to me, of experimental, "avant-garde" poets, poetry and poetics. Sondheim was an obsessive writer and a compulsive poster of his work to the list and I found the verbo-emotional flotsam and jetsam of his effluvia captivating in their twisted simplicity; a theoretical and emotional acuteness clearly

underlay even the most accessible or (deliberately) clumsy text. One of my early favorites, from 1996 or 1997, which I later included in a book of writing exercises for children (Franco & Damon 2000), used the simple device of “search and replace,” and an equally minimal lexical range, to defamiliarize the all-too-familiar experience of the “roller-coaster relationship”:

Wath You

A do love you. A don't hate you. A don't lake you at all. A don't love you. A hate you. A lake you a bat. A lake you a lattle bat. A lake you a lot. A lake you a tany lattle bat. A lake you. A love you a lot. A love you so much. A love you so very much. A love you. A really do love you. A really don't hate you. A really don't lake you at all. A really don't love you. A really hate you. A really lake you a lot. A really lake you. A really love you a lot. A really love you so very much. A really love you. A really really do love you. A really really don't hate you. A really really don't lake you at all. A really really don't love you. A really really hate you. A really really love you. A sort of lake you. A'm an love wath you. A'm not an love wath you. A'm really an love wath you. A'm really not an love wath you. A'm really really an love wath you. A'm really really not an love wath you. A'm so much an love wath you.

Much more recently (7/7/02), the following very typical piece came over the screen as I was laboring with this essay (I should point out, in case it is not clear yet, that I am choosing very simple examples from a body of complex work):

From: Alan Sondheim <sondheim@panix.com>
Subject: # my leaky sieve ##
To: POETICS@LISTSERV.ACSU.BUFFALO.EDU

my leaky sieve

drwx - s - x lrwxrwxrwx drwxr-xr-x drwx - S - -rw ---- -rw ----
-rwxrwxrwx -rw ---- -rw ---- drwx ---- -rw-r - r - -rw ----
-rw ---- -rw ---- -rw-rw-r - -rw ---- -rwxrwxrwx -rwx - x - x
-rw ---- -rw ---- -rw ---- -rw ---- -rw ---- -rwxrwxrwx
drwx - x - x -rwx ---- -rw ---- -rw ---- -rw ---- -rw ----
-rw ---- -rw ---- drwx - s - x -rw ---- -rw ---- -rw ----
-rw ---- -rw ---- -rw ---- -rw ---- -rw ---- drwx - s - x

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-rw ---- -rw ---- -rw ---- -rw ---- -rw ---- -rw ----
-rw ---- -rw-r -r - -rw ---- drwx -s -x -rw ---- -rw-r -r -
-rw ---- -rw-r -r - -rw ---- -rwx ---- -rw ---- -rw-rw-rw-
-rwxrwxrwx -rw ---- -rw ---- -rw ---- -rw ---- -rw ----
-rw ---- -rw ---- drwx -s -x -rw-r -r - -rw ---- drwx -s -x
drwx -s -x -rwxrwxrwx -rw ---- drwx ---- drwx -s -x drwx -s -x
drwx -s -x -rw ---- drwx ---- -rw ---- -rw - -r - -rw-rw-r -
-rw-rw-r - -rw ---- -rwxr-xr-x drwxr-xr-x -rw ---- -rw ----
-rw-r -r - -rw-rw-r - -rw ---- # my leaky sieve ##
i never stole anything i once ran away from a dying animal i once
had sex with a minor i once thought i was going crazy i once
tried to kill myself with iodine i once was a coward i once killed
a mouse i once insulted someone i never raped anyone i once insulted
anyone i once touched someone i once abandoned someone i once
slapped anyone i never hit anyone i once was a coward i never killed
anyone i once ran over a cat i never hit a deer i once killed a
raccoon i never stole anything i once was rude i once was fired i
once failed a course i once was shameful i once had an accident i
once wasn't driving i once abandoned someone i once was responsible
i once was beaten i once had jaundice i once was ill
106817160311111211111111111111121111111211111111121
1111111211111111111111111211721123221211111211111
# my leaky sieve ##

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Recognizable here again, as in “Wath You,” through repetition-with-the-occasional-slip-up, is both excess and minimalism, accessibility and impenetrability. A sharply restricted vocabulary and series of simple declarative sentences pull the piece in one direction, while the lack of punctuation (an old trick in the modernist poetry world) creates a headlong rush, the weird lapses in normative idiomatic use, and above all the unintelligible frame of letters, dashes and numbers pull it in the opposite direction. The combination of formulaic confession (“i once”), defensiveness (“i never”), repetition, serious and comic elements, terror and tongue-in-cheek, hyperverbalism and non-idiomatic phrases (“i once slapped anyone”) and the words’ emergence from and then total total breakdown into letters, dashes and numbers – all point to a survivalist mode of expressive culture I associate with diaspora and particularly the more outré permutations of diasporic language style (think Lenny Bruce, Gertrude Stein, the Marx Brothers, Franz Kafka, Franketienne, Nathaniel Mackey, or even James Brown’s vocables). It has been hypothesized in recently emergent disciplines (post-

colonial theory, postnational studies) that diaspora, far from designating the condition of one or two stigmatized and displaced groups (Jews, Armenians), has come since the decolonizing era of the 1960s to typify the postmodern condition; though far from normative in the world of representation, which still favors the “traditional American family” and the ethno-racial, linguistic, and monocultural stasis the phrase euphemizes, diaspora is becoming the experiential and/or demographic norm rather than the exception, in spite of the violent backlash of nationalist posturings. So the genre of e-poetry, both because of its medium (work is set adrift with often no clear origin or destination, and travels rhizomatically rather than in a fixed telos or predicable trajectory) and because of poetry’s designated role as laboratory where the micro-effects of subjectivity in discourse can be experimented on and through the manipulation of language, could be explored as a key to contemporary diasporic consciousness.

Sondheim has been posting several of these fragments a day for many years, dispersed and published in this ad hoc way, to a community of poets and electronic media artists on several different listservs, some of whose members sometimes beg for respite and campaign against his “intellectual diarrhea” only to elicit exhortations from the rest of us to continue, continue, keep on going on though you can’t go on. Most recently, and in response partially to “# my leaky sieve #” as well as other poems, the usual “I hate Sondheim”/“I love Sondheim” debates on the Poetics List took a curious turn. Though some of the attacks were very imaginative and entertaining (for example, John Tranter’s anagrammatic “Insane old ham. (Denials? Oh man!),” one pro-Sondheimite exhorted poets to be each others’ “best friends,” and challenged the membership of the list, some of whom had accused Sondheim of being a bandwidth hog who monopolized the list as a form of self-publication, to post their own poems. One by one poets whose work we had never seen started to share their work; some lurkers came out of hiding, and well-known poets joined in with brand new work. Thus Sondheim’s steadily prolific work and his commitment to sharing it, far from deluging and drowning others (“help!” was the subject line for the anti-Sondheimers’ pleas), became a catalytic agent for a new phase in this community’s ongoing formation. On a list usually more devoted to theory/“poetics” than praxis/“poetry,” the border between the two, the permeability of which had been the topic of an unusually thoughtful and high-quality discussion a week or so earlier, became a hybrid space in practice as well as theory.

My own experience of reading “# my leaky sieve #” was that the word “once” became utterly defamiliarized, so that eventually I was pronouncing it “awnce” each time I read it and thinking that the word I wunce knew as “once” must really be spelled “wunce” (anti-Sondheimites on the list-servs would no doubt propose “wince” as the proper cognate) or that this must be a typo on Sondheim’s part for the word “ounce,” but that wouldn’t make any sense, except that “ounce” does have a feline referent and he does mention running over a cat. In short, my life-long intimacy with simple words (“once upon a time” being the classic hardwired narrative cue for many of us) – their meanings, their spellings, their relationship to other simple words in the way they form simple statements – is completely undermined in the space of one longish stanza-paragraph. Ever since my youth I had had as a goal to “transcend language,” without even exactly knowing what that could mean. Sex and drugs seemed the most popular means to this end at the time (1960s-1970s), but they were all too easily recuperable into rather banal narratives. Paradoxically, “poetry” seemed far more effective than either of these. The experience of reading Sondheim’s work or witnessing him in performance comes as close as any means I know to “transcend language.” Disoriented, I am extrojected from my point of origin – Zion, homeland in my head, goodbye! – and set adrift across a globe spinning with its own refuse surrounding it at close range like a three-dimensional halo – we outcasts are the aura of our world, its atmosphere in the limbo where gravity does and does not claim us; we are consumed so it can live, we must be replenished for our and its survival. We’re out of control, spinning around like this, like the letters and numbers themselves (are we byproducts of someone’s compulsive creativity?) we’ve “gone over the edge,” we’ve “gone beyond the point of no return” – diaspora as hysterical silliness (about which more anon), the dissolution of knowns and norms, syntax and semantics, their trace the shadows we evoke for safety, our talisman words, our rickety bulrush baskets in which we spin down the river of abandon, styx, Nile or liffy. Our leaky sieves, our verbal coracles, take us from one exile to another.

What more can be said about the gibberish at the outset of the poem, letter-clusters separated by Dickinsonian dashes? Are these instances of the semiotic, written language’s most basic units (letters and punctuation) stammering and conglomerating, separating and sizzling? In fact, though one can read the piece successfully this way, further discussion of “# my leaky sieve #” on the poetics list revealed that these were in fact meaning-

ful within the context of computer programming. Jerrold Shiroma explains to a skeptic that

basically, any perl script on the Web must have certain permissions assigned to it by the owner of the script (i.e., the webmaster, programmer, site admin, etc.) ... each script has different permissions granted to the user, group, & world...with these permissions being “read” (the “r” in the above text ... allowing the permission to access the script), “write” (the “w”...granting the permission to write, or alter, the script), & “execute” (the “x” ... granting the permission to run the script) ... where alan mentions that there are too many “777”’s means that there are too many instances where the permission to write to the script are granted to everyone...

In addition, the numbers represent numerical values given to each permission script⁴. So Sondheim is using computer code, commands usually suppressed in the final text, in this case known as “permissions,” as an explicit part of his piece. And the piece is about “permission” – what is permitted and what is not, what one is permitted to say and what should remain unsaid, control over knowledge, information and speech.

In short, the piece is legible and garbled (what is opaque nonsense to some is transparent to others), accessible and “coded,” manic and controlled, a compound of “natural language” and computer code, a confession and a disavowal, a gesture of intimacy and of distance, of shame and of self-assertion. While this could be said about many texts that are not e-poetry (and I suggested some of them above; I could add Kathy Acker’s *Blood and Guts in High School* and Eve Kosofsky Sedgwick’s more “confessional” essays), these two examples from Alan Sondheim’s sprawling oeuvre specifically use Web technology – in the first case, a simple word-processing, editorial command to “search” and “replace;” in the second, an incorporation of command language itself into the poem to create a sort of hybrid language that gestures at intelligibility, framing the intelligible but disturbing “natural language” text. While some of my colleagues and students have an initial resistance to electronic poetry because they imagine it must be soul-less, sterile and based on special effects and gimmicks, I would argue that quite a bit of affect and even feeling can accrue to expressions in this medium – one can bond with anything, after all, and part of the pathos of Sondheim’s work is that its tenor, its means of production, its form and its content – i.e. its general vibe – embodies this desperate openness to which nothing (post)human is alien.

Looking at these “bleeding texts” (the phrase is Mez’s) against the backdrop of collective history, E-poetry could be considered diasporized language at its most ethereal, at its most mobile and rootless. It is “rootless cosmopolitanism” – Stalin’s term for Jewishness – dis/embodied. Much of the most interesting e-poetry features mutating, swarming, or dancing (“winking,” one critic puts it) letters (see Stefans’s “Dreamlife of Letters” and mIEKAL aND’s “After Emmett”), morphing fonts and language made both visible and sonic beyond what we usually think of as “orality” and “literary,” “verbivocovisual” in ways beyond what Joyce, arguably a diasporic subject, could have imagined. My decision to finally address this theme is not meant to exalt e-poetry as the apogée of deracinated *poiesis*, but rather, as I have suggested, because it is the latest of my own exposure to the post-literary world. It’s my personal experience of outer space, the ultimate diaspora-to-be, as Sun Ra and William Burroughs have indicated – “natural” home to the queer, the distorted and dissonant, the parasites (*viri* in the most creative sense of the word) of the planet; the misfits, the whackos – despite its also being, of course, the next frontier for the weapons industry and the military.

The Internet, itself originated by the military intelligence complex, has become a temporary autonomous zone (the term coined by Peter Lamborn Wilson aka Hakim Bey) for anarchism of many types, commercial predators as well as aesthetic rebels. There’s no point in celebrating a utopian vision of freedom – certainly not at this time in U.S. history, when our civil liberties are under erasure in the government’s vast juggernaut sweeps in the name of “homeland security”; the electronic media are positioned to serve as a primary means for this disenfranchisement. But nonetheless, there is a wonderment in the fantasy of both intimacy and distance offered by the medium, and in the virtuality – the non-materiality – of the sound sculptures that words become under the manipulations of e-poets.

Silliness

The phenomenon of the silliness of these Sondheim bits and other e-poetry texts deserves further exploration, because silliness’s proximity to horror (through hysteria and hyperrealism – gee, hasn’t that last word gone out of style) and its wisdom about horror may have something to teach us

about surviving postmodernity with grace. Silliness is not quite hysteria, doesn't have its ominous edge, but is nonetheless a somewhat "ungrounded" experience, a relatively pleasant symptom of anxiety, tension, disturbance. Etymologically, "silly" derives from a word meaning "empty" – a descriptor that has repeatedly been associated with postmodernity and a postmodern aesthetic. While the blankness of postmodern emptiness is not quite identical to silly light-headedness, there is a sufficient overlap and continuity in the experience of dissociation that these permutations can illuminate rather than cancel each other out. The over-the-top hysteria of, say, some of Acker's routines in *Blood and Guts in High School* is both comical in its adolescent excess and horrific in its subject matter (treating, among other things, ambiguously metaphoric father-daughter incest, sexual slavery, and cervical cancer contracted through sexual abuse). One can process this material as a reader, I think, only by seeing the text as an instance of the hyperreal, a cartoonishly funny exaggeration intended to dramatize the degree to which female sexuality is oppressed, repressed, and mangled in U.S. society.

I don't want to overstate the relationship between catastrophe and silliness, but certainly, trauma, play, and experimental writing are closely connected. The Oulipo (Workshop for Potential Literature) writers, particularly Georges Perec, obsessively created writing exercises using constraints (like Canadian poet Christian Bök's recent "novel," *Eunoia*, which uses only one of the vowels, but all the consonants, in each chapter) or substitutions (like Sondheim's "Wath You"), found structures to contain and represent a surplus of shock, sorrow and loss from World War II, often with hilarious results. (Perec's famous novel *La Disparition*, written entirely without the letter "e," a mainstay in the French language, concerns a mysterious but unspecified disappearance; in his early teens during the War, Perec came home one day to find his entire family missing forever, and this shattered the focus he thought he needed in order to achieve his youthful ambition of becoming a great novelist in the Dostoyevskian sense; constraints and exercises proved to be the only way he could re-enter the world of writing). While hardly as directly or primally traumatic in its genealogy, post-war U.S. poetry has been seen (as has much of global post-war culture) as a reaction to the shocks of the atom bomb and the concentration camps, combined with the hyper-aggressive domestic anti-Communist purges in the 1950s (which successfully, if temporarily, depoliticized literary culture), and racial oppression or ethnic cleansings of all

kinds. The more “experimental” of those poetries – Beat, Black Mountain, Black Arts Movement and other emancipation-oriented movements, women’s poetry, the New York School – embodied responses to these upheavals in fiercely “trivial” (New York School), fragmented (Black Mountain), ragingly confessional and countercultural (Beat), and, later, overtly politicized vernacular (ethnoracial liberation movements) poetries, all of which foregrounded the values of spontaneity, collaboration, and anti-academicism. One could speculate similarly on the cataclysmic effect of World War I on European poetry and the rise of Dada, Surrealism, and a host of lesser known experimental endeavors.

A small listserv called Flarf, devoted to the aesthetic of goofiness and comprising younger poets mostly in New York City but also in California, started in the summer of 2001, but has reached new heights of activity and intensity in the wake of 9/11. (Would it “ruin it” to add to this description that the members of Flarf are also “serious” poets who publish a variety of work, all of which fits into the rubric of the “avant-garde” or “progressive”? By which, in the US context, is meant New York School, Black Mountain, and the like, as described above.) While Sondheim’s ongoing project quite obviously works the border between humor and terror, Flarf, though considerably more firmly committed to silliness, can be seen to thrive in a performatively post-traumatic space of resilience and ingenuity. After a brief hiatus directly following the September 11 attack on the World Trade Center, one member of Flarf, who was also posting long and harrowing accounts to another list about his day working in Manhattan and walking home through human dust with thousands of others, posted this parody of Anne Waldman’s 1973 poem on universal womanhood, “Fast-Speaking Woman”:

Fast-posting Flarf

I am a scared and pissed off Flarf!

I am a post-traumatic stress Flarf!

I am a gritting my teeth in my sleep Flarf!

I am a waving several flags at once Flarf!

I am a trying to remember the words to God Bless America Flarf!

I am an unable to sing the national anthem Flarf!

I am a retaliating in ever-widening circles Flarf!

I am a gas-mask and antibiotics buying Flarf!

I am a suddenly blurting out hateful things in public without realizing it Flarf!

In terms of its reliance on Web or electronic media, Flarf draws most heavily on the language of search engines, as well as the content of successful or failed searches, set-up options (“Signature. Include a set quantity of X at the end of every message. You can include your contact information, favorite OOHMMMMHHH YEAH BAY-BEE! or anything you want in your FELINE TELEPHONY. Lick on Options and then on Signature to find out more”), spam (“THIS IS NOT A GET-RICH-QUICK SCHEME! Remember- you can sleep with Ostrichs made of remote controlled sailboats to get to the top if this doesn’t pan out! ... If you remember that time in the car, on the way home from seeing the doctor, and getting so incredibly angry, yelling at your mother and telling her that you hated her then YOUR FINANCIAL PAST DOES NOT HAVE TO BE YOUR FINANCIAL FUTURE!”), teen chatrooms (“Maybe you should go to the crocodile forum here. My grammar is fine maybe you should work on getting a life. Maybe you should have said elimination diet didn’t work for you. Screw you and screw him...”), and other mass-cultural Web annoyances. While Sondheim foregrounds the suppressed matter of programming “meaningful” content, Flarf focuses on the in-your-face everyday garbage we have to wade through in this putatively sped-up and disembodied communicative medium. It uses these, the detritus of hypermediated culture, as the material for specifically, but ridiculously, literary genres: primarily plays and poems, though sometimes also in mass-cultural forms like mock news articles (“The SBPTX Flarf Index dropped three percent today, as real-life grim wackiness continued to outpace google-derived transitional objects for flavoricious fluffy-luv.”). Sometimes, too, a serious cause for alarm is signaled by a comically worded subject line: the recent subject heading “fuuuuuuck” gave us a Web site for an article headlined: “New Tests Confirm Acrylamide in American Foods: Snack Chips, French Fries Show Highest Levels Of Known Carcinogen.”

Recently this poem was distributed to the Flarf list:

SESTINA

Your search – “I hate blow jobs” – did not match any documents.
Your search – “I hate Stonehenge” – did not match any documents.
Your search – “I hate monitor lizards” – did not match any documents.
Your search – “I hate Tender Vittles” – did not match any documents.
Your search – “I hate Boethius” – did not match any documents.

Your search – “I hate vasectomies” – did not match any documents.
Your search – “I hate US imperialism” – did not match any documents.
Your search – “I hate al-Qaeda” – did not match any documents.
Your search – “I hate Jacques Derrida” – did not match any documents.
Your search – “I hate Bessie Smith” – did not match any documents.
Your search – “I hate tuna melts” – did not match any documents.
Your search – “I hate lymph glands” – did not match any documents.
Your search – “I hate UNICEF” – did not match any documents.
Your search – “I hate cholera” – did not match any documents.
Your search – “I hate kamut” – did not match any documents.
Your search – “I hate uranium” – did not match any documents.
Your search – “I hate narwhals” – did not match any documents.
Your search – “I hate Pernod” – did not match any documents.
Your search – “I hate Modigliani” – did not match any documents.
Your search – “I hate turds” – did not match any documents.
Your search – “I hate Arthur Conan Doyle” – did not match any documents.
Your search – “I hate the Little River Band” – did not match any documents.
Your search – “I hate independent clauses” – did not match any documents.
Your search – “I hate Pinochle” – did not match any documents.
Your search – “I hate Kenya” – did not match any documents.
Your search – “I hate laboratory mice” – did not match any documents.
Your search – “I hate transistors” – did not match any documents.
Your search – “I hate projectile vomiting” – did not match any documents.
Your search – “I hate bok choy” – did not match any documents.
Your search – “I hate eternal rest” – did not match any documents.
Your search – “I hate vellum” – did not match any documents.
Your search – “I hate windshields” – did not match any documents.
Your search – “I hate Pebble Beach” – did not match any documents.
Your search – “I hate Cthulhu” – did not match any documents.
Your search – “I hate feminine protection” – did not match any documents.
Your search – “I hate Mao Tse Tung” – did not match any documents.
Your search – “I hate Hawaiians” – did not match any documents.
Your search – “I hate Hawaii Five-O” – did not match any documents.
Your search – “I hate Hawaiian weed” – did not match any documents.

‘Nuff said? The effect here combines male adolescent – that most performative of all life stages – humor (smart, juvenile, scatological, misanthropic but politically progressive to the degree that it’s political at all – think *Simpsons*) with poetic talent. Thus Flarf’s delightful and ridiculous ephemera is dominated, though not entirely, by manic thirty-somethingish men who clearly delight in assuming younger personae for the purpose of posting. Again, think Monty Python, Firesign Theatre, Lenny Bruce, Robin Williams, Matt Groening, the early days of Saturday Night Live. In a verbal competition distantly related to the street-sparring insult game of the dozens (more juvenile, less mother-oriented and more scatological, indulging in a greater display of formal education), the Flarfies egg each other on, riffing off of each others’ newly achieved heights of silliness, sometimes complimenting a particularly successful flarf with the single-word post: “Dude.” The responding post (from Gary Sullivan) to the above (by K. Silem “Kasey” Mohammad) was the following:

WHAT I BELIEVE

Searched the web for “I believe in deodorant”. Results 1.
Searched the web for “I believe in George W. Bush”. Results 2.
Searched the web for “I believe in population control”. Results 4.
Searched the web for “I believe in dinosaurs”. Results 6.
Searched the web for “I believe in social darwinism”. Results about 7.
Searched the web for “I believe in marxism”. Results about 11.
...
Searched the web for “I believe in shopping”. Results about 15.
...
Searched the web for “I believe in literature”. Results about 19.
...
Searched the web for “I believe in recycling”. Results about 137.
Searched the web for “I believe in rock n roll”. Results about 142.
Searched the web for “I believe in art”. Results about 164.
...
Searched the web for “I believe in being honest”. Results about 359.
Searched the web for “I believe in less”. Results about 405.
Searched the web for “I believe in the death penalty”. Results about 418.
Searched the web for “I believe in more”. Results about 436.
...
Searched the web for “I believe in evolution”. Results about 844.

Searched the web for “I believe in love at first sight”. Results about 888.

Searched the web for “I believe in America”. Results about 1,070.

Searched the web for “I believe in ghosts”. Results 1,160.

Searched the web for “I believe in everything”. Results about 1,200.

Searched the web for “I believe in santa claus”. Results about 1,270.

Searched the web for “I believe in nothing”. Results about 1,420.

Searched the web for “I believe in love”. Results about 18,300.

Searched the web for “I believe in God”. Results 38,100.

In the world of Flarf, silliness is raised to the level of an aesthetic, and at the same time it is obviously a form of abjection, a dramatic departure from the self-contained dignity of either the “real man” or “real poetry,” but recuperable through its display of superior intelligence. This manifestation of self-indulgent, masculine hysteria, inviting, participatory, and collective, serves as a salutary counter-experience to the masculine hysteria of militarism. At the same time, it has to be distinguished, I think, from feminine hysteria, which is covert and isolated; it is much more difficult for a woman to perform hysteria and/or silliness in public, the social opprobrium far more severe. With certain exceptions (Lucille Ball comes to mind), female silliness isn’t funny. (I will return to the gender issue vis à vis Flarf in a moment). Typical themes for improvisation on Flarf are squids, chimps, neologisms like “spork,” “words that are always funny” (snood, wimple, chimp, panties), top ten imaginary hits or bestselling books, sex with Britney Spears, poetry and poetics. In order to handle the amount of material coming in, some members of the list have created special silly addresses: joe flarf writes from flarf@hotmail.com, Flarfety Flarf Flarf from toomuchflarf@hotmail.com; a third, Sir Flarfalot, posts from flarfalot@hotmail.com (explaining, “I like to flarfalot.”). There is a sense of in-group, collaborative competition; guys racing to find and post the URL to the weirdest site on the Web. Though individual posts are single-authored, the point is not the individual posts, or – god forbid – Authorship, but the thick texture of inanity that accrues to provide a gloriously anarchic parallel narrative to the working day. As (the very funny) Charles Bernstein has pointed out, “[the comedic] collapses into a more destabilizing field of pathos, the ludicrous, shtick, sarcasm; a multidimensional textual field that is congenitally unable to maintain an evenness of surface tension or a flatness of affect.” (1992; 220) The “manic pace of life” and the “mechanized routine” of postmodernity become the “manic routine” –

in the sense of “wild shtick” – of the comic, and the polar tyrannies of flat affect and catastrophic disaster are mediated by hilarity; fragmentation of contemporary life is mediated here by e-mediated collaboration. In this sense hilarity is always a shared process – one needs, optimally, an engaged and participatory audience that is equally active as creative force. With some exceptions, comedy is better non-solo, as the concept of the “troupe” or the “team” conveys; Groucho just wasn’t as funny when he went out on his own. Even the solo comic – Lenny Bruce, let’s say – relies on a kind of in-joke ness, or cult following, for his/her power – the essence of the “hip comic” is specialness, some degree – though not absolute – of esotericism. Again, the group experiments of Oulipo, the Surrealists and Dadaists, and of New York City’s St. Mark’s Church Poetry Project Workshops, come to mind as arenas in which poets keep their work *en procès*, not necessarily intended for publication. Flarf did consider some forms of publication – the stupidest possible: a print collection idea was proposed and then abandoned, and a Flarf reading at a café in Brooklyn reportedly erupted into a foodfight, a kind of schoolboy spoof on, for instance, a Bukowskian bucket-of-blood barroom brawl style poetics, or a sophomoric counterpart to the fistfight over aesthetics that broke out at a Russian poetry festival reported on at length some years ago on the Poetics list.

?Gendergender?

The Web has been heralded as a realm of anonymity and hence freedom for artists, entrepreneurs, consumers and socializers; if no one knows who you “really are,” went the line, you can’t be discriminated against. You can even pretend to be someone else and by the time your “real identity” is revealed, you will have gotten what you wanted: publication, bandwidth, product, intimacy. However, while there is much collaboration in Web poetry, and also a great deal of female artistry (Mez, Geniwaite, Christy Sheffield Sanford, for example) and many brilliant “new media” critics who are women (Rita Raley, Katherine Parrish, Wendy Chun, Liz Kotz, etc.), there does not seem to be as much female-female editorial or creative collaborative work as there is either in the print world (Hejinian/Scalapino, Hejinian/Harryman, Spahr/Osman, Mayer/Brown/xx) or among men, or male-female collaborations (like my own with aND), in e-poetry. Come to think of it, there aren’t very many all female comedy troupes or teams.

With specific regard to Flarf, female Flarfies post, though not as often as men and in fewer numbers. In fact, only one female flarf a regular poster (and until she changed her nom de flarf from Flarfety Flarf Flarf to Flarfette Jones, her gender was not clear to me); her flarf is especially aggressive in its bawdy humor, including the magnificent “The Sausage: an Essay,” its companion piece “The Banana: an Essay,” and a somewhat menacing piece rendered from the results of Google searches for “kiss my...” + “scissors,” which earned the praise, “Now *that’s* flarf,” from a male colleague. These pieces are especially focused and tough, with no sentimentality discernable, unlike, say, Sullivan’s death-of-a-favorite-pet jag right before September 11, 2002. Flarfette Jones’s pieces, sexually themed though they be, do not engage “women’s” issues, or even gender issues more broadly (unless one could characterize a phallic or occasional castration theme as such) but do participate in the general adolescent bawdiness of Flarf, though, “or perhaps this is just my personal reading,” with the occasional extra edge of anger (the scissors, for example). These pieces resonate with Acker’s work, though they are also for the most part funnier; while Acker has some brilliant comic moments, her social critique overshadows those moments, while in Flarfette’s work, the reverse is the case.

The only other recent female poster of flarf does not participate in the sustained manic abandon of her male counterparts (my own attempted flarf is so lame, in addition to near-non-existent, that it would be better analyzed in the context of disability studies than here). Nada Gordon recently posted a series of “v imp” sonnets (“very important,” in e-talk; also evokes a vampish imp, an impish vamp, a virtual sprite...). When I asked her permission to include one in my section on Flarf, she immediately qualified her consent. Though posted to the Flarf list, the series is, according to Gordon, intended for conventional print publication and was generated in a notebook rather than online – indeed, she doesn’t consider them “flarf per se” though they are to some degree “silly,” by which she intends reference to another etymological ancestor – “happy.” She writes:

Not that these are happy poems; it’s just that they strain for a kind of levity in a context that clamors for anxiety at every turn... Which is not to say flarf poems don’t have anxiety at their core – they are simply less transparent, more effective defense mechanisms than are these “very important” sonnets. The sonnets are “very important” because they aren’t, of course. And because they are, in the vicious private way that poetry is important in the social organiza-

tion of the contemporary USA whose official dictum is that poets are either irrelevant buffoons or spewers of irrelevant pabulum. The sonnets *are* parodic, at times, but – unlike pure flarf, which takes as its satiric object all of creation – mostly of *literature*, in a characteristic wrestling bout with literary “problems” (as if there were nothing more truly urgent to address in these gloomy times)...

The difference she points to, the stakes of her endeavor, are immediately obvious when one reads the sonnets. What silliness there is self-parodic; a woman committed to struggling with literary problems has to sillify them in a disarmingly, if mildly, self-disparaging way. To be too serious about being a smart woman leads to the same social opprobrium as to be too silly or hysterical; but Gordon is too serious (or is it, in John Cayley’s felicitous coinage, “sillious”?)⁵ about literature as an activity to sacrifice anything by dissembling either her seriousness or her playfulness. In fact, the series thematizes, among other things, the specifically gendered nature of her literary struggles. NB each sonnet has a v imp title: “Vaudeville Improvisation,” “Vaguely Impudent,” and so forth:

v imp sonnet 1:

Vaudeville Improvisation

Wild fauns create chaos

in the romantic-repressive moss!

Where pulses! found in seething birds!

loose their girliness onto paratactic rock!

Kakemono! O Kantacky! What color is (c)lover?!

Roll me over in the burdock and the Indian buckwheat!

Roll me over in the plantain and the chickweed!

Your melting flesh is too-too solid,

your enigma putative as tungsten rose!

Hey, whoa! There’s the cat that ate my gnostic suit!

I hold these truths (!) to be self-evident,

though some restrictions apply!

Look out, here comes the me(te)rmaid:

keep your hands on your chant!

Though it shares characteristics with both Sondheim’s work and other Flarf, this series is far less concerned with using the e-medium for anything but distribution among friends. My own observations from the periphery of the e-poetry world, as a chick fellow traveler, reveal a rich engagement of women Web poets and critic/theorists, possibly somewhat

fewer than men but numerous and accomplished nonetheless, some of whom explore specific gender issues obliquely or directly. Not a very insightful or incisive comment, but as it turns out, gender has taken a back seat, so to speak, to diaspora and silliness here as thematized matters. I have no doubt, though, that readers will see a subtext if they so desire, and they are welcome to.

Conclassay

Much of my energies here have been spent showing a continuity between classic vanguard poetic movements and what is happening now in the world of e-poetry, or “digital poetics.” One might ask about the wisdom of using a postmodern medium to reproduce a fundamentally modernist category. One might productively ask about new poetics from other margins. What are poets doing in regions less known to myopic US Americans: to paraphrase Frank O’Hara, what are the poets in Ghana doing these days? Or on the Standing Rock Lakota Reservation, for that matter? Korean anarchist artist Young Hae Chang creates Web pieces for “Heavy Industries” in English, Korean and French. One piece which may not be considered “ergodic” but nonetheless uses Web technology (and for which, somewhat surprisingly, the author cites the first few of Pound’s Cantos as direct influence (Swiss 2002)) to promote a jazz/post-Beat aesthetic is his DAKOTA⁶, which moves from a spoken-word style, angry-young-man, road-trip poem into a diatribe against the limits placed on racialized American subjects. Using only a percussive sound-track (an Art Blakey recording) and black-on-white words to unfold its narrative, the text functions as a series of slaps in the face as the words and phrases hit the screen successively and make way abruptly for the next; it’s a bombardment that grows in intensity as the piece progresses. Although it conforms to a teleological narrative structure, its presentation in word and phrase-fragments has less of a linear effect than one might suppose – each word is a new blow, an entirely visceral, whole-body attack which has the effect of altering time (just as the experience of getting beaten up by police might or getting kicked by a rival gang, or a gang of skinheads might) – although time is also kept regular through the drumset-sound track/blows. Here is a case in which regularity itself becomes the springboard for entry into an altered state – just as the relentless predictability of

police-state, hate-crime, or intra-group gang violence against people of color becomes a medium for entry into a state of double-consciousness - or, indeed, in a postmodern world, of multiple-consciousness. Chang's work is taken seriously in the digital ("ergodic") poetry world (Swiss 2002), as is exciting work from Brazil (again, a place with a powerful modernist experimental tradition) and Indonesia. It all differs markedly from Alan Sondheim's restless sensory/intellectual tangles and Flarf's focused inanity in that it is Art with a capital A, rather than artistic process that challenges that very term. What is truly compelling is the way e-poetry proliferates, growing in aleatory, non-directional ways. Let's hope this form of aesthetic experience continues to permeate our everyday lives, corrupting it irretrievably and making us all distant, homeless, silly, anonymous and insignificant in the most helpful way: as part of the fragile World Wide Web of sentient and non-sentient beings.

NOTES

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2. [Http://cla.umn.edu/joglars/](http://cla.umn.edu/joglars/).
3. Talan Memmott, conversation with the author and Rita Raley, July 17, 2002.
4. Detailed information is available at <http://www.linuxlookup.com/html/guides/chmod-chown.html#2.2>
5. John Cayley, conversation with the author and Rita Raley, July 17, 2002.
6. [Http://www.yhchang.com/DAKOTA.html](http://www.yhchang.com/DAKOTA.html).

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