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# *Born Digital*

Writing Poetry in the Age of New Media



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# *Abstract*

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This study investigates a range of Anglophone digital poems, that is, poetic works created with and disseminated through digital computer media, for their visual, kinetic, and textual practices. I seek to articulate an analytic method grounded in close readings of selected poems. Out of several contemporary subgenres I have chosen to focus on poetic practices that raise questions about spatiality, temporality, kineticism, and word-and-image construction. My chief interest lies in the question of how poetic form emerges and is orchestrated in digital media and what forms of engagement these constructions present the reader with. As I focus on three clusters of poems, I propose terms such *poemevents* (Chapter Two), *cinematographic poems* (Chapter Three), and *visual noise poems* (Chapter Four).

Underlying the main arguments of this study is an understanding of literary works in general, and digital poems in particular, as materially, culturally, and historically situated entities. In this study, such “attention to material” is brought to bear on the digital poems that I analyze. Building upon N. Katherine Hayles’s notion of a media-specific analysis, I propose a *materially* specific analysis. In line with this proposition, I investigate the spatiotemporal properties of digital poems in Chapter Two, kinetic word-and-image constructions of Flash poems in Chapter Three, and propensities of reactive multimedial animated poems in Chapter Four.

A common feature of digital poems is the underscoring of a multisensory experience of poetry through visual, auditive, tactile, kinetic, and textual artifice. The level of interaction and physical engagement on the part of the reader of digital poetry is also often of utmost importance. To clarify and articulate the different roles that the reader of digital poems has to take on, I use compound terms: in Chapters Two and Four I refer to the expanded reader function as reader/user, and in Chapter Three I use the compound term reader/viewer/listener. I argue that the active embodied engagement that is required of the reader/user in the poems analyzed in Chapters Two and Four, and the denial of an active participation in the poems in Chapter Three is part of the works’ materiality.

Digital poetry as a field is expanding and changing; it would not be too daring to claim that the exploration and experimentation of the writing of poetry in the age of new media has only begun. I conclude the thesis by looking forward to what might lay ahead, and how literary scholarship can be inspired by the digital poetic work that is being done, and the questions about literary materiality that it poses.

*Keywords:* digital poetry, digital literature, literary materiality, spatiotemporality, poemevent, cinematographic poems, visual noise poems.



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# Contents

<i>Acknowledgments</i> .....	i
<i>Notes on the Text</i> .....	iii
<i>Introduction</i> .....	1
 <i>Chapter One</i>	
TECHNOPOETICS .....	13
Digital Poetry as a Field of Practices .....	15
Modes of Dissemination and Production .....	18
Digital Poetry, Materiality, Medium, and Meaning .....	25
 <i>Chapter Two</i>	
MULTIDIMENSIONAL POETIC WORLDS: Exploration and Manipulation .....	43
The Digital Poemevent .....	44
Houses of Words .....	46
Spatiotemporality in Digital Literary Scholarship .....	52
Strickland's Stars .....	57
Cayley's Landscapes .....	69
 <i>Chapter Three</i>	
CINEMATOGRAPHIC POETRY: Animation and Multimediality .....	89
"Flash Poetry" .....	92
Visual Rhythms: "YOUNG-HAE CHANG HEAVY INDUSTRIES PRESENTS" .....	109
 <i>Chapter Four</i>	
VISUAL NOISE POETRY .....	115
Wysocki's Digital Illuminations .....	124
Print and Digital Strategies of Visual Noise .....	133
 <i>Conclusion</i>	
LOOKING AHEAD .....	143
 <i>Bibliography</i> .....	151
 <i>Appendix</i> .....	165





# *Acknowledgments*

On resuming my university studies after having worked for a few years, I was asked by a then newly installed professor of English at Blekinge Institute of Technology to write an essay on Graham Swift's short story "Seraglio." On the returned paper I found a question: "Have you considered graduate studies?" I had not. She opened up a world which before had seemed impenetrable, inaccessible, and, simply, not for me.

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I will end these personal comments as I started—I dedicate my thesis to Professor Danuta Fjellestad with wild, wondrous dreams and plans for collaboration in the future.

# Notes on the Text

## Copyright Permissions

Although “academic fair use” is in play with digital media as well, there are questions as to how the so-called “screen shots” or images taken from the Internet are to be treated in terms of copyright. I have made every effort to obtain permission whenever I quote extensively or use video clips on the CD. Here, I gratefully acknowledge permission from:

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As film scholars long have been aware, writing about kinetic phenomena in a static medium requires a particular mode of ekphrastic writing, one that cannot explain entirely what goes on in the kinetic form. Therefore, I find it imperative that my thesis be accompanied by selected material from the poems I discuss.

The CD that accompanies the written manuscript contains color images and video clips from digital poems I analyze in the thesis. The video recordings are not to be considered re-publications of the digital work; rather, they show different reading possibilities or selected portions of a particular work.

## The Use of Fonts

Throughout the dissertation, when I quote longer sections from poems, I use the fonts (or their close equivalents) originally employed in the work cited. Although it is impossible to recreate the visual look of digital poems in print, by choosing to use a variety of fonts I want both to point to the importance of visuality for the interpretation of digital poems and to emphasize the importance of a materially specific analysis.



## Introduction

The present dissertation studies digital poetry, a literary practice that so far has been given scant attention in literary scholarship. I seek to articulate an analytic method grounded in close readings of selected poems as materially instantiated and experienced by a reader. This dual embodiment of the work itself and of its reader is a critical starting point for literary exegesis and interpretation of digital literature. Crucially, the insertion of images, graphics, sound, and movement in digital poems challenges the usefulness and relevance of existing poetics modeled largely on printed poetry. Thus I seek to develop a critical vocabulary for analysis of these aspects of digital poems. I argue that digital practices and poems are at the forefront of a cultural moment which will have a great impact on how literature is created and studied. Therefore, although this study is focused on particular genres of poems created with digital computer technology, my hope is that this exploration of literary materiality in the age of digital media can inform literary studies at large. For me, an important function of the study is to make digital poetry better known in the literary scholarly community. My target audience is, thus, primarily the literary scholarly community that is not yet aware of digital literature or the critical commentary on it.

Throughout the thesis I claim that the study of literature requires that we attend to the materiality of the literary artifact. Building upon N. Katherine Hayles's arguments about literary materiality in the digital age, I define materiality of the literary artifact as created through both physical components and the author's poetic and aesthetic choices as well as through the reader's engagement and investment in the experience, and the larger socio-historic context in which the artifact exists and its reception takes place. As Hayles argues in *Writing Machines* and *My Mother Was a Computer* as well as in numerous articles, materiality is a process of emergence in which the specific cultural and historic moment marks the context through which understanding of the meaning of any literary work is reached. In order to articulate materiality, beyond general definitions, literary scholars need, I argue, to investigate the details of how an artifact constructs and is constructed by its material and cultural context.

A focus on digital poems entails an exploration of digital media. Poets can use not only words, but images, photos, graphic elements, sounds, and music—all in digital form. Indeed, the mixed-media nature of the samples of poetic works I explore here has prompted poets and scholars to question whether we can talk about a “writing” of digital poetry; perhaps we should

speak of the *creation, composition, or making* of poetry instead.<sup>1</sup> In a way, of course, images, graphics, and sounds are not foreign to poetry—we can think of pattern poetry, concrete poetry in the realm of predominately visual poetry, and, of course, of the lyric origins of poetry that invoke the sonic and visual rhythms of the genre at large. Nevertheless, as digital tools allow these media elements to easily merge and co-exist, digital poems present several new challenges for literary scholars.

As regards the naming of the diverse poetic practices in the realm of digital poetry, a number of terms have been suggested: “electronic poetry,” “e-poetry,” “new media poetry,” “cyberpoetry,” “code poetry,” “Flash poetry,” “technopoetry,” and “literal art.” Some of these names are meant to be descriptive of what is perceived to be a general genre; others point to a particular type of poetic practice, or to a subgenre. Although at this point “digital poetry” is not a more settled or definitive term than any other such as “new media poetry” or “e-poetry,” I have chosen to use the term “digital poetry” since it serves well as an umbrella concept to denote a group of poems at present loosely defined by their main material framework.

The name “digital poetry”<sup>2</sup> is used to refer to a range of diverse poetic practices and types of poems (lyrical poems, confessional poems, sonnets, free verse, open form poems, etc.) that share computer technology as a medium of composition and publication. As Talan Memmott notes, perhaps the only feasible definition of “digital poetry” is “a minimal one: that the object in question be ‘digital,’ mediated through digital technology, and that it be called ‘poetry’ by its author or by a critical reader” (“Beyond Taxonomy” 293). In this study I endorse Memmott’s definition and heed his warning that “the actualities of poetic practice in the digital environment are too diverse to permit a comprehensive or coherent taxonomy” (293). However, while not attempting to construct a coherent taxonomy of digital poetry, I do want to map out some digital practices and discuss their particular poetic expressions through digital technologies.

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<sup>1</sup> Scholarly work often use terms such as the Greek *poiesis* (ποίησις) meaning to make, create, produce, to emphasize and ground a sense of a tactile *making* of digital poetry.

<sup>2</sup> “Digital” is here meant to signify computer technology in a general form, as in the terms “digital media,” and “digital art.” While several critics, John Cayley and Noah Wardrip-Fruin, to name just two, have argued that this use of the term is incorrect, “digital” nevertheless has exactly such a pragmatic meaning today. “Digital” can, of course, also refer to any discretely definable object, regardless of technology. As many have pointed out, Western alphabets can be defined as digitally constructed, i.e. made up of disparate and distinct elements—letters. Therefore writing is characterized by a digital quality which underlies the basic architecture of digital computer technology. This, some argue, creates a culturally biased technology which requires translation of not only interface text, but also at the programming level, for languages that use other sign systems, for instance Chinese. This claim takes on particular significance regarding the culturally specific context in which computer technology was initially invented and is continually developed and the impact of this situation on creative works created using digital technology. I will specifically take up this part of the discussion in relation to the poetry of John Cayley in Chapters Two and Four.

In making the selection of poetic works I have followed a distinction between what have been called “born digital” works and “digitized” works. The term a “digitized” poem is commonly used for a text transposed from print into digital form while retaining much or most of its original print character. Crucially, a digitized poem would not be considered to be dependent on the digital medium for its poetic and aesthetic effects; the medium is minimized in order to foreground the content or to mimic a print layout. Let’s take T.S. Eliot’s *The Waste Land* as a case in point. On the Internet, *The Waste Land* is available in a number of different forms. The poem can be found in hypertextually annotated versions which are examples of how digital media have been used to simplify the explication of passages and words in Eliot’s seminal work.<sup>3</sup> Many such sites make use of the already existing notes (but use clickable hyperlinks to access them) and add additional material. Other sites, such as the Academy of American Poets site, publish the poem without hyperlinks or other added material.<sup>4</sup> In both cases *The Waste Land* is digitized. However, this does not make the artifact less “digital” than other artifacts using digital media for production and dissemination. The distinction is not technical, but artistic.<sup>5</sup>

By contrast, the term “born-digital” refers to poetic writing that uses digital technologies beyond mere digitization.<sup>6</sup> At the same time, the title of the

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<sup>3</sup> Examples of such digitized and hypertextually annotated versions of Eliot’s work are abundant. Several of these are either student work, or intended to be used in teaching. Interestingly, modernist works such as Eliot’s *The Waste Land* and Ezra Pound’s *Cantos* are often deemed “hypertextual” in themselves with their rich intertextual references. Thus, the parlance of the “digital” cultural moment is appropriated onto earlier works.

<sup>4</sup> See <http://www.poets.org>

<sup>5</sup> Christiane Paul forwards a similar distinction in the arts where she distinguishes between digital art that uses digital technologies as a tool and art that uses the same technologies as a medium (*Digital Art*). For Paul, digital art that uses digital technologies as a tool take advantage of, particularly, shifts in collage, montage, and compositing of images that the technologies facilitate.

<sup>6</sup> The term “born digital” has emerged in recent years in seemingly isolated contexts: in legal discussions about digital copyright and similar discussions in business contexts such as in Marcia Stepanek’s *Business Week* article “From Digits to Dust” from April 20, 1998. In the article the term “born digital” is used to refer to information that does not exist on paper: “By 2000, Forrester Research Inc. estimates, one of every three Americans will be online. What’s more, half to three-quarters of the data produced each day will be ‘born digital’—that is, it will never have existed on paper” (128-130). This definition is flawed in that born digital information, while not “born” on paper, of course can exist on paper at one point. In fact, it has been argued that paper consumption has risen exponentially since the advent of computers, email, and intra- and internet in office environments. *The Myth of the Paperless Office* (Sellen and Harper) and other similar books debunk the theories of a society increasingly less dependent on paper consumption.

In 2002, *Wired Magazine* published a report called “Born Digital: Children of the Revolution,” in brief arguing that those growing up with the Internet form a generation that is intimately connected to “the digital.” The report details a number of cultural phenomena that point to the fact that this generation can be viewed as born into the digital revolution, i.e. born digital: “While others marvel at the digital future, we take it for granted. Think of it as the difference between a second language and a first” (n.pag.).

present study suggests, the term “born digital” can be used to denote the historical and cultural moment in which digital works are created and in which we study them.<sup>7</sup> In addition, there is a difference between digitized and born digital as regards authorship and readership. For instance, as I will discuss further in Chapter Two and Four, the poet can orchestrate a reading process which emphasizes readerly action and engagement in a manner that intricately engages the content and theme of the poem.

Adherence to a basic difference between digitized and “born digital” also carefully avoids the problematic terms “analog” and “digital,” including the opposition sometimes set up between print and digital computer technology.

With Rita Raley, I argue that we cannot locate an absolute ontological difference between “the analog” and “the digital.” Indeed, alphabetic writing itself is, by certain definitions, digital.<sup>8</sup> However, understood as a *culturally* viable term, digital is associated with computer technology. “Born digital,” then, is in this context designated for poetic work made with the authorial intention to specifically engage, question, and explore digital means of poetic and artistic creation. What we speak of, then, is, as Memmott has suggested, an applied poetics of the individual practitioner, or group of practitioners.

Throughout the dissertation I will use terms such as “digital poem” and “digital poetry” to signify born digital works.<sup>9</sup> Like the editors of *Poetics: The Aesthetics of Digital Poetry*, I, too, regard “digital poetry” as referring to “artistic projects that deal with the medial changes in language and language-based communication in computers and digital networks” (Block et al 13). In most scholarly definitions, a “born digital” poem is characterized by an awareness of its medial existence. This self-reflexivity takes at times the form of an overt flaunting of the particular possibilities digital media offer.

As already noted, digital poems often present a challenge for our critical methods and vocabulary that have primarily been crafted for the analysis of printed texts. While existing literary theory and methods are far from irrelevant

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In a literary context, the term shows up in work by critics who are also engaged in issues of preservation and dissemination of literature through digital means, such as in recent articles and papers (for instance Matthew Kirschenbaum’s 2006 MLA paper “Save As: Textual Studies and the Challenges of Born-Digital Literature” and Marlene Manoff’s article “The Materiality of Digital Collections,” also from 2006).

The Institute for the Future of the Book’s first “Born Digital” competition was launched in 2005, which I will return to in Chapter Four where I analyze one of the winning contributions: *Learned Life*.

<sup>7</sup> Of course the reader will notice that the title of my thesis echoes Perloff’s influential study *Radical Artifice: Writing Poetry in the Age of Media*.

<sup>8</sup> Such a definition relies heavily on dictionary definitions of digital as in having digits; in effect a measurable unit (for instance, fingers or numerals below ten).

<sup>9</sup> There seems to be an important cultural shift on the way in which the unique signification of the term “digital” is diminishing. As concerns the terms poetry and poem, it is remarkable that the word “poem” is in fact often eschewed in favor of other terms such as “work,” but when describing a genre the word “poetry” is, again, used. In my own rhetoric I use “work” and “poem” interchangeably.



for the study of digital poetry, they are insufficient. Generally, literary methods of analysis and many literary theories conceptualize literary texts as embodied on the printed page as a textual surface to look *through* in order to reach the content, that is, to read and interpret; to “get at” the meaning of the poem. Although some digital poems clearly engage print conventions, many challenge the presupposition of the white page with printed black letters arranged in lines and stanzas; they are influenced by other than conventionally printed art forms. In a word, since digital poems force the reader to look *at*, not *through*, them, critical discourse needs to be adjusted and amended to accurately account for this “surface” or “form” of digital poetry.<sup>10</sup> It needs to be pointed out that critical vocabulary for digital media forms, developed mostly to address the challenges of hypertext literature, new media art, and computer games, rarely takes up the particularities of digital poetry. Although digital poetry has recently received more scholarly attention worldwide, this art form is not widely known and critical commentary is still scarce. The ambition of the present study is to introduce digital poetry to the reader and to provide critical vocabulary that can enable other scholars to address the particular concerns of digital poetry and articulate digital poetics.

Let me at this point raise the question of what vocabulary to use when writing and talking about digital poems. I am not alone in identifying the inadequacy of terms such as “reading” and “writing” in relation to digital literature.<sup>11</sup> The difficult task is to find workable replacements. Scholarship about the reading and writing of literary artifacts that use digital media has prompted such constructions as reader/writer, poet/programmer, or, “wreader,” the last one inspired by Roland Barthes’s argument about the writerly and the readerly.<sup>12</sup> The intention behind such coinages is to find suitable terms to account for the multiple actions of what is traditionally called the reader function. While indisputably awkward, these terms signal the difficulty of capturing in one word the range of activities that take place and the reactions to what happens when one experiences a digital work; one not only reads, but hears, listens, sees, interacts, and reacts as well. In my thesis I have opted for two terms: reader/user, and reader/viewer/listener. To refer to the reader of digital poetry as a “user” is increasingly common in digital poetry

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<sup>10</sup> I would hasten to add that the need I identify as prompted by digital poems is by no means unique to such works. As will be discussed in more detail, self-reflexive flaunting of certain linguistic, visual, or kinetic forms is an artistic move instantiated in different media, not a technical feature of a particular medium.

<sup>11</sup> Some of the scholars that have raised the role of authors and readers of digital poetry are Philippe Bootz (“Reader/Readers”) and Roberto Simanowski (“Death of the Author? Death of the Reader?”).

<sup>12</sup> The history of the term “wreader” is not entirely clear. According to Rui Torres, the term or similar terms influenced by Barthes’s reader/writer discussion emerged simultaneously in English and Spanish at the beginning of the 1990s. In the original French text, Barthes used the neologisms *lisible* and *scriptible*. The fusion of writer and reader is in line with what Barthes argued for the position of the *scriptible* text.

scholarship. Of course, the term is borrowed from computer-related vocabulary. Throughout the thesis, except in Chapter Three, I use the term reader/user for the audience of digital works. In Chapter Three, the activity of the reader is clearly underemphasized in favor for a more observant position; the reader is asked to read, view or see, and listen. Therefore, in that chapter I call the reader, reader/viewer/listener.

Not only has the reader's altered position been discussed, it has also been argued that the authorial position has radically changed with the introduction of an active material and medium—the computer. Many poets also work in collaborative teams with artists, designers, and programmers. Are they all “authors”? And what verb should we use to describe the actions involved in digital poetic writing: to write, program, create, or perhaps to make? Has the author become, as Aarseth proposes, a “cyborg author,” given that the computer is part of the creation process? I use the term poet throughout the thesis, but I do find the term “cyber poet” (which has been suggested by analogy with Aarseth's cyborg author) to be interesting for indicating a shared agency of the poet with the computer and the reader.

Throughout the thesis, I argue that we *experience* digital poems, not just *read* them. I define experience as an embodied multisensory event reliant upon a range of contextual factors. The question of how digital works orchestrate reading and bodily engagement is crucial for the articulation of how digital poems are experienced and understood. Undoubtedly, reading remains an important part, but since different digital poems are created with different modes of inscription, it is not surprising that different digital poems engage senses other than sight. At times a particular conjunction of media generates one dominant experience, such as a passively visual watching. In other works, the participation may be on several registers: watching, reading, listening, and engaging via the mouse or another device with the works' reactive elements. Most digital poems stimulate a multisensory experience. But how is this experience different from that of a printed poem? After all, written words in printed literary texts also evoke our senses; when we read, through our eyes and our imagination, worlds of words are created in which we can seemingly perceive through all of our senses. Yet, it is still predominately through our eyes (if we read) or our ears (if we hear the text recited) that we receive the text.<sup>13</sup>

My description of the reading process is meant to point to how literary scholars generally think about the business of reading literature. As Hayles points out, “literary criticism and theory are shot through with unrecognized assumptions specific to print” (“Print is Flat, Code is Deep” 68). While digital literature reveals some of these assumptions to us, it is also the case that aspects of printed literature, such as visual elements, that have generally gone unnoticed are getting increased critical attention. Printed literature today tends to be void

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<sup>13</sup> In addition, when reading printed texts, we are often inclined to pay little attention to the visual layout of the printed page.

of most visual ornamentation, untraditional typography or visual arrangement. Rather, the visual typeset of much of literature is geared towards that transparency that American typographer Beatrice Warde argued should be as a crystal goblet of wine: “Because no cloud must come between your eyes and the fiery heart of the liquid” (11). However, there have always been literary works that go against such notions of transparency, and thus demand a critical eye attuned to visual arrangements, layout, and images. Digital poems belong to such a non-mainstream tradition. Their material inscription often demands that the reader use his or her body and evoke an awareness of how such an embodied reading experience can *mean*. The poems’ visual and sonic elements are not an imaginary mindscape evoked through words, but rather complex processes that require of the reader to see, listen, touch, move, and (it is conceivable) smell and taste.

In my analyses I am primarily interested in what meets the reader’s, or perhaps better, the user’s eyes, ears, and body. I see this approach as a way of addressing the embodiment of both the poetic work and the reader/user engaging with it. These two foci, the surface of the poem and the reader/user’s engagement, intersect in my analyses of the visual, kinetic, and textual forms in the poems, and the ways in which these emergent works require the reader/user in order to fully exist or function. Again, we can be reminded of Hayles’s articulation of materiality as an emergent property (*Writing Machines* 33).

My claims and observations about material inscription and meaning-making are rather commonplace among those who are active in producing and commenting on digital poetry. Indeed, in their debates the “truth” value of such claims is rarely discussed; it is simply taken for granted. Instead, the debates and discussions focus on intricately technical particularities or theoretical advancements within the field. In more conventional literary circles, however, material embodiment of literature has been studied in textual criticism mostly, and although championed by critics in literary studies such as Jerome McGann, material concerns are rarely touched upon in mainstream literary scholarship. However, in the last decade we can note the interest in the visual and its relation to literature. I would venture to claim that the interest in the impact of material instantiation on literary works will grow rather rapidly as is evident by remarks by such seminal thinkers as Jacques Derrida, who, as early as 1997, noted that digital technology was changing the nature of human communication, and remarked in a discussion about archive and memory:

electronic mail today, even more than the fax, is on the way to transforming the entire public and private space of humanity... it is not only a technique, in the ordinary and limited sense of the term: at an unprecedented rhythm, in quasi-instantaneous fashion, this instrumental possibility of production, of printing, of conversation, and of destruction of the archive must inevitably be accompanied by juridical and thus

political transformations. These affect nothing less than property rights, publishing, and reproduction rights. (17)

Derrida's insights cannot be limited to the impact of e-mail, although at the time he made his comments—only a decade ago—it was indeed the electronic mail system that was perhaps the most common and most conspicuous transformation of human communication and cultural work. Derrida's comments, had they been made today, would have no doubt included the impact of digital media, mobile technologies with their multimedial services, and the increasingly visual culture we seem to live in today.<sup>14</sup>



The set of digital poetic practices that this thesis focuses on generally expands the notion of writing to include images, graphics, and sound, and spatiotemporal and kinetic functions. Since the genre of digital poetry is quite unknown, I start by offering a brief survey of the Anglophone field of digital poetry in the first chapter, "Technopoetics." I introduce some of the main practitioners, venues for publication and scholarly discussion, and modes of production in primarily the United States from the time of the popular inception of the World Wide Web around 1994-1995.

In addition to this partial survey of the field, I address the role of the materiality of digital literary works, and how terms such as "material," "materiality," and "medium" are understood in literary production and analysis. Questions of form and materiality have emerged as one of the key concerns for digital poetics. I address materiality through the work of N. Katherine Hayles, Johanna Drucker, and Jerome McGann. The "Technopoetics" chapter is intended to provide a ground for the ensuing chapters of the dissertation which, through the analysis of individual digital poems, address a selection of poetic practices in their emergent and current "digital" instantiations.

In three analytical chapters I investigate poetical spatiotemporal structures, visual expressions, and processes of multimedial meaning-making.

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<sup>14</sup> As a matter of fact, in a series of interviews with Bernard Stiegler, published in *Echographies of Television* (published in 1996 with the French title *Echographies de la television. Entretiens filmés*. English translation in 2002), Derrida commented upon what he saw as the emergence of the image, and the need to develop a knowledge, and critique, of the image. While Stiegler's and Derrida's conversation revolved mainly around the growth of "teletechnologies," it is nevertheless clear that the impact of technologies on all aspects of human culture, while always having been true, seems to have reached a point where it is virtually impossible *not* to address the ramifications of *digital* technologies (of which many of the teletechnologies Derrida and Stiegler spoke of now are a part).

However, judging from Johanna Drucker's argument following Derrida's discussion of digital media at a conference in 2000, his theoretical approach is too abstract to be able to deal with digital media. Drucker concluded her observation thus, "Like many humanist theorist-critics, Derrida does not engage with new technology directly, he merely reflects and observes. This will not do" ("Theory as Praxis" 684).

Building upon, among others, Hayles's call for a "media-specific analysis" I conduct close readings of digital poems. What is the reader/user faced with when she or he encounters digital works? What happens to poetic representation in a multimedial setting, in a cultural moment characterized by, as critics such as Andrew Darley and Mark Hansen have argued, the depletion of any meaning or value deeper than what Darley calls surface play? How does poetic meaning fare in these works?

The poems I have chosen to analyze were all made in the period between 1996 and 2006. These years saw the emergence of digital poems as a multifarious genre (partly growing out of individual and often isolated experiments that can be traced back to the late 1950s). After the popularization of the World Wide Web and its widely expanded possibilities of dissemination of text, and, later, images, sound, and video, digital poems grew exponentially in number. Out of several contemporary subgenres I have chosen to focus on poetic practices that raise questions about spatiality, temporality, kineticism, and word-and-image construction. My chief interest lies in the question of how poetic form emerges and is orchestrated in digital media and what forms of engagement these constructions present the reader with.

In the first analytic chapter, "Multidimensional Poetic Worlds: Exploration and Manipulation," I address a cluster of critical and creative efforts investigating the spatial and temporal properties of digital media forms. Grounding my argument in the analyses of Aya Karpinska's "ek-stasis," Mary Flanagan's "[theHouse]," Stephanie Strickland's *Vniverse*, and John Cayley's *riverIsland*,<sup>15</sup> I investigate some of the claims made about spatiality and temporality in digital artifacts. More importantly, I am interested in how spatiotemporal poetic constructions visually, physically, and thematically inform readerly experience. I turn to the question of the reader/user's ability to engage with, or (to use that oft-maligned term) interact with digital works. The poems' metaphoric and visual use of place intersects with interactive structures to create a navigable poetic place. Alongside the reading and seeing, it becomes clear that reader/user actions inscribed in these works invoke a multisensory experience of a spatiotemporal place. Terms such as ergodicity or playing (as in

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<sup>15</sup> The often heterogeneous or ambiguous classification of digital works creates pragmatic problems when the scholar needs to choose the right MLA style for titles. The title of a poem is supposed to be written in quotation marks, whereas the title of a long poem published as a book, or a book of poems, is underlined or italicized. For instance, John Cayley's *riverIsland* (the title's unusual capitalization is in keeping with the poet's own use) is a poetic work made up of 32 poems. However, it is not a book or published as a book. *riverIsland* is available as a downloadable set of files and is, in effect, a piece of software. According to MLA standards, titles of downloaded computer software are underlined or italicized. There are, thus, several reasons to choose to italicize the title of *riverIsland*. Throughout the thesis I will italicize works which I feel can be considered long poems or sets of poems in one work. I use quotations marks for the titles of shorter poems. This is a pragmatic solution to a problem that is not readily corrected. Where do we draw the line between a painting and a poem, or a film clip and a poem? Indeed, my discussion points to how even our mechanics of writing are deeply entrenched in print culture and conventions. I would venture that our conventions will slowly change.

playing a game) have been suggested to account for this new, expanded role of reading. Arguments for expanded reader/user engagement with the text are not unique to digital poems. In the field of digital literature, in the late 1980s and early 1990s, hypertext and hypertext fiction were investigated as forms of writing which, compared to print, seemed to offer new and complex methods for creating spatial textual structures. I revisit some of the spatiotemporal arguments of hypertext—and literature in general—and bring them to bear on digital poetic works. Hypertext scholarship often emphasized how the spatial and topographic structures of writing (in print as well as in hypertext form) offered ways to construct *narrative* places for reader/users to navigate. The poems I study construct worlds that are not primarily made out of text; rather, it would seem, they move closer to the worlds of computer games and online communities.

The exploration and manipulation of a poetic space that I argue take place as part of the actions of reading and interpretation are intimately linked with the works' themes. The aesthetic form illustrates and embodies issues of memory, knowledge, and the relationships between humans and their world, their machines, and their fellow humans that the poems explore.

In the second analytic chapter, "Cinematographic Poetry: Animation and Multimediality," I investigate a particular set of kinetic word-and-image constructions that emphasize a reader position reminiscent of a cinematic viewership; the viewer takes in pictures, sounds, music, and written and spoken words simultaneously. While juxtapositions of words and images or graphics are not new in poetry, the kinetic nature of these multimedial poems changes how the reader experiences them. Conversely, the cinematographic mode that I argue the poems aesthetically engage in is not wholly interchangeable with the mixed medial expression of TV or video. As opposed to the navigable texts discussed in the previous chapter, many of the multimedial kinetic constructions remove or minimize the scope for the reader to act, replacing it with timed or preprogrammed movements and changes. I do not argue, as some have, that this constitutes a constricting feature. Rather, akin to other mixed media forms such as cinema and video, kinetic multimedial poems thrive on their multiple registers of signification. The domination of words in these poems is often challenged by image and sound. Digital poems often make ample use of digital techniques to insert combinations of image, text, graphics, and colors to create a visually arresting, multi-layered surface. Visually, digital poems exhibit influences from forbears such as the modernist collage and montage techniques, Futurist word compositions, and Concrete poetry, but they are also impacted by contemporary advertising media, TV, cinema, and the visual expressions of multimedial websites.

In the chapter, I analyze a group of poems—often called Flash-poems, or hypermedia poems—by Thomas Swiss, Ingrid Ankerson, Megan Sappnar, and

YOUNG-HAE CHANG HEAVY INDUSTRIES.<sup>16</sup> I argue that these poems use a “cinematographic” technique which de-emphasizes the importance of navigation or exploration by the reader (although not necessarily removing it altogether). I analyze how these highly visual, multimedial constructions affect the reader’s understanding of the poems’ animated film-like sequences. The ultimate cinematographic poetic expression, perhaps, can be found in the stark, most often black-and-white rhythmic letter/word constructions by YOUNG-HAE CHANG HEAVY INDUSTRIES. The work of this duo emphasizes rhythm through timed sequences of letters and words to the accompaniment of music, often jazz. The aphoristic sentences thrust toward the reader in relentless rhythm encapsulate the cinematographic poetic expression that the chapter seeks to investigate.

The final analytic chapter, “Visual Noise Poetry,” focuses on a combination of animated images and texts using layout techniques that I call “visual noise.” Visual polyphony can emerge when several registers of expression resonate simultaneously. In the poems discussed in the previous chapter such constructions often emphasized an aesthetic of concordance. The poems discussed in this chapter employ kinetic letters and images to disturb and irritate, or to introduce nervousness in the text; a digital continuation of a technique that can be found in printed poems as well. While sonic noise and dissonant polyphony are prevalent in digital works, I concentrate here on the constructions of *visual* noise created by visual excess and motion.<sup>17</sup> Particularly, I analyze Jonathan Carr’s “Breathing/Secret of Roe,” Andy Campbell’s “Spawn,” Jim Rosenberg’s *Diagrams Series*, and Anne Frances Wysocki’s *Leaved Life* as an example of this technique. The aim is to articulate how the poems’ visual and kinetic structures affect how the reader/user makes meaning of the experience. I compare these digital works with printed poems by Charles Bernstein, Susan Howe, and Steve McCaffery. The cusp between legibility and illegibility, readability and the transformation of readable elements into viewable ones is articulated in the digital poems through the ability to sensorily engage and change the poems’ construction. The static surfaces of the printed works, in comparison, seem immalleable and opaque.

I conclude the thesis by pointing to interesting developments in the field. New modes of creation and publication, increasingly available and affordable hard- and software, and, perhaps, growing technical expertise among poets, allow for forging new poetic works. I discuss two clusters of poetic practice: code poetry and VR and mixed media installation poetry. I also return to the issue of poetic materiality and what it means to write, and write about, digital poetry in the new media age.

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<sup>16</sup> In keeping with the typographical style this artist duo employs in all their work including their artistic name, I use block capital letters in the discussion of YHCHI’s work in Chapter Three.

<sup>17</sup> I briefly discuss the role of sound in one of the poems, “Breathing/Secret of Roe,” in which sound functions closely together with the visual layout.





# Chapter One

## TECHNOPOETICS

Constant algorithmic writing and rewriting...processes *are* the work. The writing is not the record of an inscription or prior composition. It is a program running. It is the sum of all the phenomena which occur when a program—a “prior writing” in anticipation of performance—is set in train.

John Cayley, “Screen::Writing”

In 1991, Marjorie Perloff wrote: “The impact of electronic technology on our lives is now the object of intense study, but what remains obscure is the role, if any, this technology has in shaping the ostensibly private language of poetry” (*Radical Artifice* 2-3). That same year, Jay Bolter published *Writing Space*, in which he argued that the conceptual space of digital technology, the physical and visual field defined by that particular technology of writing, is characterized by “fluidity and an interactive relationship between writer and reader” and that “different conceptual spaces foster different styles and genres of writing and different theories of literature” (11). At a time when the Internet was becoming better known, but before its immense popularization primarily brought about by the World Wide Web, the two authors were exploring the impact of digital technology on writing. While Perloff was concerned with how poetry was created in a media age ripe with advertisements, television, computers, and desktop publishing, Bolter’s concern lay primarily with the nature of writing in emerging computerized forms such as hypertext and hyperfiction. During the fifteen years or so that have passed since the above statements were made, we have witnessed a shift in the general understanding of digital computer technology as primarily machine to an understanding of it as multifarious media forms.<sup>1</sup> Although Bolter mentions literature (hypertext fiction) in his discussion, Perloff and Bolter’s respective arguments might at the time have seemed to have very little in common. However, the sea change that digital

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<sup>1</sup> I write “media” in the plural, since computer technology comes in many different forms. From numerous combinations of software applications and hardware tools digital media are formed.

technologies have brought about in human communication has had an enormous impact on a range of artistic and literary artifacts including the writing of poetry.

Perloff's convincing examples in *Radical Artifice* of how inscription technologies such as print, Xerox machines, and typewriters, or visual aesthetics informed by Pop art and photo advertising affected the writing of poetry, indirectly imply that digital media as a writing technology has also had and will continue to have an impact on poetry writing. In 1991, before the advent of the Web and its wide-ranging opportunities for publication and dissemination to wider audiences, digital poetry was relatively unknown and only a handful of poets were active. Today, with the growing dominance of digital technology in virtually all (mass) media forms, this type of poetry is beginning to be a widespread practice. The impact of digital technology on the "ostensibly private language of poetry" which in 1991 was uncertain can be more clearly articulated today. It is crucial that literary scholars pay attention to digital poems, since they present a challenge to the conventions of literary interpretation. In this dissertation, I will answer by way of examples how the material changes to poetry brought on by digital media affect literary interpretation.

The present chapter forms a context for the analyses and arguments I put forth in the following chapters. The purpose of this chapter is to survey the field of Anglophone digital poetry. I address questions such as how the field is defined, where its practitioners are active, and what types of digital media are used as modes of construction and dissemination. In addition to this presentation of the field, I also address the issue of how to analyze the poems' material location and construction through an investigation of the rhetoric of medium, material, and materiality as relevant to literature.

Before I proceed, allow me to briefly explain what I mean by "technopoetics." The term "technopoetics," in the context of this chapter, refers to the combination of poetry and technology. The Greek terms *technē* and *poiesis* are of course evoked in that term, referring to craftsmanship, and the creation of a work of art, respectively. Strother Purdy argued, in 1984, that "technopoetics" should be used for poetry that "shows the man not only the machine but himself as well" (138). He claimed that "in technopoetics there must be found both the mechanical effects of poetry and, ideally, the poetical effects of machines." Although Purdy's definition is perhaps particularly apt for what Brian McHale has proposed we call prosthetics poetry,<sup>2</sup> it can also denote the merger of poetry and machine. If we take poetics to mean the theory of poetry, and techno as referring to the tools by which poetry is made, in this

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<sup>2</sup> McHale suggests the term prosthetic poetry for mechanical, machinic, or otherwise procedurally controlled writing ("Poetry as Prosthesis"). Such writing is characterized by predefined constraints and rules that the author adheres to. The writing is often facilitated by a machine of some sort, functioning as a prosthetic device, such as the computer.

context, technopoetics deals with the tools by which digital poetry is made and disseminated, and how these are impacting poetic communities.

## Digital Poetry as a Field of Practices

An obvious question at this point would be: How common is digital poetry? How many poets are engaged in creating “born digital” poems, and where and under what circumstances do they work and publish? Let me point out right away that digital poetic writing exists in Europe, South America, Asia, and Australia, and, to a lesser degree in Africa.<sup>3</sup> However, their greatest concentration is to be found in the United States, and other Anglophone countries.<sup>4</sup>

In what follows, I outline some of the main activities in the field of digital poetry, present some of the active poets, the main sites of production and ways of dissemination, organizations, university departments and research centers, as well as the main conferences, festivals, exhibitions, and other activities that have helped to create a more or less stable community of practitioners and scholars interested in digital poetry in predominately the United States, Canada, and the United Kingdom.<sup>5</sup> The appendix to the thesis provides a list of websites, journals, and other publication venues for digital poems, compiled in June 2007.<sup>6</sup>

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<sup>3</sup> I list some of these poets and poetry sites in the appendix.

<sup>4</sup> There is a comparatively long history of digital poetry in France and in Brazil and Portugal. There is also a strong Latin and South American scene of digital poetry written in Spanish. In part, the Spanish and Portuguese endeavors can be seen as outgrowths from the strong Concretist movements in Brazil, for instance.

In France, a core group of poets consisting of Philippe Bootz, Jean-Pierre Balpe, Patrick-Henri Burgaud, and Alexandre Gherban have been active creatively and critically. The French poets have primarily been interested in automated ways of creating poetry, often with visual animated text permutations.

<sup>5</sup> Needless to say, the list is not intended to be exhaustive in any way. It is not the aim of the present dissertation to present a complete survey of all the practitioners in a field which is growing. Naturally, the field continuously changes; some poets create only one or a few digital works, others are more active. However, there are poets who have been active for 5 years or more, many of whom also are active in the scholarly debates. Likewise, there are also a handful of academics who have studied digital poetry and related phenomena since at least the late 1990s.

<sup>6</sup> It is in the topic's nature that some Internet addresses may become obsolete. The issue of preservation and archiving digital literature is intermittently debated. There are several questions involved: access, preservation for the future, obsolescence of digital platforms, and software which may require updating, and so forth. The Electronic Literature Organization's committee for the preservation, archiving, and dissemination (PAD) for digital literature has published a report, *Acid-Free Bits*, with guidelines for authors who wish to help prolong the life and possible migration of their work, with tips on how to emulate old programs onto new hardware, and a set of principles for creating long-lasting work. PAD has also published *Born-Again Bits* which addresses not only authors, but scholars, publishers, and archivists seeking to revive old work and, to use the authors' term, “migrate” them into newer forms. As film and music archivists long have been aware, many technical supports for works require continuous work and migration in order for the works to be accessible to future audiences. Magnetic tapes,

Despite the growing number of active poets and poetic work, it remains difficult to find digital poetry, and scholarly work about digital poetry remains marginal to the mainstream of literary studies. Indeed, some of the most recurring questions I was asked during the years of my research were of a sociological nature: for instance, how many practitioners are active, how and through what channels their works are disseminated, and what scholarly attention, if any, these efforts are given. Needless to say, these questions cannot be fully answered in this dissertation. One way of addressing issues of access, and, consequently, cultural and critical assessment and attention is The Electronic Literature Organization's attempts to create a directory of authors and publication venues and what is to become an annual publication of a collection of digital literature. Their efforts in surveying the field should not, however, be taken to be exhaustive. Access and more widespread recognition of digital poems remain a problem for scholars and poets alike.

In my understanding of digital poetry as a *field of practices*, I follow Johanna Drucker's articulation of the "zone of activity" of artists' books: "This zone is made at the intersection of a number of different disciplines, fields, and ideas—rather than at their limits" (*The Century of Artists' Books* 1). She continues, "if all the elements or activities which contribute to artists' books as a field are described what emerges is a space made by their intersection, one which is a zone of activity, rather than a category into which to place works by evaluating whether they meet or fail to meet certain rigid criteria" (2). I find Drucker's emphasis on multiple and changing sources of contribution to a cultural activity useful to describe the field of digital poetry which, as do artists' books, resides at an intersection of many disciplines and ideas. Such an understanding of digital poetry also asks for contextual precision. It is the poetic works that make up the field at any given point, and it is through analysis of those works that we can articulate the field.

In literary studies digital literature is only marginally known, and digital poetry remains virtually invisible in critical discourse. The few studies of digital poems that do exist have been carried out at the liminal spaces of mainstream academic studies. In the American context these spaces are found at departments with an interdisciplinary profile or at those with undergraduate and/or graduate programs in electronically mediated literature.<sup>7</sup> The list of full-length scholarly works focusing on digital poetry is still short. Loss Pequeño

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vinyl disks, and optic storage as well as the hardware used to read and display/play the works grow old, become obsolete, or break. Some artists and authors are not interested in the longevity of their work and prefer to think of their work as short-lived performances that live and die, with perhaps only records of the performances left, but not the work itself.

<sup>7</sup> Again, the North American dominance is clear, although important places for study of digital literature also exist in Europe. In some cases European institutions were prior or contemporaneous to American efforts, such as the Digital Arts and Culture conference which started in Bergen in 1998, or indeed the work of Espen Aarseth who initiated the DAC series and wrote the early and highly influential study *Cybertexts: Perspectives on Ergodic Literature*, defended it as a PhD thesis in 1996, and published it in 1997.

Glazier's *Dig[iT]tal Poet(I)(c)s: The Making of E-Poetries* (2002) is widely considered to be the first full-length exploration of digital poetry and poetics. Brian Kim Stefans's *Fashionable Noise: On Digital Poetics* (2003) is a practitioners' view of emergent forms of digital poetics. The forthcoming *Prehistoric Digital Poetry: An Archaeology of Forms 1959-1995* by Christopher Funkhouser, promises to be the first full-length exposition of the history of the genre.<sup>8</sup> Apart from these monographs there are a few important collections of essays and conference papers: *The Aesthetics of Net Literature: Writing, Reading, and Playing in Programmable Media* (edited by Peter Gendolla and Jörgen Schäfer); *New Media Poetics: Contexts, Technotexts, and Theories* (edited by Morris and Swiss, 2006); *P0es1s: The Aesthetics of Digital Poetry* (edited by Block, Heibach, and Wenz, 2004), and *Close Reading New Media: Analyzing Electronic Literature* (edited by Van Looy and Baetens, 2003). Sections about digital poetry and poetics can be found in anthologies dealing with a wider scope of digital media artifacts, such as the *CyberText Yearbook* series (particularly the section on "ergodic poetry" in 2002-2003, guest-edited by John Cayley and Loss Pequeño Glazier), and in *First Person: New Media as Story, Performance, and Game* (edited by Wardrip-Fruin and Harrigan, 2004). Articles and conference papers about digital poetry and digital textuality are more numerous, naturally. Hayles's work is prominent; she has written about such digital works as Talan Memmott's *Lexia to Perplexia*, John Cayley's *riverIsland*, and Stephanie Strickland's *Vniverse*. Her recent essay "Electronic Literature: What Is It?" provides a useful primer to the field. Important critical work is done through articles and essay by such scholars and poets as Friedrich W. Block, Philippe Bootz, John Cayley, Lori Emerson, Loss Pequeño Glazier, Giselle Beiguelman, Kiene Brillenburg Wurth, Alan Golding, Matthew Kirschenbaum, Raine Koskimaa, Talan Memmott, Carrie Noland, Marjorie Perloff, Søren Pold, Rita Raley, Roberto Simanowski, Stephanie Strickland, and Karin Wenz. In Sweden, the only full-length scholarly work on digital literature is Anna Gunder's doctoral thesis from 2004 on hypertext literature and games; poetry does not figure in it at all.<sup>9</sup>

This invisibility of digital poetry in literary scholarship is surprising for two reasons. First, quite a few digital poems do exist today, forming a growing field which is gaining in maturity and sophistication. Second, and more importantly, although literary studies has a long history of fascination with the

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<sup>8</sup> I have had access to the manuscript before publication and, therefore, all my references are to the unpublished manuscript.

Funkhouser is also the author of one of perhaps a handful of PhD dissertations to date dealing, fully or in part, with digital poetry. His thesis "Cybertext Poetry: Effects of Digital Media on the Creation of Poetic Literature" was submitted in 1997 to the State University of New York at Albany.

<sup>9</sup> Gunder's PhD thesis *Hyperworks: On Digital Literature and Computer Games* presents analyses of Michael Joyce's *afternoon: a story* and a comparative study between the first Harry Potter novel and a computer game adaptation. At the time of the writing of the present thesis, there were a few ongoing PhD dissertation projects in Sweden addressing digital literature, but none dealing specifically with poetry.

avant-garde and with innovative or experimental literary practices, it has yet to discover digital poetry as a form of avant-garde writing. Indeed, scholars like Glazier, Funkhouser, and Rita Raley point to commonalities between digital poetry and modern avant-garde literary and artistic practices. It is one of the aims of this dissertation to participate in opening a space for the study of digital poems within literary studies.<sup>10</sup>

Although no canon of digital poetry or digital poets can be said to exist, there are a number of poets or practitioners who have emerged as prominent in the field. Among these we find Jim Andrews, Ingrid Ankerson, John Cayley, geniuate, Loss Pequeño Glazier, Robert Kendall, David Knoebel, Deena Larsen, Mez, mIEKAL aND, Talan Memmott, Mez (Mary-Anne Breeze), Judd Morrissey, Jason Nelson, Jim Rosenberg, Megan Sapnar, Brian Kim Stefans, Stephanie Strickland, Thomas Swiss, and Komninos Zervos. I want to emphasize that the poets' particular styles, choices of poetics and materials, as well as the possible influences on their poetry vary widely. It is also important to note that not all the works that these poets create fall under the rubric *digital* poetry.

## Modes of Dissemination and Production

Digital poetry is a new field, so its history is, naturally, rather short. Although the first digital poems were created as early as in the 1950s,<sup>11</sup> the field really began forming and expanding when access to personal computers increased, that is, since the 1980s and after the Internet, in particular the World

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<sup>10</sup> At the time of finishing this dissertation, I noticed a few interesting forthcoming volumes about digital poetry, for instance the already mentioned Funkhouser's forthcoming *Prehistoric Digital Poetry: An Archaeology of Forms 1959-1995*, John Zuern's *Articulate Animation: Motion and Meaning in Electronic Literature*, and Katherine Hayles's *Electronic Literature: Playing, Interpreting, and Teaching*. Although these books by comparison only constitute a small increase in publication, the willingness of academic publishers (primarily American and British) to publish these works suggests that target audiences of scholars and students are growing.

<sup>11</sup> Funkhouser has shown how the first digital poems were text-generating programs, written in the late 1950s, predominately by computer scientists or poets that could program in early programming languages, such as FORTRAN, BASIC, and APL. FORTRAN (FORmula TRANslation) is the oldest high-level programming language, originally designed for scientific applications that require extensive mathematical computations. It was developed by John Backus for IBM in the late 1950s. BASIC (Beginner's All-purpose Symbolic Instruction Code) is another early high-level programming language. Developed by John Kemeny and Thomas Kurtz in the mid 1960s at Dartmouth College, it is considered to be one of the simplest of the early languages. APL (A Programming Language) finally, was created in the early 1960s by Ken Iverson, and is known for its brevity and ability to shorten programs by creating loops ("FORTRAN," "BASIC," "APL," *Webopedia Computer Dictionary*).

The programming was initially carried out on mainframe computers, with highly limited access for programmers, to say nothing of non-specialist users. As Funkhouser shows, the digital poems created at that point were largely computer generated combinatory poems or graphic text generation using computers but with the output often printed on paper ("Prehistoric Digital Poetry" 54-123).

Wide Web, was launched.<sup>12</sup> John Cayley, a poet writing with computers, offers these comments on the emergence of the field:

I'd been making literary experiments with text using personal computers since the late 1970s. So had many others, as an adjunct to many distinct varieties of textual practice. Sadly, they seem to have shared remarkably little intercommunication. Why would bp nichol necessarily want to tell the OuLiPo what he was doing with his Apple II? It was only after the Web, as it were, "went public" in 1994 that it was suddenly possible to conceive of a community of practice and a more general audience for writing in networked and programmable media, for writing that was made for and delivered by these media. This is not to say that much such writing actually existed. The idea that "new" textual media might be generalized and shared had only just emerged. There were a small number of practitioners, a small number of systems for composing text in digital media and a growing realization that at some indeterminate point in the future an indeterminate quantity of text and textual practice would migrate to the new "writing space" of networked programmations.<sup>13</sup> (qtd. in Stefans "From Byte to Inscription")

As Cayley notes, the emergence of the web constitutes a watershed moment in the history of digital poetry (and in the history of digital media in general). He also reflects on the emergent importance of digital media as a "writing space" for poets and other writers to explore. Adalaide Morris has noted that the period just before and up to the inception of the web also saw a rapid development of programming languages, such as DHTML, Java, and JavaScript, and sophisticated software applications such as QuickTime, Macromedia Flash, and Shockwave. Poets now increasingly use (or some would claim "mis-use") such tools to create compositions which intricately and with greater ease and at much lower cost than in non-digital media combine words with images, graphics, sounds, and animation. Literary texts created after the mid-1990s have been called second-generation works to primarily indicate that they include images to a much higher degree than the first-generation hypertexts.<sup>14</sup> Several critics have offered different categorizations of the field of

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<sup>12</sup> The history of personal computers has of course been the subject of many books, articles, and websites. The same goes for the World Wide Web. Very briefly, one can say that personal computers can be considered to have developed along two lines: IBM's Personal Computers and Apple's Macintosh computers. Some of the most popular and influential computers came first in 1981 when IBM released their new computer, named IBM PC, and in 1984 when Macintosh released a computer with a graphical user interface. The World Wide Web was developed at CERN (*Conseil Européen pour la Recherche Nucléaire*) by Tim Berners-Lee. In 1989 Berners-Lee initiated the World Wide Web, and in 1990 the first web browser and server were developed.

<sup>13</sup> The term "programmation" is used by Cayley to denote "the poetic object that is both literary language and the language of code" (qtd. in Stefans, "From Byte to Inscription").

<sup>14</sup> The first generation is most often thought of as comprising mainly textual works in a hypertext structure. Michel Joyce's *afternoon: a story*, and Stuart Moulthrop's *Victory Garden* are generally considered to be the first fictional stories of this kind. This view of the history of digital

digital poetry. Three broader categories are often suggested: hypertextual poems, poems composed for dynamic and kinetic manipulation and display, and programmable texts. Beyond these three, sub-categories have also been suggested, such as game-poems.<sup>15</sup>

As previously stated, the term “digital poetry” is not uncontested as a name for a whole emergent field of practices. Other names have been suggested and are still in use: “e-poetry,” “electronic poetry,” “new media poetry,” and “cyberpoetry” are among the most used. The terms are not wholly interchangeable. For instance, a term such as “electronic poetry” can be understood as including works which use electricity but not digital computer technology. Terms such as “hypermedia” and “new media” have usually been more or less synonymously used in discussions of digital literature, referring to works which combine images with text and, sometimes, sound. Some names are associated with particular poets or group of poets: terms such as “electronic writing,” “new media poetry,” and “hypermedia” have tended to be used by the academic circles around the Brown University Literary Arts program (Robert Coover) and at the University of Iowa (Thomas Swiss). The terms “E-poetry” and “e-poetries” are particularly associated with Glazier and the Electronic Poetry Center at SUNY Buffalo with its ambulatory e-poetry festival series. Christopher Funkhouser argues that terms using “digital” rather than “electronic” or “new media” are gaining more ground, whereas Swiss has claimed that “digital” along with “electronic” and “hypertext” poetries have been replaced by “new media” poetry.<sup>16</sup>

Discussions of definitions and scope of critical vocabulary are often fraught with misunderstandings. Alan Sondheim’s recent comment on a discussion (emailed to the *Leonardo Electronic Almanac* special issue *New Media Poetics*’ emailing list) exemplifies the type of discussion that still occurs with regularity in Internet discussion groups, emailing lists, and conference venues:

“New media poetry” is a misnomer—one might say poetry or poetics with an esoteric or internal relation to recent technologies—or poetry or poetics dependent on recent technologies. Dependent how? Either or both in their mode of production and their mode of reception; one might also add, their mode of transmission (i.e. POD publish-on-demand). The problems come about if one holds onto “new media” or “new media poetry” or “media poetry” as a genre, and from the genre, the academic/canonic isn’t that far away. (“Re:nmp}.Re: Where’s the new poetry in the new media?”)

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literature has been criticized by predominately South American and European scholars for being highly Anglo-American-centered; other alternative historical patterns mostly along the history of concrete and visual poetry have been offered.

<sup>15</sup> Soren Pold has suggested that all digital literature because of their multimedial, coded, and networked nature be called “interface literature” (see “Interface Realisms: The Interface as Aesthetic Form,” and “Interfacelitteratur”).

<sup>16</sup> See Funkhouser’s extensive discussion on the naming of the genre (“Prehistoric Digital Poetry” 38-43), and Swiss, “Electronic Literature: Discourses, Communities, Traditions.”



Sondheim's comments were in part prompted by the poet mIEKAL aND who in a previous post reiterated a longstanding complaint about technologically deterministic terminology, in this case the use of "new media" in the *Leonardo Electronic Almanac* special issue on "new media poetics." This is neither a new discussion nor one with a clear solution in view. However, despite Sondheim's trepidation about the possibly stultifying impulses of academia, I would argue that there are practical uses for terms such as new media, digital, or electronic poetry (or literature, art). The terms' pragmatic usefulness should not however preclude careful analysis and discussion about the artifacts the terms are intended to describe.

My reason for choosing the term "digital" over "new media" is that the latter term already feels dated: how long will digital media be seen to constitute "new media"?<sup>17</sup> Nevertheless, "new media" remains to be used and does serve the purpose of signifying digital computer technologies. The term appears in numerous university program and course names; moreover, a loosely held multidisciplinary academic field, new media studies, is emerging. At this moment the two terms "digital" and "new media" seem to be largely interchangeable and as the title of the present thesis reveals, I relate my work in part to the "new media studies" field. I use "digital media" throughout the dissertation to refer to computer technology in forms which are generally conceived of as media (as opposed to, for instance, the use of computer technology for mathematical purposes).

Most "born digital" poems can be found published in different web fora.<sup>18</sup> Others are distributed through e-mail as plain text, as in the case of for instance many of Sondheim's work, or as files to be downloaded and installed on the user's computer. While commercial publishing of digital works does exist (either through commercial publishers or via poets' own sites), the majority of digital poems is available free of charge. Many poets choose to self-publish on personal web sites. These sites sometimes also contain links to other similar sites which connect different sites together and thus form a larger community. It is also common to publish work on journal or magazine sites which serve simultaneously as gallery sites for poetic works. Since the inception of the World Wide Web, a number of more academically geared journals have also been launched which publish scholarly work about digital poetry and

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<sup>17</sup> Indeed, as the recent MIT Press publications, *Always Already New: Media, History, and the Data of Culture* by Lisa Gitelman and *New Media, 1740-1915*, edited by Gitelman and Geoffrey B. Pingree, remind us, all media technologies were new at one point in time.

<sup>18</sup> Digital, as well as digitized, poetry uses the economic and aesthetic advantages that publication through the Internet offers. Perloff recently noted that the new ways of dissemination through the Internet constitute a veritable revolution for previously published poems that are at present inaccessible to a larger audience because of difficult or costly print production. She refers mainly to previously printed works of literature, often avant-garde literature, such as concrete poetry that has now found new outlets through the Internet. It is interesting to note her observation that digital dissemination is "likely to be truer to the original than the usual reprints and anthology versions" ("Screening the Page/Paging the Screen" 145).

fiction, and, on occasion, also original digital works. Some sites, for instance *Poems that Go*, are exclusively devoted to particular types of digital poems. Others hold archives and feature links to other journals and websites which publish many types of poetry, ranging from “mainstream” to visual and auditive experimental poetry.<sup>19</sup>

Of the major publishing sites, two distinguish themselves by the central role they play for the digital poetry community, namely the Electronic Literature Organization’s Directory and the Electronic Poetry Center’s list of poets and publication sites. The latter list (maintained chiefly by the director of the Electronic Poetry Center [EPC] at SUNY at Buffalo, Glazier) contains about one hundred names of poets and scholars of digital poetry (or “e-poetry,” the term the website favors). The Electronic Poetry Center is not just an online asset; it is also the main organizer for one of the most important symposia/conferences in the field: the biannual E-Poetry Festival.

The other main venue for digital poetry is the Electronic Literature Organization, ELO. It was established in 1999 and has a larger scope than the EPC. The organization has been active in the work of making digital literature more widely known, and it has served as a channel for some of the important scholarly debates concerning the field. The ELO has also published reports and pamphlets highlighting issues of preservation and archiving of digital literature. In 2006 the ELO published the first volume of the Electronic Literature Collection. The collection is meant to be an annual publication of current and older digital literature. The editorial choices made for the collection are slightly different from those of the directory. At present, the ELO has an unannotated directory of links to works and sites of production and dissemination of “electronic literature” on its website.<sup>20</sup> The ELO directory claims to have the names of over one thousand authors.<sup>21</sup> The directory’s current categories offer interesting insights into their editorial practices and their more general characterization of digital literary works. The articulated definition of “electronic literature” is: “the term refers to *works with important literary aspects that take advantage of the capabilities and contexts provided by the stand-alone or networked computer* (“About the ELO,” italics in original). The directory is a database of

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<sup>19</sup> The practice of publishing online through such websites mirrors of course the practice of publishing in smaller magazines and journals, in chapbooks and self-printed volumes which has grown exponentially in the United States during the 20<sup>th</sup> century. For more, see Christopher Beach, *Poetic Culture*.

<sup>20</sup> The Nordic association ELINOR: *Elektronisk Litteratur i Norden* (Electronic Literature in the Nordic Countries) is created in line with the structure and aim of ELO. The organization’s website comprises a small catalogue of digital works from Denmark, Finland, Norway, and Sweden. Among the few Nordic websites that presently publish digital work we find the Danish site <http://www.afsnitp.dk/>. Recently the group behind *AfsnitP* launched a site dealing specifically with Swedish Concrete Poetry from the 1950s onwards with reinterpretations in Flash-form by Christian Yde Frostholt, one of the site’s founders.

<sup>21</sup> The numbers reported on the site are “2353 works, 1196 authors, and 193 publishers” (July 4, 2007). These numbers refer to all types of works in the directory, not only poetry.

names, titles, and, when available, Internet addresses for digital literature. One can search according to different categories and genres as well as author or publisher names, languages, and, what they call techniques, for instance “reader collaboration,” “animated text,” “generated text,” and “prominent graphics.” Judging from the directory’s categories, the Electronic Literature Organization’s editorial practices rely partially on established literary genre classifications, such as poem, fiction, and drama, as well as on emergent digital media genres or characteristics. However, in an interview one of the founders of ELO, and co-editor of the first volume of the collection, Scott Rettberg remarked that the “field has changed substantially since the Directory was launched, and we’d [the editors of the *Electronic Literature Collection Volume One*: N. Katherine Hayles, Nick Montfort, Stephanie Strickland, and Scott Rettberg] like to see it shift to a somewhat less hierarchical, more emergent system of classification, using keywords or tags, as well” (“Curating Ambiguity”). The manner in which the ELO sets up its organization, publications, literary prizes, and events would suggest that it mimics already existing practices within print literature that help establish fields, and, possibly, point to canonical or prominent works and poets which will further help establish the community as well as prepare for a wider readership for digital poetry.

Related to issues of dissemination and publication are preservation and archiving. This is a continuous problem for authors and scholars of digital literature. As is the case with all computer files, digital works routinely stop functioning. The reasons may be numerous; hardware and software continuously change, leaving older systems behind and creating compatibility problems. While there is usually some effort to ensure backward compatibility, eventually a lot of digital literary works will be inaccessible, even to their own authors. To provide some suggestions for how to preserve digital literature, or how to create works which can be long-lasting, ELO has published pamphlets outlining advice, such as *Acid-Free Bits: Recommendations for Long-Lasting Electronic Literature* (edited by Nick Montfort and Noah Wardrip-Fruin), and *Born-Again Bits: A Framework for Migrating Electronic Literature* (edited by Alan Liu, David Durand, Montfort, Merrilee Proffitt, Liam R. E. Quin, Jean-Hugues Réty, and Wardrip-Fruin).

While most digital poems are experienced/read via the computer screen, some poets have also shown their works in physical installations. Some poems require a physical installation and cannot be experienced through personal computers alone. This development partly grows out of the tradition of art installations. Since many poems challenge the printed book format while at the same time aspiring not to be limited to the computer screen, some kind of installation can offer a way of overcoming the limitations of either medium. Particularly works requiring more sophisticated technology or set-up for physical interaction with the reader/user have tended to use this form of “publication.”

It is not surprising, some poets and scholars would argue, that digital poetry occasionally ventures into art venues, particularly those used to curating installation and digital art. Partly influenced by this art scene, a common way to showcase digital poetry has been to arrange exhibitions, or to set up galleries, and to arrange readings and performances in relation to academic conferences or symposia.<sup>22</sup> Examples of physical installations and galleries (of desktop computers showing screen-based and Internet-based works) were found at the 2002 Technopoetry Festival curated by Stephanie Strickland<sup>23</sup>; the E-Poetry festival series in 2001, 2003, 2005, and 2007 organized by, among others, Glazier from the *Electronic Poetry Center* at SUNY Buffalo<sup>24</sup>; the Electronic Literature Organization, ELO, organized a “State of the Arts” symposium devoted to the state of electronic literature, which featured installation work.<sup>25</sup> Also, in 2002, Adalaide Morris and Thomas Swiss organized a conference with the theme “New Media Poetry: Aesthetics, Institutions and Audiences.” The conference featured a gallery side by side with presentations and academic papers.

If a poet wants to earn a living from writing and publishing digital poetry, the alternatives for commercial publication are even fewer. There is only one commercial publishing house for digital literature in English, *Eastgate Systems*, which was founded in 1982 by Mark Bernstein, and, since 1987 has published and sold mainly hypertextual fiction, poetry, and non-fiction in digital storage and presentation formats.<sup>26</sup> Most often the Storyspace application is used and the work is stored on diskettes or CDs. The company also sells software applications such as Storyspace and Tinderbox, the former a hypertext writing environment and the latter a content management tool using the node and hyperlink structure.

*Eastgate Systems* represents an attempt to distribute digital literature through CDs (and, previously, diskettes) which enables the publishing house

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<sup>22</sup> Readings and performances of digital poetry also echo, of course, performance traditions in poetry.

<sup>23</sup> Stephanie Strickland, a poet herself, was at the time Bruce McEver Visiting Chair in Writing and the event was organized at School of Literature, Communication, and Culture at Georgia Institute of Technology.

<sup>24</sup> An archive for the festivals is available at the Electronic Poetry Center website, although the information is at times scant as regards papers and details of discussions. The festival strives to be international, particularly considering Glazier’s interest in the Spanish-speaking world, but has so far attracted mainly English-speaking participants with a recurring strong French-speaking contingent. Importantly, though, the festival has had a larger mix of cultures, languages, and nationalities than other similar gatherings. The projected 2007 festival to be held in Paris would mark a further reaching into the international realm.

<sup>25</sup> The symposium was held in Los Angeles in April 2002. The event included a gallery of web works and installation works, keynote lectures by Robert Coover, Hayles, and Jason Epstein and reading session of both fiction and poetry works.

<sup>26</sup> As Swiss has pointed out, *Eastgate’s* initial dominance (particularly in the United States) as a community-building force has gradually diminished since the inception of the Web and the availability of a wide range of hypertextual and other authoring software (“Electronic Literature” 16).

(and the writer) to engage in the economic system of book culture with familiar modes of production, dissemination, and consumption. Indeed, buying an *Eastgate* publication is just like buying a book. The diskette or CD arrives with a booklet of instructions in a folded paper cover. However, reading the actual work requires the use of a computer (with the right operating system) and the work itself is often composed with the fragmentary hypertextual interlinked structure of Storyspace. As previously noted, the bulk of the critical and creative work on digital poetry can today be found for free on the Internet. The economic concerns regarding digital poetry are vexed: how can poets make (any) money off their work? Or, are they bound to *pro bono* dissemination through personal websites or sites that gather some cultural or academic value, and thus lend some authority to the works published there? Although these issues are not my immediate concern here, such matters, clearly fraught with critical, economic, and cultural implications, will become increasingly important as the field grows.

## Digital Poetry, Materiality, Medium, and Meaning

Literature was never only words,  
never merely immaterial verbal  
constructions. Literary texts, like us,  
have bodies, an actuality necessitating  
that their materialities and meanings  
are deeply interwoven into each  
other.

- N. Katherine Hayles, *Writing Machines*

Attention to the stuff in the  
medium is not the fetishization of  
some theory-based supplement,  
but the recognition of the fact of  
the matter.

-Johanna Drucker, *Figuring the Word*

At the risk of belaboring the point, I would like to repeat that digital poems are created with computer technology. The material and medium are whatever digital computer technology can support. Digital poems are computer files and thus require specific computer configurations to be accessed in any meaningful way by a reader.<sup>27</sup> Although there is no direct causal relationship

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<sup>27</sup> Although it may be conceivable that the code of a particular poem can be printed out on paper and read by readers knowledgeable in the particular code, such a reading does not offer the experience that is intended. This, indeed, will be a recurrent issue in the chapters to come.

between how digital poems manifest themselves in a digital milieu and the general architecture of computer technology, complex relations nevertheless exist between the material context and the artifact of study as perceived by the reader/scholar. It is helpful to have at least a basic understanding of how computers work in general. My claim that literary scholars attend to the specificities of computer technology does not entail any demand that literary scholars acquire specialist knowledge about the workings of computer software and hardware. Rather, in what follows, I will present some basic information about computer technology, and then move on to discuss how the technical intersects with the culturally and historically contingent to make up our understanding of such concepts as “materiality” and “medium.” Ultimately, navigating the intricate relationships between the technical, physical, poetic, and artistic helps us understand how digital poems construct meaning.

The dispute about names—digital, electronic, new media, cyber, or something else—can be related, in part, to how poets and scholars understand the status of digital computer technology and its relation to the artifacts it helps produce and disseminate. In some cases articulations of this relationship have sounded technologically deterministic, reductive, or overly elated, privileging one particular technology over another, for instance digital media over print. But why are the particularities of digital artifacts heatedly discussed and so fiercely contested? Any renewed attention to the material context of digital literature may in part be prompted by the newness of literature in digital forms; we are simply not used to reading poetry on the computer screen and therefore the experience—in all its strangeness—makes us ask questions. With Glazier and others, I would also claim that some digital poems self-reflectively emphasize the materiality of their construction, or, what Marjorie Perloff would call (following Richard Lanham) their radical artifice. Attention to medium and material, then, seems to be a requisite, even inevitable. Thus, scholars have begun to ask themselves what kind of medium, or media, digital computer technology is facilitating. And how do we talk about computerized medium and materiality in reference to literary artifacts?

Let me start with a brief exposition about computer technology. Since digital poems exist in and are experienced through digital media, a basic understanding of how digital media function technically helps us understand how different constructions of hard- and software impact what we experience. As is well known, computers are electronic binary machines that follow instructions that essentially are combinations of low and high voltages of electric current. These two states are indicated by one and zero in machine code. These numbers are the core of digital computing since all information—any instruction and any piece of information—is composed of combinations of ones and zeros. Understandably, these combinations become very long and cumbersome for human users to handle. In order to facilitate communication with the machine, different systems of code were constructed. These systems are devised as sequences of alphanumeric characters and symbols are written

according to the syntax of the particular programming language used. The instructions are algorithms, that is, reductions or abstractions of natural language which are then translated back into the binary form which the computer can “understand.”

Programming languages form the basis for the applications and artifacts the user most often encounters at the graphic user interface. The often peculiar syntax that programming languages employ has been of both direct and symbolic import on poets’ creative work. Programming languages and the instructions or sets of instructions that they facilitate make up what is commonly called software, which is then used to direct the hardware, the machine.<sup>28</sup> These instructions are written commands, most often in English, and they can be written using different computer languages with different syntax. Programming languages are often called computer code, and writing in programming languages is called coding.

For a literary scholar, the word “code” may call up different associations than the meaning that computer scientists put into the term. Generally defined, “code” is “a system or collection of rules or regulations on any subject” (*Oxford English Dictionary*). In computer science, the definition is slightly more precise: “Any system of symbols and rules for expressing information or instructions in a form usable by a computer or other machine for processing or transmitting information” (*OED*). In this context, I use “code” to refer to the specific use of language—that is, human language, most often English—intended for computers in the manner described above. Obviously, the status of language, in its extreme “coded” form directed to machines, and as the dominant material of literature, is important for any poet and the conventional distinction between human language and computer code is persistently and suggestively explored and questioned by poets in their work. To complicate matters further, poets have questioned the Anglo-American dominance in computing and the cultural bias that carry over from seemingly neutral computer technology to help sustain cultural, economic, and political dominance of certain programs or forms of computers.

But computer code is not only “a system of symbols and rules;” it is thousands of such systems. There are thousands of programming languages and they are often categorized into larger groups depending on their particular use.<sup>29</sup> In addition, the line between hard- and software is not as clear-cut as one might assume. One way of understanding the intricate architecture of computers is through the metaphoric use of *levels* as a way to visualize the interrelationship

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<sup>28</sup> Two major different software program groups exist: operating systems and application programs. Although the operating system is of utmost importance (if your computer has the wrong one you might not be able to access the file you try to access), I will concentrate on application programs as these are directly relevant to the discussion of how poems are created, how word, image, sound and other elements are combined, or how the reader’s moves are scripted.

<sup>29</sup> Although, admittedly, only a few hundred are regularly used.

between different types of programming. This layered structure also gives a sense of how physical parts and instructions to those parts interrelate. In her work on poetic codework, Rita Raley refers to these levels as a “tower of programming languages” (“Interferences” n. pag.).<sup>30</sup> In her essay she uses an image, taken from a popular online dictionary for computer terms, *Webopedia*.<sup>31</sup> The image is used to visualize the conceptualization of the differences between different languages, and how data and instructions are given to the computer and translated through the different layers into the only “code” the computer understands, namely the low and high voltages of electric current in the hardware. Depending on their function or degree of abstract representation, the levels have different names. Closest to the bottom level, the hardware, we find the level of machine languages which are numeric versions of instructions; a sequence of such instructions is machine code. The next level is the assembly languages that usually consist of written English, which must be translated into a binary form for the machine to understand.<sup>32</sup> Finally, high-level programming languages involve more complex series of instructions. There are many different programming languages that target different tasks, and they differ in syntax, structure, and, as many programmers say, elegance and usability.<sup>33</sup> The different languages exist in part to facilitate the communication between the human programmer and the machine that is built to operate on binary code (low-and high voltage electricity).<sup>34</sup> Usually, ordinary users of computer technology only see the output of a number of processes simultaneously

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<sup>30</sup> Raley also uses the term “machine language” as interchangeable with “programming language.” It is important to note that the term machine language when used in computer science also refers to the binary sequences or bits which directly addresses the machine at the base of the “tower,” and can thus be confused with the use of “machine” as referring to the computer as a whole. Furthermore, it is important not to over-interpret the tower visualization in the diagram. The top three boxes in the visualization, FORTRAN, C and Pascal are presumably meant to be seen as examples of high-level programming languages. FORTRAN is an early high-level scientific computer language, often called the first high-level language. C is often referred to as a high-level assembly language, and finally, Pascal is a high-level language known for its highly structured techniques.

<sup>31</sup> The image can be found at the *Webopedia Computer Dictionary* site: [http://www.webopedia.com/TERM/p/programming\\_language.html](http://www.webopedia.com/TERM/p/programming_language.html). The search term is “programming language.”

<sup>32</sup> Assembly language uses short, easy-to-remember fixed names for all machinic instructions, which are then translated into binary code in the assembler, a program which carries out the translation. A compiler is the corresponding translation program which translates high-level language into assembly language, or sometimes directly to machine language.

<sup>33</sup> The aesthetics of computer code programming has been discussed by, among others, Geoff Cox et al in “The Aesthetics of Generative Code” and Maurice J. Black in his dissertation “The Art of Code.”

<sup>34</sup> The term “tower of languages” suggests that software builds upon hardware (as is made clear in the *Webopedia* illustration). However, it is important to remember that the difference between hardware and software in computer technology is not as clear-cut simplified explanations generally posit; rather, parts of the instructions are actually embedded into the hardware.



running in the computer. The codes themselves are hidden and can only be accessed before or after the actual operation of the code.<sup>35</sup>

The conceptualization of the computer as a machine consisting of levels is carried over into the concept of the user interface. User interface refers to the boundary or meeting point between the human user and the machine. With computers this meeting point is usually the visual screen with which the user can interact through devices such as the mouse, touchpad, and keyboard. Different kinds of Graphical User Interfaces, or GUIs, are the most common today.<sup>36</sup> Because of the invisibility of the sets of instructions underlying the screen display and the operations initiated by the computer or the user, the computer as a machine is often conceptualized as having an interior, with “inner” levels.

One way of elucidating the materiality of digital poetry, then, is to begin by noting technical details in order to ask questions about what happens when, for poetic or artistic purposes, one blends the recognizable syntax of a programming language into a text in English. However, as Florian Cramer reminds us, an understanding of computer code and its workings should not only entail technical proficiency. Programming languages are signifying systems analogous to natural languages, and are just as dependent upon specific culturally and historically contingent contexts of use.<sup>37</sup> Indeed, a problem with relying too heavily on technical facts is the trap of technological determinism. With Aarseth, I would caution that, although difficult to articulate, a balance needs to be struck between essentialist definitions of computer technology as a “singular structure of well-defined properties of communication” (*Cybertext* 19), and relativist or metaphysically informed propositions which tend to elide all technical or practical understanding of computer configurations.

In addition to discussions about computer architecture and functions, it is important to remember that although some poets are also programmers, many of them work with software applications (or with a knowledgeable collaborator) that with their more user-friendly interfaces all but eliminate code-

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<sup>35</sup> One common way of “accessing the code” is the reading of the html-code (and its cognates) behind any website. By using the function “View Source” (or the equivalent) in your browser the html-code of the page is displayed in a text editor. Noah Wardrip-Fruin addresses at length the issue of reading code, the reader’s access to source code—or not—and its possible import for the study of literary digital work in his 2006 dissertation “Expressive Processing: On Process-Intensive Literature and Digital Media.”

<sup>36</sup> The history of the graphical user interface can be said to start with Ivan Sutherland’s 1963 PhD dissertation “Sketchpad: A Man-Machine Graphical Communication System,” and his continuing work with the Sketchpad system at Xerox Palo Alto Research Center in the 1970s, and Douglas Engelbart’s work in the late 1960s on what he called the On-Line System. The GUI became popular with the Apple Macintosh computer in the 1980s and is today ubiquitous not only on personal computers, but mobile phones and other computational devices, such as ATMs, and a range of everyday appliances with interactive touch screens and similar displays.

<sup>37</sup> An important difference, however, is that computer (programming) languages are (usually) not spoken, nor are they meant to be. For an exposition on this and the general differences between computer and natural languages, see e.g. Bolter *Turing’s Man*, 125-127.

writing.<sup>38</sup> Application programs are essentially millions of lines of computer code in one or several programming languages, created in order to carry out specific instructions or operations. Programs for word processing, spreadsheets, database constructions, and image alterations are now commonly available to non-expert users. As far as digital poems are concerned, applications such as Adobe Flash, Macromedia Director have become important tools for poets. Different applications facilitate different techniques, and the end product—in this case, the poem—can reflect specific affordances and limitations.

One way of attending to digital materiality is offered by Glazier who, in his *Digital Poet(ri)cs*, discusses at length the propensities and importance of html-code to digital poetic practice. For Glazier, the artistic benefits and challenges are abundant, as are the new routes for poetic publication which, because works can be disseminated at negligible cost compared to paper-based publications, provide important opportunities for poets to disseminate their work. Glazier juxtaposes a discussion of “style” in html, UNIX, and JavaScript to the poetics of Charles Olson, the poetry of Rimbaud, and the catalog style of Whitman (103-125). For Glazier, then, in the “new media” age, the co-existing practices of programming and poetry writing can and should merge.<sup>39</sup>

Digital materiality and media consist of more than words, be they displayed in html or UNIX code. Indeed, Glazier’s own poetic work, for instance “Io Sono at Swoons” and “Baila,” often features abundant colors and images. Digital poems often use graphical elements, colors, images, and movement and this sets them apart from most *printed* poetry, the medium through which we are, after all, most used to experiencing poetry. Technically, most such multimedial poems are made with commercial software applications, which leave their marks on the appearance of the works. By knowing about the basic properties of such applications and their place in the new media economy we can better understand how a particular environment helps shape the artifacts we seek to read and analyze.

Adobe Flash is one such commercial software application.<sup>40</sup> The poems I analyze in Chapter Three are primarily created with Flash, or similar programs

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<sup>38</sup> Several applications rather make it possible, not necessary, to write snippets of code or to access the code structure, for instance html-editors which provide both what is sometimes called a design-view and a code-view; Macromedia Flash applications which offer the possibility to manipulate functions via its programming language Actionscript; or Macromedia Director with its programming language Lingo.

<sup>39</sup> In part, Glazier’s rhetoric echoes that of computer scientists who have long referred to the art of coding. As Wardrip-Fruin writes, there is a culture among computer scientists that read code and coded processes aesthetically. But, as he also notes, the practice of reading code for aesthetic value cannot address all questions about literary digital works (“Expressive Processing” 30-34).

<sup>40</sup> The Adobe Flash application, previously Macromedia Flash, started as a FutureWave application (with programmer Jonathan Gay and others) until the company was sold in 1996 and the FutureWave animator became Macromedia Flash 1.0. See Macromedia’s website for more information: [http://www.macromedia.com/macromedia/events/john\\_gay/](http://www.macromedia.com/macromedia/events/john_gay/).

such as Macromedia Director. Flash has become one of the most widely used applications for digital poetry. It was primarily intended by its inventors and Adobe Systems Inc, the current owner of Macromedia, for the creation of multimedia websites and individual digital artifacts for purposes of presentation.<sup>41</sup> Flash has also become quite popular among artists and poets creating digital work.<sup>42</sup> Multimedia authoring software facilitates the use of increasingly sophisticated animation in websites and digital artifacts. Flash, for instance, allows for a range of visual and kinetic properties in which text, images, sound and so forth are all treated as objects that can be arranged on a two-dimensional plane (called a “scene”) with an added temporal dimension (a timeline with different “scenes”), and be given different attributes and behaviors.<sup>43</sup> The application’s ability to treat letters as images allows the creator to transform letters and to set them in motion.<sup>44</sup> The visual character of letters can be changed: there are ample and simple ways to change typography, color, typeface, style, size, shape, and weight, etc.<sup>45</sup> Pieces of text can be cut, copied, and pasted into different arrangements. Collage techniques have probably never been easier to use. They have even become standard. Manovich argues that “Flash aesthetics exemplifies cultural sensibility of a new generation” (“Generation Flash” n.pag.), a sensibility of sampling, re-mixing, and looping. For Manovich, the ability to use commercial media in combination with programming is empowering for the artist/designer. As he claims, “programming liberates art from being secondary to commercial media” (n.pag.). Technically, Flash poems often show tell-tale signs of some of the

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Flash supports vector graphics, which is one of the two most common computer graphics categories; the other being raster or bitmapped graphics. In short, vector graphics allow for resizing and reshaping and a number of other transformations of the image without losing information or quality. Raster graphics work with pixels (or dots) of information organized in rectangular grids. You cannot easily scale a raster graphics image without losing quality.

<sup>41</sup> These multimedia authoring tools have become particularly ubiquitous in advertising and business communication through websites.

<sup>42</sup> Throughout this dissertation the application in its different versions is termed simply Flash, unless the version is specified. Different versions of the application facilitate different features, and in the discussion about specific works, the version of the Flash application used is stated, if known.

<sup>43</sup> By using the application’s scripting language, Actionscript, even more attributes and actions can be added. Actionscript is an object-oriented programming language; it is based on ECMAScript which is the standard which JavaScript is based on.

<sup>44</sup> In comparison, word processor applications work with different conventions, and allow us instead to view, use, and create letters in a fashion remediating and enhancing typewriters and print. The plug-in application WordArt is an example of a graphic treatment of letters within that “print-like” environment.

<sup>45</sup> Of course, these features are available in several other applications, not only Flash. Indeed, even simple word processing applications allow for a range of typographic arrangements of text. In Flash and other similar applications, images, photos, and other graphic material are easily added to text. To preprocess images for combination in Flash, applications such as Adobe Photoshop and similar graphics applications are often used. Similarly, audio applications are used for handling sounds.

basic functions in Flash, such as “tweened” animation.<sup>46</sup> The dynamism latent in the static arrangements of concrete poetry, for instance, can be made to *actually* move in digital poems. Desktop publishing and multimedia authoring tools allow regular users to create, with great ease, what in older media forms was often exclusive to certain professions, time-consuming, and expensive. The fact that it can be so easy has also been a point of critique. As Peter Howard notes, “just as it’s easy write carelessly, and lapse into cliché in conventional poetry, so it is to produce Flash works containing tired or pointless effects” (n.pag.). Not unexpectedly, poets and artists seize on different aspects of digital media, choosing between programming languages and applications to facilitate their work. I would argue that the constant dialogue between a technical and instrumental view and a culturally and historically contextual view of computers, software applications, and, computer code is vital for an informed and, indeed not misconstrued view of the complex relationships between computer technology and literary works.

Technically, then, the properties of digital poems can be articulated through an exploration of the programming languages, software applications, and hardware used. However, an understanding of a work’s materiality cannot be reduced to the technical and the physical. McGann has argued that “[b]oth the practice and the study of human culture comprise a network of symbolic exchanges. Because human beings are not angels, these exchanges always involve material negotiations. Even in their most complex and advanced forms—when the negotiations are carried out as textual events—the intercourse that is being human is materially executed: as spoken texts or scripted forms” (*The Textual Condition* 3). In a similar vein, Hayles offers the following definition of materiality of literature:

Materiality ... emerges from interactions between physical properties and a work’s artistic strategies. ... An emergent property, materiality depends on how the work mobilizes its resources as a physical artifact as well as on the user’s interactions with the work and the interpretative strategies she develops—strategies that include physical manipulations as well as conceptual frameworks. In the broadest sense, materiality emerges from the dynamic interplay between the richness of a physically robust world and human intelligence as it crafts this physicality to create meaning. (*Writing Machines* 33)

At the start of the thesis I offered what is perhaps a provocative claim: that material inscription is crucial to the meaning-making and experience of literature. Further, I argued that the study of literature requires that we attend to the materiality of the literary artifact. So far, I have pointed to some of the

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<sup>46</sup> In “tweened” animation, you define key points (called keyframes) in the animation and let Flash interpolate the content of the frames in between (hence the term “tween”). Examples of tweened animation are motion and shape. In motion tweening, an object can be scaled, rotated, or oriented to a path. Shape tweening changes size and form. Color can also be changed.

basic technical facts that, I think, need to be included in our understanding of how digital poems exist in the world. But with Hayles, I also argue that materiality is more than physical properties. Therefore, at this point, I would like to step back slightly to examine the terms “material,” “materiality,” and “medium.”

No consensus exists as concerns the meaning of “material,” “materiality,” and “medium,” either in theoretical literary discourse or in emergent studies of digital artifacts. Rather, the use of these terms can, deceptively, suggest similarity of thought and concordance when that might not be the case. What seems clear, however, is that the pressure from digital literary practices to address more than linguistic elements prompts scholars to analyze those other parts (image, sound, movement) of digital poems in addition to the words. Several critics of digital poetry point to the processes of *making* poetry, emphasizing an almost tactile process by which a poet is seen to forge a poem from a set of media, in analogy with the term “medium” in an artistic context, like handling clay or paints.<sup>47</sup> This emphasis on tactility goes against the grain of particularly early 1990s scholarship related to hypertext and digital textuality, which sought to underscore the immateriality and evanescence of digital media. Indeed, using the word “material” or “materiality” in relation to digital media may seem oxymoronic, given prevailing arguments forwarding the *immateriality* of digital forms.<sup>48</sup> The urgency to address the materials out of which digital poems are created (prompted by technical reasons as well as a result of poetic and artistic strategies) has led to formal analyses, or formally grounded interpretation, where scholars employ a range of material metaphors to describe these new forms. In such discussions, concepts such as material, materiality, and medium become important umbrella terms, but with different connotations and ideological underpinnings.

Given the multitude of definitions and disciplinary connotations, dictionary definitions are of some, but limited help. According to the *Oxford English Dictionary* (OED), “material” as an adjective can be defined as “of or relating to matter or substance; formed or consisting of matter,” and as a noun “that which constitutes the substance of a thing (physical or non-physical); a physical substance.” “Materiality” is defined as “that which constitutes the matter or material of something” (OED). “Medium,” is primarily defined in OED as “Something which is intermediate between two degrees, amounts, qualities, or classes; a middle state,” but an additional definition, pertinent to

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<sup>47</sup> For instance, the *making* of poetry is of central importance for Loss Pequeño Glazier, particularly as part of his discussion on the condition of the production and circulation of poems. He ends his book by exclaiming: “Explore the multiple possibilities of *making* in this medium. Emerge from the study with wires tangled in our hair, pixels in our spirit, happy to find that physical interaction with the intangible that makes it *making*” (179, emphasis in original).

<sup>48</sup> In particular, such ideas are grounded in certain postmodern strands of thought. For instance, the utopic version of this argument sees an opening of hegemonic power structures in society and the Internet, in particular, opens a democratic, free, socially unrepressed space for work and play.

the present discussion, is “[a]ny of the varieties of painting or drawing as determined by the material or technique used. Hence more widely: any raw material or mode of expression used in an artistic or creative activity.” Finally, medium is also more specifically defined as “[a] channel of mass communication, as newspapers, radio, television ...” This latter sense can be seen to derive from the first definition of medium as an intermediary between two parties, but used as a description of technological facilitators of such an intermediated process. All the terms have their origin in Latin. The terms “material” and “materiality” (in Latin *materialis*, “formed of matter, and *materialitas*, “material nature”) relate to the term “matter” which is in classical Latin *materia* “(also *materies*) wood, timber, building material, material of which a thing is made, purulent matter, subject of discourse or consideration, also (in philosophical use) ‘matter’ in contradistinction to ‘mind’ or to ‘form’” (*OED*). In all these definitions, then, material and materiality relate to *thingness*. Medium, on the other hand, seems at first to be of a different order. Also of Latin origin, the word is defined as middle, center, or intermediary. The word does not define a thing, but a relation, which is echoed in the modern use of medium as a technological facilitation (in mass media or in art) of such a relation. Definitions of medium as material for artistic or creative expression, as channel for communication and as the intermediary state between two parts are all invoked and intertwined in critical discourse about digital textuality and digital poetry. Dictionary definitions, albeit basic, provide some footing as to what kind of job these terms are expected to do when used in discussions of literary works.

Any consideration of the materiality of literature naturally involves a careful study of language. In poetry, as Roman Jakobson famously argued, the dominant function of language is autotelic; that is, the focus within the verbal message is on the verbal message itself.<sup>49</sup> Although one can find spoken language in digital poetry, written language is dominant.<sup>50</sup> Prompted by the technical possibilities from the late 1980s onwards, comparisons between printed and digital textuality have been made in relation to literature by scholars such as Jay Bolter, Sven Birkerts, Michael Joyce, Matthew Kirschenbaum, Richard Lanham, George Landow, and Jerome McGann. The impact of “new” digital forms and constructions of text on our processes of writing, reading, and understanding text, or the correlations between print and digital textuality as two possibly competing paradigms of language inscription, are recurring topics in such critical work. As computer applications evolved, Internet bandwidth

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<sup>49</sup> Jakobson argues that poetry is the genre of texts in which the poetic function exists par excellence, but that it is not the only place one can find poetic function. The notion of the dominant—that a text consists of several functions, but that one can be seen to be dominant—influences the way in which I have chosen to group my readings of digital poems here.

<sup>50</sup> This ratio might of course change. With increasing sophistication in the tools for sound and image composition the ratio between written and spoken word might fluctuate more than what has been the case so far.

and access grew, and the World Wide Web facilitated multimedial publication, media other than written words began to be included in literary works. Specifically, critical attention started to shift from exclusively concentrating on words and their interrelationships to the inclusion of other concerns, such as image, sound, graphics, visual and kinetic layout, all of which can be subsumed under the aegis of “material” analysis.

The study of the interrelations between for instance word and image is not new. Many digital scholars therefore borrow concepts such as ekphrasis, intermediality, multimedia, and word-and-image.<sup>51</sup> Comparisons between digital poems and for instance sound poetry, video poetry, and video and new media art have proven useful to begin articulating, in Hayles’s words, “how the work mobilizes its resources as a physical artifact as well as on the user’s interactions with the work and the interpretative strategies she develops” (*Writing Machines* 33). The resources, then, are sounds and music; images, photos, colors, and graphics juxtaposed and interlaced with words. The words themselves do not always look the way a literary scholar trained on printed texts might expect; rather, they may borrow their visual expression from typography and layout in advertising and graphic and web design.

To offer a clearer understanding of what is at stake in the differentiation of the concepts of materiality and medium (and the related terminology of, for instance, intermediality and multimediality), I will discuss three scholars who have formed my thinking about the materiality of literature: N. Katherine Hayles, Jerome McGann, and Johanna Drucker. I have already briefly introduced Hayles’s understanding of literary materiality, ideas which have been influential in digital literary scholarship. The role of media, in particular digital media, and the communication and thinking they inform and are informed by, is central to Hayles’s scholarship. In her work (for instance, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* [1999], *Writing Machines* [2002], and *My Mother Was a Computer: Digital Subjects and Literary Texts* [2005]), Hayles analyzes how scientific theories, such as cybernetics, theories of communication and information, as well as more recent work in complex systems theory communicate with and permeate culture at large and how

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<sup>51</sup> Ekphrasis, or ecpheasis, was originally a rhetoric term for “a plain declaration or interpretation of a thing” (“ecphrasis,” *OED*). Primarily, the term has been used to describe the verbal description of visual things, commonly poetic writing concerned with the visual arts. Intermediality now constitutes a field of study concerned with art and literary works which involve more than one medium such as picture and sound or written language and music. Dick Higgins introduced the contemporary use of the term “intermedia,” borrowing from Samuel Taylor Coleridge, to describe works that emerge in between genres, ideas, and materials. Multimedia is commonly defined as “using more than one medium of communication, artistic expression, etc.,” or in computing as “designating or relating to applications which incorporate a number of media, such as text, audio, video, and animation, esp. interactively” (“multimedia” *OED*). The term is widely used in relation to computer applications and digital media. I will have reason to return to these issues in Chapter Three.

literary works become not only a conduit of their influence but also a source of queries and critique.

Here I am particularly interested in how Hayles conceptualizes “material” and “materiality” in relation to the realization that digital technology, as a complex technical tool and cultural construct, changes the way we perceive ourselves, our world, and our creations. Her understanding of “materiality” also underlies her call for what she terms “media-specific analysis.” It is important to note Hayles’s longstanding interest in how conceptualizations of the subject in contemporary culture stand in relation to scientific theories and digital technologies. Hayles shares this interest—an important strand of digital scholarship—with scholars such as Mark Hansen; similar issues are queried poetically and artistically in the work of Talan Memmott, Jeffrey Shaw, and Diane Gromala, for instance.<sup>52</sup> Hayles’s seminal work *How We Became Posthuman* articulates major questions about the erasure of “embodiment” in the discourses of cybernetics, artificial intelligence, and information theory. Aligning herself with theorists such as Donna Haraway, Hayles defines “embodiment” partly in contrast with the human body, and argues that the concept of embodiment is “contextual, enmeshed within the specifics of place, time, physiology, and culture, which together compose enactment. Embodiment never coincides exactly with ‘the body,’ however that normalized concept is understood” (*How We Became Posthuman* 196). While her main argument in *How We Became Posthuman* is that humans cannot (or perhaps, should not) be conceptually separated from their embodiment, thus seeking to argue against the notions of a Cartesian mind/body split, Hayles transfers these arguments to her understanding of the materiality of literary works. She uses the same terms, “embodied” and “embodiment,” when she defines what the materiality of a literary work is. By analogy with how she defined the distinction between “embodiment” and “body,” the literary work is never just the sum of the material, physical parts. She describes materiality as a “junction between physical reality and human intention,” as an “emergent property created through dynamic interactions between physical characteristics and signifying strategies” (*My Mother Was a Computer* 3).

What I find particularly useful in Hayles’s scholarship for how we can understand the materiality of digital poetry is her reminder that the way in which we view physical properties of literary works cannot be separated from their “content” and context. She also warns against simplified notions of the physical which can lead to reductive statements about the relational link between materiality and meaning.

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<sup>52</sup> Works that engage issues of embodiment, subject, and technology are Talan Memmott’s *Lexia to Perplexia* (2000), Jeffrey Shaw’s *The Legible City* (1989), and Diane Gromala’s work with Yacov Sharir, *Dancing with the Virtual Dervish* (1993). Mark Hansen discusses the work by Jeffrey Shaw and Diane Gromala in *New Philosophy for New Media*.



Jerome McGann's work emanates from his concerns with Romantic literature (most notably works by Lord Byron and by Dante Gabriel Rossetti), modern literature, and his expertise in textual editing and criticism. The combination of critical analysis and interpretative scholarship in conjunction with his editorial experience informs McGann's views on how literary works are created and how they are transformed throughout their existence as physical objects and cultural artifacts, and, how these contexts impact or should impact how we analyze and interpret them. In the beginning of *The Textual Condition*, McGann gives his definition of what that condition entails. In the following quote we can also notice McGann's shift in vocabulary from "material" (with Hayles) to "textual:"

Both the practice and the study of human culture comprise a network of symbolic exchanges. Because human beings are not angels, these exchanges always involve material negotiations. Even in their most complex and advanced forms—when the negotiations are carried out as textual events—the intercourse that is being human is materially executed: as spoken texts or scripted forms. To participate in these exchanges is to have entered what I wish to call here "the textual condition" (3).

Although McGann's "textual condition" concept is crucially grounded in an idea about the functions of literature in general as human constructions in the world, his rhetoric emphasizes "textuality" over "materiality."<sup>53</sup> One explanation for this rhetorical choice might be his ongoing editorial work, and that the theoretical work that is the focus here is directed, in part, towards disciplinary debates in textual criticism and bibliography.<sup>54</sup> These fields have traditionally been separated from the main concern with interpretation and exegesis in literary studies. With the additional experience from editorial practices and theory, McGann argues that "we cannot fail to see that literary works typically secure their effects by other than purely linguistic means. Every literary work that descends to us operates through the deployment of a double helix of perceptual codes: the linguistic codes, on the one hand, and the bibliographical codes on the other" (*Textual Condition* 77). Linguistic codes are the words as containers of meaning, whereas bibliographical codes, which also

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<sup>53</sup> In addition, McGann puts spoken and "scripted" forms of human communication on the same level as text. Although spoken aspects of textual conditions are not of central concern in *The Textual Condition* McGann's concept seems to apply to the condition of human language at large in so far as it is contingent upon human "material negotiations."

<sup>54</sup> McGann has continually coupled editorial work with the literary critic's interpretation and exegesis. He argues vehemently for literary studies and textual studies to learn from each other, and, he points out that literary scholars need to attend to bibliographical codes as much as they do linguistic ones. *The Textual Condition* was published in 1991 and was in part an address to the discussions among textual scholars about the status of the literary text in their field. D.F. McKenzie published his seminal *Bibliography and the Sociology of Texts* in 1986, which caused debate in the community of bibliography and textual scholars.

must be attended to, McGann argues, include “typefaces, bindings, book prices, page format, and all those textual phenomena usually regarded as (at best) peripheral to ‘poetry’ or ‘the text as such’” (13). Including elements other than those Gérard Genette would call elements of paratext, McGann also seeks to investigate meanings of literary texts through historicization, that is, he wants to “locate [meaning], to materialize it—to give it a local habitation and a name” (15). What we can take from McGann’s arguments in *The Textual Condition*, but also from work such as *Black Riders* and *Radiant Textuality*, to the study of digital literature, then, is that an attention to historical, “bibliographic,” and cultural detail as well as the process of historicization. This attention is indeed crucial.

As mentioned, McGann chooses to concentrate rhetorically on text and textuality rather than foreground the terms material, materiality, or medium. In *The Textual Condition*, McGann does not offer a concise definition of literary materiality that includes that term, yet it seems to be looming over his discussion at every turn. He states that the book aims at “sketch[ing] a materialist hermeneutics” (15) which “considers texts as autopoietic mechanisms operating as self-generating feedback systems that cannot be separated from those who manipulate and use them (15).<sup>55</sup> As David Ayers also has noted,<sup>56</sup> McGann is conspicuously avoiding the use of “materiality” as a central concept. To Ayers’ mind this is done primarily to avoid a simplified equation of materiality and physicality. D. F. McKenzie’s notion of a “sociology of texts” and McGann’s “socialization of texts” (in the fields of bibliography and textual criticism) can counterbalance theories that view written language as a carrier of meaning in a dematerialized fashion or which strive to decontextualize literary works as largely ahistorical, abstract entities largely untouched by material, physical changes. On the other hand, ideas about digital literature that overemphasize or oversimplify the physicality of literary works and its implication for literary analysis should also be avoided.<sup>57</sup> As Ayers notes,

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<sup>55</sup> It is interesting to note a slight “computer-inflection” in McGann’s rhetoric. The text is a “self-generating feedback system” and the reader is referred to as someone who “manipulates” text. The rhetoric of automation is not exclusively computer-influenced; however, the book signals in its rhetoric and content McGann’s burgeoning interest in computer technology in the service of literary analysis.

<sup>56</sup> Ayers’ article, “Materialism and the Book,” deals specifically with the use of materialist theories of the book and their use of the concepts matter and materiality. In short, Ayers argues that concepts such as matter and materiality need to be thoroughly studied and an “architect,” or “map of textual origins” of how they, as Edward Said might put it, have traveled through different disciplines and historical contexts should be elucidated. Ayers discusses in particular Jacques Derrida, Judith Butler, and Walter Benjamin and their uses of material concepts. A central concern is these terms’ relationship to Marxist ideas and Marx’s relationship to Hegelian thought about the “material.” While Ayers draws no definitive conclusions as to how “matter” and “materiality” are best understood in the context of theories about the materiality of the book, he suggests scholars adopt a position of, paraphrasing Lyotard, “incredulity toward matter.” These terms, he warns, “need to be deployed with the fullest awareness of the problems which they both engender and are intended to dissolve” (777).

<sup>57</sup> I do not mean to imply that all theories about literature—numerous and wide-ranging as they are—can be fitted into such a dichotomy. Rather, such a binary simplification is initially

for McGann “there is no opposition in the book between meaning and matter, but there are instead two interwoven coding networks at play—complementary but distinct” (763). *The Textual Condition* is the last of a series of six books which were “written to establish a broad foundation for a materialist program of sociohistorical hermeneutics and textual criticism” (*Radiant Textuality* 23). I would argue that this program, while conceived of in the study of printed literary texts, is nevertheless pliable enough to help articulate the material conditions of digitally mediated texts. I have replaced “textual” with “material” in order to articulate a distinction between word, image, and sound, as well as other registers such as motion.

To this end, the third perspective that I would like to bring in is that of Johanna Drucker. I am particularly interested in those parts of Drucker’s work that center on the interrelationships between text and image in, for instance, artists’ books and experimental modernist typography and art. She differs from Hayles and McGann in that her primary focus is not literature (printed or digital). Rather, she brings in a discussion about the materiality of visual language as different from writing systems. The role and signification of what she terms “graphesis” is central to much of her work. Graphesis, and the related term graphical, is “defined as the field of knowledge production embodied in visual expressions.... The term graphical includes specialized writing and notation, codes and symbols. It might also embrace visual art and design” (“Graphesis” 3). She adds, “I intend the term to suggest a more fundamental ground on which to begin to examine the ways visual expressions work—whether they are forms of writing, pictorial imagery, information graphics, or other images—by *virtue* of being marks organized on a flat surface” (3, emphasis in original). Although graphesis relates to visual expressions, these are often combined with text, and Drucker’s critical and artistic œuvre emphasizes the cusp between the visual and verbal, the iconic and semantic.

Adding Drucker’s work to the discussion of McGann and Hayles brings the visual as an important addition to the concept of the “materiality of literature,” a definition that needs to include the graphical, to paraphrase

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useful in the context of discussing what weight and import, if any, physical, visual, and sonic elements of literature are allowed to take in theories about literature in general, and interpretations of literary works in particular. Specifically, in the different definitions of the terms “text” and “work,” versions of these two standpoints can be observed. As Hayles notes, quoting for instance Anna Gunder’s careful analysis of the definitions of the two terms in textual criticism, “work” usually signifies an abstract artistic entity, and “text” is reserved for the (necessary) representation of that entity. Intermingled with these definitions is the semiotic understanding of text as interchangeable with sign system. The possible risk of such an approach, even if it includes semiotic systems other than words, is that it can tend to de-emphasize or minimize the importance of the visual and the sonic. Depending on the scholar’s training and disciplinary background, then, the relations of power and the interrelational order of meaning are subject to arbitrary distinctions. For instance, a literary scholar trained to attend to the hermeneutics of printed literary text primarily composed of words may tend to minimize the importance of, for instance, the typography, graphical layout, and images in printed works.

McGann, as a complementary but distinct code system.<sup>58</sup> Drucker suggests that “a book is a template for performance, a scene of invented meaning, a conditional condition of configured relations between a graphic and a semantic field, each of which contains ‘instructions for reading’” (“Metalogics of the Book” n.pag.). She asks:

What, then, constitutes a book as a site, form, or instrument for the production of meaning? How does a book *form function in its production of meaning* (if *form* is taken to include graphic, semantic, material, and referential properties, if *meaning* is taken as multivalent, complex, and textually replete, and if form and meaning are understood to be interrelated according to rules, protocols, or logics that have yet to be fully understood and articulated)? (emphases in original)

I find Drucker’s inclusion of elements other than words useful for an expanded definition of materiality of literature, and I would like to transpose to digital poems her question about how books produce meaning.

During the past decade or so, it has been argued that the linguistic turn has been replaced by a visual, or, in W.J.T. Mitchell’s words, pictorial turn.<sup>59</sup> In part, Drucker is working in the theoretical traditions that long have attended to the visual of literature (such as word-and-image studies, but also through her creative work in the field of artists’ books) but she is also part of the growing group of scholars who try to direct the attention of literary scholars in general to the visual. Drucker, in collaboration with McGann and others at the University of Virginia, strives to provide humanist scholars with tools and concepts to discuss how visual concerns and visual media have always been a part of literary works, and of scientific and scholarly documents, even if images, graphics, diagrams, and maps were not commonly included in literary analysis and interpretation. To recall Drucker’s assertion in the epigraph to this section, the particular typography and attention with which it is realized draws attention to the *matter* itself.

Bringing the visual, or graphical, together with Hayles’s assertion that digital works should be studied with attention paid to their particular medial

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<sup>58</sup> The term code is here meant to suggest a system of signification, of those “non-angelical” material operations McGann begins his *The Textual Condition* with. While I would perhaps prefer another term in the present context to avoid confusion with computer code, I use code here in this wider sense.

<sup>59</sup> In “The Pictorial Turn,” Mitchell follows Richard Rorty’s characterization of philosophy as a series of turns, adding the pictorial turn as the latest shift in this series of historical paradigmatic shifts. Particularly, Mitchell locates the pictorial turn in the philosophy of Ludwig Wittgenstein. It is important to bear in mind that Mitchell here conceptualizes the pictorial turn as part of philosophical thought, influenced by growing anxiety about the visual in contemporary culture. In 1992, when the article was written, Mitchell claims the picture has “a status somewhere between what Thomas Kuhn called a ‘paradigm’ and an ‘anomaly,’ emerging as a central topic of discussion in the human sciences in the way that language once did” (90). Now, more than a decade later, it can be argued that the picture has firmly taken position as a central issue and can, thus, be said to form a paradigm similar to the “linguistic turn.”

instantiation, and cultivating McGann's historical and cultural sensitivity to that "material" attention provides a useful framework for articulating the materiality of digital poems.

In the introduction I declared that my analyses would follow Hayles's call for a "media-specific analysis." At this point I would like to suggest a change in how we might understand Hayles's concept. Rather than use "media," I suggest *materially* specific analysis instead, which I argue is in keeping with Hayles's original conceptualization. Hayles's conception of literary materiality includes, but is not confined to, technical facts and physical attributes. To explain the shift, let me now finally turn briefly to film studies where the concept of medium-specificity has long been used. I find Noël Carroll's critique of the "medium-specificity argument" particularly useful in this context:

The medium-specificity thesis holds that each art form has its own domain of expression and exploration. This domain is determined by the nature of the medium through which the objects of a given art form are composed. Often the idea of "the nature of the medium" is thought of in terms of the physical structure of the medium. The medium-specificity thesis can be construed as saying that each art form should pursue those effects that, in virtue of its medium it alone—i.e. of all the arts—can achieve. Or the thesis might be interpreted as claiming that each art form should pursue ends that, in virtue of its medium, it achieves most effectively or best of all those effects at its disposal. (26)

Carroll's field of study is film, but the issue of medium and its status in analysis is pertinent to digital poetry as well. With Carroll, then, I would argue that definitions of materiality and medium need to move away from possibly reductive definitions or connotations of the artistic medium and suggest materially specific analyses, such as the ones Hayles, McGann, and Drucker each in their own ways are conducting in their work, that can ground further interpretation of meaning. I do not claim that Hayles's concept of media-specific analysis falls into the same trap as the media-specificity in film studies that Carroll critiques; however, the term itself is vulnerable to such critique.



## Chapter Two

### MULTIDIMENSIONAL POETIC WORLDS: EXPLORATION AND MANIPULATION

We believe exploratory behavior empowers  
the reader. The entire Vniverse has been  
designed to reward exploration and  
persistence. It is an always renewable,  
forgiving space where all options are open  
at any time.

Stephanie Strickland and Cynthia Lawson,  
“Making the Vniverse”

taken secretly  
this path to  
the top of the island

not even  
the pathmaker  
knows

John Cayley, *riverIsland*

In the present chapter I investigate how four digital works, four spatiotemporal poetic “worlds,” can be explored and experienced by the reader/user. I am particularly interested in how the poems inscribe a particular reader/user activity that simultaneously illustrates and embodies poetic themes. The poems I focus on are Aya Karpinska’s “ek-stasis,” Mary Flanagan’s “[theHouse],”<sup>1</sup> the web-component of Stephanie Strickland’s recent cross-media work *V: Vniverse*, and John Cayley’s *riverIsland*.<sup>2</sup> The works I have chosen

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<sup>1</sup> For clarity’s sake, I have chosen to add quotation marks to the title of Flanagan’s work to mark it as a shorter poetic work (according to MLA standard). I keep, however, Flanagan’s use of brackets which is a visual cue to the house that Flanagan invokes textually, visually, and kinetically in her work. One can see the brackets in the title, then, as visually giving the word itself walls and a partial roof.

<sup>2</sup> The works by Stephanie Strickland and John Cayley are actually collaborative works. Strickland worked with Cynthia Lawson and Cayley worked with Giles Perring, Douglas Cape, and Harriet Evans.

share the use of places (or spaces) as visual and thematic metaphors.<sup>3</sup> Time is also of importance in several of the works—the time it takes to experience the work, the time the work itself inscribes in animated sequences, timed elements that can enable or prohibit input or reading, and, ultimately, the time-based processual nature of the computer as a machine that is exposed in a work such as *riverIsland*. The poems are conceived as architectural structures which invite the reader to think of reading as navigating an ocean or a sky, or exploring an unknown house or experiencing a game-like environment. Although the poems do not *literally* constitute three-dimensional spaces (they are all accessible through the flat computer screen), they do create illusory places through visuals, sounds, and text that create the possibility for the reader/user to move and manipulate his or her point of view, or interact with responsive sections in the digital work. This illusion of a three-dimensional space thematically, visually, and kinetically suggests a multidimensional “world” to explore; the experience of this world becomes, then, the experience of the poem. Strickland uses the visual representation of a starred sky as main “container” for her poems; Cayley constructs a river and forest environment with sounds and images, which mirrors the theme of the poetic texts in *riverIsland*; Karpinska and Flanagan both use simple geometrical figures and words as graphic building blocks to create rudimentary house structures suspended in monochrome three-dimensional spaces.<sup>4</sup>

The material inscription of these spatiotemporal poems and the way that visual, auditory, textual, and kinetic elements chime together to form an environment also requires the reader/user to engage and sustain their attention on the work in very specific ways. Crucially, the reader/user’s movements within the space trigger reactions: texts appear and images change under touch to reveal other texts and areas to explore.

## The Digital Poemevent

Let me at this point introduce the term “poemevent” which I propose to use to signify the poetic work’s meaning-making strategies, material, author/s/, and reader/s/. Reading, exploring, navigating, and manipulating these poetic environments constitute, I argue, a “poemevent.” And in that “poemevent,” readerly labor forms a crucial part of the poems’ meaning.<sup>5</sup> The term

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<sup>3</sup> *Vniverse* and *riverIsland* are rather extensive works which might be considered, in a comparison with printed works, to be collections of poetry. These works call for more than momentary investment and engagement; they demand extensive reader-time.

<sup>4</sup> Importantly, what I am talking about here is not the photographic realist representation of a world that is meant to fool or completely immerse the reader. Rather, one might think of these representations as requiring a kind of “suspension of disbelief,” in order to accept the types of experience and reading the represented space offers.

<sup>5</sup> One part of that labor is learning about the individual work’s structure. Although some conventions are rapidly forming in digital reading environments (think of the clickable link, for



“poemevent” is meant to emphasize that digital poems are spatiotemporal constructions. As I will discuss further in this chapter, the hypertext movement of the early 1990s emphasized spatial properties of certain textual arrangements (in and outside digital media), investigating in particular the reader’s changed agency and scope of interaction. Any inherent temporality of the work was commonly addressed from the point of view of the reader. Lately, another line of argument has gained prominence in digital poetry scholarship. A common thread now is temporality and procedurality. Digital media’s propensity to “mimic” other media forms is now well explored in digital media scholarship. While some of the hopes of the early hypertext movement might have been proven all too optimistic, or wrong, other insights are still valid. Equally, paying attention to procedural practices, either as understood as based in computer science or the arts, provides important insights to what it is we do in these different and increasingly complex authoring and reading environments.

Some critics (for instance Hayles and Memmott) have suggested that digital poems predominantly constitute *events* rather than objects.<sup>6</sup> Raley seems to suggest an equal relationship between object and event. In her discussion about codeworks, she states: “the precise techniques [of codeworks] vary, but the general result is a text-object or a text-event that emphasizes its own programming, mechanism, and materiality” (“Interferences” n.pag.). Hayles proposes, paraphrasing William Carlos Williams’s famous dictum, that the digital poem is a “machine to organize time” (“The Time of Digital Poetry” 181). Because digital poems exist in digitally distributed form “among data files and commands,” Hayles argues that the poem “ceases to exist as a self-contained object and instead becomes a *process*, an event brought into existence when the program runs on the appropriate software loaded onto the right hardware. The poem is ‘eventilized,’ made more an event and less a discrete, self-contained object with clear boundaries in space and time” (181-182, emphasis in original). However, as Hayles herself notes at the outset of her argument, the spatiality of digital poetry is inseparable from temporal properties. To speak generally, then, of an “eventilization” of digital poetry can destabilize this careful balance of paying attention to both.

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instance), most poetic environments, using different digital tools and visual representational techniques, have their own systems of navigation with which the reader has to become acquainted.

<sup>6</sup> In her essay, “The Time of Digital Poetry,” Hayles emphasizes that spatiotemporality are inseparable entities: “With the advent of digital technology, writers have more flexibility in how they can employ the temporal dimension as resources in their writing practices. To explore some of these practices, I propose thinking about the digital poem, paraphrasing William Carlos Williams, as a machine to organize time. Inevitably, space is also involved in this production...” (181). However, discussing the technical particularities of how digital files exist in computers (as distributed phenomena across one or many machines) she argues, “it would be more accurate to call a digital text a *process* rather than an object, an attribute I highlight by referring to the time of *performance* for an electronic text versus the time of *production* for print” (185).

Rather than give prominence to one side of the nexus of space-time, I propose that digital poems, in their particular instantiations as material and contextually computer-based entities, be called “poemevents.” With this term I would like to preserve the concept of the poem as a literary artifact—perceivable in an object—while simultaneously attending to the various aspects of temporality, performance, and event. I am influenced in my neologism by W.J.T. Mitchell’s term “imagetext,” and its cognates “image-text,” and “image/text.” The first term, “imagetext,” denotes “composite, synthetic works (or concepts) that combine image and text;” the second term “image-text,” designates “relations of the visual and verbal” that are distinct and the third term “image/text” designates “a problematic gap, cleavage, or rupture in representation” (*Picture Theory* 89). With different typographical marks Mitchell seeks to articulate the complex relations that exist between image and text. Following Mitchell, then, I would like to bring in the different relationships that can exist between time and space in digital poetic representations through one term.<sup>7</sup> By using “poemevent,” I would like to heed Mitchell’s suggestion that “our beginning premise would be that works of art, like all other objects of human experience, are structures in space-time, and that the interesting problem is to comprehend a particular spatial-temporal construction, not to label it as temporal *or* spatial. A poem is not literally temporal and figuratively spatial: it is literally a spatial-temporal construction” (*Iconology* 103). In what follows, I analyze these poemevents in order to articulate how their “spatial-temporal construction” engages a particular kind of reader engagement that forms part of the poems’ meaning.

## Houses of Words

The works by Aya Karpinska and Mary Flanagan will serve as an introduction to the type of multidimensional poetic worlds that are typical of certain digitally mediated poemevents. The first work I explore, Karpinska’s “ek-stasis” from 2001, is a three-dimensional VRML world (figure 1).<sup>8</sup> VRML (Virtual Reality Modeling, or Markup, Language) is an Internet-standard language for the rendering of three-dimensional graphics.<sup>9</sup> When a reader/user opens “ek-stasis” (the work is embedded in a website), she sees layers of semi-

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<sup>7</sup> By analogy to Mitchell’s spelling I think of poemevent as at times a merger of spatiotemporal poetic artifices or constructions, at times a juxtaposition at odds with each other, emphasizing one over the other.

<sup>8</sup> “ek-stasis” can be found on Karpinska’s own website, <http://www.technekai.com/>, and it was published in *lume: a Journal of Electronic Writing and Art* in 2000. The work uses the Cosmo Player, a plug-in program for accessing three-dimensional work. Karpinska has done several similar works, such as “open.ended,” in collaboration with Daniel C. Howe (2004).

<sup>9</sup> In order to see a VRML file you need a plug-in program, such as the Cosmo player, used in “ek-stasis,” which is no longer upgraded. The Cortona client is another popular plug-in program for popular browsers. These players are usually available free of charge, but require that the user has the program downloaded and installed separately.

translucent squares and rectangles arranged at different angles and levels forming a 3D graphic milieu with words spread out among the geometrical figures. The figures and the words are in shades of gray; the surrounding space is black. To the left side and at the bottom of the Cosmo player interface there are buttons that offer the reader/user certain modes of interaction, such as “walk,” “fly,” “turn,” “align,” “restore,” and “fit.” Drag-and-drop actions with the mouse set the structure in motion so that the reader/user can change her point of view. The different actions, such as fly, allow the reader/user to manipulate the geometrical word structure to shift around or come closer to certain sections. Without the reader/user’s actions the structure does not move and several sections of it remain unseen or too remote to be legible. If the reader/user chooses to explore the structure, she can read the words that are aligned along visible and implied lines of the geometrical figures. While it is not difficult to understand the interface and the range of movements that are possible, it is not clear to the reader/user if there is any particular order for reading the work. In one section of what—borrowing from the title of Flanagan’s work—I here call a “house of words,” we find the following words and phrases in close proximity but without any conventional structure of interrelation that would cue any other particular reading order: “sensual grammar,” “is differential parsing,” “recognition,” “yields”. The words are set at several different angles. Some words are viewed from behind, as it were; others are “hung” vertically opposite each other. One word starts from the top, the other from the bottom. The word “recognition” seems to be fixed to a partially translucent light-gray rectangle from underneath but can be read from atop. Kiene Brillenburg Wurth has called the reading required in such an environment a “random-creative reading” (discussing a similar work by Karpinska, “The Arrival of the beeBox”). In a word, “ek-stasis” constitutes an odd arrangement of letters in a very sparsely illustrated space where geometry gives the reader/user a few orientational cues for exploration and reading.

The title of the poem evokes of course ekstasis (εκστασις), the Greek word for ecstasy. Literally, the term means to “put out of place.” Ecstasy as that “exalted state of feeling,” of “being beside oneself” (*OED*), is often understood as going beyond one’s corporeal existence into an emotional state beyond rational thought. Since “ek-stasis” uses 3D software it is not far-fetched to relate this work to virtual reality technology and its goals to fabricate a visual world in which the user can be fully immersed. Virtual reality technologies were for a long time mostly visual environments (there are now environments that have added sensory information, even haptic environments that can include tactile information and feedback). Howard Rheingold, author of *Virtual Reality* (1991), has described his first encounter with VR technologies in the late 1980s as a “conversion experience,” akin to an ecstatic episode in which his body, except one hand, disappeared in the virtual world which completely covered his field of vision. In Karpinska’s work the VR dream of ecstatic immersion is partly put to shame. The reader/user does not enter into a graphic visual

sphere, but is faced with a minimalist textual space. By using letters instead of images the work forces the reader/user to laboriously engage with the interface and its rather clunky modes for manipulating the structure just to be able to read the words. Rather than seamlessly allowing for that “poetic frenzy or rapture” one associates with ecstasy, “ek-stasis” forestalls that feeling by calling upon the embodied engagement with the textual work. This labor is, then, an admittedly frustrating, unyielding struggle with the visual layout of the words and figures that strains the reading process.<sup>10</sup>

“ek-stasis” can also be seen as playing on ekphrasis: the verbal description, primarily in poetry, of the visual arts. Keats’s “Ode to a Grecian Urn” or Homer’s description of Achilles’ shield are classic examples of ekphrasis.<sup>11</sup> Indeed, as these poetic examples suggest, the ekphrastic description is not confined to visual arts, but can refer to any artistic object or architectural structure. The Greek term, *ἐκφρασις*, originally meant “to speak out;” it is defined as “a plain declaration or interpretation of a thing” (*OED*). The poem “ek-stasis,” however, does not seem to be a verbal description of an art object. Indeed, if anything, “ek-stasis” *is* the object, the house. Within their unfamiliar “walls” of the 3D environment, words are perceived as readable objects suspended in space. In this respect, “ek-stasis” seems to engage Concretist ideas about the properties of written language. According to Mary Ellen Solt, “there is a fundamental requirement which the various kinds of concrete poetry meet: concentration upon the physical material from which the poem or text is made. Emotions and ideas are not the physical materials of poetry” (7). She continues, “the concrete poet is concerned with establishing his linguistic materials in a new relationship to space (the page or its equivalent) and/or to time (abandoning the old linear measure). Put another way this means the concrete poet is concerned with making an object to be perceived rather than read” (7). The Brazilian Concretist group, Noigandres, posited that the concrete poem was an object which “would rely on the structural principle of a spatiotemporal isomorphism” and be developed to “‘a more advanced stage’ in which ‘geometric form and the mathematics of composition’ predominate”

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<sup>10</sup> The VR cube work *Screen* by Noah Wardrip-Fruin, Robert Coover, Andrew McClain, Shawn Greenlee and Joshua J. Carroll is an example of how three-dimensional virtual reality environments such as the VR cube can be used for text-based works. Judging from the video documentation that is available about the work, it seems as if *Screen* elaborates on the kinetic physical interaction with and manipulation of letters to create a reading experience.

<sup>11</sup> The scholarship on ekphrasis is now rather extensive, among them Michael Davidson’s *Ghostlier Demarcations: Modern Poetry and the Material Word*; James Heffernan’s “Ekphrasis and Representation,” and *Museum of Words: The Politics of Ekphrasis from Homer to Ashbery*; Murray Krieger’s *Ekphrasis: The Illusion of the Natural Sign*; W.J.T. Mitchell’s “Ekphrasis and the Other;” Wendy Steiner’s *The Colors of Rhetoric: Problems in the Relation between Modern Literature and Painting*, and *Pictures of Romance: Form Against Context in Painting and Literature*. In a digital media context, Bolter’s essay “Ekphrasis, Virtual Reality, and the Future of Writing” can be mentioned.

I will have reason to return to some of the critical issues concerning word and image relations in the next chapter.

(Noigandres's "Pilot Plan," qtd. in Clüver 270).<sup>12</sup> It can be argued that "ek-stasis" contrasts the ekphrastic tradition of verbally describing visual objects to the Concretist notion of physicality of words: "ek-stasis" simultaneously builds and describes spatial structures.<sup>13</sup>

To read "ek-stasis" is to move around and manipulate the environment that is presented in the Cosmo player. The interface requires that the reader/user learn how to operate (in) the structure, to become aware of, as it were, new proprioceptive parameters. In her discussion of poetic writing that moves towards three-dimensionality, Raley articulates the important shift that takes place in such writing: "without insisting upon an absolute division between writing on the page and text installations, we can say that 3D allows writing to morph into a material figure" ("Editor's Introduction" 5). Reading, then, becomes a simultaneous activity of manipulating those figures and reading them as text.

My second example is Mary Flanagan's "[theHouse]," published on Flanagan's website and in the *ELO Collection Volume One* in 2006, bears a close resemblance to Karpinska's work (figure 2). On her website, Flanagan describes "[theHouse]" as follows:

[theHouse] is a digital poetry piece which takes the form of computer based, spatialized organism.world. Through the process of enacting texts within, alongside, and outside of the text of computational code, this autobiographical work is regulated by the computational process of the sin wave. Here, the text is written upon "rooms," and these rooms emerge to create "houses" next to and among the intermingling text. ("[theHouse]" website)<sup>14</sup>

The work is created with Processing, an open source programming language. The reader/user can choose to view the work in a browser, or download it and view it in a special player. Like "ek-stasis," "[theHouse]" is a landscape of geometrical figures and words. "[theHouse]" is filled with translucent boxes in white and shades of gray and black. The boxes are nestled close together in different clusters, seemingly flowing over each others' boundaries. All around

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<sup>12</sup> Concrete poets, for the most part, can be seen as Modernist, "taking their literary identity within the modern poetic tradition," as Drucker describes the Noigandres group. Many poets wrote manifestos about their view of concretism. To name but a few: Noigandres published their "Pilot Plan" in 1958, Eugene Gomringer wrote "From Line to Constellation" in 1954 and "Concrete Poetry" in 1956 (Drucker, "Experimental, Visual, and Concrete Poetry" 45). Swedish poet Öyvind Fahlström wrote his manifesto "Hätila ragulpr på fåtskliaben: Manifest för konkret poesi" in 1953. For more on Swedish Concrete Poetry, see Jesper Olsson, *Alfabetets användning*.

<sup>13</sup> However, I would not claim that "ek-stasis" is first and foremost to be *perceived* rather than *read*.

<sup>14</sup> The neologism "organism.world" created by combining organism with world is Flanagan's. The "sin wave" Flanagan mentions, is presumably the sine wave or sinusoid, which is the most basic waveform which occurs in nature as ocean waves, sound waves, and light waves.

the boxes, couplets hang suspended in the gray space. The couplets are repeated throughout any given cluster at any given time, starting with:

giving emptiness

letters have their sharpness<sup>15</sup>

The lines thematically center on the tortuous relationship between two people and between people and a house:

without answers

the lack of your moving

the lack of your moving

never speak, for

touching the wall

letters have their sharpness

these rooms jumble

never speaking

The navigation in “[theHouse]” is simple; the reader/user can click and drag to move the structures. Every time the reader/user releases the mouse button a new set of couplets fills the space. It soon becomes obvious to the reader/user that the individual lines are iteratively recomposed into couplets. The boxes themselves and the words that seem to radiate out from the boxes slowly rotate around invisible axes, and, at times, the boxes slowly line up in rows along an undulating wave-form, the sine-wave Flanagan refers to.

As the reader/user clicks and drags the environment, manipulating its surface to read the lines, questions such as how many different lines there are, and if there is a particular order in which they appear, may take precedence over reflecting on the meaning of the lines. The inscribed movement in the work may initially, at least, be more important than reading. In the description

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<sup>15</sup> The work uses a sans serif-font; I have used the sans serif-font Verdana.

to the work in the *ELO Collection*, questions about the relationship between material, experience, and meaning are asked: “How does everyday spatial practice bring into focus the relationship between code, language, and relationships? What are the key characteristics of digital relationships as seen through this light? Does the recurring emphasis on process, chance, and interactivity also function as an indicator of larger questions about the chance writing of the text?” (“[theHouse]: Author Description”). Flanagan has said that the work attempts to create the feeling of a confined space, such as a house, suddenly and quite subjectively being experienced as smaller, physically different.<sup>16</sup> This characterization may explain the somewhat surprising description of “[theHouse]” as “autobiographical.” But there is a tension between an “everyday spatial practice” of living in a house with someone and the reading experience of this digital house. The words said, or not said, between two people in a house here become articulated as physical objects that grow as large as the walls, encroaching on the architecture, growing out of it.

The material instantiation of “[theHouse]” means that the work’s reader/users must physically manipulate the surface of the work in order to read the words. The clicking and dragging that are required becomes part of the experience of reading the words that are laid out in the 3D environment, attached to the house-like geometrical figures. As in “ek-stasis” the readerly labor of exploring the kinetic and reactive features of the work is required for the work to begin to make any sense. The meaning-making structures of “ek-stasis” and “[theHouse]” evidently demand the reader/user’s simultaneous physical, visual, and intellectual attention. While retaining their semiotic values (they can be read), words exist as volumetric objects in an environment which the reader/user has to (learn how to) navigate and manipulate. For a reader/user who is unfamiliar with digital 3D environments there is at least initially a physical challenge to learn how to spin the objects/words. A novice reader/user might be left with a sense of frustration from having to do all this work “just to read the words.”

Although both “ek-stasis” and “[theHouse]” are displayed on a flat screen, they create three-dimensional illusions that require physical movements—exploration and manipulation—in order to be experienced and read. In his investigations of narrative structures in 3D environments, Matthew Kirschenbaum argues that “informational landscaping—[the creation] of virtual environments with palpable distances and depths, vistas and views freed from the artificial horizons of flatland” (“Lucid Mapping” 261) particularly with VRML technology can create “a text to be read and a space to be surveyed” (267). His claim about the potential of VRML environments seems to be applicable to more than just narrative, and Karpinska’s and Flanagan’s works, I would argue, interrogate that duality of 3D digital worlds with text to read and space to survey.

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<sup>16</sup> Personal communication May 2006.

Finally, Flanagan and Karpinska's poems are also a reminder that words exist physically in our daily environments: on billboards, houses, and road signs. Such "word-objects" are by now familiar. The British artist and photographer Robin Collyer's series of photographs of "text-less" environments remind us of the ubiquity of text in our daily environments. For instance, *Temperance St* (1993) is a photograph of a North American urban environment in which all the buildings, signs, and cars have been stripped of the texts that normally sit upon them. This stripping away of textual elements reveals how a familiar environment can suddenly be made to feel strange. Karpinska and Flanagan achieve a similar de-familiarizing effect by doing the reverse. The words are both two-dimensional semiotic signs (being flat) and objects in three-dimensional environments. By designating the works as poetry the reader/user is cued to make the effort to read and try to understand the meaning of the worlds/works. The poems are eerie and challenging environments for the reader/user. For the reader/user, an integral part of the reading of the poems is to navigate, manipulate, and explore the poems as environments.

## Spatiotemporality in Digital Literary Scholarship

I initially described the digital poems that I analyze in this chapter as multidimensional worlds. Of course, all literature may be considered to be a "maker" of worlds. Is not literature, in particular fiction, a prime generator for imagined worlds, persons, and events? Recently, Hayles argued that "literature is distinct [among discursive world explanations] for creating as Marie-Laure Ryan puts it, 'possible worlds'" (*My Mother Was a Computer* 6).<sup>17</sup> Hayles continues, "Kittler's proposition that reading novels is like a hallucination highlights one of literature's main fascinations: its ability to create vividly imagined worlds in which readers can 'hallucinate' scenes, actions, and characters so fully that they seem to leap off the page and inhabit the same psychic space as the readers themselves. In this respect, literature functions more like simulations than do other discursive forms" (6). Doubtlessly, as a "machine for producing possible worlds," as Eco puts it (246), literature does have the power to make the reader "hallucinate," to use Kittler's phrase. However, these "hallucinations" happen in the reader's imagination as she reads the literary text (or, on rarer occasions, looks at interspersed illustrations).

It is clear that by "literature" Hayles, Kittler, Ryan, and Eco mean narrative structures, stories. The claim that literature can generate (metaphoric) spatiotemporal dimensions is not limited to printed fiction (which is primarily what Hayles, Kittler, Ryan, and Eco have in mind). An interest in

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<sup>17</sup> Hayles argues, following Nicholas Gessler and others, that there exist three main categories of explanatory models of the world: mathematical equations, simulation modeling, and discursive explanations (*My Mother Was a Computer* 5-7). Literature belongs, with philosophy, history, and others, to the last category.



spatiotemporality can be found in scholarship about digital fiction as well. In the early 1990s, digital literary writing largely meant hypertext fiction. Simply put, hypertext fiction is a literary text separated into chunks that are linked together. The result is a network of textual nodes—or lexias, as they are often called, using Roland Barthes's term—which requires the reader/user to click on links for the work to even appear, piece by piece, before she can read.

Hypertext is both a theoretical concept and a form of writing. As a form of writing, particularly in networked digital media, hypertext is now ubiquitous even if the term may not be. Technically, a hyperlink is a reference from one element to another.<sup>18</sup> In computer-mediated writing, as has been noted, the link can be seen as the electronic equivalent of a reference—a footnote, or endnote—in a printed book. Among other thing, this linkage between two and more elements brings spatiality radically to the fore: the reader/user moves from one place in the text to another. This also implies, of course, a temporal dimension where a kind of “navigational time” is added to the usual reading time.

Hypertext scholarship, particularly in the 1990s, emphasized descriptions of the “spatiality” of hypertextuality, and of computers as a writing technology. The emerging popularity of the Internet brought terms such as “cyberspace,” the ultimate spatial metaphor for the network of computers that make up the Internet. Literary terms which echoed cyberspace were abundant, for instance cyber-literature and cybertext. The nodes and their links were often visualized in maps, and such spatial metaphors as network, rhizome, maze, labyrinth, and web permeated hypertext discourse.<sup>19</sup> To bring up only a few examples: Ryan's edited collection *Cyberspace Textuality: Computer Technology and Literary Theory* (1999) underscores the cyber-rhetoric of the essays in the volume with images of space and geometrical figures on the cover. Mark Nunes's essay “Virtual Topographies,” from the above-mentioned collection, can exemplify the type of rhetoric of spatiality that was commonplace then: “With increasing frequency, cultural representations of Internet call on us to conceive of computer-mediated communication in terms of space: more precisely, ‘cyberspace.’ This spatiality writes place and distance onto the medium, creating, as it were, a topography that becomes more salient to the user than the

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<sup>18</sup> The term “hyperlink” was coined in 1964 by Theodore Holm Nelson, quickly to be followed by “hypertext” and “hypermedia” (the latter term refers to hypertexts that include images and sounds). Nelson understood hypertext to be: “a body of written or pictorial material interconnected in such a complex way that it could not conveniently be presented or represented on paper...such a system could grow indefinitely, gradually including more and more of the world's written knowledge” (“A File Structure for the Complex, the Changing, and the Indeterminate” 96).

<sup>19</sup> In hypertext scholarship that was informed by critical theory, most notably perhaps in the work of George Landow, Silvio Gaggi, and Bolter, the abundance of spatial metaphors can be argued to stem from a more general concern with spatiality in poststructuralist and postmodern thought. Many terms are borrowed directly from such scholarly work, for instance Barthes's “lexia” and Deleuze and Guattari's use of “rhizome.”

underlying configuration of technology” (61). The following sentiment, here described by John Tolva, can be found in much scholarly work on hypertext literature: “How do we account for the undeniable sense that we are navigating some kind of space when we are reading hypertext?” (68). The more general claim, in Bolter’s words, is that “...our culture is ... redefining the visual and conceptual space of writing. Indeed, the spatial metaphor for writing and reading is as culturally powerful now as it has ever been” (*Writing Space: Computers, Hypertext, and the Remediation of Print* 12). Obviously, spatiality is privileged in these discussions.<sup>20</sup>

In hypertext scholarship the type of literature most often discussed was fiction, called “hypertext fiction” or simply “hyperfiction.” Works such as Michael Joyce’s *afternoon: a story*, or Shelley Jackson’s *Patchwork Girl* received much scholarly attention and the analytic emphasis often lay in their specifically spatial constructions that offered their reader/users multiple paths and reading orders. Bolter’s description—heavily infused with architectural metaphors—of *afternoon: a story*, gives an idea about how reading hypertextually linked spaces commonly are articulated:

Each reading is a different turning within a *universe of paths*, often full of “bramble,” set up by the author. Reading *afternoon* several times is like *exploring a vast house or castle*. Although the reader may *proceed* often *down the same corridors and through familiar rooms*, she may also *come upon new hallway not previously explored or find a previously locked door* suddenly giving way to the touch. Gradually, she pushes back the margins of this *electronic space*—as in a computer game in which the descent down a stairway reveals a whole new level of the dungeon. *afternoon* is constructed to remind the reader of the affinities between electronic fiction and computer adventure games. (*Writing Space*, 2<sup>nd</sup> edition, 126, emphases added)<sup>21</sup>

The paths, that is, the possibility of following preprogrammed hyperlinks in works such as *afternoon: a story*, create, according to Bolter, an imaginary journey, game, or quest which plays out as the reader/user chooses links. Hypertexts, then, are thought of as metaphoric worlds that require a little bit more of the reader/user than the “possible worlds” of conventionally printed literature.

Hyperlinks exist in digital poetry as well. Indeed, some digital poems continue the kinds of investigations of reading that hypertext fiction promoted. These lines from Stephanie Strickland’s poetic work “Errand Upon Which We

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<sup>20</sup> I do not suggest that temporal dimensions were not discussed. Partly in response to the dominating spatial metaphors of early hypertext scholarship, analyses of temporality in digital writing were offered by, for instance, Marjorie Luesebrink, Stephanie Strickland, and Espen Aarseth.

<sup>21</sup> Bolter’s description also recalls the purely textual spaces of MUDs, Multi-User Dungeons, and MOOs (Object Oriented MUDs). These spaces were largely considered to be games, but there are several other uses of such spaces, for instance the Romantic Circles’ MUD, *Villa Diodati*. We can also be reminded about the literary genre of interactive fiction (IF), sometimes referred to as games. See Nick Montfort’s *Twisty Little Passages*.

Came” illustrate the poem’s thematic exploration of readerly activity which is echoed in its material instantiation:

Dear Reader, begin anywhere. Skip anything. This text  
is framed  
fully for the purposes of skipping. Of course  
it can  
be read straight through, but this is not a better reading,  
not a better life.<sup>22</sup>

In its hyperlinked multimedial form, the poem thematizes the reading and interpretation of texts as “[tugging] up roots to get beyond roots” while in its visuokinetic structure it simultaneously embodies and emphasizes at least two modes of reading: skipping by using hyperlinks or reading straight through.

However, unlike hypertext fiction, the spatiotemporality that is created in digital poems typically does not rely on narrative arcs which are disturbed, played with, or distorted. Rather, the space that is created in these poems relies on other orders of signification, such as three-dimensionality, sounds, and visual metaphors. Reading and exploration usually take on a different character in digital poems too. The labyrinthic choices along paths of narrative chunks to piece together an imperfect whole or the skipping along multiple paths through linked nodes are replaced by an exploration of spatiotemporality that is created through visual modes. The hypertext network is replaced by a simulated space and the purposeful navigation—that determined pushing forth—is, I would argue, by and large overtaken by the (perhaps more open ended?) labor of exploration and manipulation.<sup>23</sup> I do not wish to suggest that navigation is no longer a part of these poetic works, but that its character is decidedly less determined by that narrative force which characterizes many hyperfiction readings.<sup>24</sup>

Obviously, *any* reading of *any* text requires the movement of the eyes, and movements of hands and arms to turn pages. These liminal, basic physical

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<sup>22</sup> In “Errand Upon Which We Came” the font is Snell Roundhand.

<sup>23</sup> I want to thank Rita Raley for suggesting that I think of readerly actions as manipulations.

<sup>24</sup> I do not imply, however, that there is a teleological move in hypertext fiction towards a resolution or definitive end point. Rather, as Yellowlees Douglas notes, the reading of hypertext fiction is often characterized by that reading toward an indeterminable end (and not ending). The reader cannot be sure to have reached an ultimate ending, or to have read all the nodes of the work. This characteristic of hypertext fiction is, in Yellowlees Douglas’s view, its strength, but as other writers and scholars have argued, it can also be a source of frustration and (unwanted) lack of narrative closure for the reader.

engagements with printed text, while necessary for the reading to take place, rarely have any impact on the process of interpretation. In traditional poetics one would not use terms such as “exploration,” “manipulation,” or “navigation” to describe the reading process; if one did, it would be in a highly metaphoric manner. Reading texts in digital environments, however, requires a different physical engagement with the text and its medium, as a manipulation of software functions is added to reading; hence a different terminology is needed.<sup>25</sup>

To bracket the most conventional understanding of reading in order to define these more engaging ways of interacting with the text, Espen Aarseth suggests the term “ergodic.” Ergodic signals that “non-trivial effort is required to allow the reader to traverse the text” (Aarseth 1). The word derives from the Greek words *ergon* “work,” and *hodos*, “path.” Aarseth couples “ergodic” with “cybertext,” a term he uses to denote a text which functions as an intricate machine or process. His term takes into account “the intricacies of the medium” as well as “[centering] attention on the consumer, or user, of the text, as a more integrated figure than even reader-response theorists would claim. The performance of their reader takes place all in his head, while the user of cybertext also performs in an extranoematic sense” (1).<sup>26</sup> Aarseth’s rhetoric suggests that he wishes to include more action and agency in the understanding of the process of reading cybertexts. An ergodic (and consequently non-ergodic) text or “reading” is defined by a degree of reader activity, in part contingent upon medial and technological specificities. This reader engagement is not exclusive to digital texts; as Aarseth has emphasized, cybertexts are not just computer-mediated texts but also printed texts, such as the Chinese *I Ching*, Raymond Queneau’s *Cent Mille Millions de Poèmes*, and Julio Cortázar’s *Hopscotch*.

While I sympathize with Aarseth’s general project, I choose not to use his term “ergodic” here in order to avoid what seems to be crucial in his definition: the difference between trivial and non-trivial readerly movement. Although many digital poems engage in that self-reflexive “interrogation” of their own material status, making them arguably cybertexts or technotexts, I am here primarily interested in how the experience of the poems relates to the creation of meaning. As among others Hayles has noted, Aarseth’s model of analysis does not take into account content.<sup>27</sup> While I am, too, interested in

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<sup>25</sup> Discussions of physically engaging modes of reading also pertain to unconventionally printed or handmade works such as some Concrete poems, and artists’ books.

<sup>26</sup> A similar term is Hayles’s “technotext,” which she defines as a work which “interrogates the inscription technology that produces it” (*Writing Machines* 25). Such works “strengthen, foreground, and thematize the connections between themselves as material artifacts and the imaginative realm of verbal/semiotic signifiers they instantiate open a window on the larger connections that unite literature as a verbal art to its material forms” (25).

<sup>27</sup> Hayles argues, and I agree: “Although [Aarseth’s] method has limitations, notably that it is blind to content and relatively indifferent to the specificity of media, it has the tremendous virtue of demonstrating that electronic texts cannot simply be shoved into the same tent with

embodied engagement and readerly action I would rather draw distinctions between conventional and non-conventional reading as orchestrated by the work's material construction. The distinction is, crucially, subject to change as conventions are established or changed. This has an effect, then, on how the reader/user of a digital work perceives that autotelic function I mentioned above.<sup>28</sup> Analyzing the different actions involved in reading, then, requires attention to specific elements of the medium used, thus allowing for a more detailed material analysis which is not in focus in Aarseth's typology. In addition, many of the digital texts that I study in this thesis situate themselves in a particular contact zone between high degrees of interaction with the work and moments of inertia when it is impossible to physically engage with the work. Often a computational construction overshadows readerly action. Such practices would be non-ergodic according to Aarseth, but I am interested in them here since such poems, too, are part of the field of digital poetry.

## Strickland's stars

The shorter sculptural works by Karpinska and Flanagan stand in rather sharp contrast to the two larger works I now turn to: Strickland's *Vniverse* and Cayley's *riverIsland*. These works configure their spaces primarily through visual spatial metaphors of a star sky, and a forest landscape with water. *Vniverse* and *riverIsland* relate to printed texts; *Vniverse*'s poems exist in print as well, and *riverIsland*'s texts, as adaptations, translations, and permutations of ancient Chinese poems, have a long textual and cultural history.

Strickland writes and publishes digitally and in print. Her poetic work published in print includes *Give the Body Back* (1991), *The Red Virgin: A Poem of Simone Weil* (1993), *True North* (1997), and *V: Losing L'una/WaveSon.nets* (2002).<sup>29</sup> Her digital media works include *True North* (1998, a digital companion to the printed book) and the shorter multimedial hypertext works "Ballad of Sand and Harry Soot" (1999), "To Be Here As Stone Is" (1999), and "Errand Upon Which We Came" (2000-2001). Strickland often uses print and digital media to create poetic work across media forms; *V* is what Perloff would call a

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print without taking into account their different modes of operation" ("Electronic Literature: What is it?" n.pag.).

<sup>28</sup> I do, however, agree completely with Aarseth's move to analyze functions and practices across media forms. Although my study is primarily focused on digital works, it does not exclude the possibility of similar practices in other media forms. For instance, I compare printed and digital works as regards the practice of visual noise in Chapter Four. This could be seen as not following the line of a materially specific analysis. However, practices change across media, and one important aspect of a comparison of a particular practice, such as visual noise, becomes to articulate differences and how those differences change the understanding of the practice.

<sup>29</sup> In addition to the printed poetry collections I have mentioned here, Strickland often publishes separate poems, or suites of poems in journals prior to book publication.

“differential” text; “[existing] in different material forms, with no single version being the definitive one” (“Screening the Page/Paging the Screen” 146).

The quadruple work *V* consists of two sections printed as an invertible book: *V: Losing L’una / WaveSon.nets*. The section called *Losing L’una* consists of 18 poems; the *WaveSon.nets* section comprises 47 fifteen-line “WaveSon.nets.” (There is also, rather surprisingly, a reference list, “To go on/ To go back.”) The other two parts of *V* are web-based: *Vniverse* and the shorter poem “Errand Upon Which We Came.” In what follows I concentrate on *Vniverse* (figure 3).<sup>30</sup> I analyze *Vniverse* with particular focus on the construction of exploration and manipulation alongside reading as meaning-making activities.

Let me first introduce *Vniverse*’s poems, which also appear in the printed *WaveSon.nets* section. The verses are linguistically the same in the book as in the digital work. There are certain dominant features that characterize the 47 sonnets (and the 18 “L’una” poems of the book). Strickland’s poetry is intertextually rich; her verses are often full of references to science, literature, mythology, and philosophy, at times in direct quotations. In the philosophically and mythically charged stanzas of *Losing L’una / WaveSon.nets* and, consequently, *Vniverse*, philosophical ideas about knowledge, time, and memory are intertwined with mythical, mathematical, and pop cultural meditations on the same issues. The intertextual web that Strickland forges engages particularly in discussions on knowledge and ways to achieve and maintain knowledge in different historical and cultural contexts.

Strickland and her collaborator on *Vniverse*, Cynthia Lawson, explain that the “WaveSon.nets” explore “many knowledge-sources, named and anonymous, collaborative and communal, that charted alternative courses for their time” (“Making the Vniverse” 2). Among these “knowledge-sources” we find historical persons: mathematicians, scientists, writers, and, centrally, the French philosopher and mystic Simone Weil, who an emblematic figure of embodiment and knowledge through her personal and philosophical struggles.<sup>31</sup>

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<sup>30</sup> Throughout my discussion I refer to the website, <http://vniverse.com> as *Vniverse*. The whole work’s title, *V*, reminds the reader of course of Thomas Pynchon’s famous 1963 novel *V*. (sometimes referred to as *V.: A Novel*). Strickland does not acknowledge this shared title in the work itself (for instance, Pynchon does not show up in her poems) or in the essay “Making the Vniverse.” She suggests other possible understandings of the title, more central to the themes of her work.

<sup>31</sup> In *Losing L’una*, the part of the printed book that is not included in *Vniverse*, Simone Weil figures even more prominently, and, for instance, in the poem “This is the Void” we can read:

3.49

Simone, when you leapt, angled barbs on the fence  
tore your scalp and you kept  
rubbing blood from your eyes and stared and wouldn’t

3.50

Weil also signals Strickland's interest in embodiment and epistemologies as gendered. Weil is not the only female figure in the poems; there are numerous references to women's lives and their bodies (virginity, menstruation, childrearing). Mythological female figures (Procne, Penelope), Haitian goddesses (Erzulie), Celtic mythic female figures (Medb, Finnabair), and female literary characters (Blanche from *A Streetcar Named Desire*, Guinevere) populate the "WaveSon.nets." Female archetypes, most prominently the mother and the witch, repeatedly appear in the stanzas as keepers of knowledge, of time, and of memories. In "WaveSon.net 23," for instance, female carriers of knowledge are juxtaposed with the image of the witch:

And Lady with a heart-shaped face,

from 33,000

B.C.E., who knew the hidden

gate, that there is one, unknown

Joke as a tholepin of Creation,

gap. There is a Lady

in a conical hat. When we chain

her waist, when she hangs in a cage,

spread out, pinned up, in the market

place, [...]<sup>32</sup>

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lie down. [...]

*V: WaveSon.nets/Losing L'una* is dedicated to the French philosopher and mystic with the words: "For *Simone Weil*, her Life & Thought; her need to touch; her gut, her mouth" (emphasis and capitalization in original). Simone Weil's philosophy engaged secular as well as religious issues. In her written work, but perhaps even more pervasively in the now mythical stories about her life cut short when she died in 1943 (at the age of 34), Weil's conflicted relationship with her body and her struggles to deal philosophically with embodied experience are central to her philosophy ("Weil, Simone." In *Routledge Encyclopedia of Philosophy*, and *Oxford Dictionary of Philosophy*).

<sup>32</sup> In the printed book, the font Centaur is used. However, in *Vniverse* online other fonts are used: Comic Sans (for sonnets), Geneva (for keywords) and Kabel (for numbers next to stars

The image of the woman in a conical hat recurs in “WaveSon.net 16,” and in the centerfold of the book where we find the Internet address to *Vniverse*, <http://vniverse.com>, underneath the phrase: “There Is a Woman in a Conical Hat.” The beginning letters of the capitalized words form an anagram: WITCH. In “WaveSon.net 32,” the image of the witch re-appears:

Medieval story of the nightingale,

pressing her breast onto thorns, who can't remember

why she mourns. A real witch doesn't cry,

a real witch can't float.

Weight her down, if she drowns, you were correct

in your suspicions. Someone,

somewhere, saw, once, for the first time,

a rape, but which of them knew it?

And the suite continues with a quote (set off by quotations marks) in “WaveSon.net 33:”

“When the woman stays silent, it is

a grave sign,

also absence of tears.” MM (HH, *The Witch Fixer*). [...] <sup>33</sup>

The poems juxtapose stories of the suppression and persecution of female knowledge with scientific discussions, as in “WaveSon.net 30:”

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and tercets). Strickland and Lawson cite contrast and legibility across browsers as their main reasons for the different fonts (personal communication). I follow the online font use.

<sup>33</sup> The “Witch Fixer” in these lines appears also in sonnet 31 where we get a partial explanation for what the “Witch Fixer” was. *The Witch Fixer* (or *Hexenhammer* in German, *Malleus Maleficarum* in Latin, hence the HH and MM in the poem) is a detailed legal and theological document from the late 15<sup>th</sup> century detailing folkloric beliefs of Alpine peasants and is regarded to have been a “handbook” of sorts of the detection and extirpation of witches (“*Malleus maleficarum*.” *Encyclopædia Britannica*).



"Pure gold, not alchemist's gold . . . but the true metal  
dug out from mines where dragons stand watch."<sup>34</sup>

Viète Isagoge, 1591. "He is referring,"

says André Weil, Simone's

brother, "to the power and scope of the new algebra.

The ore is from Diophantus."

The first quote comes from the 16<sup>th</sup> century French astronomer and mathematician François Viète's work on systematic algebraic notation, *In Artem Analyticam Isagoge*. André Weil, Simone's brother as the poem states, was a mathematician. Here, he comments upon Viète's quote by connecting it to the Greek 3<sup>rd</sup> century AD mathematician Diophantus whose work on algebra is foundational in mathematics. Dialogues such as this one in "WaveSon.net 30" with quotes from the likes of Sigmund Freud, Cyril Stanley Smith,<sup>35</sup> and Gertrude Stein and from texts about geometry, flight navigation, and brief recollections from TV shows, make Strickland's "WaveSon.nets" intertextually laden in a manner which, it could be argued, bears the signs of postmodern intertextuality and practices of reappropriation of material from a wide variety of sources.

Although Strickland calls them sonnets, the poems do not adhere to the fourteen-line poetic form written in iambic pentameter. Strickland transforms the sonnet into fifteen-line poems in open, unrhymed verse. The fifteen lines are arranged in three quatrains and one triplet stanza. The lines of the poems are often enjambed; topics continue from one "WaveSon.net" to another. The poetic form signals that the sonnets are intricately formally and thematically intertwined, braided in "wave motions," to use Strickland's own description. Strickland is interested in rethinking the sonnet as a poem, particularly the volta (the ending couplet in a sonnet traditionally introduced a turn, a shift in theme or thought). Strickland has added one line to the ending couplet, making it a triplet and thereby changing the sonnet from fourteen to fifteen lines. She has explained this move as considering "the sonnet as a poem of recursion, characterized by the mind turning and talking to itself" ("Making the Vniverse" 4). In addition, she invokes the historical figure Count Volta who invented the

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<sup>34</sup> The quotations marks are in the original.

<sup>35</sup> Smith was a British metallurgist and historian of science who is possibly best known for his work on the Manhattan project. Strickland quotes from his selected essay volume *A Search for Structure* in "WaveSon.net 39."

first electric battery. Thereby she offers a metaphoric coupling of poetry and electricity, and, ultimately, the computer.

*Vniverse* constitutes a construction of a poetic space which facilitates different modes of reading. The reader/user first encounters what is commonly called Splash screens. The first title screen has a clickable image of a large V set on top of a geometrical drawing of a star constellation (the names “Taurus” and “Aries” can be glimpsed).<sup>36</sup> The second Splash screen has the same image, now with the title *Vniverse*, and the following linked words: “enter,” “help,” “credits,” “book,” and “essay.” By clicking on the word “enter,” the reader/user is taken to a black screen with bright spots, resembling stars.<sup>37</sup> The center of the starred sky image rotates and then comes to rest. Nothing happens from this point on if the reader/user does not engage in some way with the work. In order to read the poems, which are hidden among the stars, the reader/user needs to interact with the surface. From a technical point of view, the ways of interaction seem easy, even unsophisticated: the reader/user can click, double-click, mouse-over, and type. But what at first can seem to be a flat, rather uninteresting screen reveals a map with intricate possibilities of combinations for the reader/user to explore.

As is the case with many digital poems, *Vniverse*, too, is accompanied by instructions and commentary. Indeed, the screen before the reader/user can enter into *Vniverse* proper offers help, credits, information about the book, and an essay. In that essay, “Making the Vniverse,” Strickland and Lawson write, “V is haunted by similarities between the nomadic Ice Age task of reading and 21st-century reading” (1). Strickland and Lawson go into great detail about the ideas behind the different readings structures of *Vniverse*: juxtaposing and differentiating an ancient exploration and use of nature by the “Ice Age nomad,” particularly the night sky with its stars, to interpret and navigate the environment, and the “21<sup>st</sup> century reader,” who is “looking to establish a sequence, and/or the structure of a database” (3). The work, then, is orchestrated with two reading orders: “reading by touch” or “reading by number.” There is, Strickland and Lawson argue, a difference in material instantiation: “When reading online, when transformed to that kind of reader, the indispensable recognition is that you always have a co-reader in a way you do not with print. Not only are some of the display choices made only by the computer, but if the computer is not reading the code there is no poem to be had” (2). There are other differences apart from this basic material and technical difference between the sonnets in print and the sonnets online.

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<sup>36</sup> According to the work’s “credits” page, the drawing is by Guy Ottewell from his *The Astronomical Companion*, and redesigned by Talan Memmott, who did the Splash page design.

<sup>37</sup> The work uses Shockwave and Director formats primarily. If the reader’s computer does not have the required software she is prompted to download it. Such technical facts serve as a reminder of how reading digital works differs from reading printed ones. Computer program compatibility, differences between operating systems and platforms, etc. all form part of the experience of, in this case, reading *Vniverse*.

As the reader/user moves her cursor across the bright star images, a series of constellations appear. Lines connect stars into patterns: a bull's head, a dragonfly, a bird, an infinity symbol. There are ten of these images. *Vniverse's* ten constellations, nameless in the work, but given names by the authors in the companion essay,<sup>38</sup> are visual placeholders for the "WaveSon.nets" from the printed work.<sup>39</sup> Each star holds a "WaveSon.net," each star constellation a set of poems. There is an "X" at the bottom left which opens up a help page. The page offers two choices: "touch or number." If the reader/user chooses "touch," she is offered the following instructions on how to interact with the star images:

Glide your hand (cursor) across the dark sky to see the constellations appear. ... Linger on a star to see its constellation, its number, its keyword, and its spelling-out text. Click any star to hold its constellation onscreen. Trace a constellation without clicking to see all its keywords. Double-click any star to make a WaveSon.net poem assemble onscreen. Keep clicking to toggle between WaveSon.net and triplet display. Click Next to choose a new WaveSon.net (or triplet set) from the same constellation. Sweep your cursor across the sky to pair or overlay any poem with new text. Click anywhere in the dark sky background to start over. (*Vniverse*)

In addition to using conventional computer-related terminology, such as click and double-click, Strickland seems to want to enforce the sense of physical engagement in reading by using verbs such as glide, linger, and trace. As the instruction material about *Vniverse* and its reading systems indicates, Strickland has a particular interest in the physical and intellectual processes of reading and how we acquire and pass on knowledge. In her essay, "Moving Through Me as I Move: A Paradigm for Interaction," Strickland argues that electronically mediated poetry creates new somatic reading practices which require the reader/user's action "across many modalities at many rates and rhythms of oscillation" (190).<sup>40</sup> The material inscription in digital form of the "WaveSon.nets" is a way for Strickland, then, to continue her investigations of

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<sup>38</sup> Strickland and Lawson write, "Though not identical with either astronomical or astrological constellations, the diagrams that appear in response to a sweeping or swinging movement of hand across the screen are spontaneously read by readers as constellations, and we call them that in our instructions.... We have our own names for the constellations: Swimmer, Kokopelli, Broom, Twins, Bull, Fetus, Dragonfly, Infinity, Goose, and Dipper. They grew out of the struggle between the material of the poems they chart and our need to be able to make them work visually as interfaces" ("Making the Vniverse" 3-4).

<sup>39</sup> The unusual spelling of the name, "WaveSon.net," points to the Internet, and the way in which URL addresses are written. ".net" is one of many domains available now, the one most particularly connected to the Internet itself (as opposed to others marked by geography, organization, or specific purposes such as .com for business). Not surprisingly, then, it is the "WaveSon.net" section of the printed book one finds in the online *Vniverse*.

<sup>40</sup> Strickland has also discussed the issue of time in digital poetry as linked to reading in "Dali Clocks: Time Dimensions of Hypermedia," and "Writing the Virtual."

how navigation of texts in different ways crucially affect what meaning the reader/user makes from the experience.

In *Vniverse*, the different mouse movements—mouse-over, clicking, and double-clicking—generate a number of different textual combinations. It bears repeating that these particular combinations are unique to the web part of *V*. The printed book arranges the poems in a different manner. However, the arrangements in print and online connect to each other and form possible sequences for the reader/user to read, which have consequences for the understanding of the work as a whole. After one triplet emerges in a computer-directed timed sequence letter by letter, the reader/user can choose to double-click to summon the entire “WaveSon.net” from which the three lines are taken. Clicking once holds the constellation outline on the screen while simultaneously allowing the reader/user to move the cursor to tease out other triplets. Double-clicking brings out the full “WaveSon.nets.” When the reader/user holds the mouse cursor over a star, a triplet poem appears with a title and a number. If the reader/user chooses to see the full “WaveSon.net,” yet another possibility of overlapping textual planes opens up. The reader/user can leave an entire “WaveSon.net” on the screen while sliding the cursor to another star in the same or another constellation. This results in a juxtaposition of the previously read sonnet and a new triplet. These juxtapositions rely completely on the reader/user’s choice of reading order, but their simultaneity is different from the reading order invoked in hypertext.

If the reader/user chooses to “read by numbers,” the computerized animations of triplets arrive without further clicking. By typing in a number in the circle in the top right corner, the reader/user makes the triplet connected to that number emerge. The poems of *Vniverse* are no longer only 47 sonnets, as in the printed *V: WaveSon.nets*. The sonnets are broken up into 232 triplets. While the sonnets have the same number as in the printed book when they appear on the screen, reading by numbers in *Vniverse* does not call them up. Instead, the triplets are foregrounded.

In the printed work, since topics, voices, and lines enjamb across the numbered divisions, they seem to be almost inconsequential, but numbers are important in *V*, particularly in *Vniverse*. Hayles has suggested that the 47 sonnets can be organized into nine groups according to the poems’ punctuation.<sup>41</sup> In *Vniverse*, Strickland and Lawson clearly envisage two main modes of reading: through engaging numbers and through exploration of visual structures by moving the mouse. Strickland elaborates on the issue of numbers in *V* thus: “What *V* does is make you think about numbers. Will you read them as written text, will you speak them silently, will you pass over them? They have their own lives. If you skip over them, they still work as a kind of punctuation

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<sup>41</sup> In her analysis of the printed “WaveSon.nets” Hayles suggests nine groupings partially based on punctuation, and theme: 1-5, 6-11, 12-14, 15-30, 31-33, 34-37, 38-41, 42-44, 45-47 ( “The Time of Digital Poetry” 199).

or pause mechanism. They make quanta of the bits of text which in turn can overflow them even as they take shape from them” (qtd. in Odin n.pag.). The two reading systems are more explicit in the digital *Vniverse*, but numbering exists in the printed version as well. While the reading order is different in the two media forms, the reader/user of these poems is nevertheless given cues for reading. In the digital form, then, these cues are more restrictive, forcing particular reading patterns upon the reader/user. For the reader/user such links and differences between the printed and the digital work foreground *V* as, to borrow Perloff’s term, a “differential” text.

If one disregards the particularities of *Vniverse*’s visual and kinetic display for a moment, the texts that I have discussed thus far can be treated as more or less the same in the digital and the printed work. However, the materially different temporalities that are explored in print and digital form change the reader/user’s reading and understanding of the texts. Several co-existing temporal dimensions come to the fore as the reader/user is invited to explore the visuotactile construction of the texts as they appear in their digital mediation. Hayles has called *Vniverse* “a meditation on time,” and “a poetic system designed to produce different effects of time” (“The Time of Digital Poetry” 197). This coupling of meaning and material construction plays out in the reader/user’s experience of the work, as she explores its texts, and manipulates the surface through the programmed functions. What kind of meaning emerges then through the “effects of time” that the orchestrated reading processes create?

A written analysis of a “WaveSon.net” and its triplets will inevitably only be able to partially describe the reading experience.<sup>42</sup> Nevertheless, it is necessary to articulate how the experience of the poem as event can unfold. It is the relationship between the reader/user and the work in its material instantiation—the reading, viewing, moving, and engaging with the work—that generates poetic meaning. The poems of the bull’s head constellation may be a case in point. When a reader/user slides her cursor across the star-images, the outlines of constellations appear along with the numbers and names of triplet poems that are connected to the “stars.” If the reader/user rests with the cursor on top of a star image, the triplet poem appears letter by letter (as when one writes by hand or, to use a visually more accurate simile for the work, when one uses a typewriter). Triplet 118, named “poems of knowing” (written in green), appears. Letter by letter, the triplet emerges in white over the dark background:

aware that the writing on his page

really wasn’t, he heatedly forbade sung poems

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<sup>42</sup> This is why the CD-ROM to the written dissertation is crucial as an accompanying tool to show as well as describe and analyze in words the construction and experience of the digital poems.

of knowing in his *Republic*, even as he told

If the reader/user chooses to, she could continue to another star, another triplet. If the reader/user chooses to click on this star, the “WaveSon.net” of which triplet 118 is part appears in three steps. Plato’s philosophical work emphasized in the triplet (primarily by the reference to the *Republic*, signaled by the italicized word) is revealed as the full “WaveSon.net 24” appears. Triplet 118 fades to the background, but is now also part of the outlined “WaveSon.net” marked in green color with the rest of the sonnet written in white:

#### WaveSon.net 24

sees? Who but I,

sings

the bird: Sweeney in a tree, or Philomel,

or shepherds on the mountaintop.

Did Plato see?

Longing to say, Is it really you? All too

aware that the writing on his page

really wasn’t, he heatedly forbade sung poems

of knowing in his *Republic*,<sup>43</sup> even as he told

the old, the Orphic, the Egyptian, the lost

land undersea stories. The coast,

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<sup>43</sup> When the “WaveSon.net” is written out in full, the word *Republic* loses its italicization. This may or may not be intentional. However, this is not the place to comment on the semantic value of the word or the way meaning may change from triplet to sonnet.

of course, had fallen

since the Ice Melt, the old shore now many miles

out. Though some escaped

to the offshore islands, or the Konya plain, and began

The poem now rests in a static form; the reader/user can decide what time she wants to spend reading and contemplating its lines. The enjambed lines and the obvious *in medias res* beginning and abrupt ending of the poem reveal, among other things, that while the sonnet is one visual unit, its text is not finished and stretches beyond the sonnet's formal boundaries. The sonnets are thus linked to each other, and this is underscored by the word "next" that appears under the poem. Clicking on the linked word causes the sonnet quickly to disintegrate and shift into "WaveSon.net 25" with its fourth triplet marked in green. This mode of navigating from one sonnet to another does not go via the careful spelling out of a triplet, but a triplet is nested within the sonnet, marked by the green color that all the sonnets in the constellation share. The "bull's head" constellation holds sonnets 23-27 in 25 triplets/stars, five triplets per sonnet.

The reading of the triplets and sonnets—irrespective of whether one chooses to follow the "next" navigation or to tease out the triplets by hovering over the constellation's stars—requires that the reader/user wait at certain moments when animated sequences controlled by the computer take over. As the triplets are spelled out, one letter or mark at a time, the reader/user has but to follow the pace of the computer. One might say that this staccato rendering of the triplets attracts the reader/user's gaze to concentrate on that particular moment. The gradual emergence of the poem (devised to keep the reader/user waiting?) and the lack of overview of the whole at this point makes the reading a peculiar oscillation between reading and looking, engaging and waiting.

As already mentioned, in the printed work the triplets of *Vniverse* are subsumed into the sonnet form. In the digital work, the triplets are allowed to break free and throughout the reading experience they retain a privileged position by use of color coding and numbering. Hayles has suggested that reading the triplets' titles brings out another realm of reading, "At best these keywords are suggestive; if they are read as poems, they are gnomic indeed. Nevertheless, the keyword lists gesture toward the proliferating poetic possibilities of the site as a system for generating poems" ("The Time of Digital Poetry" 202). As Strickland and Lawson point out in the same volume in which Hayles's essay is published, "a central question is how one's memory of text is affected when various timescales operate simultaneously" ("Vniverse" 167). The title, or "keyword" reading that Hayles suggests then would require the

reader/user to remember or record the titles in order to then parse them into a sequence in its own right. If one attempts such a reading with the bull's head constellation I described briefly, the triplet titles would read (in numerical order): "gaps reindeer hidden chain who sings shepherd poems of knowing undersea escaped cathedral algorithm double intact bull gored kill moon-death dolphin lured dice grave dragon-fly metamorphosis sea." However, they can, as Hayles points out, be read in any order, a random order chosen by the reader/user, or the order (non-numerical) of the stars in the constellation, which in turn brings out other juxtapositions and other associations.

These many orders of reading, intricately relying on the reader/user's engagement with the poem's texts and surfaces, are a central part of what *Vniverse* is "about." Strickland and Lawson state that "[t]he poem V (print book, V: Vniverse, Errand) speaks to the charting of new courses in several dimensions. It was of primary importance to us to give new kinds of reading power to the reader, for instance releasing text into motion by touch" ("Making" 2). I have argued that, as a consequence, any interpretation of the experience of the work as a poemevent must intricately involve those "new kinds of reading power."

*Vniverse* constantly negotiates temporal and spatial signification on thematic, formal, and paratextual levels. Thematically, *V* revolves around the ways of measuring and understanding time and space in different cultures and historical moments. Exploration and manipulation of the spatiotemporal constructions of *Vniverse* are part of the meaning the reader/user makes of the work. Formally, spatiality is invoked in the work's visual appearance; temporality is central to the timed sequences of the work and the ways of exploration that are offered to the reader/user. As the paratextual material to *Vniverse* makes it clear, the sonnets in their digital form interrogate the possibilities of reading patterns across media forms, while at the same time emphasizing the specificity of the experience in each medium. The seemingly identical construction of triplets and sonnets in print and online is undercut by the differences in the production of temporality and movement in the digital form and in print. In the digital *Vniverse*, temporal registers are bound partly by the computer; the reader/user has to wait for the letters, words, lines, stanzas, and, then, triplets and sonnets to appear. Temporality is partly prompted by the reader/user's actions and movements within the work. As a poemevent, the analysis of the experience of the work must acknowledge the preceding acts of exploration and manipulation. These actions are, then, distinctly different from the reading of the poetic texts, which are, once they are fully and statically presented on the screen, the same words in the more or less the same visual layout and order as in the printed book.<sup>44</sup> However, it is also obvious that such

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<sup>44</sup> This similarity is slightly undercut, however, by the use of colors. In each "WaveSon.net," the initial triplet that initiated the poem at that particular place in the constellation retains its separate color when the entire sonnet has appeared.



distinctions between media forms are immediately challenged as the movement, reading, and interpretative acts on the part of the reader/user create a reciprocal relationship in the meaning-making process.

## Cayley's landscapes

Poet, sinologist, theorist, and book publisher John Cayley has worked with digital poetry since the late 1970s. His websites *Indra's Net*, and the current site, *P=R=O=G=R=A=M=M=A=T=O=L=O=G=Y*,<sup>45</sup> contain most of his theoretical and poetical works. Here I would like to discuss how his poetic work *riverIsland* functions as a navigable poetic space. As with the analyses of "ek-stasis," "[theHouse]," and *Vniverse*, the aim is to show how material spatiotemporal inscriptions affect meaning.

Let me first describe *riverIsland* (figure 4).<sup>46</sup> The work is from 1999 but has been intermittently updated since then.<sup>47</sup> In its current form, the work is constructed in and for the Macintosh computer environment with the Hypercard application as a base and with programmable QuickTime. It is a multimedial work comprising poetic texts, sounds, images, human voices, movement, reader/user interaction, and kinetic sequences of letter changes. When a reader/user opens the work, *riverIsland* takes the full space of the screen. Visually, it comprises four main sections. The poems are shown at the center of the screen, white letters on a black background. To the left of the text there is a vertical image of water, shores, and forests in green, blue, and brown shades. This image, the reader/user will find out, comprises in fact several images superimposed upon each other. Underneath the text there is another horizontally placed rectangular image. The horizontal image is a 360° circle of several images that flow into each other, forming a river landscape with green-

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<sup>45</sup> The name of the site is, as is evident, inspired by Derrida's concept of grammatology. The term grammatology is then merged with the typography traditionally used when referring to the American group of poems called language poetry. Moreover, the site's name points to the programmability of digital computer technology.

<sup>46</sup> A note on the rather unusual use of capitalization in the title. I use the exact typography that is found in most, but not all, references to the work on John Cayley's website and in his essays. By typographically putting the two words together Cayley reinforces the indivisible unit of the flow of the river and the stable point, the island, which cannot exist without the surrounding river. Like Hayles, I, too, would argue that the title illustrates the work's dual composition of space and time. By typographically putting the two words together Cayley reinforces the indivisible unit of the flow of the river and the stable point, the island, which cannot exist without the surrounding river.

<sup>47</sup> Personal e-mail communication January 27<sup>th</sup> 2007. Updates are usually of a technical nature to fix certain compatibility issues and similar problems. At the moment Cayley is transporting the work from its Hypercard base, which no longer functions with later versions of Mac, to QuickTime. For technical reasons some of the images and videos on the CD are taken from the QuickTime version which was made publicly available in July 2007 at <http://www.shadoof.net/in/?riverislandQT.html>. Thanks to the poet, however, I had earlier access to this version of the work.

brownish water and riverbanks.<sup>48</sup> Both images are reactive to the reader/user's mouse movements, the vertical image with several images seemingly on top of each other gradually replaces one image with another when the reader/user moves the cursor across the image. The horizontal image moves along its 360° circle under mouse cursor movements. These two images function as navigation tools. Above the horizontal image to the right there is another navigation tool, a set of arrows (north, south, east, and west) that can generate a step-by-step movement which has the same effect as navigating with the images. When the reader/user moves the cursor across the images the experience is tantamount to exploring a (quite limited) digital space. Moving and stopping at different places on the images conjures different poems. The poem that is connected to a particular place is shown in the central part of the screen, most often with white letters on a black background. There are 32 poems arranged in two groups, 16 connected to each image.

The experience of *riverIsland* starts with the letter by letter appearance of the first verse on which the whole work can be said to pivot. It reads:

alone  
  
hearing voices  
  
of something past  
  
echoes ?  
  
where the mossbank  
  
shines  
  
as it did  
  
before  
  
returning  
  
each evening  
  
to this lakeside

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<sup>48</sup> Cayley uses QTVR which is QuickTime's Virtual Reality software. It creates 360° environments from 2D images.

The reader/user can navigate among the poems attached to the vertical images or choose to “wander” along the horizontal band of images of riverbanks and the green and brown water of a slow flowing river.

The visual allusions to water are coupled with the sounds of running water that are constantly heard wherever the reader/user chooses to navigate. *riverIsland* is as much a visual landscape as it is a sonic one. The constant sounds of water are soft and soothing. A commentary on the website explains that a female voice (Harriet Evans) and a male voice (Cayley) read the poems. Their readings are made in voices equally soothing in timbre as the sound of the water. They are, however, not just readings of whatever poem the reader/user may see on the screen; wherever the reader/user is in *riverIsland*, she can hear several poems recited simultaneously. The poem that is at the moment visible to the reader/user has the strongest sound, but at the same time the reader/user can “overhear” the recitations of poems that are closest by the one she currently sees. The sonic effect emphasizes the spatial and temporal qualities of a place, of voices simultaneously heard. The reader/user can overhear poems as one can overhear conversations sitting in a café.<sup>50</sup>

Cayley has described the particularly spatial illusions in *riverIsland* as follows in his essay “Lens: The Practice and Poetics of Writing in Immersive VR:”

In *riverIsland*, a conceptual literary topology is more fully elaborated and is, moreover, associated with (distorted but nonetheless recognizable) visual imagery derived from naturalistic landscape. In one dimension of this piece, 16 short lyrics are arranged in a circular formation. By navigating left and right, the reader moves from poem to poem. When the reader is “in front” of a poem, its text is displayed in natural written English and a recital of the lyric loops in the audio channel. As the reader “moves away” from the poem the dynamics of the recital fade and a series of algorithmically generated transitional texts—translitteral morphs—are displayed on the screen. Eventually, as the reader reaches the “next” poem, the sound of its recital reaches full volume and its natural English text is displayed. The audio dynamics are stereo, reinforcing these spatial conceits. (n.pag.)

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<sup>49</sup> To remind the reader wherever possible I use the fonts that the poets use in their work in all quotations in the dissertation. Cayley uses monospaced fonts in *riverIsland*, in the latest versions he has used Courier New since it is available on both Windows and Mac platforms. It is important that the font be monospaced in order for the transliteration processes to work properly (Cayley “Re: font”).

<sup>50</sup> My analogy is not random; in *What We Will*, Cayley has worked with urban environments (including a café/restaurant) where the reader can seemingly overhear what might be the thoughts of the two people seen in the photographs rather than an open conversation. Here, as well, he works with sounds native to the visual landscape, in this case, London.

Spatial conceits, as Cayley describes them, make up an intricate environment of sounds and images that with the built-in dynamics Cayley describes simulates a place.

Importantly, the context in which the reader/user finds *riverIsland* includes different sources of information about the work's technical and artistic set-up and history. Indeed, in McGann's terminology, important parts of the work's textual condition are revealed to its audience in the poet's commentary about *riverIsland*. It could be argued, then, that these texts are crucial parts of the work rather than extraneous or superfluous to it. When one downloads the zipped archive with *riverIsland*, an explanatory text file is included. In addition to this file, included as a part of the work in the pre-installation stage, there is a detailed description of the work on Cayley's website. On the website and in the text file which accompanies the *riverIsland* files the reader/user can learn more about where the texts in *riverIsland* come from, and extensive technical and bibliographical details are provided:

Concepts, programming, photography, design and text is by John Cayley [sic]. The sequence of sixteen poems arranged in the "horizontal" loop is composed of Cayley's poetic adaptations from 16 of the 20 quatrains by Wang Wei (701-761) in his famous "Wang River Sequence." The 16 texts in the vertical loop are all based on poem number five from this sequence ("kong shan bu jian ren ...") which becomes the opening poem of *riverIsland*. The variations in this loop include material quoted from *Nineteen Ways of Looking at Wang Wei: How a Chinese Poem is Translated* (compiled by Eliot Weinberger and Otavio [sic] Paz, New York: Moyer Bell, 1987), namely Burton Watson, Gary Snyder, Francois Cheng and Octavio Paz's versions of the poem (on pages 24, 42, 36 and 30 respectively). Arthur Cooper's translation of the poem from his collection *The Deep Woods' Business* (London: Wellsweep, 1990, p. 43), is also quoted. Recorded readings and atmosphere are by John Cayley, except Harriet Evans for the French, Spanish and Chinese. Thanks to Giles Perring for recording and assisting with digital audio manipulation; Douglas Cape for help in understanding QuickTime and QTVR in particular; Xu Bing for his Squareword calligraphy within the embedded interliteral morphing movies. Scripting of the QuickTime movies was done in LiveStage 2.1 with some behaviors based on PanoSound by Ian Mantripp. (*riverIsland* text file)<sup>51</sup>

*riverIsland's* texts derive from Cayley's own translations and adaptations of Chinese poet Wang Wei and include material from other poets and translators of Wei's poetry. As the explanatory texts indicate, the horizontal group consists of poems composed of Cayley's own adaptations of 16 of 20 quatrains of a sequence (the so called *Wang River Sequence*) written by the 8<sup>th</sup> century Chinese

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<sup>51</sup> The original text file uses straight single quotation marks. I have changed straight quotation marks to typographical double marks and, where needed, italicized titles in my quotation for purposes of consistency. This includes the title, *riverIsland*, which Cayley does not italicize in the text.

poet Wang Wei. The verses on the vertical loop are all based on poem number five from Wei's sequence, "Deer Park," or "lu zhai."

All the poems in *riverIsland* repeat images of walking in a forest close to water. François Cheng's description of "lu zhai" as "a spiritual experience, an experience of the Void and of communion with Nature" (*Nineteen Ways of Looking at Wang Wei* 37) seems to fit the overall mood of the poems in *riverIsland*. For instance, one of Cayley's own adaptations along the horizontal cycle reads:

alone  
  
sitting  
  
hidden in hemlock  
  
  
stringsound  
  
windsound  
  
everywhere  
  
  
no one knows  
  
  
bright moon  
  
come  
  
shining with

The sensorial image that is created through the nature images is at once startlingly intimate and desolate. The speaker is alone, hidden from view, but rather than being isolated, she or he is completely immersed in sounds, light, and hemlock.<sup>52</sup> The contemplative mood is repeated in another of Cayley's adaptation poems:

thin reeds

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<sup>52</sup> Although hemlock is the name of the poisonous plant, *Conium maculatum*, which famously was used in Socrates's suicide, it is presumably the conifer tree with needle-like leaves (*Tsuga*) that the translations of Wei's poems refer to.

through shallows  
by day  
the stone show clear  
  
now a surface for  
moonribbon  
overlake  
to othershore  
otherhome

In this poem, two images of water are juxtaposed: in the first stanza, translucent water that during the day reveals the school of fish, the thin reeds, and the stones on the bottom; in the second stanza, at night, opaque water that instead mirrors the moonlight across the expanse of a lake. The moonlight, again, plays a central role in the second stanza, where the four compound words, moonribbon, overlake, othershore, otherhome, end the poem with a strong alliterated rhythmic sequence. The other poems in the vertical sequence turn around similar serene scenes: forested, watery scenes of contemplation and calm. Given the Chinese context that the reader/user is already given at the outset (on the website and in the attached text file) the connection to Wei's own Buddhist sensibilities is not far-fetched. However, as Cayley translates and adapts the poems, he also transposes some of the scenes to a more contemporary European context (as opposed to 8<sup>th</sup> century China). This is part of one of his adaptations:

the boat  
heads south  
for port  
  
marina too far  
north  
to reach

looking back

past

Houermans' point

The boat, the port, and marina suggest a scene on a river or ocean. Perhaps someone standing on the riverbank is watching boats go by? The name "Houermans' point" supplies a place that, although presumably not familiar to the reader/user nevertheless represents an English name. Then, more precisely, London enters the poetic world:

no, not some understudy

for Southbank

in the Thames

The places that are conveyed through the poems are more than an anonymous river or island. Rather, the poems connect the Chinese with the European, the ancient with the newer.

The horizontal poems which are Cayley's own adaptations differ from the vertical poems which engage the different translations and languages. Interestingly, the poems in the vertical cycle feel more dissonant than the ones in the horizontal sequence. The vertical verses speak with more than one voice, in more than one language, and, as it turns out, through more than one system of signification. The English translations along with the French, Spanish, and pinyin create a multi-vocal landscape of texts that reiterate and permute the same scene which ultimately becomes many similar scenes. If the reader/user chooses to move along the vertical images, the first poem to the north from the initial poem of *riverIsland* that the reader/user arrives at is:

On empty slopes

we see nobody,

Yet we can hear

men's echoed phrases:

Retreating light

enters the deep woods

And shines again

on the green mosses.

The experience of being immersed in nature, seeing only light, hearing the water and wind expressed in the previous verse is repeated here. In this poem the implicit “I” of the previous poems from the horizontal wheel has become a “we” who overhear other people.<sup>53</sup>

The different adaptations engage in the textual history and travel of one poem by Wang Wei. They also introduce questions about translation; what happens in these translations and adaptations? The adaptations expose the differences, losses, and gains of the process of translation. Consider for instance poet Gary Snyder’s adaptation, which is included in *riverIsland*:

Empty mountains:

no one to be seen.

Yet—hear—

human sounds and echoes

Returning sunlight

enters the dark woods;

Again shining

on the green moss, above.

The reiteration of “lu zhai” adaptations continues in the poetic world of *riverIsland*. Although they are only referenced in the notes to the work and not individually indicated within the work, Snyder’s poem is next to Octavio Paz’s Spanish adaptation, which connects to François Cheng’s French poem.<sup>54</sup>

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<sup>53</sup> Hayles argues that the shift between the “I” and “we” “heightens the contrast between the human and nonhuman world and hints at a human community” (“The Time of Digital Poetry” 196).

<sup>54</sup> This step-by-step navigation is not forced upon the reader, who can choose to jump freely among the poems.



At one point among the vertical images, the reader/user comes across the Pinyin transliteration of the Chinese signs of Wei's poem "lu zhai." The poem reads:

kong	shan	bu	jian	ren
dan	wen	ren	yu	xiang
fan	ying	ru	shen	lin
fu	zhao	qing	tai	shang

This verse is in the next poem translated from character to word; that is, a literal translation from the Pinyin which for the Western reader/user creates a disjunctive style:

empty	mountain	not	see	human
but	hear	human	language	echo
returning	light	enter	deep	wood
again	shine	green	moss	on

These words—in English and Pinyin—function, I argue, as a central point for *riverIsland's* vertical poems. I propose one could see them as materials out of which the work spirals outward in different combinations. They constitute the particles out of which all the other poems have been created. The central point, then, is where the Western texts and the Chinese can meet. Perhaps Cayley's *riverIsland* is the only place where they meet.

So far, my observations do not seem to have much to do with a *materially* specific analysis. Importantly, the juxtaposed adaptations and translations that *riverIsland* brings together render a different context for the texts that in turn give way to new interpretative possibilities. The textual and cultural dialogue that exists between the texts is instantiated into one work.<sup>55</sup> However, I have

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<sup>55</sup> This can of course also be done in print, which Weinberger and Paz's book shows. Although quite different in style and scope than Cayley's *riverIsland*, Megan Sapnar's "Figure 5 Media Series" is another work that incorporates several previously existing works of art. Sapnar takes William Carlos Williams's poem "The Great Figure" and places it together with Charles Demeuth's painting *The Figure 5 in Gold* which was inspired by Williams's poem, and an animated

not yet described the feature of *riverIsland* that is perhaps the most conspicuous; namely, the textual movements that occur between the statically displayed poems.

There are two kinds of textual movements, or “literal morphings,” as Cayley calls them. When the reader/user chooses to stop in one section on any of the images, a sequence of animation starts in which the letters of the statically presented poem disappear, reappear, and change. The changes move in a staccato manner; one can count the number of steps leading from one poem to another. It is usually fourteen steps. The whole sequence of letter replacement looks animated, similar to graphic animations which the reader/user may perhaps be more used to, or, as Hayles has suggested, this movement resembles the board at a train station which shows the train arrivals and departures. The mechanical construction is done so that each letter-block spins around, flipping through the available letters and signs until the right letter is reached. The animation does not immediately reveal a particular pattern or, for that matter, software application. For a few seconds, letters simply flicker on the screen. Most often nonsensical letter combinations are formed during the process, but sometimes understandable words and phrases appear. Then, arriving at the next place, the next poem, the letters become static. At this stage, the reader/user is prompted to read the poem which has appeared and listen to the voice that recites it.

It may take some time and persistence on the reader/user’s part to discover that the poems have fixed places on the images that constitute navigational tools and visual charts. Once the reader/user discovers this, she can also discover that moving from one place to another will yield slightly different letter changes every time a movement is made. In addition to moving the cursor across the images from one place to another, the reader/user can also navigate by using the arrows on the right side of the computer screen. By hovering with the cursor over one of the arrows the reader/user can start a movement between poems. The reader/user can discern that the sequences are randomly generated, but also that they follow some kind of pattern. Starting a movement from the first poem, cited above, to the next poem which follows to the right on the circular cycle, causes the first four lines to change, step-by-step:

alone

hearing voices

of something past

echoes ?

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clip illustrating the poem which is taken from a documentary about the poet. Sapnar then closes the series with her own Flash-interpretation and adaptation of Williams’s poem which also integrates elements from the painting and animation.

—

alone

hearinh woices

os sometjinh past

ecjiem

—

alona t

j arinj woicem

os sometjinj past

ecjiem

—

alodatd

v erinv woixem

os sometvinv past

exvaem

This process of change takes place in distinct steps, as mentioned. The sixth step constitutes the pivotal point in the sequence of changes when the lines visibly change character and length moving toward their target poem. Rather than continuing within the word length of the previous poem, the changes appear in the spaces of the words to come. Although no understandable words are yet formed, the space and placement of letters clearly reveal a change from the previous pattern:

raduobq toye'm

i i i a m oye'

tyidted pinu i d

mo

suue yales

and then to:

vemlozx torels  
e e e d orel  
trimted pini e  
da  
pyue rawes  
ehroujkapine t d  
a needles

The beginning of the next poem reads:

hemlock towers  
over  
twisted pine  
blue waves  
through pine  
needles

Letters can be changed into other letters, or into blank space.<sup>56</sup> The typography and layout of the words suggest a (hidden) grid according to which the letters are assigned a place. This is underscored by how the letters metamorphose from one letter to another and yet another throughout 14 cycles.<sup>57</sup>

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<sup>56</sup> I have transcribed the lines, attempting to keep to the original spacing and layout, but this transcription renders only a static intimation of what the reader can see as these processes of metamorphosis occur. Moreover, the combinations I have written here occurred during one reading; different combinations would surely appear during other readings. Also, the experience of this movement happens in the context of the work. To come closer to a faithful description of the poemevent of *riverIsland*, I would have to find a way to describe the simultaneity of the experience: the sounds and the human voices reciting the poems, the images, the feeling of spinning the horizontal wheel, or sliding over the vertical image to reveal another image, another poem.

<sup>57</sup> Not all letters change in each step. The fourteen steps in what I called a cycle change some letters at a time, affecting changes in the overall text.

According to the restrictions of the algorithm which Cayley uses, letters and spaces are replaced step by step by other letters and spaces. This change of letters occurs each time the reader/user moves from one poem to another. These “anonymous” in-between texts move as the reader/user watches; they range from nonsensical to almost readable, almost understandable, until the target text is reached and the movement stops. The poetic texts which serve as starting and ending points may be seen as destinations of the journey, while the in-between texts seem too nonsensical to be of any interest for interpretation or even reading. I would argue, however, that these texts have value in themselves. In fact, they may be more interesting than the “final” coherent products of the movements. Literal morphing (in the manner described here, or executed in similar fashion) as a way of exposing the nature and problems of meaning-making in different sign system through computer code in real-time in front of the reader/user is a central feature of several of Cayley’s works. Initially, these morphs may seem to the reader/user to be mere kinetic tricks on the surface of the text. However, it becomes apparent from the material that Cayley provide about his works that he is engaged in a continual exploration of a particular poetics.

In one of the poems, one of Cayley’s own adaptations, we find these lines which poignantly describe the experience of *riverIsland* itself:

taken secretly  
  
this path to  
  
the top of the island  
  
  
not even  
  
the pathmaker  
  
knows

In *riverIsland*, the paths that the reader/user can take are pre-programmed; there is no labyrinthine structure forged from hundreds of textual nodes as in a hypertext fiction work. However, the visual and spatial conceits, to use Cayley’s phrase, construct a milieu in which the reader/user can choose to explore. In that exploration, going from one poem to the next, the morphing that occurs conjures new texts to read and interpret that “not even the pathmaker knows.” Although the poet has programmed the conditions for what happens this does not definitively decide what the reader/user sees in each morphing sequence.

The morphing draws the reader/user’s attention to the process of sense-making when reading. It also draws attention to the material of letters out of

which words—meaningful units—are produced. Finally, the morphing emphasizes time, which is of crucial importance in *riverIsland*. During the morphing sequences, the reader/user must submit to the time of the work and simply wait out the sequence before she can interact physically with the work again. However, during that time, her attention is directed towards exactly the process of sense-making, the importance of letters, and time itself.

In order to generate the morphing sequences, Cayley has constructed an algorithm. In the paratextual material to *riverIsland* Cayley describes the underlying procedure of that algorithm which instructs the computer to generate the letter changes:

If texts are laid out in a regular grid, as a table of letters, one table for the source and one table for the target, to morph transliterally from one text (one table of letters) to another, is to work out, letter-by-letter, how the source letters will become the target ones. Assume your alphabet (including “space” and apostrophe, 28 letters in all) is arranged in a special loop where letters considered to be similar in sound are clustered together. The aim is to work out the shortest distance round the loop (clockwise or anti-clockwise) from each source to each target. These are the steps you have to take (the maximum number is 14). Use all of the maximum fourteen possible steps from source to target, but only replacing letters when you have to (in order to get to the target in time). Make the morph (probabilistically) reluctant to change at first, then make it (probabilistically) anxious to get to the target once it is close (so that steps closer to one or the other resolved text approximate to language spelt normally). (*riverIsland* website)

Cayley’s description of the procedure reveals why certain patterns seem to appear. What may to the reader/user at first appear to be a randomized sequence is rather a probabilistic randomness that emerges from a definable set of choices. The discernable fourteen steps in the morphs that the reader/user can follow just by watching the morphing sequences relates, then, to the sequence that Cayley has orchestrated.

Material instantiation of *riverIsland* includes an intricate intermedial construction in which the reader/user’s participation is required to create meaning (beyond the reading of the initial poem which comes into view after the work has opened). The question, then, arises: what meaning? Is *riverIsland*’s meaning paraphrasable? To answer this, I would suggest looking at a set of questions and explorations that *riverIsland* orchestrates. The first set of questions concerns the issue of translation and adaptation, particularly between different sign systems. *riverIsland* is, we recall, a conglomerate of appropriated texts made to co-exist in one work. Through the texts in English, French, Spanish, and pinyin, the Western and the Asian, for lack of better terms, are put into poetic and textual dialogue.

Most strikingly and conspicuously the connection and distinction between West and East appear in the QuickTime files that are embedded

among the poems in the vertical cycle. These are short animations, or filmic sequences, which portray what Cayley calls interliteral graphic morphing. One of the sequences starts with the English word “empty” which slowly metamorphoses into a Chinese character, kong, or in English, empty. This character in turn changes into  $\text{TM} \approx$  which slides into what looks like another Chinese-looking character written in delicate calligraphy (this time it is a fake character which looks Chinese but does not correspond to an actual character). However, for a reader/user that cannot understand Chinese, or English for that matter, the sequence is perhaps primarily striking for its seamless and beautiful oscillation between different writing systems. Several systems of signification are compared and contrasted in front of the reader/user’s eyes.

Obviously, these sequences evoke questions about the intricacies and problems of linguistic translation. With the reader/user’s awareness about the work’s textual history (the Wei poems and adaptations), the issue of translation takes on a larger dimension. What happens in the process of translating between languages? How can one translate, or transpose, specific cultural contexts that are embedded in the languages themselves? Without delving too deep into translation studies, it is fair to say that *riverIsland* seeks to bring the reader/user to ask questions about translation in general and poetic adaptation in particular.

However, the issue of translation is not confined to semiotic and cultural meaning alone; *riverIsland* also foregrounds the material instantiation of language. The work is realized in digital media, which, as we know, allows for all disparate media to assume the same form: they are all digital files in (ultimately) digital binary code. This is particularly clear in the morphing sequences of letter transformation. First of all, to use the term “morphing” evokes a particular type of procedure which is perhaps more widely known in its graphical form. Morphing, derived from the “image metamorphosis” (Beier and Neely 36), is usually thought of as an image processing technique, which since the early 1980s has typically been used in computer science, specifically in computer graphics, to create an animated metamorphosis from one image to another. Further, the most common techniques include a morph process consisting of “warping two images so that they have the same ‘shape’, and then cross dissolving the resulting images” (Beier and Neely 36). In computer graphics, then, morphing is a process of changes done to images.<sup>58</sup> It is the pixels, i.e. the smallest picture elements of a computer or television image, that are warped and manipulated.<sup>59</sup> As I have explained, the QuickTime “movies” in

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<sup>58</sup> As Beier and Neely point out, the technique interestingly started in art when Tom Brigham used “a form of morphing in experimental art in NYIT in the early 1980s” (36).

<sup>59</sup> An early popular example which Beier and Neely mention is the Michael Jackson video *Black or White*, where an end sequence features face morphs. Within motion pictures, morphing has been used since the 1980s. Reportedly, the first morphing sequence used in a film was in *Willow* with computer graphics by Industrial Light & Magic, a Lucasfilm Ltd company. Today,

*riverIsland* visually play with the tension between different languages. Cayley has pointed out that, while graphically beautiful (and obviously visually realizable in digital media form), the process by which Chinese characters fluidly and effortlessly flow into English words and typographical signs points to the impossibility of such effortless operations in the computer except at a graphic level. Simply put, one cannot use Chinese signs directly to program a computer; layers of translation are required. Among other things, then, this section of *riverIsland* seeks to expose the Western alphanumeric basis of computer technology by reminding the reader/user that computers run with alphanumeric symbols, not Chinese characters. Dealing with a different system of inscription, as in the Chinese language, and computer technology which is based on an alphanumeric system a translation reaching across systems of inscription is needed. Cayley has discussed the issues involved in such a translation, from, for instance, logographs to ideographs, as neither straightforward nor “innocent.”<sup>60</sup>

As a reader/user engages with *riverIsland*, it becomes clear that some kind of participation is required for the work to play out. If the reader/user does not engage with the work, the first poem will simply stay on the screen with an infinitely looping soundtrack of water and Cayley’s voice reading the poem. However, the fainter sounds of other voices reading other poems suggest there is something to gain from engaging with the work’s reactive surfaces (the images and navigational tools, or, if one chooses, the arrow keys on the keyboard). As the reader/user does engage with the work, it will respond by immediately taking control over the action that follows—the transliteral morphing sequences. Hayles has argued that “*riverIsland* reveals its materiality as an event rather than an object” (“The Time of Digital Poetry” 197). Partly, it is these timed sequences that force the reader/user to succumb to the duration of the work that Hayles has in mind. Interspersed with those moments, when a poem is shown statically on the screen, the reader/user can take control over the time of the work again. She can take as long or as little time as she pleases before continuing the exploration.

It is this oscillation between stasis and kinesis, readerly engagement and passivity orchestrated by the work’s material spatiotemporal construction that leads me to suggest that *riverIsland* is both object and event. To call it a poemevent, I claim, is to resolve the (critical) tension between attending to spatial or temporal registers in a work that obviously engages both. It is important to note that I include the reader/user’s participation in and exploration of the work in the notion of the poemevent. At this point, I would like to remind the reader of Hayles’s articulation of literal materiality as an

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CGI, Computer Generated Imagery, the specialization of computer graphics for special effects in films, TV programs, and computer games, is an important field of animation techniques.

<sup>60</sup> See for instance Cayley’s essays “Digital Wen: on the Digitization of Letter- and Character-Based Systems of Inscription” and “Between Here and Nowhere.”



“emergent property created through dynamic interactions between physical characteristics and signifying strategies. Materiality thus marks a junction between physical reality and human intention” (*My Mother Was a Computer* 3). Hayles, in her analysis of *riverIsland* as event, chooses to foreground the inherent temporality based in the work’s computational material status. I have shifted the viewpoint to emphasize what the reader/user sees and experiences, how the work engages the reader/user and what information about the work the reader/user is invited to explore along with the work itself. Spatiality is conveyed to the reader/user through nature images (although slightly contorted), through the images’ reactive surfaces that invite the reader/user’s movements, and through the illusion of a 360° circle, among other things. Temporality is effectuated by the duration of sound and recorded voices, the time it takes the reader/user to read the texts as they are statically presented on the screen, and through the animated sequences of textual morphing during which the reader/user must wait and watch/read. I would not claim that any of these elements are superior or more dominant than any other in the reader/user’s experience. Rather, they compete with, contrast with, and complement each other. Poetic meaning, I claim, is to be found in the complex locus where all these matters coincide.

Spatiotemporality in the type of digital poems I have analyzed in this chapter can thus be effectively created through sounds and movement, for instance. In my analysis of the poems I have focused on the reader/user’s experience, exploration, and manipulation of the poems. Significantly, the techniques used are based in movement and a combination of sound, image and text to create the experiential illusion of a place. Differently instantiated, with VRML for “ek-stasis,” Processing for “[theHouse],” Macromedia Director for *Vniverse*, and QuickTime for *riverIsland*, the practice of creating a “virtual reading environment” is obviously not only dependent upon particular applications, or, for that matter, on process-demanding graphics (as in many computer games). These places, rather, are dependent upon the reader/user’s investment. I have argued that in all the works acts of participation are imperative if the reader/user is to experience more than a small portion of the work. Unlike hypertext fiction, the navigation of these poems does not suggest a choice between different paths through a work with multiple text nodes that offer different stories (a mode of navigation which seems to be more conducive to narrative works). Instead, these poetic works emphasize an imagined space that can be experienced along with the texts—not the illusion of a textual space created by the texts’ links. The works create an experience of a place in which the text is one part, at times with surprisingly stark and minimalist visual expression. The “virtual reality” of these works does not rely on high-intensive graphic representation, but rather on our imagination and those few cues that are needed for the reader/user to experience the work spatiotemporally.

Obviously, the debate about spatiality and temporality in literature is not new. In 1945, Joseph Frank famously coined the term “spatial form,” although

the model of defining literature according to “spatiality” and/or “temporality” can be traced back much further.<sup>61</sup> Frank’s assertion that “‘spatial form’ [is] a particular phenomenon of modern avant-garde writing” (“Spatial Form: An Answer to Critics” 231) has prompted much criticism.<sup>62</sup> I find W.J.T. Mitchell’s position on the issue of spatiotemporality in literature fruitful for my discussion. Throughout his work, but most notably in his 1980 essay “Spatial Form in Literature: Toward a General Theory,” Mitchell argues that temporality and spatiality are not antithetical concepts, and that, indeed, “spatial form is the perceptual basis of our notion of time, that we literally cannot ‘tell time’ without the mediation of space” (541-542). Mitchell argues that the traditional claim of separating literature from the plastic arts by characterizing the former as temporal and the latter as spatial is untenable.<sup>63</sup>

Discussing postmodernist long poetry, Brian McHale has suggested that one can speak of spatial practice as one of several registers of postmodernist poetic writing. He identifies two kinds of spatiality in postmodernist poetry:

First, it is “spatial” in its emphasis on the materiality of poetry itself ... on poetry’s existence as lines of type, pages of paper, binding—or for that matter, as sound waves, or recording media, or electronic bombarding a monitor’s screen. ... Material practices of the “spatial turn” in postmodernist poetry range from anomalous spacing and lineation through varieties of concrete poetry to the hypertext poetry of John Cayley, Jim Rosenberg, and others, and beyond that to installation

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<sup>61</sup> For instance, G. E. Lessing in *Laoköon, oder Über die Grenzen der Malerei und Poesie* (1766) argued forcibly against Horace’s classical notion of *Ut Pictura Poesis* (as is painting so is poetry). While the latter defines painting and literature as sister arts, Lessing wanted to establish a boundary between painting and poetry. Poetry, for Lessing, was essentially bound to a temporal sequence whereas paintings were spatial.

<sup>62</sup> See for instance Frank Kermode *The Sense of an Ending*, and “A Reply to Joseph Frank.”

<sup>63</sup> In the tradition of Lessing, as Mitchell notes, the visual and the verbal are regarded as “radically different modes or [sic] representation” (*Iconology* 44). The problem, Mitchell argues, is the “reification of this difference in terms of analogous oppositions like nature and culture, space and time” (44). To speak about spatiotemporality in literature engages several fields of study and debates about what constitutes temporal and spatial elements in literature. To simplify, at the purely verbal level there are several fields of study, such as ekphrastic studies, which analyze the verbal description of objects (that is, spatial entities, as it were, such as a statue, a painting, or a building). Frank argued in 1945 that verbal moments in modern avantgarde writing by, for instance, Eliot and Pound were significantly spatial. Following Lessing, Frank claimed that in literature, “the structure of modern works took on aspects that required them to be apprehended ‘spatially’ instead of according to the natural temporal order of language” (“Spatial Form: An Answer to Critics” 234).

Frank’s model of explanation, and the counter-arguments made by his critics, deals with the status of verbal representations, ultimately engaging the issue of mimetic representation in literature. However, a discussion on spatiotemporality can also deal with the actual use of images, or words as images which would, then, have to include word and image studies, dealing with the juxtaposition of words and images, or graphical elements in literature, or, the visual layout of text. It is not the representational value of the word that is at stake; rather, it is the material status of image (traditionally seen to be a spatial medium) in or next to the text. I will return to the relations between words and images in the next chapter.

art—perhaps the LED-text installations of Jenny Holzer, certainly the poetry-garden of Ian Hamilton Finlay. Even measure itself, a basic category of traditional poetics, seems to be undergoing redefinition in spatial terms in postmodernist poetry... Secondly, postmodernist poetry exhibits a “spatial turn” in foregrounding the spaces of the worlds it projects. (*The Obligation toward the Difficult Whole* 260).<sup>64</sup>

Drawing upon McHale’s definitions of spatial practice in the analysis of the digital poems in this chapter, I would claim that the spatiotemporal worlds that “ek-stasis,” “[theHouse],” *Vniverse*, and *riverIsland* construct do point towards their own material inscription, and would, then, participate in that “spatial turn” that McHale speaks of. Crucially, as I have argued, this inscription or instantiation is dependent upon the reader/user. To borrow from another of McHale’s analyses of postmodernist poetry, one could perhaps speak of a “production” of the poemevent on part of the reader/user.<sup>65</sup>

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<sup>64</sup> Such a claim would immediately have to be expanded to include other agents of production, such as the computer itself. While McHale cautions that the spatial qualities and poetics he sees in postmodern poetry are not unique to such works, they nevertheless point to a multifarious repertoire of postmodernist poetry where some features can be thought of as a dominant, Roman Jakobson’s proposition which McHale expounds and builds upon in *Postmodernist Fiction* 3-18, and revisits in *The Obligation Toward the Difficult Whole* 4, 250-251.

In his model of communication, Jakobson distinguishes between six aspects of language, each associated with a particular dimension of communication. The six aspects are: addresser, message, addressee, context, code, and contact. The latter three are needed for the message to be graspable, that is, a context which allows the addressee to understand the code which must be at least partially common to the addresser and addressee, and a contact, which is Jakobson’s phrase for what we could call medium (“From Linguistics and Poetics”). The dimensions Jakobson associates with each of the six functions, but, he cautions, “although we distinguish between six basic aspects of language, we could, however, hardly find verbal messages that would fulfill only one function. The diversity lies not in a monopoly of some one of these several functions but in a different hierarchical order of functions. The verbal structure of a message depends primarily on the predominant function” (1261). The six functions that Jakobson here refers to are referential, emotive, conative, poetic, phatic, and metalingual.

<sup>65</sup> In his essay “Poetry as Prosthesis,” McHale discusses the potential of thinking about degrees of readerly interactivity in the production of postmodernist poetry such as Jackson MacLow’s mechanically created poetry or Charles Hartman’s computer-generated poetry. The idea behind such a “co-productive” sense of readership is that the reader is essential to the meaning-making, or, even, the existence of the poem. However, the notion has flaws, McHale argues, and I would agree, since the reader of any disjunctive mode of writing is required to “fill in the gaps” in order to achieve meaning. What one is left with, then, is:

a spectrum or sliding scale of readers’ participation in the poem’s production that ranges from some to more to most—from nondisjunctive poems that do most of the readers’ work (though, of course, there is no poem that “reads itself,” no poem without gaps), through somewhat disjunctive poems, to highly disjunctive ones, including many that are machine generated. Along this spectrum, what varies is the “dosage” of interactivity, from (relatively) low to (relatively) high. (20).

I find McHale’s claim about a spectrum of readers’ participation useful for articulating the participation and movements of reader/users of digital work. I agree that, as McHale points

The second sense of spatiality as invoking space within the poems' texts that McHale suggests reminds us in part of the literary "possible worlds" argument by Eco, and, partly following in his footsteps, by Ryan and Hayles. In his analysis, McHale distinguishes between different types of projected poetic spaces: archaeological, architectural, cartographic, and corporal. McHale's examples are all in print; the projected poetic worlds that these digital poems offer may fit these categories, or may be the cause of new ones. Following McHale's two senses of spatiality in postmodern long poems, I suggest that the poems that I have analyzed in this chapter are spatial in terms of material emphasis as well as in an architectural sense. These two registers, if one could call them that, are closely related. The sense of architectural space is created both through the digital medial instantiation and in the words of the poems.

W.J.T. Mitchell has argued for the abolishment of notions of spatial and temporal genres. I agree with his claim that "works of art, like all other objects of human experience, are structures in space-time, and that the interesting problem is to comprehend a particular spatial-temporal construction, not to label it as temporal *or* spatial" (*Iconology* 103, emphasis in original). In the preceding chapter, the digital poems that I have analyzed perhaps more clearly than printed poems reveal the accuracy of Mitchell's claim that "a poem is not literally temporal and figuratively spatial: it is literally a spatial-temporal construction" (*Iconology* 103). My aim was to show how such "spatial-temporal" constructions construct poetic meaning for their reader/users.

There is a growing body of work that exists in and as text-based environments, as well as critical commentary about them. Some works appear on screens, such as the ones discussed in this chapter. Other works are meant for 3D Virtual Reality environments such as caves, for instance Noah Wardrip-Fruin's *Screen* (with collaborators), Cayley's *Torus*, and Talan Memmott's adaptation of his web work *E\_Cephalopedia/novellex* into the VR cave environment, and Aya Karpinska's collaboration with Daniel C. Howe, *open.ended*. The exploration, reading, and interpretation of the multidimensional worlds of digital poems constitute perhaps then what Raley has called, following Cayley, a "phenomenologically new mode of reading."<sup>66</sup> That new mode of reading, I would add, includes acts of interpretation and meaning-making, and is predicated upon physical and intellectual exploration.

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out, "this spectrum of interactivity in the end fails to capture the wide range of variation among types of machine writing" (20), which makes the articulation of particular poems' "systems" all the more crucial.

<sup>66</sup> In her introduction to a special edited issue of *Iowa Review Web* on 3D writing, Raley discusses among others, Cayley's VR work *Torus*. She concludes that, "In *Torus*, the reader moves virtually through the plane of projection, entering into the layered portals of the text. The experience is not only one of the appearance of three-dimensional projection but of immersion into the three-dimensional letter. It is here that claims for a phenomenologically new mode of reading are best actualized, pointing towards what may well be one of the future trajectories of reading itself" (5).

## Chapter Three

### CINEMATOGRAPHIC POETRY: ANIMATION AND MULTIMEDIALITY

In 2007, eight animated poems by the 44<sup>th</sup> US Poet Laureate Billy Collins were posted up on the video-sharing website *YouTube*. During just one week in February they were accessed over 500 000 times, which signals that digital poetry is indeed attracting more and more attention, if, perhaps, primarily from Internet users.<sup>1</sup> The poems are not unlike short films with still images, video, drawings, and sound; they feature the poet reading his poems. While hearing Collins recite the poem “The Dead,” for instance, the user sees a black-and-white animated drawing which illustrates the theme of Collins’s short narrative poem about the dead watching over the living.<sup>2</sup> *YouTube* offers the opportunity of commenting on video clips, often used by the site’s visitors. One of the comments to “The Dead” reads “I hate poetry. But I liked that.”<sup>3</sup> This comment suggests that some types of digital poetry are finding readers among those who find traditional poetry off-putting or simply uninteresting.<sup>4</sup> For such readers perhaps part of the attraction of digital poetry lies in its multimediality.

Multimedia constructions in digital media are today nearly ubiquitous; the multifarious media ecology of contemporary society has made the juxtaposition of visual, sonic, textual, and kinetic elements increasingly easy to create at a relatively low cost. Software applications such as Flash and Photoshop have become immensely important and widely used tools for

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<sup>1</sup> The video clips are available (2007-05-18) at <http://www.youtube.com>. As Anthony Kaufman states in his article “Ad Agency Boosts Poetry’s Profile, With Web Videos,” the poems had been on the web for a while by the time they showed up on *YouTube*. The posting dates on some sites date back to February 2006, and according to Kaufman’s article they were created in 2005 by JWT, a large US advertising agency, independently of the poet. As yet, I have no conclusive information on whether Billy Collins was actively involved in these adaptations of his poetry. Collins offers, for free, downloadable sound files of him reciting his poetry on <http://www.bestcigarette.us/>.

<sup>2</sup> According to the information on *YouTube*, Juan Delcan animated the poem.

<sup>3</sup> Needless to say, not all of the more than thousand comments were as positive, or even relevant. However, the conversations and arguments in the commentary section about the poems and the animations are particularly interesting in their own right. Some users have even posted videos in which they discuss personal reflections about what they see. The poems that are published on sites like *YouTube* had much more exposure, at least momentarily, than the poems I discuss in this chapter.

<sup>4</sup> However, it may also be that the viewers thought Billy Collins’s poems—quite popular in their own right—in conjunction with the animations made for an interesting poetic experience.

multimedia work.<sup>5</sup> In the digital realm, the term “multimedia” is also often coupled with animation.

Apart from “multimedia,” two other terms are commonly used in critical commentary about digital poetry, drawing from literary and art studies: “mixed-media” and “intermedia.”<sup>6</sup> These terms are usually not thought of as interchangeable. To put it simply, “mixed media” is often used within the visual arts for works, such as collages, that combine different media (such as paper, fabric, glass, wood, paint, ink) into one (visual) art work. “Mixed media” can also be used to refer to the impossibility of “purity” in a medium. This line of argument informs Mitchell’s claim that “all the so-called visual media turn out to involve other senses (especially touch and hearing). All media are, from the standpoint of sensory modality, ‘mixed media’” (“There Are No Visual Media” 257). “Multimedia,” on the other hand, is often used to refer to art works that use more than one medium. The prefix “multi” refers to “many” whereas “inter,” as used in intermediality, refers to the relation between media. Intermediality, then, seeks to describe the forms that emerge between (established) media forms, or involve a transfer from one to another. I will come back to the issue of multi- or intermediality in cinematographic poems later in the chapter.

In what follows, I examine a cluster of multimedial animated poems and discuss how a reader/viewer/listener is prompted to make sense of them. As in the previous chapter, the focus of my discussion is on the interaction between material construction, readerly engagement and poetic meaning. I have chosen to concentrate on a group of poems that primarily use Flash to create short clips with minimal or no user interaction. As is always the case with selections and divisions, other choices could have been made. My selection is meant to foreground some dominant features of multimedial and animated digital poetic practice. I neither intend to exhaust the issue of animation in digital poetic writing nor to decisively distinguish between animated and non-animated. Rather, the aim of the chapter is to point to some common traits of digital poems which I argue are important for an understanding of how animation and multimediality are used in digital poetry. The Flash poems combine verbal,

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<sup>5</sup> Here, I use the terms multimediality and multimedial to denote, simply, that different media are used in a work without *a priori* assumptions as to the effects that this multiplication of media have for the reader/viewer/listener of the work or the types of relation between media in a particular work.

<sup>6</sup> The term “intermedia” was first employed by Fluxus artist Dick Higgins in the 1960s. Higgins claimed to have borrowed the term from Samuel Taylor Coleridge, and he used the term in the same sense that he argued Coleridge first intended it: “to define works which fall conceptually between media that are already known” (“Synesthesia and Intersenses: Intermedia” n. pag.). Increasingly, the term intermedia and its cognates have been adopted by the area of studies of interrelationships of different artistic genres previously called “interart studies.” The Swedish editors of *Cultural Functions of Intermedial Exploration*, Erik Hedling and Ulla-Britta Lagerroth, argue that an “intermedial” shift took place in the time span between their 1995 conference “Interart Studies: New Perspectives” and the edited volume of essays it generated, *Interart Poetics: Essays on the Interrelations of the Arts and Media* published in 2002.

visual, and auditory media to accompany, enhance, and/or create tension in the work. In addition to multimediality in the sense of a combination of media such as image, audio, video, and text, the poems analyzed here are characterized by animation in a manner which suggests an affinity with film, video, DVD, and, naturally, computer animation and graphics. As such, these digital poems could be seen as relating to earlier experimental forms such as video poems, poetry films, or poetry made with video cameras rather than to printed poetry.<sup>7</sup>

The array of the Flash poems I have chosen to look at share a poetic, aesthetic, and medial practice. It is a commonplace to describe such poems as “cinematic.” Usually, the term is intended to denote precisely the two aspects I have mentioned: animation and multi- or mixed mediality. Textual animation is an important feature of these Flash poems. As Cayley notes, textual animation has a history in, for instance “cinematic film titling, in advertising using time-based delivery media, and, finally, in the poetics of networked and programmable media” (“Time Code Language” 326). I propose to call the poems analyzed in this chapter “cinematographic.” Cinematography literally means “writing movement.” The word “cinema” derives from the Greek and means movement; “graph,” also Greek, means “that which writes, portrays, and records” (*OED*). Although the term is mostly used to refer to the profession or “the art and technology of motion-picture photography” (*EB*),<sup>8</sup> I wish to use it in its literal meaning—to write in movement—while retaining its cinematic connotation, particular in the sense of time-based mixed media.

In the previous chapter I concentrated on the orchestration of readership in spatiotemporal poetic works that clearly emphasized action and engagement. This is not the case with the poems analyzed in the present chapter. Rather, from a readerly point of view, these works script the reader’s position as that of a listener, an observer, and a reader rather than an active explorer. While discussing these cinematographic poems I use the long and somewhat awkward term reader/viewer/listener to emphasize the equal standing of the activities of reading, watching, and listening. Generally, the perception of the poems I analyze in the present chapter relies on the oscillation between and simultaneity of these activities prompted by the

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<sup>7</sup> Today, digital film cameras are often used by poets and filmmakers of what has been called “video poetry” or “film poetry.” There are also poems which include graphic elements together with the filmed material. The main difference between the cinematographic poems I analyze here and video poetry is that the former do not use film cameras (digital or not) but rather make use of existing photos (and sometimes video), graphics, and text in a collage or montage manner. My aim in the present chapter is not to present a historical genealogy of cinematographic poetic practices, but, to name a few, the works by for instance Richard Kostelanetz, George Aguilar, Geof Huth, and Melo e Castro can be seen as relevant forbears to the digital cinematographic poetry discussed here. For more on the relationship between video poems and early digital poetry, see Funkhouser, “Prehistoric Digital Poetry” 124–191.

<sup>8</sup> Cinematography generally involves the management of several crews on a film production which are responsible for, for instance, everything to do with the film cameras, camera movement during the filming, and lighting of the set or the filming location.

engagement that a reader would expect from a video or a film, along with the engagement involved in reading text.

## “Flash Poetry”

I focus on “Cruising,” “Sinking,” “While Chopping Red Peppers,” and “Car Wash” by Megan Sapnar and Ingrid Ankerson,<sup>9</sup> “Genius” by Thomas Swiss, and “THE LAST DAY OF BETTY NK0M0” by YOUNG-HAE CHANG HEAVY INDUSTRIES. There are a number of Flash poems to choose from, and my selection is intended to provide the reader with a sample of cinematographic Flash poem. They exemplify a type of multimedial animated poem which is abundant on sites like *Poems that Go* and *Born Magazine*.

The first set of poems I discuss was created by Ingrid Ankerson and Megan Sapnar. The two women are the editors of a digital poetry site, *Poems that Go*, which was founded in 2000. According to the site statement, it is devoted to the following types of work:

Poems that Go publishes Web-specific new media, hypermedia, and electronic poetry, prose, and short narrative. We are open to all forms of multimedia, computer-generated, and interactive work that include (but are not limited to) HTML, Shockwave, QuickTime, streaming media, Flash, Java, and dhtml content. Because Poems that Go focuses on how sound, image, motion, and interactivity intersect with literary uses of the Web, we regretfully do not accept text-based poetry or written work in the traditional sense. (*Poems that Go*, “Submission Guidelines”)

Animated forms seem to be one of the site’s foci, although the term animation *per se* is not used. The *Poems that Go* archives clearly demonstrate the focus on “how sound, image, motion, and interactivity intersect with literary uses” as the fifty poems, represented by small thumbnail images arranged by year (from 2000 to 2003) almost exclusively use a Flash or Shockwave format.<sup>10</sup>

Before I begin discussing the first set of poems, let me briefly address the issue of animation. In these poems, animation of letters, images, and graphic elements appears throughout. Motion is used in a variety of ways: letters move from one place to another, words are made to pan across the window, or fade in and out of view. Although animation is mentioned as an important feature of digital writing in critical discourse, detailed studies are few

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<sup>9</sup> Two of the poems, “While Chopping Red Peppers” and “Cruising,” list both Sapnar and Ankerson as authors, while “Sinking” was created by Ingrid Ankerson and “Car Wash” by Megan Sapnar. However, the poems share a visual and poetic mode of expression and clearly manifest a kinship with each other in theme as well. Therefore, I choose to discuss them as closely interrelated.

<sup>10</sup> However, it is important to note that not all of the archived poems would fit under the description cinematographic, since some poems are set up as games or require a much higher degree of interaction from the reader.



in number. Teemu Ikonen's discussion of textual motion ("Moving Text in Avant-Garde Poetry: Towards a Poetics of Textual Motion") is one. In his discussion, he compares textual motion in print, video, and digital technology, drawing upon, for instance Futurist typographical experiments, Concretist kinetic poetry, techniques that invite the reader to manipulate the printed text to create movement such as flip books, moving text in video and film, and finally, with the help of digital technologies. With examples such as Dan Waber's *Strings*, David Knoebel's "Wheels," and Brian Kim Stefans's *The Dreamlife of Letters*, Ikonen maps out certain types of motion, such as change in place, rotation, and pendulum motion. Direction and velocity are other parameters of textual motion. Ikonen begins to ask questions about how and to what effects different types of motion can be employed. Questions that should be part of a materially specific analysis, such as "How does the motion take place and in relation to what it should be measured?" Cinematographic poems tend to use the types of motion that do not involve the reader to any particular extent. Stefans's *The Dreamlife of Letters* may indeed be the prime example of different modes of textual motion and play in Flash poetry. The letters are allowed to spin around, shift place, shift from one letter to another through graphic sequences of gradual changes, and so forth. In the poems I turn to now, a range of textual movements are used, all of which have some impact on how the text is perceived.

I begin by analyzing four poems by Ankerson and Sapnar: "Cruising," "Sinking," "While Chopping Red Peppers," and "Car Wash." They were published on the *Poems that Go* site in 2000 and 2001.<sup>11</sup> I suggest that these four poems are part of a larger suite of poems by the same poets that are closely related through visual and poetic theme and expression.<sup>12</sup> The poems consist of animated short sequences of displayed and/or recited text, image, sound, and movement. They are not dependent to any substantial degree on reader participation; they are meant to be experienced by a corporally largely inactive reader/viewer. The four poems I discuss share a similar technical and visual set-up: a temporal experience is constructed either by a linear Flash movie,<sup>13</sup> or, as in "Cruising," with a tickertape-style text presentation which resembles film stock with punched feeder holes. Starting with "Sinking," which has a low-key visual expression with no interaction, and ending with "Cruising," which

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<sup>11</sup> "Car Wash," "While Chopping Red Peppers," and "Sinking" were all published on the *Poems that Go* site. The latter two in the first issue (Spring 2000) and "Car Wash" in the second issue (Summer 2000). "Cruising" was published in the Spring 2001 issue.

<sup>12</sup> Of the fifty poems published on the site, Sapnar and Ankerson are involved in the design and/or writing of fourteen.

<sup>13</sup> The information available at the site lists "While Chopping Red Peppers" as having been made with Photoshop, Flash 4, and Wave Studio, "Cruising" with Flash 5, and "Car Wash" with Photoshop 5.5, Flash 4, Digital video, Acid, and Sound Forge. There is no information about "Sinking," but given the time of publication it is reasonable to think that it, too, was made with Flash 4 or 5.

requires collaboration from the reader,<sup>14</sup> the poems largely function as poetic “films” to watch and listen to.

Of the four poems Ingrid Ankerson’s “Sinking” exemplifies the most minimalist composition. “Sinking” is set as a 2.5 minute long Flash clip comprising a minimally animated word composition with an added musical score. The poem portrays a moment of contemplation; washing the dishes triggers a childhood memory of learning how to swim. The poetic text juxtaposes accomplishments (being taught to swim, managing everyday life) with the fear of failure (the childhood attempts at swimming but not knowing how, the fear of exposure in professional life). The poem begins:

In the moment before washing the dishes  
  
you press both hands to the calm basin of the sink.  
  
The steaming water opens for you  
  
settles around your fingers  
  
the way the sandy floor of lake Michigan did<sup>15</sup>  
  
when you were six and thought you could swim<sup>16</sup>

The words appear line by line; the lines appear and disappear against a background image of a slightly undulating water surface. The coloring of the image changes from a light to a dark shade as the poem progresses. Throughout, the ambient music underscores a somber or pensive mood, supported by the pace of the texts’ gradual emergence and the background image of rippling water which also moves. The work is slowly paced which affects the reading of the lines as they appear, glide across the screen for a while, and then disappear. The images, music, and even the kinetic display of the words, line by line, seem to serve mainly as a backdrop for the words. The material inscription of “Sinking,” the color, music, and movement of the letters, creates a computer-controlled pace of reading which the reader cannot influence. “Sinking” is representative of many Flash-poems of similar length. Such poems demand that their reader/viewer/listener follow the timed

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<sup>14</sup> “Cruising,” recently re-published in the first volume of the *Electronic Literature Collection*, uses (or is “inspired by,” according to the credits on the start page of the work) Yugo Nakamura’s technique of drawing nearer, holding, releasing and receding a rolling line, reminiscent of ticker-tape or celluloid film. Nakamura used this in his 2001 artwork “QuickTime 0.0.”

<sup>15</sup> The lowercase spelling of Lake Michigan is in keeping with the poem.

<sup>16</sup> I have used Courier New font, which resembles the monospaced font used in the work. The text is in white in the Flash-poem.

sequence which is created by the poet and generated by the computer. Although re-reading is always possible, other readerly interactions are often not part of such works.

Megan Sapnar's "Car Wash," like "Sinking," forces the reader/viewer/listener to experience the work according to the time which is programmed into the work. "Car Wash" uses montage techniques to mix blurred photographs, graphic elements and drawings with moving texts. Like "Sinking," the poem has a musical score. Taken out of their material context of the web and transposed to a printed page, the words of "Car Wash" are:

Midway on our life's journey, I found myself

In dark woods, the right road lost. To tell

About those woods is hard -- so tangled and rough

And savage that thinking of it now I feel

*The old fear stirring:*

death is hardly more bitter

**After you leave, I dream**

while you describe death with

**soft hands**

In mo(u)rning<sup>17</sup>

**I wonder where you have emerged**

If the machines have become

**waiting hands**

**Attendants with dry towels**

greet the soul

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<sup>17</sup> In this line, "In mo(u)rning" I have added a parenthesis around a letter to mark that there is a kinetic shift in the poem. First, the word "morning" appears, with the "o" as a filled circle. Then, gradually, the "o" separates into an "o" and a "u," thus transforming the word "morning" into "mourning." The kinetic transformation is different than the simultaneous reading of "mo(u)rning" as possibly two words, but there is no way to adequately transpose that movement into printed text.

In this transcription, of course, the typographic arrangement does not reveal the temporal qualities of the poem or any of its visual and auditory character. There is no sense in the printed form of the temporal composition and rhythm of the poem: when the words speed up, when they move slowly across the screen, or when breaks between screens come. The poem begins with a quote from Robert Pinsky's 1994 translation of Dante Alighieri's *Inferno*, Canto I, lines 1-6.<sup>19</sup> The line breaks from the printed book are kept in the digital version, and the first stanza is set as a black text against a white background. There is a break between the Dante/Pinsky text and the rest of the poem, which offers a response: a contemporary contemplation on both Dante/Pinsky's words and the canonized work as a whole. As the lines appear over the shadowy photographs of a car's rear-view mirror and door, and the bluish water running over the windshield, the line "After you leave, I dream" appears. After the next lines "while you describe death with / soft hands" there is a longer section during which no words appear. The visual elements of the poem take over along with the music and sounds. Silhouettes, graphic elements, and blurred photographs signal a car being washed, the brooms of an automated car wash appear and a woman is seen pacing while she waits. The lines "I dream / while you describe death with / soft hands" seem to invoke states of wordlessness; dreaming is thought of as an internal and silent activity, and the ambiguity of the following line (is it death that has soft hands, or is it a silent description made only with hand gestures?) leads into the section of the poem when no words are displayed and the graphics and sound take over.

The visual aspects of the poem clearly take a prominent position. The photographs have been treated and merged with graphic elements, lines, and silhouette figures. The adjective "photoshopped," in the jargon of desktop publishing and digital image-processing, would aptly describe the poem's visual aesthetic. Digital imagery is foregrounded through blurred photographs with jagged edges and pixelated images as a result of enlarging bitmapped graphics and thus losing image focus. Lines and grids appear throughout the animation. Sometimes the lines frame images, at other times they just appear over the dark

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<sup>18</sup> The text in the Flash poem is in a number of different fonts, sizes, weights, and colors. I have used two fonts to indicate difference in sans serif and serif font use: Arial and Garamond. This simple font shift does not, however, do justice to the graphical appearance of the text. In addition, as with "Sinking," the letters are put into a tweened animation, moving along an invisible path, up, down, sideways, or diagonally.

<sup>19</sup> When the reader clicks on the icon for the poem in the *Poems that Go* gallery, a new window opens. The reader first meets a Splash screen where he can choose between three versions of the poem depending on sound quality. The page also notes details about what programs were used in the poem's creation. During the download of the file the reader can play with what can be described as a digital version of the popular magnetic poetry. To the right a number of words are displayed and by dragging and dropping them onto a yellow surface, one by one, the reader can compose his or her own poems while waiting. To begin "Car Wash," the reader clicks the green word "Watch."

background as a reminder of the work's montage-aesthetics. Works are animated along motion paths (a feature in Flash), appearing and receding from view as they move across the window.

Let me once again stress that there is a considerable difference in reading the poem transcribed to print and seeing it in its multimedial inscription due to the material difference which I have pointed to in previous chapters. The title itself is a case in point of the differences between experiencing a text-only version presented above and the published Flash poem. "Car Wash" is only mentioned in/as the title, and only alluded to in the poetic text, but as a Flash movie the poem is replete with images and sounds of the car wash. The images of water, brooms, and the machinery of an automatic car wash illustrate the mundane activity of having your car washed. The soundtrack mimics the squeaking noises of the scrubbers and the metallic noise of the arches of an automatic car wash as they move across the car. Without the visual and sonic parts of "Car Wash," the poem's words are simply not interpreted in the same way as the fully multimedial experience of "Car Wash" is.

In sum, the words of Sapnar's short Flash work are only part of the poetic material, and the visual, sonic, and temporal arrangements are only fully understood when heard and seen. All these elements inform the possible interpretations of the work. For instance, the color scheme points to one interpretation. Viewing the poem from beginning to end, it is clear that the dark shades of the images and the background colors reflect lines such as "death is hardly more bitter," "you describe death," and "In mo(u)rning." Gradually, after the break in the middle, the music changes into a more cheerful fast-paced tune, the colors brighten, and the ending screen is filled with a light blue color, a color coding which allows for a more positive reading of the ending lines:

**Attendants with dry towels**

greet the soul

**who makes a quiet entrance**

If the meaning of the words alone may still seem ambiguous, the color tones and the music reinforce an interpretation of the end as that of a journey ending by ascending from a darker world into a lighter, welcoming place. This, in turn, mirrors of course the end of *Purgatorio* of *The Divine Comedy* when Dante leaves Mount Purgatory and prepares to ascend to heaven.

The visual, auditive, and kinetic elements of the poem's materiality simultaneously enhance and contrast the words. The juxtaposition of a canonized classic literary work with reflections on an everyday, seemingly insignificant, activity is somewhat startling. The poem puts the popular culture of the car wash and the canonized poetic work on the same visual, auditive, and verbal level. The emerging links between the different registers of expression

are not simply those of multiplication. This is where the initial usefulness of the term multimedia loses its critical rigor. The different elements of signification are allowed to co-exist and their interrelations suggest simultaneous concordance and dissonance; similarity and illustration, and dissimilarity and opposition, and “multimedia” does not suffice to describe that.

The third Flash poem that I analyze is “While Chopping Red Peppers,” a short Flash-animated poem. Like “Sinking,” the poem recalls childhood memories that are prompted by doing household chores, this time chopping vegetables.<sup>20</sup> The poem portrays the relationship between a father and his child. Now an adult, the child recalls how the father would teach him/her how to cut red peppers correctly. This initial innocuous scene moves the speaker to recall what else the father taught:

He teaches presentation  
perfect arrangement on a plate  
How to shake hands after church  
Firm  
like this  
Making my hand fit in his like a puppet  
The way vegetables are silent under water  
It’s all in the presentation he says  
As if that’s really all it is  
I’ll learn to present myself  
A firm handshake  
A straight back<sup>21</sup>

Only very few of these words are visually represented on the screen. I have transcribed them from the recited poem (recited by a woman). Not unexpectedly, the female voice suggests to the reader that the relationship is that of a father and a daughter. The subjugation of the speaker to the father’s

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<sup>20</sup> These domestic scenes (washing the dishes, preparing food) are not explicitly gendered in the texts, but in “While Chopping Red Peppers” the images portray a woman. Also, in “Car Wash” a woman figures in the imagery (but not in the text).

<sup>21</sup> I use Verdana font to represent the sans serif font used in the Flash work.

rules is to some extent illustrated by the images that accompany the spoken poem. The images are sketchy and iconic, recalling the aesthetic style of clip-art images. The speaker is represented as a virtually featureless face and a body that reveals no obvious markers of gender. The father is at one point represented as a shadow reflected in the sheen of the red pepper as he takes over the knife to show how the cutting should be done. The image of the knife and the red peppers on a cutting board against a dark background starts and ends the poem.

But there are moments in the poem in which the images do not illustrate the words. As the speaker seems to give in to the father's rules:

I'll learn to present myself

A firm handshake

A straight back

I'll chop my peppers thick

for my father

the images contradict the docility and resignation of the voice. As the line "A straight back" is read, the shadowy image of a person standing slightly bent is coupled with the written line ("A straight back") running along the figure's back. This creates ambiguity, since the shadowy image does not really have a straight back, and thus does not fully follow the father's advice. There are a few other such moments in the poem when the sound or the image does not reinforce the words but rather undercuts them and introduces tension, contradiction, ambiguity, and irony.

In the case of "While Chopping Red Peppers" the interaction between the words and the images can remind us of the distinction Mitchell makes between "image/text" and "imagetext," where the former term introduces a "problematic gap, cleavage, or rupture in representation" (*Picture Theory* 89) and the latter "designates composite, synthetic works (or concepts) that combine image and text" (89). While here the rupture might be minimal, it does introduce ambiguity in the poetic meaning that the reader/viewer/listener takes away from the experience.

Finally, in the last poem by Sapnar and Ankerson that I discuss, "Cruising," the material inscription, the animation and image-text-sound combination create a more interactive work in which the reader/viewer/listener has to use the mouse cursor to stop, zoom, and expand the ticker-tape or film-stock style image (figure 5). The passivity of most of Sapnar and Ankerson's Flash poems is partially broken in "Cruising" by a limited manual action. The film strip moves fast if the reader moves the cursor to the sides of the

rectangular screen (the window can be resized). If the cursor is on the right side, the strip moves to the right; if it is on the left side, it moves to the left. The closer to the center the cursor remains, the slower the pace of the strip is. Cursor movements up or down also cause a reaction in the strip. The farther down, the smaller the strip is; the farther up, the larger it becomes. Moving the cursor can thus become a game of trying to find the pace most conducive to reading the words and looking at the images.

The poem uses a cinematographic mode of expression that underscores a viewing/listening experience; yet, in this poem, the introduced tactility quite literally engages the cinematic metaphor. The poem uses the image of film-stock as a central “holder” for the images and the words. But the words go past the reader’s eyes at an uncomfortable pace most of the time and, I would argue, hearing the poem read overshadows the reading of it. In addition to echoing “cinema,” the computer-inscribed speed of the film-stock image relates to the theme of the poem: girls cruising in a car in a town at night. Slow or fast, the cruising in the poem is thus metaphorically connected to the reader’s choice of movement across the images. The reader/user, too, must “cruise” across the window of the work. Here, the visual expression and the readerly physical engagement (or lack thereof) that I define as part of the cinematographic poem meet a more responsive mode of digital work which invites the reader to step out of that passive position and become more of a participant in the poem.

The cinematographic poems I have analyzed thus far share the emphasis on the reader/viewer/listener as a passive consumer of the work. Although there are moments of self-consciousness, of material awareness, and of subversive elements to the passive mode that is expected of a cinematic medium (as in “Cruising”), the main mode of readership for cinematographic poems is that physical passivity. For Lev Manovich Ankerson’s and Sapnar’s choice of expression would not come as a surprise. Manovich argues that digital media have a technical and aesthetic affinity with cinema, primarily with early 20<sup>th</sup> century avant-garde cinema. In particular, he claims that the modular visual expression of early Soviet film is now being remediated in digital media applications.<sup>22</sup> In his *The Language of New Media*, Manovich also discusses what he calls cinematographic images, by which he means “both traditional analog and computer-simulated cinematography and photography” (180). Cinematographic images, for Manovich, are largely concerned with photorealistic, or what he calls “illusionistic” representations. Manovich argues that “*the visual culture of a computer age is cinematographic in its appearance, digital on the level of its material, and computational (i.e., software driven) in its logic*” (180, emphasis in

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<sup>22</sup> In *The Language of New Media* Manovich uses the theory and history of avantgarde cinema “as the key conceptual lens though [sic] which I look at new media” (9). He argues that new media, which I call digital media, represents a “convergence of two separate historical trajectories: computing and media technologies” (20), and he is particularly interested in visual media. Interestingly, for my discussion here, Manovich sees cinema as the “original modern ‘multimedia’” (51).



original). Further, he claims that the “cinematographic appearance” of digital visual culture is not likely to change in favor of something that reveals its digital materiality, since “cinematographic images are very efficient for cultural communication” (180). At the same time, however, Manovich acknowledges the possibilities of that underlying materiality which makes possible the manipulation of the illusionistic image of the digital age. “*New media*,” Manovich claims, “*turn most images into image-interfaces and image-instruments*” (183, emphasis in original). That means that the previously passive position of the spectator can be expanded with the help of digital media into that of a user who can zoom in, click, and move around, along with a range of other action the image can be imbued with in applications such as Flash.<sup>23</sup>

In my definition of the cinematographic poem I point to the predominantly passive mode of perception, which would be in line with Manovich’s understanding of “traditional photography and film.” As we could see in the examples of “Sinking” or “While Chopping Red Peppers,” the experience of watching the Flash-clips resembles to some extent a cinematic experience.<sup>24</sup> In Manovich’s argument the notion of the photorealistic is of central importance. Manovich suggests that even as most image-production is becoming computer-based, the dominance of the “illusionistic” still holds, only now digital technologies can create what he calls “all too real” images (202). Contrary to Manovich, my understanding of the cinematographic poem does not include a notion of the photorealistic as an important component of the poem’s visual character. Instead, the digital image in these poems seems to emphasize the exact opposite: its own artifice.<sup>25</sup>

The issue of artifice and materiality leads me to the question of the multimediality of cinematographic poems. It becomes evident after a closer

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<sup>23</sup> Although his argument is not entirely clear on this point, it seems as if Manovich still puts these possible actions in relation to the user’s “assessment of the reality effect of the image” (183). However, at other points in *The Language of New Media*, it seems as if the image as interface and instrument open up possibilities for other aesthetic uses.

<sup>24</sup> A crucial difference, however, is the setting in which the viewing takes place. It can be argued that watching a cinema (of whatever genre or filmic style) seated in a dark theater together with others constitutes a radically different social experience than watching a Flash-file play on a computer screen, presumably at a desk with the viewer sitting in a chair. However, these situations can be less strictly defined: it is quite possible to watch a DVD (or a Flash poem) on a laptop computer while sitting in a sofa. In my understanding of the cinematographic, I therefore do not wish to suggest that the viewing requires an experience similar to that of watching a movie in a theater.

It is also true that while the poem itself exists in a window which can be preprogrammed, for instance, to not be resized, and which does not include interactive moments within its frame, the reader/viewer/listener is also a computer user and can, at any moment, choose to open other windows, other websites, or applications and interact freely with those. Such actions, however, lie outside the immediate experience of the poem. It is interesting, however, to keep possible contexts in mind as part of what the overall reading context of digital work can be like.

<sup>25</sup> Perhaps digital poems in general would better fit the representational practices which Manovich wants to call “cinematography,” “the techniques of modern cinema and of nineteenth-century moving image representations merged in a new hybrid language” (312) such as computer games and music videos.

look that multimediality in these poems is not necessarily the product of a juxtaposition of media forms into one unitary (and new) form. They do not attempt to achieve an overall photorealistic effect. As mentioned, “multimedia” suggests a multitude of media merged into one form. In the context of digital media and culture, Sean Cubitt argues that, “the distinguishing features of writing, painting, or music making are lost in digital media” (162). Cubitt, concentrating on the cultural and economic effects that web publication have on our view on media at large, argues that the emergence of the World Wide Web and the multimedia industry changes the “aesthetic of medium-specificity” (165) which has dominated much of Western aesthetics for the last two centuries.<sup>26</sup> In its stead, he argues, our age is defined by hybrid media forms which rely on multiple media to make sense. Among his examples he cites the web as drawing “together the sound film and television with the illustrated magazine” (165), and the music of John Cage and others as accompanied by “strongly visual scores and architectural light shows” (165). Discussing digital poetry, Kiene Brillenburg Wurth holds a similar position—that of “hybridity” rather than “unity”—and suggests the term intermediality to describe the “criss-crossing between and mutual infusion of different medial modalities. Words become like colours, colours like words, texts like buildings and spaces, sounds are spatially heard...” (n.pag.). She argues that such poems “[integrate] diverse (simulated) medial layers modulating and transforming into each other” (n.pag.), and suggest we call visually dominant digital poetry, “medially complex” (n.pag.). As both Cubitt and Brillenburg Wurth note, debate surrounding the nature of and relationship between media is hardly a recent phenomenon. Lately, the term “convergence” has been proposed to point to the multifariousness of media forms and their convergence made possible by the shared technical support: digital computer technology.<sup>27</sup>

I would suggest that cinematographic poems enter into debates about media forms and their relationship by simultaneously supporting and subverting ideas about medial unity and convergence, on the one hand, and employing a mode of self-reflexivity, on the other. Rather than being an issue of the technological alone (or the essential), I argue that multimediality can

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<sup>26</sup> Among others, we can think of Clement Greenberg’s claim that the essence of modernism—particularly modernist painting—lay in “the use of characteristic methods of a discipline to criticize the discipline itself, not in order to subvert it but in order to entrench it more firmly in its area of competence” (“Modernist Painting” 5).

<sup>27</sup> The notion that we now live in a “convergence culture” has been explored by, among others, Henry Jenkins. In his *Convergence Culture: Where Old and New Media Collide*, Jenkins argues that it is not the question of a purely technological process that brings media together, but rather “convergence represents a cultural shift as consumers are encouraged to seek out new information and make connections among dispersed media content” (3). For Jenkins, convergence, then, “does not occur through media appliances, however sophisticated they may become. Convergence occurs within the brains of individual consumers and through their social interactions with others” (3). Importantly, convergence culture is for Jenkins also participation culture which ultimately, offers opportunities for consumers to participate, rather than just consume, in political, cultural, and economic processes worldwide.

function as an aesthetic choice between, simply put, what Bolter and Grusin have called hypermediacy and immediacy, that is, processes of revealing or hiding a work's medial construction for the purposes of engaging with or destabilizing the cultural value of that medium. Cinematographic poems range from presenting a unitary form in which different media exist harmoniously to render an experience for the reader/viewer/listener, such as in "Sinking," to more discordant montages where different registers compete or "chafe" against each other. It is often in these works that the reader/viewer/listener is prompted to engage physically with the work, in effect breaking the immersive illusion. At this point of the spectrum, then, the poems move out of a cinematographic mode of expression and towards what has often been generally called interactive works.

Alongside and related to the issue of multimediality, intermediality and the like, the study of the interrelations between words and image—the visual and the verbal—is of central importance for literary studies. Although such an interest has a long history, in a few decades, it has markedly increased in fields such as ekphrastic studies, word-and-image studies, and, lately, visual studies. This, W.J.T. Mitchell argues, is part of what he calls the "pictorial turn." In 1992, he noted:

On the one hand, it seems overwhelmingly obvious that the era of video and cybernetic technology, the age of electronic reproduction, has provided unprecedented means of visual simulation and illusionism. On the other hand, the fear of the image, the anxiety that the "power of images" may finally destroy even their creators and manipulators, is as old as image making itself...What is specific to our moment, I want to suggest, is exactly this paradox. The fantasy of a pictorial turn, of a culture totally dominated by images, has now become a real technical possibility on a global scale. Marshall McLuhan's "global village" is now a fact, and not an especially comforting one. ("The Pictorial Turn" 90-91)

It seems as if the proliferation of images since then, not the least through the World Wide Web and via numerous digital tools, has proven Mitchell right. In the same essay, Mitchell makes a crucial point about spectatorship versus reading. The pictorial turn, he argues, involves "the realization that *spectatorship* (the look, the gaze, the glance, the practices of observation, surveillance, and visual pleasure) may be as deep a problem as various forms of *reading* (decipherment, decoding, interpretation etc.), and that visual experience or 'visual literacy' might not be fully explicable on the model of textuality" (91, emphases in original). Mitchell's comment is important to keep in mind for the

study of cinematographic poems in order not to allow reading texts to overshadow or replace interpreting images and sounds.<sup>28</sup>

In critical discourse there is an unease about these unabashedly visual forms of digital poetry, particularly those that minimize interactivity. The pictorial, or visual, turn has prompted some poets to explicitly suggest forms that are conceptualized *in opposition to* more visual or multimedial forms. Witness for instance Philippe Bootz's description of the reasons that led him and his colleagues, Alexandre Gherban and Tibor Papp, to start the (largely) French collective *Transitoire Observable*:

E-poetry first focused on a programming approach. But since the end of the 1990s, many e-poetry works have focused on video art aspects of multimedia events on the screen or have explored "traditional" usage of the link in hypermedia. Many others use the electronic medium only as a simple medium and as a support for a classical visual poetic approach or as classical visually illustrated texts. These orientations are encouraged by firms that produce software in which the specifics of the numerical medium are masked by video metaphors. I do not deny that these kinds of poetic projects change the traditional understanding of the text. They also produce different and non-classical manners of expression. But it seems to me, and also to several other poets and artists, that this popular approach does not meet the specific needs of this medium because it does not engage programming. Thus these approaches are unable to propose a situation of communication that is truly new. ("The Problem of Form" 89)

Bootz's lamentation reveals a certain disinterest in visual poetic forms. He dismisses the use of digital media "only as a simple medium" for "classical visually illustrated texts." Curiously, Bootz's remarks which are meant to underscore his particular interest in poetry that engages programming, seem to argue against what he understands to be a particularly superficial treatment of images.<sup>29</sup> Bootz and his colleagues prefer an "animated" literature, which is based on sets of clearly defined constraints. The unease about the popularity of the visual in digital poetry is clearly articulated as a problem to which the approach of *Transitoire Observable* offers a solution.

The increasing "visuality" of digital poetry which Bootz characterizes as a "classical visual" approach to be avoided, Andrew Darley, on the other hand, would argue is an increasingly conspicuous and general feature of the digital visual culture of the latter part of the 20<sup>th</sup> and the beginning of the 21<sup>st</sup> centuries. In his *Visual Digital Culture: Surface Play and Spectacle in New Media*

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<sup>28</sup> In addition, the effect of the simultaneity of reading, viewing, and listening, I suggest creates a particular embodied experience which the poet can choose to engage in varying degrees. I will return to the issue of tactility in combination with viewing and reading in the next chapter.

<sup>29</sup> With this comment Bootz seems to align himself with a media-specificity argument about computers: their numerical processual abilities should be used to somehow foreground programming in the poetic works made with computers.

*Genres*, Darley locates a dominant aesthetic in digital visual culture: the aesthetic of the spectacle.<sup>30</sup> Although the spectacle certainly has a long history, Darley suggests that the principle preoccupation of visual digital culture of today with “form, surface (‘depthless images’) and physicality” (193) leads to what he calls a poetics of surface play and sensation (124-144; 193-197). Although Darley does not discuss digital poetry, I find his argument useful in articulating the mode of self-reflective medial awareness that *some* digital visual poems display. His discussion also relates to what kinds of meaning such “surface” works may render. The depthlessness which characterizes digital images, Darley argues, echoing Fredric Jameson and Umberto Eco, aims to “*excite* and/or draw attention to themselves as images, whilst concomitantly skewing representation—in the traditional sense of that word—being, in the first instance, more *about* (prior and coexisting) styles, forms, and genres” (124, emphases in original).

To a degree, cinematographic poems partake in the digital visual culture of spectacle and surface play which Darley outlines. However, as Bootz’s argument for a form that reveal the computational structure which underlies that surface points to, there is a tension between surface and depth which digital poetry addresses. In their article about the “rhetorics of surface and depth,” Schaffner and Roberts point to a boundary between the surface of visual play and the computer’s underlying computational processes. Exploring this boundary becomes the “meaning” of certain digital works. In a reading of the artist duo JODI’s work, the authors suggest that because “JODI’s works are legible only on the surface, ... they constitute a play of surfaces which ironise both technological and hermeneutic ideas of depth: the depth of the system or ‘deep meaning’ remain absent” (n.pag.). From the arguments put forth by Bootz, Darley, and Schaffner and Roberts, it seems as if “surface play” is used to activate a self-reflexive medial awareness. If so, the question is, to what end? At this point, I want to return to Mitchell’s characterization of the image-text. Using a tripartite typography—imagetext, image-text, and image/text—Mitchell wants to point to a “whole ensemble of *relations* between media” (*Picture Theory* 89). The really important question to ask about these relations, Mitchell argues, is “*why* does it matter how words and images are juxtaposed, blended, and separated?” (91, emphasis added). Let me address, if not answer, that question by turning to Thomas Swiss’s poem “Genius.”

Arguably, thus far, my first examples of cinematographic poetry, Ankerson’s and Sapnar’s poems, do not portray an overt medial awareness and critique such as the one Schaffner and Roberts see in JODI’s work. Aesthetically and poetically, the poems explore multimediality to generate

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<sup>30</sup> Darley is careful to point out, however, that this characterization does not apply to all of visual culture today. He takes as his primary examples “spectacle cinema, computer animation and certain modes of music video and advertising; special venue attractions and simulation rides; and arcade and computer games” (1).

poetic meaning, but they stop short of the critique of visual culture that Mitchell, among others, asks for. In contrast, “Genius” by Thomas Swiss offers a step in that direction. Like Stephanie Strickland, whose work I discussed in the previous chapter, Swiss creates works that exist both in print and in digital media. The cinematographic aspects of Ankerson’s and Sapnar’s poetry can be seen in much of Swiss’s work as well: the temporally linear composition with sound, image, and kinetic text made with Flash. His poems generally offer limited reader input or navigation.<sup>31</sup> As in the case of some of Ankerson’s and Sapnar’s poems, Swiss often uses recorded readings as part of his digital works, which lends prominence to oral performance over written text. Materially, the poems may seem to use similar poetic and visual expression, but as we shall see, Swiss’s employment of a cinematographic style is geared towards observation, and possible critique of today’s “digital” culture.

“Genius” (2001) was written by Thomas Swiss with design by Skye Giordano and music by Randy Schoen (figure 6).<sup>32</sup> “Genius” presents a short moment in the life of a woman. The text of the poem, which is read by a man, is as follows:

You don’t need to be a genius  
The kids who had been throwing rocks stopped  
One kicked the canister, a small boy lobbed it.  
The camera tracked its flight.  
Then a quick cut back to the soldiers  
It was AFTER ALL their scene  
The soldiers mounting the battered buses

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<sup>31</sup> In some poems, such as “Hey Now,” Swiss uses click actions to start sections of poems, without which the rest of the poem will not appear.

<sup>32</sup> In many of his digital works, Swiss collaborates with others. In “Electronic Literature: Discourses, Communities, Traditions” Swiss claims that for him, “collaboration allows writers and artists—like myself and those I compose with—to reconsider both our work and our identities, to literally see them anew, as we move from individual to composite subjectivity” (2). Collaboration, he reminds, is a commonplace in other disciplines, such as film, but rare in the literary world. On the other hand, as Swiss’s article suggests and as many of the works studied here and countless others, digital poetry and art seem to foster collaboration.

*Born Magazine*, a website/journal for the publication of poems largely of a cinematographic character is devoted to such collaboration: “Born Magazine is an experimental venue marrying literary arts and interactive media. Original projects are brought to life every three months through creative collaboration between writers and artists (<http://www.bornmagazine.org/>, the title is not italicized in the website text.) However, it is interesting to note the use of the word “marry” to describe the relation between media, which seems to strive towards a frictionless union.

Before turning on CNN, she'd been skimming a magazine.

Sex in the 90s

Now there's a topic

And something on love handles.

Sure, it was true her husband had them; nearly everyone she  
knew had grown them in the last few years.

That's life. Things change.

Not an hour ago, her son had said before napping:

"Sleeping hurts me. I don't wanna sleep anymore."

These days it seems nobody wants to.

Just as no one wants to wake up to the sound of their house  
being torn apart.

TIME TO FETCH YOUR MOTHER AT THE AIRPORT.

TIME TO CLEAR THE TABLE FIRST.

CHECK THE EMAIL TO SEE WHAT'S COME OVER.

But the boy in the screen who screams at the soldiers is  
interrupting again.

Tiresome, these interruptions.

You don't need to be a genius to read his face,

or guess this wreckage will fuck him up.

And she changes the channel, praying: "Don't let it be like that  
for me!"<sup>33</sup>

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<sup>33</sup> I have arranged the lines according to print conventions of poetry for clarity's sake. I have chosen to represent the poem throughout with a non-serif font which is generally Swiss's choice. This transposition is, however, not unproblematic, and, as with all the screenshots and transcriptions in this dissertation, it points to inherent particularities of media forms and the difficulties of portraying dynamic media forms inside the conventional framework of a printed text. Swiss uses a number of fonts and textual arrangements, such as intermittent use of capital letters, colored words, and outlined words. Most importantly, most words of the poem appear only as read.

Obviously, the poem reflects upon a media-saturated life: watching TV, reading magazines, checking the email. At first, the reader/viewer/listener is unaware of the TV-mediation of the events in the opening lines. Not until the line “The camera tracked its flight” is this made clear to the reader. The final image appears as the voice ends the poem with “And she changes the channel, praying: ‘Don’t let it be like that for me!’” The color bars of standard TV and video test patterns which ends the poem indicates the absence of a TV transmission, which suggests that she not only changed the channel but attempts (and succeeds?) to get away from the TV-mediated interruptions and unwanted realizations of other people’s less fortunate lives: “You don’t need to be a genius to read his face or guess this wreckage will fuck him up.”

The experience of watching war coverage on CNN frames the poem. In fact, the woman is disturbed by the “boy [who] is interrupting again” and she finally changes the channel to forget about the “wreckage” of his life experience which clearly clashes with her seemingly ordered domestic life:

TIME TO FETCH YOUR MOTHER AT THE AIRPORT.

TIME TO CLEAR THE TABLE FIRST.

CHECK THE EMAIL TO SEE WHAT’S COME OVER.<sup>34</sup>

Photos of soldiers and guns, of a small boy lying on his stomach, of a bare-chested man, and of a lip-sticked mouth resemble newscast footage and glossy magazine cut-outs. In “Genius,” collage techniques are used to arrange the photos and graphic elements such as blocks of color, stars, clocks, and lines (most of them animated). Different fonts, sizes, and colors of the letters are used, which adds to the visual expression of collage and montage. The different elements emphasize a disparity between media forms. Animation adds to that sense of disunity. Words and images move rather quickly across the span of the window most of the time. The drumbeat that runs throughout the poem is fast and adds to the sense of speed. The photos flicker, and the words that are displayed in visual form also move around and flicker in and out of view.<sup>35</sup> Overall, the “photoshopped” quality of the visual expression hammer home the poem’s self-awareness of its medial construction: the way in which photos reveal their pixelation, letters in a variety of sizes, fonts, and colors, and, finally, the incessant movements (spinning around, zooming in and out, shaking, moving across an image like a camera movement across a scene, and movements up and down and sideways) of images and texts. In “Genius,” the reader/viewer/listener is clearly made aware that the poem is *about* media as much as it relates scenes from a woman’s life.

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<sup>34</sup> In the digital work, these lines are written with block capital letters.

<sup>35</sup> Only some of the words of the poem that is simultaneously being read are shown in textual form on the screen.



Aesthetically, Swiss's poem can be interpreted as an example of the surface play that Darley suggests is characteristic of certain digital visual forms. One answer to Mitchell's question ("why does it matter how words and images are juxtaposed, blended, and separated?") is that words and images, and I might add, sounds and movement, are merged together to point to how different media forms compete for our attention today; in everyday life, on TV, through the Internet, and in printed mass media. But the poem also uses its laden montage aesthetic outward to its own reader/viewer/listener, who is made aware of the juxtaposed, competing, and merging registers of expression and, thus, the poem is revealed as part of the multifarious media culture it seeks to expose.

### **Visual Rhythms: "YOUNG-HAE CHANG HEAVY INDUSTRIES PRESENTS"**

The integrated visual and sonic experience of "Genius" is one largely of listening and watching. The role of the passive spectator is the only position the reader/viewer/listener of this poetry is offered. This is a position that my final example of cinematographic poetry exploits to the fullest. In a by now recognizable style, YOUNG-HAE CHANG HEAVY INDUSTRIES (YHCHI) have been making their Flash-based work since 1999.<sup>36</sup> Their work is characterized by their distinctive use of typography, music, and rhythm. The duo's work is often presented as digital art, but their engagement in the transformation of language through multimediality and timed sequences based on rhythm and duration constitutes an interesting trajectory of what I here have called cinematographic poems. The reading of their work requires no physical interaction, such as the moving of a mouse cursor. Nevertheless, it is often a straining experience since the works often require the reader/viewer/listener to pay attention for a long time to words that appear one by one in long sequences. The works are built on a few basic common principles: they use letters in black or white with a white or black background (on occasion other colors are used, such as red or yellow). The letters are large; one word often takes over the entire field of the window. As "writing movement," YHCHI plays with an expansion of texts along a temporal line which allows the reader to see only one or a few words at a time and thus forces him to assemble the words into coherent sentences from memory. The pace of the work is set by the music. The duo uses mostly American hard bop jazz which is characterized by its "hard" rhythms and melodies with blues influences. The languages most

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<sup>36</sup> In an interview by Hyun-Joo Yoo in *Dichtung Digital*, when asked when and why the duo was formed, they answered in the same ironic style that permeates their work: "We formed our company in 1999, for practical reasons—Internet art is relatively cheap to make, and you don't need a studio for all your unsold works" (n.pag.).

often used are English and Korean, but other languages are used as well, such as: Japanese, Chinese, French, Spanish, Portuguese, Italian, and Swedish.<sup>37</sup>

The texts themselves vary from ironic self-reflections about art, political satire directed towards North and South Korea, or narrative sequences, often aphoristic stories with sexual or relationship-related content. Their works include titles such as: “DAK0TA,” “SAMSUNG,” “SAMSUNG MEANS TO COME,” “THE END,” “ARTIST’S STATEMENT N0: 45,730,944: THE PERFECT ARTISTIC WEB SITE,” and “BECKETT’S B0UNCE.”<sup>38</sup> Every work begins with a countdown from ten or twenty to zero, followed by the title sequence “YOUNG-HAE CHANG HEAVY INDUSTRIES PRESENTS” and then the title of the work. Needless to say, this beginning mimics the countdown used in the beginning of a film to facilitate synchronization. As the texts appear, always rhythmically presented following the beat of the chosen music, the reader is subjected to the speed of the work. The pieces can be rather long, often five minutes and longer, which can make a sustained reading rather difficult. It seems, then, that the cinematographic mode’s exploration of the oscillation between viewing and reading, while it was explored in the previously analyzed works through animation and colored text, is taken further in YHCHI’s work by means of musical rhythm and sustained duration.

Let me illustrate how animation and multimediality work in one of YHCHI’s shorter pieces: “THE LAST DAY OF BETTY NK0M0” (figure 7). As in all their works, “BETTY NK0M0,” too, begins with the countdown and the title sequence “YOUNG-HAE CHANG HEAVY INDUSTRIES PRESENTS.” The beginning numbers and words that appear are arranged so that they take up the full area of the window. The words appear in the rhythm of the music which is, unlike in most of the duo’s work, not African-American jazz but music from Okinawa.<sup>39</sup> “BETTY NK0M0” was made for International AIDS day, and with that background, the short work can be interpreted as describing the death of an AIDS victim in Africa.<sup>40</sup>

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<sup>37</sup> The duo, made up of Marc Voge and Young-hae Chang, have stated that they write in English, French and Korean, and get help with translations for the other languages (Young-Hae Chang Heavy Industries, “Distance, Homelessness, Anonymity, and Insignificance” n.pag.).

<sup>38</sup> The two artists consistently use the Mac font Monaco. It is available for other platforms as well, such as Windows. In this manuscript (written in Microsoft Word on a Windows XP computer) I have used the Monaco font when quoting YHCHI’s work. However, the font does not look the same in a Windows environment as it does on a Mac computer. They use block capital letters in their works and on their website, and I follow their use when I quote from their work or provide titles

<sup>39</sup> For Strickland, “BETTY NK0M0” represents a mode of digital poetic writing which allows “place” to be inscribed into the interface of the work. In this case, the music and the name relate to several particular places at once. Strickland suggests this is a commonplace among digital artists: “Digital artists constantly cross borders between specific local realities of language and situation — their own and others” (“Writing the Virtual: Eleven Dimensions of E-Poetry” n.pag.).

<sup>40</sup> The artists discuss the creation of “BETTY NK0M0” in an e-list discussion, “Re: [-emphyre-] international dimension and music.” The work appeared in 2004 at the *Poems that Go*

The words appear in block capital letters, with the O written as Ø (for zero). The text is usually black against a white background, but on a couple occasions in the piece, white text is written on black background. For little over a minute, the reader/viewer/listener experiences the work almost exclusively word-by-word in a temporal arrangement set to the duration and tempo of the music. After the introduction sequence and the title, the following appears:<sup>41</sup>

TODAY

IT'S COOL

IN

THE

SHADE.

MY

CHEEK

IS

COOL

AGAINST

THE DIRT.

At this point the background changes to black, and the following appears in white letters:

YES

IT

IS!

The further the reader/viewer/listener gets into the work, the harder it becomes to sustain the earlier words in his memory. As the work draws to its end, the music and the words slow down, and like a mechanical clock that is unwinding, the sequence finally ends with a “THE,” a final empty black screen, and silence.

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website. The name Nkomo is African. For instance, Joshua Nkomo of the Ndebele tribe founded the Zimbabwe African People's Union.

<sup>41</sup> Here, each line represents one screen.

To use the word “multimedial” to describe YHCHI’s work may seem misplaced. Their aesthetic, after all, is strikingly monochrome and lacks images or other graphic elements. However, the typographic style which uses one font but different sizes is coupled with music. The media involved, then, are sound and text. The work is set up as a temporal line in which each word written is replaced by another—as it would be in speech—and it is up to the reader/viewer/listener to remember what came before. As mentioned, the letters are often quite large and take the space of the whole window. As the everyday language is put to a particular visual and temporal construction, reading becomes strictly regimented to the timeline given in the work. No opportunity to pause, or go back and forth, is provided within the work.<sup>42</sup> Animation, and reading, in these works is all about timing, rhythm, and duration inscribed into the work’s material construction which renders its audience powerless to change its pace.

I have argued that cinematographic poetry uses digital media to create animated multimedial works which foreground a reader position that is related to passive spectatorship. Cinematic, in this sense, then refers primarily to the reader’s level of engagement with the work and to how processes of meaning-making ensue from that experience. In addition, these works are invested in, I claim, the exploration of how word and image relate to each other when they are juxtaposed in the same work. Mitchell’s “image-text” and the relations of the visual and the verbal are central to understanding how these relations fluctuate to include both the similar and collaborative, and antagonistic and dissonant (*Picture Theory* 89-90).<sup>43</sup> YOUNG-HAE CHANG HEAVY INDUSTRIES’ play with typography and temporal arrangements with duration and rhythm, and Ankerson’s, Sapnar’s, and Swiss’s explorations of interrelations of word, image, voice, and sound represent different registers of writing in movement and writing with images and sounds. As a result, I claim, the seemingly superficial formality of cinematographic works acquires a wider

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<sup>42</sup> The only possibilities of pausing or going forward or backwards are offered in Shockwave or Flash players which can be used as standalone applications to view the works which are made with Flash. However, the works are published online, and reading them online imbeds the player within the browser application which, in the case of Internet Explorer, removes such functions except via right-mouse click. Despite certain possibilities for interaction given by the context of the work, the work itself is not programmed to make readerly input or collaboration possible.

<sup>43</sup> For Mitchell, “all media are mixed media, combining different codes, discursive conventions, channels, sensory and cognitive modes” (*Picture Theory* 95). While the “composite forms” which include text and image, like film, newspapers, or cartoons, and, I may add, cinematographic digital poetry, clearly engage the study of visual-verbal relationships, Mitchell argues that even writing has an “inseparable suturing of the visual and the verbal” (95). Drucker, the reader will recall, has a similar conception of visual/verbal relations: “Not all written language is produced directly by hand, but whether marks, strokes, signs, glyphs, letters, or characters, writing’s visual forms possess an irresolvably dual identity in their material existence as images and their function as elements of language” (*Figuring the Word* 57).

meaning as enhancing, foregrounding, and questioning the very multimediality they inscribe.

To conclude, in definitions of digital poetry as a genre, hyper- or multi- or intermediality is often described as one category or feature of digital poems. In their exposition on different groups of digital poetry, Block, Heibach, and Wenz locate the aesthetic impulse of multimedial construction and a medial self-reference in what they call “media poetry” in a larger category of “language art” which is primarily interested in the mediation between “individual media cultures, between art forms” (25). As I have attempted to show, the issue of terminology is in part related to the range of relations that can exist between media in mixed media forms. The poems I have analyzed do not exhaust the possibilities of how image, word, sound, and movement in digital poetry relate to each other. However, I do suggest that it is a matter of poetic strategy how media relations are instantiated and explored, as Mitchell’s terms image-text, imagetext, and image/text suggest. The different registers of expression reside in the same work, and their relationships are part and parcel of the meaning the reader/viewer/listener makes of the work. Therefore, a materially specific analysis of cinematographic poems does not content itself with noting that the poem is multimedial and animated, but begins to explore how and to what effects.



## Chapter Four

### VISUAL NOISE POETRY

In this chapter, I analyze the phenomenon of creating visually and typographically dense poems in digital form. I predominately focus on four digital poems, “Breathing/Secret of Roe” by Jonathan Carr, “Spawn” by Andy Campbell, *Diagram Series 6* by Jim Rosenberg, and *Leaved Life* by Anne Frances Wysocki. I argue that the dominant aesthetic technique, which I propose to call “visual noise,” is generated by a tactilely responsive surface in combination with visual excess which requires an embodied engagement from the reader/user in order for a reading to take place.<sup>1</sup> Drawing upon the analyses of “a tradition of poetic illegibility” in print poems by Craig Dworkin, I find it useful to discuss their digital counterparts. While “visual noise” poems employ similar visual layout as those used by Susan Howe, Charles Bernstein, Steve McCaffery, and Susan Waldrop (to name a few), and thus inscribe themselves into a literary history of experimental poetry that for instance Stéphane Mallarmé with his typographical experimentation with layout, size, and font choices, or Guillaume Apollinaire’s calligrammatic poetry “situated at the intersection of legibility and visibility” (Bohn 49), had such an immense impact on, digital technology defines the specificity of digital poems vis-à-vis these print forbears. A significant and conspicuous difference between printed works and digital works is the motion that is inscribed into the latter works. Finally, digital computer technology offers the poet tools to create works that rely on the reader/user’s active participation.

The digital poems analyzed in this chapter use visual arrangements of excess, density, and layering of letters and words which create “crowded” screens, hence my umbrella term is based on the effect they have on the reader/user: “visual noise.” This “visual noise” is closely linked to the reader/user’s movement and to the animation of words and images. Some poems use both visual and sonic techniques to create an overall “nervous” work which disturbs reading and viewing. Exploring digital “visual noise” poems with the cursor is often a way to either incur or disentangle the clutter of the poetic surface.

While the word noise linked to vision is routinely used in vernacular speech to describe visual phenomena, I want to define the term “visual noise”

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<sup>1</sup> As in Chapter Two, throughout this chapter I will use the term reader/user to invoke the oscillation between reading, scanning a surface, and engaging with it through physical movement, what is sometimes called visuotactile engagement. Although I opt here only to use the terms reader and user, I would like to emphasize that this is not meant to diminish the importance of the viewing and watching that are, of course, part of the experience.

as a distinctly definable strategy which combines letters with images, sounds, and, in the case of digital work, kinetic operations to create a sense of excess. Generally, “visual noise” is, first and foremost, a visual strategy that foregrounds the materiality of the works. However, it is not a straightforward autotelic gesture towards the works’ digital media existence. Rather, “visual noise” often appears to be a site of struggle between representations of different media with varying results. The concept of remediation can partly help explain what seems to be a paradox of medial self-awareness. As Bolter and Grusin have argued, certain digital applications are “explicit acts of remediation ... [that] import earlier media into a digital space in order to critique and refashion them” (*Remediation* 53). However, they continue, “digital media that strive for transparency and immediacy ... also remediate. Hypermedia and transparent media are opposite manifestations of the same desire: the desire to get past the limits of representation and to achieve the real” (53).<sup>2</sup> Works that employ excessive or “busy” lettering and visual layout as a poetic/textual strategy, I argue, explore these two manifestations within the same work. As Strickland points out, “one flickers between seeing the viewable and reading the legible” (“Moving Through Me As I Move” 185).

In his *New Philosophy for New Media*, Mark Hansen offers a useful account of what he calls the “digital image” and its relation to an embodied experience. Hansen argues, in brief, that the “digital image” cannot be conceptualized as a surface structure alone but must be “extended to encompass the entire process by which information is made perceivable through embodied experience” (10). He sees a shift in artistic digital practice “from perception to affectivity” (13), such as in the work by Jeffrey Shaw, a shift from “a dominant ocularcentrist aesthetic to a haptic aesthetic rooted in embodied affectivity” (12) which is part of artists’ effort to “specify what remains distinctly ‘human’ in this age of digital convergence” (13). Hansen’s argument deals primarily with digital art which combines images with bodily activity of the audience in physical installations. His arguments can help understand how reader/users’ embodiment forms part of the process of making sense of digital poems. The poems discussed in this chapter are not primarily experienced through installation; consequently, the range of bodily activity and physical orientation required of the reader/user diminishes. I would nevertheless like to follow Hansen’s insistence on understanding predominately visual digital works as embodied experiences, even though I am not entirely convinced by Hansen’s arguments about human perception and cognition. I am particularly hesitant to make claims, along the lines of neuroscientist Francisco Varela as discussed by Hansen, that “the capacity of the ‘embodied mind’ to adapt quickly to new virtual realities demonstrates the plasticity of the nervous system and the operative role of bodily motility in the production of perception” (Hansen 39). I am not

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<sup>2</sup> Bolter and Grusin define the “real” in this context “in terms of the viewer’s experience; it is that which would evoke an immediate (and therefore authentic) emotional response” (53).



interested here in the possible neurophysiological effects of these part digitally mediated experiences. These aspects of Hansen's argument aside, however, the experience of visual noise poems does require a bodily engagement from the reader/user as inscribed into the work and called upon in the event of the poem. This engagement, crucially, involves more than watching, looking, and reading, that is, the employment of sight. However, it is not just a question of what human senses are called upon, but also what illusions and allusions to other senses are made through strategies of kinæsthesia.

Hansen's discussion of the necessarily embodied engagement with the "digital image" is part of ongoing scholarly investigations into the concept of the material. For me, materiality's relation to poetic meaning-making, which has been explored throughout the present thesis, is of central concern for scholarly analysis and assessment of digital poems. We can be reminded again of Hayles's articulation of literary materiality as dependent upon "how the work mobilizes its resources as a physical artifact as well as on the user's interactions with the work and the interpretative strategies she develops" (*Writing Machines* 33). Or, the way in which the reader/user figures in Cayley's discussion of the relationship between writing and code in digital media:

Meaning creation and signification as performance are at the heart of a poet's work. New ways of performing and generating—and new ways of understanding these activities—are always of practical interest to the poetic writer, especially where such developments have potential for aesthetic, social, and political affect. ... "Machine" here must, of course, be taken to include the "psychic apparatus," as well as the embodied writer and all the prosthetic, mediating devices of inscription ("Inner Workings" n.pag.).

Or, we can evoke Aarseth's notion of the cybertext and its reader: "the effort and energy demanded by the cybertext of its reader raise the stakes of interpretation to those of intervention" (*Cybertext* 4). Aarseth's reader becomes a player, a user who learns "the rules of the game" as she interacts with a specific work. And as the game-oriented rhetoric of *Cybertext* suggests, Aarseth's primary interest lies with games and literary works which emphasize a reader/player function. The reader/user is, then, an integral part of the experience, not only due to her interaction, but due to the bodily engagement that this interaction entails (programmed by the poet and realized by the computer through the reader/user's interaction). This, in turn, intersects with what she hears, reads, and sees, and, ultimately, how she understands the meaning(s) of the work. Material and artistic strategies (such as striving for immediacy or hypermediacy in representation) can be further investigated. For instance, the poems analyzed in this chapter would certainly fit into the category of the hypermediated. At almost every turn, the works either emphasize their digital ontology (in their specific way) or make it clear to the reader/user that the remediation of another medium, such as print or

typewriting, is only a representation within another medium. But the question must be: how is that hypermediacy, or awareness of the medium, created in the work, and what are its effects?

The aim of the following analysis is to see how visual noise (as a poetic strategy based in the strategy of hypermediacy) and poetic meaning-making connect. What is it that is being explored through the poems' artifice? This analysis differs somewhat from the previous chapters in that it involves looking at a practice that exists across media forms. What happens, then, with a materially specific analysis? In the present analysis, the most pressing concern is the articulation of the differences between what may look like a similar aesthetic choice (in printed as well as in digital form), and what effects those differences have on the reader/user's engagement with the work, as it is locally instantiated in a particular medium.

Let me begin with Jonathan Carr's "Breathing/Secret of Roe" from 2002.<sup>3</sup> The poem, which is rather short,<sup>4</sup> is made with Flash and consists of two screens (indicated by the double title) with texts nervously trembling or shaking so much that they remain unreadable unless the reader/user lets the cursor rest upon a line at which point that particular line comes to a standstill. The work juxtaposes sounds and images to underscore a vacillation between a gentle, quiet screen and a loud, disturbing screen. The audio shifts from whispering and ambient music in the former screen to loud fast rhythms and a loud voice reciting texts in the latter.

The music in the first screen creates a sense of impending change, or danger which is mirrored in the sixteen lines. The poem begins with allusions to a couple going on a hike, but this quotidian opening is soon followed by less calm and ordinary scenes:

Yesterday I sat by the window for hours    watching

Outside the world moves like a spider                      noiseless    and  
patient

I am not truly seeing

I don't think I will move for a while    maybe    never<sup>5</sup>

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<sup>3</sup> The work was published on the *Poems that Go* website in the winter issue 2002. It requires Flash 5.

<sup>4</sup> Or, one could say, it is rather small. The reader/user can choose between a "hi-fi" version or a "lo-fi" version of the work. The former is 950 kb and the latter 363 kb, neither of which is considered large. Although the reader/user can spend as much time as she or he wants with the work, shifting between the two screens, it takes about 3-4 minutes to go through the texts in the first screen and listen to the reading of the lines in the second screen.

<sup>5</sup> I use Arial font, which resembles the poem's visual appearance. I have not been able to ascertain what font is used in the work.

And later:

Suddenly my life tilts

The clock's arms won't stop swinging    moving    seeking

Yesterday I jump off the window ledge

The last three lines read:

Who's dreaming?

I am not really

breathing

as a voice whispers "Sometimes you are the only truth." Apart from the whisper there is no voice speaking or reading the lines. In the bottom left corner there is a small dot with words rapidly flickering next to it. If the reader/user rests the cursor on top of the dot, she is taken to a second screen. The shift is violent. Suddenly, there is a fast and loud drumbeat and a voice (with an added echoing sound effect) is heard reading loudly. The former white background is replaced by a gray one. A number of shorter lines change rapidly from one text to another and then to yet another text; the speed is too fast for comfortable reading. However, the reader/user can mouse over the texts to stop the fluctuation. A photo of a man being forcefully held down to the floor by another man, bald and dressed in black, appears to the left of the screen. Someone, a woman in a skirt or dress wearing open shoes, stands nearby, turned toward the two men. Most of her upper body is outside of the shot. Combined, the photo, the music, and the voice, as well as the moving texts create an overall effect of violence, force, and discomfort.

The male voice that blurts out the lines underscores that discomfort which the ambiguous lines of this second screen also convey:

I cannot hide myself

anymore in the blocks of this city

wide open and grasping

these arms are the walls

of a broken mausoleum

what is this feverish compulsion  
for rest, for the bringing together  
of these tattered bookends? I cannot  
hide anymore between  
the ghosts of this faulty foundation  
spilling like seed  
from the bowels of a pomegranate  
from the belly of this holy fish  
the secret of roe  
precious and black, is told  
from the song of a knife  
in the splitting apart of flesh  
the gasping desire  
for water, the falling curtain of  
true anonymity  
sometimes you are the only truth  
that can be divined among  
the vessels of this pumping machine  
you are a totem, a length of fine linen  
that has broken itself in two  
over the weight of clay  
hidden in the banks of this river  
I did not want you to die alone  
but there is no cure for that

ailment, only the fleeting  
lie of this bed which is  
a past woven outside of truth  
that you are the dull  
ache at the base of my shoulder  
is all that I have to offer  
in exchange for this holding of you.

The poem is ambiguous in its address: who is being spoken to? Is it the “she” from the first screen? It is not clear what the poem seeks to convey. The pivotal line is “I did not want you to die alone,” after which there is a short break in the reading (the only one in the recitation). The title of this second part of the work, “Secret of Roe,” may suggest an aborted fetus (alluding, perhaps, to the Roe v. Wade US Supreme court case concerning abortion in 1973), a reading which seems to be supported by the lines:

the secret of roe  
precious and black, is told  
from the song of a knife  
in the splitting apart of flesh

However, that reading seems too tenuous and does not seem to be sustained by the whole poem. The relationship between the two parts of the poem is also left unclear. The reader/user is left to interpret contradictory lines and ambiguous images to the sounds of the looping heavy drumbeat.

My point in bringing this sonically loud work into a discussion about visual noise is that, although it is the sound that perhaps most emphatically conveys noise, there is plenty of visual noise in the work as well. The kinetic letters, the rapidly exchanging chunks of text, the oversized white text that continuously flickers across the second screen, emphasized by the requirement that the reader/user “still” the texts’ movement in order to read them build up this noise. The reader/user participation fuses with the visual instantiation of the work in a way which is not navigation, but an inscribed intervention into the text that must occur for all the aspects of the work to be experienced. Whatever meaning the reader/user ends up making about the work, it is intimately affected by the kinetic, visual, and sonic make-up of the poem, as

well as the choices (although few) she makes as regards the intervention into the work, such as pausing with the mouse cursor to still a line, or switching between the silent and the loud screens.

Another shorter work which uses visual noise as part of a larger poetic construction is Andy Campbell's "Spawn" (figure 8).<sup>6</sup> The work is visually constructed as an image of a glass jar turned upside down with a plant in it. Dark circles hover above the plant. If the reader/user points the cursor to one of the hovering dark circles, a text is "spawned" outside the jar. If the reader/user clicks, an extra layer of visual or textual elements appears which flows around, over, and above the jar and the initial text. The black circles (can they be interpreted as flies?) and the texts that are connected to each one have titles such as "\*fact (only)," "tackedown," and "| | | | | |." There are ten of these texts.<sup>7</sup>

Clicking on the circles generates a second different text, which moves across the window, spins around, and changes. This goes on until the reader/user clicks again on another black circle, calling up another second textual layer. As the second layer moves and changes, the changing size and placement of letters and symbols oscillate between covering the entire window and shrinking to a smaller size. Since the background in "Spawn" is white in the upper half of the window and gray-black in the lower half and since, in some of the second texts, the letters are white, as they spin around, the letters become invisible over the white background and are only readable when they move across the image of the jar and the darker background. Obviously, then, the movement of the texts makes the reading of them quite difficult. The constant movement of the second texts and the moving black circles require the reader to be alert and to wait for the right moment to read the texts.<sup>8</sup>

In addition to movement and color, some of the texts have unorthodox typography. Some of the titles, as noted, also use typographic marks interspersed with the letters. In the section named "pinned," the following lines in the second text appear:<sup>9</sup>

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<sup>6</sup> "Spawn" was also published at *Poems that Go*, in the fall 2002. It is also indicated as part of issue 12, 2003. The issue was devoted to "reactive media."

<sup>7</sup> The titles are "\*fact(only)," "Pinned," "Butterfly," "\_blank," "\*I (as a matter)," "Tinned," "Magnification," "| | | | | |," "Tackedown," and "\_parent(0)."

<sup>8</sup> The degree of disturbance can be decreased since the reader/user is given the option to mute the sound (a continuous loop of the amplified, synthesized sound of what might be a droplet landing in water) and remove the graphics of the glass jar. Removing the graphics also renders the background a solid black and white color. One cannot, however, stop the letters' motion or change their color.

<sup>9</sup> The first text in "Pinned" is:

everywhere i look i see ceilings  
arms reach from radiators  
rugs o o o shelves o o o plaster  
between forefinger and thumb  
a blue needle pinched  
aching

(i)

() – ( as )

(Do) – (wn)

)( only )( (br)e a(k)-()

It may not be very difficult for the reader to parse the lines: they can quite easily be read as “I,” “as,” “Down,” “only,” and “break.” However, the typographical excess in these lines along with the fact that they perpetually shift between a right side up and an upside down alignment, as well as shift position vis-à-vis each other, renders the reading of them quite challenging at the very least. “Spawn” requires the reader/user to negotiate the work’s animated surface to figure out what is needed for texts and images to appear. This process of learning is, as we have seen, common to many digital poems. Indeed, as Cayley, Wardrip-Fruin and others have argued, it could be considered to be a core characteristic of digital poems at large.<sup>10</sup> The reader/user actions in “Spawn” consist of hovering over the circles and clicking in order for all the parts of the work to play out. But those simple actions are resisted as the cluster of black circles (partially hiding each other) spin around and seem to glide away under the touch of the mouse cursor. Getting to all ten texts requires considerable patience from the reader/user. The reading of the kinetic second texts also requires time. Although the reader/user is free to click on any of the black circles at any time, the playing out of the second texts cannot be steered by the reader/user, but operates according to its own (preprogrammed) time.

To conclude, these two short works use visual noise through primarily kinetic means. By making letters move, the works introduce difficulties to reading. This amounts to a resistance which should be thought of as existing on a scale or in degrees which change throughout the work, and, consequently, produce different degrees of difficulty for reading and interpretation. The syntactic relationship between words is rendered ambiguous and the reader/user is left to decide what these textual animations mean in relation to the semantic meaning of the words. The visual noise in “Spawn” is also created through unconventional typography and letter size. Reading the texts and attending to the kinetic features of the works become intertwined activities where one depends on the other. It is through the reader/user’s actions, then, that the visual noise is negotiated and the poems read.

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<sup>10</sup> In particular, this idea is connected to the notion of digital poems (or art works) as digital instruments which one learns how to play. This thought has been forwarded by Cayley, Wardrip-Fruin and others. However, as with most constructions, conventions do form even when poets and artists attempt to break them. What may be considered innovative and experimental may, in time, become standard features, albeit of a local practice.

## Wysocki's Digital Illuminations

I now want to turn to a more extensive work: Anne Frances Wysocki's *Leaved Life* (figure 9). I will begin with a rather extensive description of the poem's surface (visual, verbal, and kinetic) aspects which will be followed by a discussion of the semantic function of these aspects. I will then situate *Leaved Life* in the context of traditional and experimental traditions of poetry as concerns *Leaved Life*'s theme and visual appearance.

*Leaved Life* is an interactive highly visual poetic work created in Macromedia Director, published on Wysocki's website.<sup>11</sup> For lack of a better word I would describe the work as a cycle of poems which closely connect to each other through repetition. The work's visual and poetic constructions offer a sophisticated interplay between the material and physical elements, the reader's interaction, and the poetic texts. Although it is not the only aspect of *Leaved Life*, I suggest that the dominant feature of the visual and textual composition of the work is exactly that of "visual noise."

*Leaved Life* juxtaposes the visual style of typewritten or printed poetic texts arranged in lines and isolated single letters with pencil drawings and images of plant leaves and flower petals arranged on a background image of a paper-like document. Surrounding the image of the paper surface the reader/user sees parts of a flowery background. Already, it is evident that the work offers a remediation of other media, in particular paper and print, in a digital form.<sup>12</sup> The work relies in part on the remediation of the printed book and illuminated manuscripts, and the convention of a dedication page underscores that relationship, while the added movement simultaneously gives "a nod" to digital technology.

The reader/user comes to the work via an entrance page with the title and an instruction to "touch twice." As in Strickland's *Vniverse*, the common computer vocabulary of "click" or "mouse-over" is in this work also replaced by the word "touch," in an effort to evoke an illusion of direct tactility. After the reader/user starts the work by clicking on the "entrance" image, there is a loading sequence after which the words "For you" appear letter by letter on a black background. The reader/user is then met by what seems to be a partial view of the bottom right corner of a larger document. This is indeed the first of

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<sup>11</sup> Wysocki works at present at Michigan Technological University and *Leaved Life* along with other multimedia work by Wysocki is published on her website: <http://www.hu.mtu.edu/~awysocki/>. The work is from 2005.

<sup>12</sup> *Leaved Life*'s emphasis on visuality also places it in another tradition, reaching back to medieval illuminated manuscripts, pattern poetry, shaped poetry, and the ubiquitously referenced Blakean illuminations. This connection is hardly coincidental: the work received first prize in a competition called "Born Digital" arranged by The Institute for the Future of the Book. The theme for the competition was "illuminations" and the guidelines for submission gave, among others, the following restrictions and suggestions: "submit a single illustrated page that exploits the unique possibilities of the digital medium while preserving the relationship between text and image. Explore the notion of a 'video snapshot.' Animate an image or a text. Create an interactive or networked illumination that responds to the reader..." ("Born Digital Competition").



sixteen sections which make up a larger document. The sections are, more accurately, a partial view of the whole document that the reader/user has access to at any one time. By moving the cursor towards the edges of each section the reader is transported to another section. In several of the sixteen sections of *Leaved Life* the visual space is full of letters which, apart from a few scattered words here and there, gives the impression of an unordered, messy, and erratic surface. It is possible to make out some words in the array of letters gathered in the top left corner of the view, such as, in one section, “little,” “skin,” “you,” “bye,” “catch,” “stay,” “weary,” “reflect,” and “yes,” but there is no obvious semantic relation between them. Across the image of the paper document that the reader can peruse there are numerous letters which are either scattered irregularly across the surface or arranged in words haphazardly. The letters form visual objects rather than semantic entities by way of their isolated positions on the document. This is, needless to say, not the usual printed arrangement of a poem. There are also images of leaves and flowers whose placement and shadowing, mirror the look of actual leaves and flowers placed on top of a surface.

In seven of the sixteen sections there are small animated pencil drawings of three naked people: two men and one woman. They stand facing each other with their arms swinging back and forth. Not only do these drawn figures move; there is movement throughout the surface. Some letters move slightly in a jittery manner, seemingly without purpose. Other letters are static, but scattered irregularly over the surface, at times forming clusters of letters which only occasionally spell out legible words.

As the reader/user navigates across the letter-littered paper, she will notice that the images of flowers and leaves respond to cursor movements. By simply passing the mouse cursor over them, the flowers wilt irreversibly. Similarly, the leaves wither when the reader/user clicks on the image, but this change brings about texts. A click on a leaf-image initiates a movement of the letters that are scattered around in that particular section. They change positions on the paper from a state of disarray, randomness, and illegibility to form a readable poetic text in a stanzaic form. There are seven of these “leaf poems.”

If the reader/user does not engage with this surface through movement or clicking, the poem will remain in this “messy” state. However, when the reader/user clicks on the green leaf, the surface “comes to life” and starts to change. The leaf turns yellow after the first clicking, and its decay gives birth to a poem with the letters moving across the space and settling in stanzas. By sleight of hand, the reader/user has tamed the nervous, seemingly irreparably “messy” surface into a readable poem. Meanwhile, the drawings also transform. After the first click on the leaf, the two men and the woman move in gymnastic-like manner with great agility. After a while they settle into positions with their entwined bodies forming letters. The figures in the drawing literally and visually form drop-cap letters, reminiscent of older illuminated manuscripts

and ornamented printed works.<sup>13</sup> When the movement of the letters ends, the surface contains a recognizable, readable poem. The letters and lines are ordered in a manner which we have come to expect from traditional print poetry. The change, initiated by the reader/user, constitutes, I argue, a transformation in which the letters change from being graphic or visual images which the reader/user *views* to a text one can *read*, and whose visual form goes largely unnoted, except to point to “poetry.” We can be reminded again of the oscillation between strategies of visual representations that prompt their viewers to “look at” or “look through” (as Bolter and Grusin, and Lanham among others have discussed).

In the case of the seven sections where poems can be made to appear (the ones with clickable leaves and animated drawings) the visual excess and noise constitute the “default” state which occurs prior to the reader/user’s first clicking as well as after the second clicking when the text reverts back, irreversibly, to its “messy” state. The work as a whole is more often in a state of disarray, not to say “illegibility,” than in order since the interaction by the reader/user brings only momentary clarity. If the reader/user leaves one text in its stanzaic, ordered state to visit another section, upon returning, she will find the text, once again, in disorder.<sup>14</sup>

There are different types of visual excess in *Leaved Life*. In the “Nearly” poem the lines are already in place, but these lines are overwritten by randomly arranged letters which makes some words discernable “underneath,” but the clutter blocks the reader/user from a full access to a text which seems to hide beneath the “superfluous” letters. There is an invocation of layers in the visual layout of the poem which is further accentuated since the reader/user’s clicking results in a clearing away of the extra textual layer, making the poem beneath readable, but only momentarily. If the reader/user moves the cursor over any of the letters, they are randomly exchanged for other letters, causing, step by step, the semantic breakdown of the poem. This added “nervousness” pertains to the document as a whole. Even when the poems are not broken up into separate letters, they always seem to be on the verge of changing beyond meaning if the reader/user lets the cursor wander across the surface.

“Visual noise” in *Leaved Life* is created through an erratic, unconventional visual layout before the poems come to order, from densely “overprinted”

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<sup>13</sup> Throughout my discussion of *Leaved Life* I refer to the poems by the drop cap word.

<sup>14</sup> It is important to note that the image state of the letters does not constitute a “pictorial” state. The visual layout of the letters is not to be interpreted as a recognizable form. Rather, they convey a feeling or general characteristic of nervousness, noise, and disarray of the text as a whole. The reader/user is, therefore, not dealing with a pictorial value, such as in any of the more common references which are suggested as historical forbears to digital visual poetry such as Greek and Latin poems in shapes of flutes, vases etc., George Herbert’s “Easter Wings,” or, even, Apollinaire’s *calligrammes*. Another possible interpretation is that the isolated letters constitute (in their disconnectedness) mere sounds without further meaning than the sound itself can convey. Such an understanding would problematize the notion of *Leaved Life* as a largely visual work, which is not primarily meant for oral performance or recitation.

words and letters, from the animated letters (shaking in their place) and drawings (moving in place while “unattended”), and, finally, from the letters that change into other letters as the reader/user moves the cursor over them. The visual noise is accompanied by a nervousness in the work which prompts the reader/user to move carefully across the reactive surface.

As we recall, the initial instructions to *Leaved Life* urge the reader/user to “touch twice.” If the reader/user complies, for instance by clicking on a leaf twice, it causes the complete wilting of a text and small graphic figures, resembling small leaves or worms, appear.<sup>15</sup> These figures move quickly across the surface seemingly drawing or leaving traces in their path, causing the surface to gradually become even more cluttered, even less decipherable which adds to the overall impression of a noisy, nervous, and illegible work. These smaller figures travel across the entire document and multiply. The result is an increasing visual excess which cannot be undone. Finally, the mess they bring will cause it to collapse.

At this stage, the work seems to enter into another phase. Against the light pink background there are no images of leaves or flowers; only a few words appear at the center of each section. Tantalizingly, the words are all about beginnings: “begin again,” “begin reckoning,” “begin as pulse,” “begin here,” “begin straightaway,” “begin at this moment,” and so forth. In this digital remediation of a tabula rasa, however, there can be no beginning again. There is no way out of this space: there is no way back to the previous document, nor a way to come to a new one. Trapped in the constant movement from section to section in what seems to be a seemingly endless vast void the reader/user has no choice but to close the window. Only then can she return to the work by restarting at the opening screen of *Leaved Life*.

*Leaved Life*’s employment of visual and kinetic noise and excess offers a certain amount of resistance to any printed description of it. My lengthy description of what happens in the work, its visual and poetic richness, and the different possibilities for the reader/user to engage with the work mirrors the excess of the work. How does one describe the simultaneous chaos and disorder that appear in front of the reader/user as she experiences the work, given that precisely that simultaneity forms part of the visual noise that I argue the poem employs? The literary work’s materiality, that complex “*interaction of its physical characteristics with its signifying strategies*” that Hayles argues for (*My Mother Was a Computer* 103, emphasis in original), informs the meaning the reader/user makes of the experience of the work. And, therefore, it becomes crucial for the scholar to spend time attempting to describe what that process entails.

What is *Leaved Life* about, then? Given that I claim that the work’s material instantiations and strategies are part and parcel of the work’s meaning,

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<sup>15</sup> It is not clear what the small banana-shaped yellow objects signify. In keeping with a reading of the paper document as an image of an actual document upon which flowers and leaves are scattered, the figures can be seen as book worms, eating away at the paper.

how can one interpret *Leaved Life*? I have described some of the movements and interaction in the work that lead me to characterize it as visually “busy,” overflowing and overcrowded, but now the question is, how does the work’s material form relate to its theme? What is the purpose of using overwritten texts, moving letters, and illegible chunks of texts in a poem? Does this visual noise, in a word, have a semantic role? Let me turn to the seven leaf poems in *Leaved Life* which clearly fall into a larger tradition of love poetry. The poems describe love and loss through well-known poetic tropes such as the synecdochic use of body parts in relation to a loved one, and decay and death after love has passed. The bittersweet remembrance of love and a loved one are described in evocations of the lover’s body which are repeated throughout the poems, such as in the “Dear” poem:

Dear  
  
to be here untimed and wearily blue  
  
kissing your mouth      your eyes up closed to my  
  
skin    my skin paging across your hands and  
  
saying in your mouth      the light on my face  
  
reflects into little spots over skin      stay  
  
catch this    hold this and dont leave me<sup>16</sup>  
  
bit by bit    letter by letter and sigh by  
  
bye into the darkness we suspect  
  
if we could only but leave<sup>17</sup>

The speaker’s wish to freeze time, “to be here untimed,” suggests a moment of remembrance from the future. From this vantage point the line “catch this hold this and dont leave me” can be read as alluding to the leaving that inevitably must (have) come. The poem shows a keen awareness of poetic tradition, both in theme and form. The conventional recognizable form of poetic stanzas cues the reader to indeed understand the work as a *poetic* work (which the initial classification in the title screen before the work opens up

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<sup>16</sup> The lack of apostrophe in “dont” is in keeping with the spelling in the work.

<sup>17</sup> I have used an approximate spacing between words as they appear in the digital work and the font which most reflects the work’s visual appearance.

obviously invites too as well). Although the texts are not in any traditional verse form, they make ample use of standard poetic devices such as alliteration, visual and auditory rhyme, and repetition.

The speaker recalls moments in short and disjunctive phrases. Much of the repetition occurs across the poems in the cycle. Words and lines are repeated and recombined. Consider the poems “Queer,” “Meerly,” and “Here.” Lines are repeated, permuted from one text to the next, such as the lines in “Queer.”

to be cheery  
domesticated light in your mouth  
the light in your two eyes  
childing in my hands the light on your face

which in “Meerly” turns into:

Cheery  
In the light  
Of your mouth  
Weary in the light of your many eyes  
And wary of the child in your hands, I

And, finally, in “Here” becomes:

it is  
to be  
happy  
light  
in your mouth  
the light  
of your two eyes  
childing in my hands

The emotionally charged poems obviously offer a constant re-vision, or re-visiting, of the same scenes. Sentences, words, and expressions are repeated, mirrored, slightly changed, and reused in the speaker's effort to recreate the scene of love. Limbs and parts of the lovers' bodies are frequently mentioned, "mine" and "yours" interchangeably: "sigh in your mouth," "light in your mouth," "playing in my mouth," or "childing in my hands" and "the child in your hands." The poems repeat similar images, voices, situations, and emotions. The speaker addresses the reader and the lover interchangeably, at times simultaneously. In continuously reworked lines, she or he tries to work out the parameters of memory and love.

An interesting dichotomy is set up throughout the poems between physical bodies and the electronic "physique" of digital technology. The corporeal imagery of eroticism and sex characteristic of a love poetry tradition is both undercut and strangely emphasized by an unlikely partner, the supposedly ephemeral digital technology (but as I have argued throughout, digital technology does have a materiality). In "Nearly," the erotic undertones are at their most explicit:

the light of my two eyes  
flailing in your hands, the little bit of  
imagined sex so perfectly purring

This intimate moment is immediately followed by a darker thought in which another element enters:

(so perfectly) and so why does every  
thing (everything) tear about  
in my bit heart?

The "bit heart" connects to lines in other poems with the word "bit," like "leave / me bit by bit," and "bit by bit letter by letter." The word's meaning is shifting between bit as in computer bit (a contraction of binary digit; the smallest unit of information), bit as in bitten, and bit as in piece. The reader/user is encouraged to keep all these multiple meanings in mind, active at the same time. The repetitions, then, take on the air of permutations, and, moreover, automated permutations. "leave me" in one poem becomes "wave me" in another, and "weave me" in yet another. The minute letter changes

easily shift meaning and throw the whole poem, and the poem cycle, into a fluctuation of meaning which is echoed in the kinetic animated screen.<sup>18</sup>

The juxtaposition and counterpoint of technology vs. nature is repeatedly worked through in the seven poems of *Leaved Life*. A triangle of sorts is formed with invocations of technology, nature, and the human being. The three elements are bound together not only as theme, but also through the work's material form which includes the reader/user as an active participant. Lines like "leave / me bit by bit" in "Cheery" and the contrary lines "catch this hold this and dont leave me" in "Dear" both turn inwardly toward the poetic diegesis to address the lover, while simultaneously pleading to the reader.

Time is a recurring theme in *Leaved Life*, apparent both in the poems throughout the cycle, and in the event that *Leaved Life* as a digital work instantiates. The remembering of love is persistently coupled with the wish to freeze the moment, to stay "here." The poem again self-consciously turns to the reader with the plea to

Please still the reflection into order

that holds here and only here, still. ("Meerly")

And in "Nearly":

Stop it. Just stop it. Hold still. Stop.

Still.

The pleas for inertia, for an "untimed" place and existence, are juxtaposed with a very nervous, reactive, and constantly changing work, which cannot be stopped. As the time runs out, according to an internal clock that is not made apparent to the reader/user, the work finally disintegrates into complete destruction.

The end of *Leaved Life* can be subjected to multiple interpretations. It seems contradictory and elusive. The visual space is left barren—no leaves or plants, no humans—there are only texts. But those short texts speak of beginnings. They are seemingly unending appeals to begin which paradoxically offer no direct ways back into the work, to read it again: "begin again," "begin in grief," "begin and begin," "begin today," "begin as you touch," "begin once more," "begin afresh," "begin as heart" and "begin here." But interpreted from the point of view of the poetic theme of the work this is not the desired way to

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<sup>18</sup> The reader will recognize this exploration of changing meaning through letter replacement from Cayley's work. However, there is at least one significant difference: Cayley's letter changes are computationally steered letter changes whereas Wysocki's changes are statically imprinted and the oscillation (as well as the connection between the poems) has to be made "in the mind" of the reader/user.

go. “To begin” means turning away from the time of decay, of loss, of remembering, and staying in that remembrance of love. To begin again, anew, and afresh, the reader/user must leave the work and turn outwards. This reading, then, suggests that the ending screens of the work, which the reader/user can navigate endlessly without finding a way—a link—out, are actually soliciting the reader/user *not* to interact with the work anymore, but to leave it in order to do what the biddings suggest. In order to love again one must turn away from the loss of the love that came before. Finally, the end reminds the reader/user of the efficiency—in this particular work—of digital media to hold on to memories: the poems are destroyed. But of course the memory function of several inscription technologies are questioned—drawings in which the drawn figures collapse, paper that cannot hold what has been printed or written on them. We are reminded then about the inevitable passing of time and the intervention by humans and nature alike (here in the form of the reader/user and the worms), which can destroy the printed paper we are in the habit of treating as static and stable.

Overall the work’s visual expression—the strategies of visual noise—point to and remind the reader/user of tactility, of thingness. Indeed, meanings that can be teased out of the title of the work connect to objects. The images of leaves and petals scattered on a paper document which, if of actual paper, could be made from wooden pulp. This, in turn, connects to the leaves of trees, lending the work a quality of the “natural” put in opposition to the computer and the digital medium the work actually exists in. The title can also suggest the leaves of a book. Finally, the poetic texts tell of loss and bereavement which suggests yet another reading of *Leaved Life*: a life after love, being left or leaving, and the life that ensues after that loss.

*Leaved Life*’s intertwined imagery, unstable physico-visual construction, themes of bereavement, loss, and love, and its self-referential qualities resist one coherent interpretation. In addition, in experiencing *Leaved Life* the reader/user must content her- or himself with being one part of an intricate digital instantiation of nervous and ephemeral poetic texts. The question the reader/user is perhaps ultimately left with is: why so much kinetic and “machinic” noise, instability, and nervousness in a poem which deals with human emotions like love, jealousy, feelings of loss and abandonment? What sense is the reader/user invited to make of the combatant, seemingly irresolvable themes of digital technology vs. print, ephemerality vs. stasis, noise vs. order, love vs. lost love, technology vs. nature? And even as these binaries are constructed, the material, visual, and poetic intermeshing of these themes and metaphors through images, functions, movements, and words seems to suggest that coherence, or simple oppositions, is not the desired outcome of experiencing *Leaved Life*.

One answer to the above questions can be found in the work’s exploration of material supports for memory: whether paper, digital technology, or human embodied memory. In her artist’s statement, Wysocki writes:



When we put our memories outside ourselves—in journals, family photographs, or Golden Gate Bridge-shaped salt and pepper shakers—we depend on the material of the memory holders to sustain. We hope the shapes and textures of the memory holders will last in order to call back to us other times, places, our youth, or the succulence of love.

“Leaved Life” is my thinking about such memory holders through the possibilities of illuminated pages, as Mary Carruthers describes them in her books on the memorial functions of medieval illumination. According to Carruthers, the whole of the illuminated page, including the floriation and cartoon-like figures, formed a “cognitively valuable ‘picture’”; that picture was to provide visual and verbal structures within which one could anchor one’s memory for later recall and reflection. I am curious about how the shapes and textures of computer screens work to hold and shape memories for us, given their moving and that their particular illumination is of light shining into our eyes rather than light from the candle- or sun-reflection of gilding on paper. (“Artist’s Statement”)<sup>19</sup>

*Leaved Life*’s exploration of external memory holders is, as Wysocki states, an investigation of printed/handwritten document versus programmed computer files executing a series of instructions. It is also about how material strata impact the work’s reader/user. However, ultimately, *Leaved Life*’s visual expressions, which offer so much resistance to the reader/user, also remind us that memories are also kept with whoever remembers. The reader/user who has gone through the experience of the birth, decay, and death/transformation of *Leaved Life* is now the holder of these poems, just as the speaker of the cycle of poems holds all the memories of the love and loved one.

## Print and Digital Strategies of Visual Noise

There are of course printed forbears of the general type of visual practice *Leaved Life* engages with. The creation of typographically dense texts or semantically unintelligible or near-intelligible language in poetry is well known. Poets, in particular since the days of the many modernist -isms (for instance, Italian and Russian futurism, Dadaism, Surrealism, and Lettrism) have experimented with different techniques of making the poetic language illegible, unintelligible, or simply unreachable. Modernist experiments and avant-garde sensibilities gave way to postmodern practices—which can be seen as in opposition or in continuance of modernist forbears. In addition to artistic and poetic practices, the typographic experiments in works by graphic designers in the 1980s and 1990s (by, for instance, David Carson and Kyle Cooper) play with illegibility and the thresholds of readability in, what is commonly called

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<sup>19</sup> I differ in my use of an italicized title from Wysocki’s quotation-marked title (or is it the Institute’s choice?). As explained earlier, I suggest the poems in *Leaved Life* constitute a cycle, which is comparable to a long poem or book of poems.

postmodern graphic design.<sup>20</sup> Although the digital works obviously remediate other media's visual text arrangements, such as the combination of word and image in illuminated manuscripts in *Leaved Life*, I would argue that the disruption and clutter that dominate the work's visual layout and appearance belong more to modernist and postmodernist literary and artistic experimentation and exploration of "visual noise."

The French symbolist poet Stéphane Mallarmé looms large over contemporary thought on 20<sup>th</sup> century visual poetics with his 1896 work *Un coup de dés (jamais n'abolira le hasard)*.<sup>21</sup> *Un coup de dés* is often evoked as either a starting point or a watershed moment in relation to contemporary experimental visual poetry. Johanna Drucker aptly notes in her discussion of 20<sup>th</sup> century experimental visual poetics that "[Mallarmé] made a work whose graphic, visual representation are [sic] indisputably integral to its poetic meaning—thus making an exemplary visual poetic text" (*Figuring the Word* 115). Partially influenced by Mallarmé, the poetic explorations of, in particular, typographic arrangements and word-and-image juxtapositions could be found in the many -isms housed under the rubric "modernism." In the postwar era, Concrete poetry in particular carried on and expanded the engagement in visual poetic experimentation and innovation. It is by now commonplace to evoke such a general lineage, both in discussions of contemporary printed visual poetry and digital poetry. Mallarmé's work can be seen as forefather of kind to digital poetry in general, but in relation to visual noise poems, other preceding and contemporary poems can be more useful in shedding light on the particularities of digital visual noise practices.

In his important study, *Reading the Illegible*, dealing with visual operations of erasure, overprinting, and blurring in printed American poetry, Dworkin discusses the medial noise in poems by Susan Howe, Charles Bernstein, and others. Those print poets' tactics of "illegibility" to destabilize conventional modes of reading resemble the visual strategies of some digital visual noise poems, particularly in the use of layered "overprinting." In addition, different

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<sup>20</sup> Postmodern graphic design and typography emphasize strained legibility over clarity, eschewing grids and coherent font and layout (Meggs, Philip B. *A History of Graphic Design* 457-463).

David Carson's work in the magazine *Ray Gun* and on numerous graphic design projects made him famous in the late 1980s and through the 1990s. He is well known for his unconventional typographic style and saturated pages, often too laden with photos and letters for a reader to take in all the information. For more on Carson, see for instance Blackwell and Carson. *The End of Print*. London: Laurence King, 1995.

Kyle Cooper is known for his work with film title sequences, among others in *Seven* (David Fincher, dir. 1995), and *Spiderman 1, 2 and 3* (Sam Raimi, dir. 2002, 2004, and 2007). For more on Cooper's work, see Andrea Codrington *Kyle Cooper*. New Haven, CT: Yale UP, 2003.

<sup>21</sup> Henry Weinfield translates the poem *A Throw of the Dice/ Un coup de dés*. Christopher Mulrooney translates the poem as *One Toss of the Dice Never Will Abolish Chance* (Mulrooney's translation is available in UbuWeb's archive). On occasion the publication year of the work is presented as 1897 or 1914. The latter is the year when the work was first published in its intended typographic layout.

sizes of letters and crowding of letters and words, and a break with horizontal sentence position, which appear in such printed works as Drucker's *The Word Made Flesh* and similar artists' books,<sup>22</sup> are used in digital works as well. At this point, it is important to heed Funkhouser's warning against too easily comparing digital poems with printed works that share a surface likeness which is "not intrinsically supported by shared ideologies or methods" ("Prehistoric Digital Poetry" 26) or, more to the point, do not share cultural positions. Howe, Bernstein, and Waldrop, in particular, were writing their poetry in the context of language poetry,<sup>23</sup> a nebulous school of poetry whose many manifestos and poetics statements defined language poetry as a school of writing as primarily invested in the poetic exploration of "antisyntactical and antireferential" language (Perloff, *Radical Artifice* 45). Language writers are, in McGann's words, "involved in writing projects which fracture the surface regularities of the written text, and which interrupt conventional reading processes" ("Contemporary Poetry, Alternate Routes" 263). Another arresting visual forbear can be found in Canadian poet Steve McCaffery's *tour de force, Carnival*, which was created mainly with typewriters; his particular blend of visual and literal expression in large panels made up of sixteen individual plates point forward to the wholly digital works emerging today.<sup>24</sup> Thus my discussion of print visual poetry has a double, somewhat contradictory goal: to bring forth tradition to stem the impulse to claim "uniqueness" for digital poetry and, simultaneously, to better illuminate what is specific to digital poetry.<sup>25</sup>

If one compares the visual strategies of Charles Bernstein's *Veil* (1976), or Susan Howe's typographical superimpositions and skewed lines of print in

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<sup>22</sup> The work was published in 1989 under Drucker's own press Druckwerk. For an analysis of *The Word Made Flesh*, see Perloff, *Radical Artifice* 120-129.

<sup>23</sup> Sometimes that moniker is written as L=A=N=G=U=A=G=E, after the name of one of the magazines associated with the group. Charles Bernstein and Bruce Andrews were the editors.

<sup>24</sup> Although the connection is almost too neat, it is interesting to note that both *Carnival* and *Leaved Life* are both set up with 16 panels which are intended to make up one whole document. *Carnival* prompted readers to put the panels together into one, and through its navigation *Leaved Life* allows the reader/user to experience the sixteen sections as part of one work. The difference is that the latter work does not allow, in its digital form, the reader/user to have an overview of all sixteen sections at once. Of course, the reader/user can get around this by printing out the images and assembling them in paper form. Such an intervention, however, would not be able to capture the different states that the work makes possible, among other things.

<sup>25</sup> It is important to note that other selections of both digital and printed poetry could be made. These poets are among many who have used visual noise and illegibility as poetic trope. The four poets, Bernstein, Howe, Waldrop, and McCaffery, engage in quite disparate poetic endeavors and their work should not be assumed to be identical to each other's. However, in the context of poetic visual noise, some of their poems show remarkable visual techniques which, although different in kind, can be illuminating when analyzing the digital counterparts. Most of the poets are American, although McCaffery is Canadian by citizenship, and is known for his involvement in the so called Toronto group, known for its "dirty" concretism, to follow Drucker's use of Stephen Scobie's term (*Figuring the Word* 129-130).

“Scattering as Behavior Toward Risk” (1990),<sup>26</sup> or Rosmarie Waldrop’s *Camp Printing* poems (1970), or Steve McCaffery’s *Carnival* (1967-1970; 1970-1975) interesting counterpoints to the visual noise techniques of *Leaved Life* and similar digital poems appear. Bernstein’s *Veil*, for instance, is composed as a linear and, in one sense, ordered text. However, since several lines occupy the same visual space, overprinted on top of each other, the result is a dense and excessive text. His is a palimpsestic text that is almost impossible to read. Dworkin argues,

The graphic forms of writing in *Veil* are so difficult, the increased “difficulty and length of perception” so extreme, that the reader is repeatedly made aware of the most minute aspects of visual perception, which the habitual reader can usually afford to ignore: the general situation of the reading space, the sculptural dimensions of the book, and the physicality of the reader’s entire body, which can no longer be ignored in an illusion of direct mental engagement with the writing. (57)

Dworkin’s emphasis on the optical reception of such an excessive text as *Veil* goes well with Bernstein’s own term, a “poetics of optics.” Obviously, in a by now familiar move of autotelic reference, the artifice of the work entices and, indeed, requires the reader to reflect upon her engagement with the work which moves reading beyond conventional modes. This engagement, in *Veil*, is then primarily an ocular one.

I would like to juxtapose the visual excess and readerly disorientation of *Veil* with the digital work of Jim Rosenberg whose poetics of language as well as visual experimentation bear a remarkable resemblance to Bernstein’s *Veil*. Although not generally described as “language writing,” Rosenberg’s *Diagram Series* shares the language writers’ investment in disjunctive forms of writing which break syntactical relationships between words. The *Diagram Series*, now in its sixth installment, uses overlaying of words to create complex sections of text that require reader/user participation in most instances to even be read. In a variety of technical milieus (the first series was done on paper and the latest uses the programming platform Squeak), the *Diagram* poems have grown increasingly dense and layered. Whereas the earlier poems in *Diagram Series 3* and *Diagram Series 4* explore multiple reading paths in non-interactive poems laid out in diagrammatic two-dimensional structures on a singular plane, *Diagram Series 5* and *Diagram Series 6* work with reader/user participation and uses a palimpsestic visual layout. In *Diagram Series 6*, for instance, the nine diagrams are created with several layers of texts consisting of juxtaposed words with tenuous semantic connections. In addition to the visually straining layout, the disjuncture of the words makes a straightforward interpretation of the work difficult. As Arnaud Regnault and Hélène Perrin noted in their presentation at

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<sup>26</sup> Howe’s poems “Scattering as Behavior Toward Risk” and “Thorow” appear in *Singularities*.

the 2007 E-poetry festival, Rosenberg's poetry is characterized by its lack of personal pronouns and its disjunctively arranged nouns and verbs. The visual density of the words superimposed on top of each other in Rosenberg's poems adds to the illegibility of most of the words. Too much information, as it were, occupying the same visual space cancels out normal reading of the words, and the effect of this visual layout is one example of what I call visual noise.<sup>27</sup>

However, while the printed works offer no solution to the visual conundrum they present their readers with, the digital works often do. In Rosenberg's later diagram poems, the reader/user can disentangle the words, which then reveal themselves to be attached to layers. As the reader/user moves her cursor over the surface, the layers tear apart and the previously translucence which allowed all words to be seen at once is rendered opaque, now showing only one layer at a time. This makes the reading easier; the reading *order*, however, is still up to the reader/user, and while the visual noise of the surface has been momentarily lifted, the reading that now can take place offers other challenges to poetic interpretation, such as the ones offered by printed language as regards poetic meaning.

In *Diagram Series 6:1*, eleven lines appear, nestled closely together with partial overlap. Some lines can clearly be read such as the first three (from the top):<sup>28</sup>

time-mask rake extruded

loose

collide sweep windings

Other lines are more difficult to discern since they are partially or almost completely covered by neighboring lines. However, as the reader/user moves the cursor, the lines, and, consequently, the layers to which they are attached break free. The layers now have a marked outline and the outline of a layer underneath can be seen, and "caught" with the mouse cursor. One layer reveals the following words:

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<sup>27</sup> Let me point out that Rosenberg's *Diagram Series* poems have been primarily discussed as an exploration of structural relations between words for poetic means. Rosenberg is interested in the conditions of diagrammatic writing through the model of hypertext, which for him constitutes a medium of thought, as a "virtual diagram" ("The Interactive Diagram Sentence: Hypertext as a Medium of Thought" 112). As Sandy Baldwin points out, Rosenberg works with juxtaposition of words to create "poetic simultaneities" ("A Poem is a Machine to Think With: Digital Poetry and the Paradox of Innovation" n.pag.). Investigating a different mode of hypertext which relies on the reader/user's mouse-over movements, Rosenberg creates layers of word "skeins" (Baldwin n.pag.). My attention at this point is directed towards the visual expression of those "skeins" rather than an investigation of their interrelations as nodes in a hypertext.

<sup>28</sup> I use the Book Antiqua and Arial fonts which most closely resemble those of the work. The different fonts used in the *Diagram Series* signify different vertical relations (Baldwin n.pag.).

time-mask rake extruded

loose

clave epiphany railing

Further down, conjoined by a vertical line with a t-shaped figure, the lines “emerge motion” and “countermind stretch” can be seen. The latter line is partially obscured by the line “kindle flake answer” which also can be “taken apart” by the cursor. Thus, meticulously working through the work’s many layers with joint reading and mouse movements, the reader/user can tease apart texts and begin to assemble meaning(s) of the work. The connection between the visual noise created with the palimpsestic visual layout and the reader/user’s ability to interact with that layout in order to make a reading possible is particularly interesting in terms of the work’s signifying strategies. Here, again, as in *Leaved Life*, the reader/user’s movements become integral to the work.

Let me point out that the visuality that *Veil* and *Diagram Series* employ does not constitute a shaped or pictorial visuality. The pictorial representation of early pattern poetry (for instance George Herbert’s “Easter Wings”), or some Concrete poems (for instance Reinhard Döhl’s “Apfel”) or Apollinaire’s *calligrammes* is very different from the overprinting and visual layout of those poems. Similarly, as Dworkin argues, the interpenetrating lines and irregular printing in some of Susan Howe’s poems, such as in “Scattering as Behavior Toward Risk” and “Thorow,” are meant to destabilize the reader’s conventional scanning of the page, the “looking through” the material surface. Howe’s horizontally printed lines are at times skewered by other straight lines or words which are set at an angle. Some words are printed on top of another line, causing the letters to encroach on each other’s space. What Dworkin calls “a geometrically strict linearity” (34) disturbs printing conventions but not to the degree of *Veil*, for instance. It would make sense, then, to speak of a range or degree of visual noise depending on the amount of overprinting, visual disarray, and excessive lettering on a confined visual space.

A similar distinction must be made with digital poems. The visual layout and arrangements in *Leaved Life* and “Spawn” are not meant to create a visual shape; rather, the effect is more general. Unsurprisingly, visual arrangements such as in the palimpsestic text of *Veil*, in the unconventional print layout in Howe’s “Scattering,” and “Thorow,” and in the digital works I have presented have an effect on how a reader perceives the poems. However, what that effect is becomes important for the reception of the work as a whole. In *Veil*, for instance, the disorientation of the reader almost precludes any *reading* at all.<sup>29</sup> In

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<sup>29</sup> Although one may argue, as Dworkin indeed does, that *Veil* can be read, painstakingly so, and therefore does not preclude, but “discipline usual reading habits” (53), it is also true that this extraordinary effort does not remove the visual clutter of the poem.

*Leaved Life*, the overprinting or superimposition is of much lesser degree, and more importantly, it retains a higher degree of legibility for separate words.

The printed works' visual strategies do share some features with digital poems, and in the case of Rosenberg's work, a similar view of poetry writing. However, it is also clear that there are differences between the visual noise strategies of printed and digital work. There are, I suggest, three main points of difference: movement, reader interaction, and time, which all inform and steer the reader/user's perception of the work. Often, the most conspicuous difference between a printed work and a digital one is that of movement. It is commonplace to invoke "motion" or "kineticism" in printed work's visual layouts. Thus, for instance, Marinetti's typographical experiments in Italy in the early decades of the 20<sup>th</sup> century are often described as being characterized by a layout which conveys speed and dynamism, *Parole in Libertà* (words in liberty). To continue with more contemporary works which emphasize illegibility, Dworkin discusses Rosmarie Waldrop's work *Camp Printing* (1970) as an animation of print. The work consists of overprintings of the same poem in different arrangements—ranging from slightly smudged to barely legible, in which "texts appear to vibrate ... and sweep across the page in arcs that recall the lines of force in chronophotography and its futurist imitations" (71). Further, Dworkin finds that Waldrop's work is challenging print conventions in particular by invoking movement: "the almost filmic sense of animated print accreting before the reader's eyes imparts an illusion of textual activity to the process of turning pages; the opening sequence emphasizes the codicological structure of the book and at the same time undercuts its usually static impression" (71). Whereas works like *Camp Printing* indeed create an illusion or visual metaphor of movement (instantiates "moving pictures" from a series of static image through manual manipulation of the pages—flipping them quickly to create a filmic movement) the digital visual noise poems include movement which is independent of the reader/user's actions or manipulation.

Digital media forms can incorporate different kinds of movement—for instance through specific coding and visual appearance, such as animated images and letters, or through the coded inscription of the reader/user's possibilities of interaction with the work. The reader/user's movements, such as clicking, passing the cursor over the screen, or, as the case in other works, whole body movements, can be programmed to result in a reaction in the work. By definition, then, the work is not static.<sup>30</sup> In *Leaved Life*, in addition to the

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<sup>30</sup> As McGann has noted, a printed text's material status changes not only as time, wear, and tear affect it, but the textual condition which constitutes a "work" is also defined by a number of historical, cultural, and material factors. A text is, in arguments such as McGann's, never static or fixed. While I agree, I would hasten to point out that the "change" and "stasis" one refers to in relation to printed works are different from the states of change and stasis discussed in digital works. Printed texts can change in many ways throughout the course of their material existence, or, as a result of the invited or uninvited actions by the reader upon the work. There are actions that are inscribed into the work; think, for instance, of books that require the reader to rip up pages, or to disassemble and reassemble a work. However, these changes are

animated images and the general structure of reading-as-movement through the visual space I have already described, the most significant movements occur in/with the texts themselves, either as a result of the reader/user clicking on a leaf to spawn a text, or, through the seemingly random movements by the letters' own volition.

Secondly, digital works such as *Leaved Life* require the reader/user to engage with their responsive surfaces; otherwise, the works will remain in their nervously moving waiting state. Through reader/user interaction, digital visual poems underscore their existence as events and experiences. Reading *Veil*, *Scattering as Behavior Toward Risk*, *Camp Printing*, or, even, *Carnival* is (usually) to take in one visual space. Although all reading or viewing is, of course, a temporal activity, it is still a question of taking in one section, one page at a time, at the reader's own pace and will. In poems such as *Leaved Life*, "Spawn," and "Breathing/ Secret of Roe," on the other hand, the reader/user's interaction with the digital work is crucial in order for a reading to take place. This interaction is not straightforwardly resolving the visual noise that dominates the visual and kinetic expressions of these works, but is rather intricately part of the work's aesthetics. This can result in the reader/user feeling frustrated in her reading. Irrespective of the result, the reader/user's bodily engagement, beyond the visual, is required in these works, as in many other digital poems.

Thirdly, as we have seen with other digital poems, the material possibilities of controlling time in digital works prove to be an important "feature," as it were, of digital poetry. Reading is not just the temporal, cognitive act of a reader who reads a text with minimal eye movement scanning the page and contemplates its meaning, but a step-by-step unfolding of the work steered by what has been programmed into it and only in part subjected to the will and choices of the reader/user.

The effects, however, depend on the work. The reader/user's experience of the digital materiality, in visual noise poems, as in other digital poems as well, is affected by movement, time, and reader/user interaction. In *Leaved Life*, for instance, the work seems to insist upon its physicality, its tactile surfaces and objects, in short, its "thingness" through the inter-functions of these three elements. The visual objects within the work signal a sense of concreteness, which, since the reader/user can interact with the images as interactive (digital) objects, an illusion of "thingness" of letters, flowers, and leaves as objects strewn on top a paper lying on a table is reinforced. Letters are not used to form shapes as in for instance calligrammes or pattern poetry. Digital media allows the poet to visually and kinetically emphasize materials—paper, flowers,

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different in that they are not required to access the work in some way. One can access the work in ways other than the intended one.

In the case of many digital works with reader input, however, the work will simply never appear unless the reader engages with a linked image or text, for instance, to initiate the work as a whole or sections of it.



leaves, and the now almost old-fashioned look of a typewritten text. The visual re-representation of typewriter style letters points to a duality in *Leaved Life*. There is an attraction or affinity to paper documents—printed, typewritten, and illuminated—which amounts to a nostalgic reverence for these older media. However, this nostalgia is simultaneously undercut or trumped by the opportunities offered by digital media, such as kineticism, actual movements, and the possibility of a resolution of the visual conundrum that the printed poems' visually noisy surfaces present but can only be resolve in the "reader's mind."

The intricate surfaces of *Leaved Life*, "Spawn," and "Breathing/Secret of Roe," created through the various visual and kinetic states that I have described, amount to more than technically interesting or visually arresting works. The materiality of the poems closely connects to, enhances, and reinforces the poetic themes. I have suggested that visual noise as employed in these poems is a *poetic* practice, as is evident in printed poems as well. As such, visual noise is constructed by typographic arrangements of excess and superimposition, by the use of and particular positioning of images, but most importantly, in the digital works I have analyzed, by the implementation of movement—of images and letters, and through the orchestration of the reader/user's movements. Beyond metaphor or illusion, as in printed works, in digital poems movement is an efficacious function. This function is integral to whatever sense and meaning the reader/user takes away from the work. It is, therefore, not only an instrumental function—to start a work, or read a text—but becomes part of the process of reading and interpreting the work.



## *Conclusion: Looking Ahead*

Throughout this thesis I have investigated how poetic form is orchestrated in digital media. I have claimed that due to their constructions, digital poems demand that we supplement traditional poetics with new methods and new terms. Thus, I have suggested such terms as poemevent, cinematographic poems, and visual noise poems to account for born digital poems' kinetic, visual, and textual dimensions. Throughout, I have raised questions about literary materiality in the age of digital media, and suggested some answers as to how that materiality can be articulated. I have argued that poetic practices are intricate material and experiential processes for readers who become reader/users in most cases. The multidimensional illusions of the spatiotemporal places as poems that I have discussed in Chapter Two allow their reader/users to be immersed into a world which not only relies on imagination but requires embodied action for the reading to take place. As a counterpoint to those illusory places (pointing toward the fully three-dimensional installations I will bring up here) I have also analyzed poems which emphasize a spectatorship without interaction. These cinematographic poems, as I call them, rely instead on collages of word, image, and sound to generate poems, which triggers a cinematic sense of poetry reading. Crucially, then, in my analysis I have wanted to point to how animation changes the perception of the visual poetic text. Finally, expanding on the notion of multimedial and animated poems, in part, I have discussed how a particular type of visual strategy involving words is used to construct a "visually noisy" reader/user experience. Here, the movement of the reader/user becomes a crucial part of the reading which otherwise would remain illegible.

Let me point out that the practices I have outlined can and do appear in the same work. They are neither mutually exclusive, nor meant to be seen as clearly defined and separate "sub-genres." On the contrary, it is quite possible to see how, for instance, "ek-stasis" or "[theHouse]" can be described as visually noisy at times, or to discuss *riverIsland* as a multimedial and animated work (although not one that emphasizes a cinematographic reader function), or as a codework. Through close readings of certain dominant features, my aim throughout the thesis has been to carefully analyze the material constructions of the practices, what reader/user positions are offered in the work, and how this "poetic digital materiality" affects the meaning that the works' reader/users make of them. The terms I have proposed (visual noise poetry, cinematographic poetry, and poemevent) are meant to help elucidate what a poetic digital materiality can be. Such a materially specific analysis through close readings (in effect, multiple experiences and explorations) of the works' surface, context, and coded "inner workings" comes closer to describing how the reader/user can make sense of these poems.

Although the field of digital poetry seems so new, even at this stage it is impossible to cover it comprehensively. First, the field is dynamic and multidisciplinary: to explore genre boundaries is part and parcel of many practitioners' poetics. Secondly, the field is multinational; the program of performers and poets at the 2007 e-poetry festival in Paris, for instance, offers proof of how digital poetry is spreading and is now a vibrant field of practices in several countries and languages. Over 90 poets, artists, and scholars from over fourteen countries, such as Austria, Brazil, France, Switzerland, Australia, Canada, Portugal, Spain, Norway, Sweden, and the UK and US, participated during the three-day event. Poets engage with digital technologies in different languages and poetic contexts; naturally, the digital poetry scholarship is and will continue to be carried out in different languages and academic contexts. Although the event in Paris was an example of how poets and scholars can meet across linguistic and academic boundaries, there were also moments when such boundaries could not be crossed.<sup>1</sup>

I have presented a selection of poems from a vast and growing field, and, naturally, I have excluded some areas. I would like to briefly discuss two areas of digital poetry that I would venture to guess will become increasingly important in the field: code poetry and 3D writing. Both represent interesting directions. Code poetry addresses the specificities of code-generated writing in networked and programmable media; in 3D writing, poets engage with visual and three-dimensional properties of a new, almost exclusively kinetic writing.<sup>2</sup> These two directions are important because they prompt us to ask questions about writing poetry, intricately linked to the materiality of language representation given the technological possibilities of our time, and because they further push at the limits of how we think about poetry.

Code poetry, or code writing, is generally the term given to digital works that engage with questions of (poetic) language as code and computer-encoded language. Its practitioners are invested in text generated by computers. As such, code poetry can be seen as part of a larger interest in computerized generation of text, image, and sound, also evident in digital art. The computer's ability to subject texts to operations according to pre-defined algorithms is used for codeworks: "an algorithm is used either to generate texts according to a randomized scheme or to scramble and rearrange pre-existing texts" (Hayles "Electronic Literature: What is it?" n.pag). In addition to, and as a historical precedent to, questions about computer-based algorithmically controlled text

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<sup>1</sup> One problem concerned the different languages used during paper presentations and discussions. Among the most frequently used were French, English, Portuguese, and Spanish. Although efforts were made to offer translation, discussions were at times hindered by language barriers.

<sup>2</sup> The computational nature as well as the kineticism of the 3D poems separate them from other "spatial" experiments in three-dimensional writing, such as the poetry-garden of Ian Hamilton Finlay.

generation, practitioners and scholars in the field raise the issue of procedural literature as a general practice.

“Code” in all its connotations has attracted a great deal of artistic and scholarly attention in recent years. Many conferences in the past few years have abounded with issues of “code.” At *Ars Electronica* 2003, for instance, the theme was code: “Code-The Language of Our Time: Code=Law, Code=Art, Code=Life”. The Modern Language Association’s Convention in 2006 had two sessions related to code and literature, “Reading Code,” and “Cyphernetics: Signs, Codes, Texts.”<sup>3</sup> The 21<sup>st</sup> annual conference of the Society for Literature, Science, and the Arts in 2007 is announced as, simply, “CODE.” A number of scholarly books and articles on the topic have been published, such as Hayles’s *My Mother Was a Computer*, Adrian Mackenzie’s *Cutting Code: Software and Sociality*, Raley’s article “Code.surface || Code.depth,” part of her ongoing examination of code and literary practices, and Florian Cramer’s booklet *Words Made Flesh*. New fields of study relating cultural production to computer technology have emerged, such as the forthcoming MIT Press *Platform Studies Series* edited by Nick Montfort and Ian Bogost. On a more general note, Dan Brown’s *The Da Vinci Code* could be seen as the advent of interest in “code” by a general audience.

What, if anything, can we make of this surge of interest in, as it were, “all things code”? It may be, as Hayles suggests, that we are currently seeing the emergence of what she calls the “Regime of Computation” as the dominant cultural metaphor for our time (*My Mother Was a Computer*). As she notes, such a historical phase linking the dominant technology with models of the world would be in keeping with earlier mechanical models, such as the clockwork universe theory (3). In literary studies, we can recognize elements of the current interest in “code” as springing from structuralist and poststructuralist theories about language. In part, the emphasis on “code” is inflected by the currently dominant technology, but it can also be theoretically derived from what has come to be known as the linguistic turn. In the intersection of this general growing interest in “code,” and procedural literary practices, we find emergent digital procedural poetic practices.

In the digital realm, procedural poems that use computers to generate code works are known, simply, as “codeworks,” a term originally proposed by Alan Sondheim. Different categories of codework have been proposed by critics and poets such as Alan Sondheim, Rita Raley, and John Cayley.<sup>4</sup> The

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<sup>3</sup> The first session was presided over by Rita Raley, and the second by Arielle Saiber. In addition to these two “code” sessions, there was a session titled “Writing the Machine: Materiality and Intentionality in Digital Poetry,” presided over by Charles Baldwin.

<sup>4</sup> In a 2001 introduction to a special section on coded work in the *American Book Review*, Sondheim used the term “codework” and offers the three categories of works: (1) “Works using the syntactical interplay of surface language, with reference to computer language and engagement,” (2) “Works in which submerged code has modified the surface language—with the possible representation of the code as well,” and (3) “Works in which the submerged code is emergent content; these are both a deconstruction of the surface and of the dichotomy between

categories emphasize slightly different aspects of how computer code manifests itself in literary works; a crucial dividing point has thus far been the difference between texts which resemble computer code, visible to the reader as readable (if not always understandable) text, and computer code directed primarily to the machine itself to do what computer code normally is intended for: to make the machine do things, or, more technically, executable code. The former group of digital works that use computer code, or, more precisely, programming language syntax as linguistic material to be infused with “ordinary” text (most often in English) has been called “broken code” works. Cayley has called that particular use of code, “pseudo-code.”<sup>5</sup> Works by Talan Memmott, Mez, and Alan Sondheim are often put in this category. The slightly pejorative terms “broken” and “pseudo” refer to the fact that the texts do not function as computer code. Although to the human reader the text may look as if it were “programming,” it either does not adhere to any programming language syntax, or breaks the rules of that syntax, and is therefore not “understandable” to the computer. In other words, the works are readable, but only to their human readers. A striking feature of these works is the invention of neologisms and syntactically and typographically unorthodox writing. There are different types of computer code-infections, interspersed with what looks like normal English to the reader. For instance, the use of “.exe” or “.doc” will for most readers signal the extensions that Windows operating systems put to different files in order to identify what they are.

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the surface and the depth” (n.pag.). The latter category includes aleatory or randomly generated works as well. Sondheim’s tentative definitions are in part doomed to be cancelled out by the diversity of combinatory works that are being developed in digital media and in print.

Raley and Cayley have offered their models for understanding the subtle differences in the use of combinatory and generative methods, and how computer software functions in different approaches. Raley articulates what is implicit in Sondheim’s taxonomy, namely, in her words, “the most practically useful heuristic for critical investigation: a binary structure for codework that draws a distinction between code that is operational and has depth and code that is isolated on the surface of a text” (“Interferences” n.pag.). Evoking Cayley’s argument about the importance of differentiating code which can “function” as computer code (and be interpreted by a human reader as well) and that which can only be read by the human, but cannot run in the computer, Raley argues that the former “practice of codework differs structurally, metaphysically, and practically from the codework that incorporates static, non-functional elements of code into the surface, or ‘Interface text.’ Specifically, this working code has a ‘genuine’ rather than ‘pretended ambiguity’ of address; it is simultaneously addressed, in other words, to the human and to the machine” (“Interferences”). Cayley, on the other hand, emphasizes the moments in codeworks when “code is allowed ...its proper place and function: when the composed code runs” (“The Code is not the Text” n.pag.).

<sup>5</sup> In an exchange on the *nettime* e-mailing list with Alan Sondheim, John Cayley articulated his use of pseudo-code, and also related it to the term “broken.” The importance of defining for whom and for what purposes the text is broken, or pseudo-coded was discussed, which presents interesting questions about the intended reader and function of poetic work which uses procedures. (See a transcription of the posts by Sondheim and Cayley at <http://www.shadoof.net/in/whitecubebluesky/alsoexchange.html>.) Cayley has elaborated on this type of code writing in his “Time Code Language.”

On the other hand, codeworks that use algorithmically steered operations for different effects rely on the operation of computer code in the machine. Several of the poets engaging with codework are interested in textual operations (which are usually what the algorithms are written to perform), such as recombination and permutation. For instance, a poet can impose rules on his work that govern the choice of words and the procedure of combination, such as the well-known Oulipean S+7 procedure which calls for the replacement of each noun (in French *substantif*) in a pre-existing text with the seventh noun found after that first noun in a chosen dictionary. The specific procedure is fixed, formally defined—an algorithm. Among the poets and artists creating codeworks of this kind we find Cayley (for instance *overboard*, *translation*, and *windsound*), Neil Hennessy (*JABBER: The Jabberwocky Engine*), Glazier (for instance *Luz*, *Baila*, *Io Sono at Swoons*) Leevi Lehto (*Get a Google Poem*), Ted Warnell (*Poems by Nari*), to name but a few.

The second area that I would like to briefly conclude with is the explorations of computer-facilitated technologies and media forms in literary and artistic realms that are intent on bringing digital works “back into the physical world,” as Scott Rettberg recently remarked in “Editor’s Introduction: Reconfiguring Place and Space in New Media Writing.” “Back into the physical world” means in this case out from the computer screen into modes of installation and performance.<sup>6</sup> As mentioned in the chapter on technopoetics, there is already a tradition in the field to perform, or create installations of works which also, or primarily, exist as web- or CD/DVD-based works. As technologies such as virtual reality caves and real-space installations with mixed media become available to poets, they are used to generate a literary/poetic experience. Real-space installations such as *TextRain* by Camille Utterback have experimented with the notion of what a poetic or textual space can be. Examples of VR cave works include *Screen* (by Noah Wardrip-Fruin, Robert Coover, Joshua J. Carroll, Shawn Greenlee, and Andrew McClain [2003]),<sup>7</sup> Talan Memmott’s *E\_Cephalopedia / novellex*,<sup>8</sup> and *lens* by Cayley.<sup>9</sup> Environments such as 3D caves are still highly exclusive, but the work being carried out, so far mainly at Brown University, still can, and does, generate important insights into, and questions about, the nature of navigating and reading visual, kinetic, and spatial representations of language. I see these works as a continuance of the multidimensional “screen-based” works I discussed in Chapter Two. In particular, 3D works ask questions about how virtual and interactive

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<sup>6</sup> It is somewhat misleading to speak of screen-based work in opposition to installations, since, of course, in installations, screens are used as well. Some of these are simply large-scale projections (although the size does change the perception of the work). 3D caves, however, include tactile feedback through 3D virtual reality tools such as headgear and gloves.

<sup>7</sup> The work was created for a 3D cave environment, and was first presented as part of the 2003 Boston Cyberarts Festival in the “Works from the Cave” exhibition of the Bell Gallery.

<sup>8</sup> This work also exists in a web-based version, published in *Drunken Boat*.

<sup>9</sup> *lens* also exists in a QuickTime format which, as Cayley points out, is only a rendition of some of the structures which the cave-based works explore.

projections affect how we understand writing, and how we perceive reading in these spaces. What happens to the literary text that, through manual manipulation, can be taken apart, reassembled, and ultimately broken into pieces lying at the reader/user's feet, as in *Screen*? How can a reader/user read a text that he not only perceives as a projection but can actually "step into"? What is the nature of the three-dimensional visual projection that requires the reader/user's fully embodied experience (we can recall the discussions by Mark Hansen about Jeffrey Shaw's VR work) in order to be read? And how, ultimately, do such experiments affect our view of the materiality and visibility of literature? The questions these works raise through their exploration of poetry making in the age of new media present fascinating challenges for scholars.

The digital technologies of the cultural moment which Tim O'Reilly and others have called "Web 2.0" are affecting poetic modes of expression and publication as well;<sup>10</sup> poets use blogs, mobile technologies, and a range of other digital tools to create poetry. Jay Bolter has called our time the late age of print. Perhaps, we may also add in time, that we are also experiencing the beginning of a paradigmatic change in the way poetry is created and how we think and write about poetry. This does not mean that mainstream poetry printed on paper will die out; however, already, a majority, if not all, of printed books today come to life in computers before they are ever printed on paper. Let me hasten to say that just as handwriting "survived" print, print will "survive" digital media. I am not arguing for the demise of print, or, for that matter, cinema, video, or paintings. Rather, digital technologies affect and increasingly sustain media forms, and, subsequently, the artistic and literary expressions that are materially instantiated through their means. The result of digitization has also been a multiplication of artistic and literary forms. This cultural change will have a resounding effect on literary studies, sooner or later. If there is one argument I would like to convince the reader of this thesis of, it is that material instantiations of literary works matter. Digital poems remind us of this truth which is valid for all forms of human cultural production. Although the phenomenon itself is, and might always be, a minor one in a vast sea of literary

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<sup>10</sup> O'Reilly's article "What is Web 2.0?" is as its subtitle "Design Patterns and Business Models for the Next Generation of Software" indicates, primarily interested in the business of the web and all its sprawling uses. The main ideas behind Web 2.0 revolve around participation, community-building, open-source, and emergent phenomena and business-models in web platforms. "Data" more than software is emphasized. When the platforms are open-source and generally not sold, the data, or the information, that flows through those platforms is all the more important. Such phenomena like Google, Wikipedia, or scripting languages like Perl and Python, facilitate dynamic systems for building, use, and, ultimately, financial gain. As cultural phenomena of growing popularity and mainstream use, the general ideas behind Web 2.0 of collaboration, "hackability," (that is, ostensibly open for changes by anyone), and what is often called "rich user experiences" mould the users who might also hold digital literary artifacts, particularly online, to similar standards.



endeavors, it can help us start asking crucial questions about the materialities of literary works and their effect on literary meaning and signification, and, consequently, on literary scholarship.

Today, digital technologies are taking over as the predominant tool for writing. To write poetry in the age of new media does not have to mean that the outcome resembles the poems I have analyzed in this thesis. However, the questions they pose and the answers they suggest can provide further insight into the materiality of other literary forms as they are created in today's media ecology. To be born digital is quickly becoming the norm, not the exception, and literary scholars need to figure out what that will entail for reading, writing, and thinking about poetry in the 21<sup>st</sup> century. This thesis is intended to be part of that process.



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# Appendix

Digital poetry, poets, archives, journals, centers, and other resources.

All links checked July 23, 2007

<i>Academy of American Poets, The</i>	<a href="http://www.poets.org/">http://www.poets.org/</a>
<i>Afsnit P (Denmark)</i>	<a href="http://www.afsnitp.dk/">http://www.afsnitp.dk/</a>
<i>Altæ (Mark Amerika)</i>	<a href="http://www.altæ.com/">http://www.altæ.com/</a>
Andrews, Jim	<a href="http://vispo.com">http://vispo.com</a>
Ankerson, Ingrid	<a href="http://www.poemsthatgo.com">http://www.poemsthatgo.com</a>
Ars Electronica	<a href="http://www.aec.at">http://www.aec.at</a>
Auer, Johannes	<a href="http://auer.netzliteratur.net/worm/applepie.htm">http://auer.netzliteratur.net/worm/applepie.htm</a>
<i>Beehive Hypertext/ Hypermedia Literary Journal</i>	<a href="http://beehive.temporalimage.com">http://beehive.temporalimage.com</a>
Beiguelman, Giselle	<a href="http://www.desvirtual.com/">http://www.desvirtual.com/</a>
Biggs, Simon	<a href="http://www.littlepig.org.uk/">http://www.littlepig.org.uk/</a>
Bookchin, Natalie, <i>The Intruder</i>	<a href="http://www.calarts.edu/~bookchin/intruder/">http://www.calarts.edu/~bookchin/intruder/</a>
Bootz, Philippe	<a href="http://epc.buffalo.edu/authors/bootz/">http://epc.buffalo.edu/authors/bootz/</a>
<i>Born Magazine</i>	<a href="http://www.bornmagazine.org/">http://www.bornmagazine.org/</a>
Boston Cyberarts Festival (includes digital literature)	<a href="http://bostoncyberarts.org/">http://bostoncyberarts.org/</a>
bpNichol, <i>First Screenings</i>	<a href="http://vispo.com/bp/">http://vispo.com/bp/</a>
Breeze, Mary-Annev (Mez)	<a href="http://www.hotkey.net.au/~networker/">http://www.hotkey.net.au/~networker/</a>
Campbell, Andy	<a href="http://www.dreamingmethods.com">http://www.dreamingmethods.com</a>
Carpenter, Jim	<a href="http://www.luckysoap.com/">http://www.luckysoap.com/</a>
Carr, Jonathan	<a href="http://www.negativespacemedia.com/">http://www.negativespacemedia.com/</a> <a href="http://www.poemsthatgo.com/gallery/winter2002/secretdefault.htm">http://www.poemsthatgo.com/gallery/winter2002/secretdefault.htm</a>
<i>Cauldron &amp; Net</i>	<a href="http://www.studiocleo.com/cauldron/volume4/index1.html">http://www.studiocleo.com/cauldron/volume4/index1.html</a>
Cayley, John	<a href="http://www.shadoof.net/in">http://www.shadoof.net/in</a>
Center for Literary Computing, West Virginia University	<a href="http://clc.as.wvu.edu:8080/clc/">http://clc.as.wvu.edu:8080/clc/</a>
<i>Dichtung Digital</i>	<a href="http://www.dichtung-digital.org/">http://www.dichtung-digital.org/</a>
<i>Dickinson Electronic Archives</i>	<a href="http://www.emilydickinson.org/">http://www.emilydickinson.org/</a>
<i>Drunken Boat</i>	<a href="http://www.drunkenboat.com/">http://www.drunkenboat.com/</a>
<i>Eastgate Systems Inc.</i>	<a href="http://www.eastgate.com/">http://www.eastgate.com/</a>
<i>Electronic Book Review, The</i>	<a href="http://www.electronicbookreview.com/v3/">http://www.electronicbookreview.com/v3/</a>
Electronic Literature Organization	<a href="http://www.eliterature.org">http://www.eliterature.org</a>
Electronic Poetry Center	<a href="http://epc.buffalo.edu/">http://epc.buffalo.edu/</a>
Electronic Poetry Center, Authors Directory	<a href="http://epc.buffalo.edu/authors/">http://epc.buffalo.edu/authors/</a>
Electronic Text Center, University of Virginia	<a href="http://etext.virginia.edu/">http://etext.virginia.edu/</a>
Elektronisk Litteratur i Norden (ELINOR)	<a href="http://elinor.nu/">http://elinor.nu/</a>

<i>Empyre-mailing list</i>	<a href="https://mail.cofa.unsw.edu.au/pipermail/empyre/">https://mail.cofa.unsw.edu.au/pipermail/empyre/</a>
E-poetry 2007	<a href="http://www.epoetry2007.net/">http://www.epoetry2007.net/</a>
E-poetry Festivals Archive	<a href="http://epc.buffalo.edu/e-poetry/">http://epc.buffalo.edu/e-poetry/</a>
<i>E-poets Network</i>	<a href="http://www.e-poets.net/">http://www.e-poets.net/</a>
<i>frAme Journal of Culture &amp; Technology</i>	<a href="http://trace.ntu.ac.uk/frame/index.cfm">http://trace.ntu.ac.uk/frame/index.cfm</a>
Funkhouser, Christopher	<a href="http://web.njit.edu/~funkhous/">http://web.njit.edu/~funkhous/</a>
geniwate	<a href="http://www.idaspoetics.com.au/">http://www.idaspoetics.com.au/</a>
Gherban, Alexandre	<a href="http://gherban.free.fr/">http://gherban.free.fr/</a>
Glazier, Loss Pequeño	<a href="http://epc.buffalo.edu/authors/glazier/">http://epc.buffalo.edu/authors/glazier/</a>
<i>Google Book Search</i>	<a href="http://books.google.com/">http://books.google.com/</a>
Hermeneia Research Group	<a href="http://www.uoc.edu/in3/hermeneia/eng/espais/literatura.html">http://www.uoc.edu/in3/hermeneia/eng/espais/literatura.html</a>
<i>Inflect</i>	<a href="http://www.ce.canberra.edu.au/inflect/">http://www.ce.canberra.edu.au/inflect/</a>
<i>Iowa Review Web, The</i>	<a href="http://www.uiowa.edu/~iareview/mainpages/tirwebhome.htm">http://www.uiowa.edu/~iareview/mainpages/tirwebhome.htm</a>
JODI	<a href="http://www.jodi.org/">http://www.jodi.org/</a>
<i>JoDI: Journal of Digital Information</i>	<a href="http://journals.tdl.org/jodi">http://journals.tdl.org/jodi</a>
Karpinska, Aya	<a href="http://technikai.com/">http://technikai.com/</a>
Kendall, Robert	<a href="http://www.wordcircuits.com/kendall/">http://www.wordcircuits.com/kendall/</a>
Knoebel, David	<a href="http://home.ptd.net/~clkpoet/">http://home.ptd.net/~clkpoet/</a>
Kurzweil, Ray, <i>The Cybernetic Poet</i>	<a href="http://www.kurzweilcyberart.com/poetry/rkcp_overview.php3">http://www.kurzweilcyberart.com/poetry/rkcp_overview.php3</a>
Larsen, Deena	<a href="http://www.deenalarsen.net/">http://www.deenalarsen.net/</a>
Lewis, Jason	<a href="http://www.thethoughtshop.com/research/dynpoet/dynpoetr.htm">http://www.thethoughtshop.com/research/dynpoet/dynpoetr.htm</a>
<i>Litteraturbanken</i>	<a href="http://www.litteraturbanken.se/">http://www.litteraturbanken.se/</a>
M.D. Coverley (Marjorie Luesebrink)	<a href="http://califia.hispeed.com/">http://califia.hispeed.com/</a>
Marsh, Bill, <i>4 C's in Season</i>	<a href="http://www.ubu.com/contemp/marsh/4cs.html">http://www.ubu.com/contemp/marsh/4cs.html</a>
Memmott, Talan	<a href="http://www.memmott.org/talan/">http://www.memmott.org/talan/</a>
Mencía, María	<a href="http://www.m.mencia.freeuk.com/">http://www.m.mencia.freeuk.com/</a>
Mez, (Breeze, Mary-Anne)	<a href="http://www.hotkey.net.au/~netwurker/">http://www.hotkey.net.au/~netwurker/</a>
mIEKAL aND	<a href="http://www.cla.umn.edu/joglars/">http://www.cla.umn.edu/joglars/</a>
Morrissey, Judd, <i>The Jew's Daughter</i>	<a href="http://www.thejewsdaughter.com/">http://www.thejewsdaughter.com/</a>
---. and Lori Talley <i>My Name is Captain, Captain</i>	<a href="http://www.uiowa.edu/~iareview/tirweb/feature/morrissey_talley/index.html">http://www.uiowa.edu/~iareview/tirweb/feature/morrissey_talley/index.html</a> "Interview about My Name is Captain, Captain" (available on CD from Eastgate)
<i>Mots Voir (Alire)</i>	<a href="http://motsvoir.free.fr/">http://motsvoir.free.fr/</a>
Moulthrop, Stuart	<a href="http://iat.ubalt.edu/moulthrop/hypertexts/">http://iat.ubalt.edu/moulthrop/hypertexts/</a>
Nakamura, Yugo, "QuickTime 0.0"	<a href="http://yugop.com/ver3/index.asp?id=24">http://yugop.com/ver3/index.asp?id=24</a>
Nelson, Jason	<a href="http://www.heliozoa.com/">http://www.heliozoa.com/</a>
Niemi, Marko	<a href="http://www.secrettechnology.com/">http://www.secrettechnology.com/</a>
Niss, Millie, <i>Oulipoems</i>	<a href="http://www.cs.helsinki.fi/u/marniemi/">http://www.cs.helsinki.fi/u/marniemi/</a>
<i>Nokturno</i> (Finland)	<a href="http://www.sporkworld.org/oulipoems/">http://www.sporkworld.org/oulipoems/</a>
<i>Online Journal and Multimedia Companion to Anthology of Modern American Poetry</i>	<a href="http://www.english.uiuc.edu/maps/">http://www.english.uiuc.edu/maps/</a>

<i>P0es1s Gallery</i>	<a href="http://www.p0es1s.net/">http://www.p0es1s.net/</a>
Piringer, Jörg	<a href="http://www.p0es1s.net/p0es1s/main_e.htm">http://www.p0es1s.net/p0es1s/main_e.htm</a>
<i>Poems that Go</i>	<a href="http://joerg.piringer.net/">http://joerg.piringer.net/</a>
<i>Poetry Archive, The</i>	<a href="http://www.poemsthatgo.com">http://www.poemsthatgo.com</a>
<i>Project Gutenberg</i>	<a href="http://www.poetryarchive.org">http://www.poetryarchive.org</a>
<i>Projekt Runeberg</i>	<a href="http://www.gutenberg.org/">http://www.gutenberg.org/</a>
<i>Rhizome</i>	<a href="http://runeberg.org/">http://runeberg.org/</a>
<i>Riding the Meridian</i>	<a href="http://rhizome.org">http://rhizome.org</a>
Rosenberg, Jim	<a href="http://www.heelstone.com/meridian/">http://www.heelstone.com/meridian/</a>
Safavian, Zahra	<a href="http://www.well.com/user/jer/">http://www.well.com/user/jer/</a>
	<a href="http://www.drunkenboat.com/db3/safavian/intro.html">http://www.drunkenboat.com/db3/safavian/intro.html</a>
	<a href="http://www.poemsthatgo.com/textarchives.htm">http://www.poemsthatgo.com/textarchives.htm</a>
Sapnar, Megan	<a href="http://www.poemsthatgo.com">http://www.poemsthatgo.com</a>
<i>Screen</i>	<a href="http://hyperfiction.org/screen/">http://hyperfiction.org/screen/</a>
Soderman, Braxton	<a href="http://thefollowingphrases.com/">http://thefollowingphrases.com/</a>
Sondheim, Alan	<a href="http://www.asondheim.org/">http://www.asondheim.org/</a>
Speculative Computing	<a href="http://www.speculativecomputing.org/">http://www.speculativecomputing.org/</a>
Laboratory, University of	
Virginia	
Stefans, Brian Kim	<a href="http://www.arras.net/">http://www.arras.net/</a>
Strasser, Reiner	<a href="http://reiner-strasser.de/">http://reiner-strasser.de/</a>
Strickland, Stephanie	<a href="http://www.stephaniestrickland.com">http://www.stephaniestrickland.com</a>
Swiss, Thomas	<a href="http://bailiwick.lib.uiowa.edu/swiss/">http://bailiwick.lib.uiowa.edu/swiss/</a>
<i>Technopoetry Festival 2002</i>	<a href="http://technopoetryfestival.com/">http://technopoetryfestival.com/</a>
<i>TextRain</i> (Camille Utterback)	<a href="http://www.camilleutterback.com/textrain.html">http://www.camilleutterback.com/textrain.html</a>
<i>trAce Online writing Centre</i>	<a href="http://trace.ntu.ac.uk/index.cfm">http://trace.ntu.ac.uk/index.cfm</a>
UbuWeb	<a href="http://www.ubu.com/">http://www.ubu.com/</a>
Uribe, Ana Maria	<a href="http://amuribe.tripod.com/">http://amuribe.tripod.com/</a>
	<a href="http://www.vispo.com/uribe/datos/aboutAnaMariaEnglish.htm">http://www.vispo.com/uribe/datos/aboutAnaMariaEnglish.htm</a>
Villa Diodati (Romantic	<a href="http://www.rc.umd.edu:7000/">http://www.rc.umd.edu:7000/</a>
Circles MOO)	
<i>Vispo</i>	<a href="http://vispo.com">http://vispo.com</a>
<i>Vispo-Brazilian</i>	<a href="http://vispo.com/misc/BrazilianDigitalPoetry.htm">http://vispo.com/misc/BrazilianDigitalPoetry.htm</a>
Waber, Dan	<a href="http://www.logolalia.com/">http://www.logolalia.com/</a>
Warnell, Ted	<a href="http://warnell.com/index.htm">http://warnell.com/index.htm</a>
<i>Web Del Sol</i>	<a href="http://webdelsol.com/">http://webdelsol.com/</a>
<i>William Blake Archive, The</i>	<a href="http://www.blakearchive.org/blake/">http://www.blakearchive.org/blake/</a>
<i>Word Circuits</i>	<a href="http://www.wordcircuits.com">http://www.wordcircuits.com</a>
<i>Word Project, The</i> (South Africa)	<a href="http://www.thewordproject.com/">http://www.thewordproject.com/</a>
Wysocki, Anne Frances	<a href="http://www.hu.mtu.edu/~awysocki/">http://www.hu.mtu.edu/~awysocki/</a>
Young-Hae Chang Heavy	<a href="http://www.yhchang.com/">http://www.yhchang.com/</a>
Industries	
Zervos, Komninos	<a href="http://www.griffith.edu.au/ppages/k_zervos/">http://www.griffith.edu.au/ppages/k_zervos/</a>