

**THE WRITING ON THE WALL:
RELOCATING POETRY FOR THE INTERNET GENERATION**

by

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RELOCATING POETRY FOR THE INTERNET GENERATION**

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TABLE OF CONTENTS

LIST OF FIGURES	vii
ABSTRACT	ix
1 INTRODUCTION	1
2 MODEL AND RATIONALE	6
The Ecological Nature of Language: A Mediated and Embedded Act	7
What Poetry Can Tell Us: A Human and Creative Act.....	9
The Problem: Relocating Poetry	11
3 ECOLOGICAL RELATIONSHIPS IN POETRY	19
Overview	19
Culture by Individual Interactions.....	20
Individual by Technology Interactions.....	24
Technology by Culture Interactions	27
Conclusions	29
4 IN THE NAME OF POETRY	31
What is Poetry, Anyway?	32
Poetry in the Internet Generation: A Snapshot.....	39
“Digital Poetry”	39
Extending the Boundaries.....	47
“Alt Lit”	49
Putting It All Together.....	52
5 THE MAKING OF A POEM.....	54
Reaching for the Intangible	54
The Creative Writing Process.....	57
Uniting Science and Literature	61
6 APPLYING THE CRITICAL ECOLOGY	63
The Effects of Digital Media on Writing	63

Material Constraints	65
Cognitive Effects	70
Cultural Effects.....	72
Conceptual Changes	75
Rethinking Print Poetry	79
7 THE BIG PICTURE FOR POETRY	84
REFERENCES	87

LIST OF FIGURES

Figure 1	“Sooth” – Screenshot of a digital poem by David Jhave Johnson	2
Figure 2	“The Sweet Old Etcetera” – Screenshot of a digital poem by Alison Clifford.	16
Figure 3	The Ecology of Poetry: a three way, reciprocal relationship between individual, cultural, and technological variables. Each relationship makes a specific contribution to the meaning of a poetic work.	19
Figure 4	Screenshot of “code scares me” by Jessica Loseby. The text of the “poem” is obscured by coding language that rises, fades, and moves in the background, calling attention to the many types of writing that underlie our singular experience of a digital text.	38
Figure 5	Example of Literal Art – Screenshot of “overboard.” By John Cayley in which text appears, disappears, and shifts over time, variously revealing and obscuring the poem, while accompanied by music.	42
Figure 6	Example of visual poetry. This genre is an important precursor to many of the concepts present in digital poetry, such as a focus on visual and contextual elements. - Installation on Times Square Spectro Billboard by Jenny Holzer	43
Figure 7	Example of a poem-game – Screenshot of “Arteroids” by Jim Andrews, in which the player controls the word “poetry,” navigating it through space and shooting at other words.	44
Figure 8	Example of a real-time reiterative programmable poem – Screenshot of “Taroko Gorge” by Nick Montfort, in which a poem is continuously generated according to an algorithm accessing a source body of text.	45
Figure 9	Image macro by Steve Roggenbuck posted on his website <i>LiveMyLief.com</i>	50
Figure 10	‘i mis u lyke a daed thing heh’ – Screenshot of a poem by Wynn Koval, courtesy of the author.	51

Figure 11 A spread from *Only Revolutions* by Mark Z. Danielewski. This shows the two streams of poetry juxtaposed on each page, one always inverted relative to the orientation of the book. Note the formatting: each “o” is in a specific color depending on the stream. The bold words are those which Danielewski selected from online submissions by fans. The center of each page features a sidebar with obscure historical references and dates. 82

ABSTRACT

Poetry has changed with the spread of the Internet. The ability to self-publish, to combine media, and to remix other works are among some of the affordances of digital technologies that have altered the creation and distribution of poetry. Newly articulated theories of “digital poetics” are appearing in an attempt to account for poetic meaning in light of this apparently radical schism, while traditional forms of poetry now loom in stark contrast. Yet, haven’t poets *always* been exploiting the materials at their disposal in innovative ways to create new meanings? I argue that the shift since the Internet Generation merely appears radical because it highlights an aspect of poetic meaning that has, historically, often been ignored: the technological aspect. I propose an ecological view of poetic meaning consisting of a three way, reciprocal interaction between individual, culture, and technology. By adopting this perspective, I hope to show that we can account for meaning in digital poetry while preserving its ties with history.

Chapter 1

INTRODUCTION

My sister, Kallie, is a budding poet. In her pursuit, she finds herself caught between two generations. Of course, all artists are caught between two generations: The one which they inherit, and one upon which they hope to leave a new mark. But this bears to mind simple aesthetic generations, artistic movements. As a fine-arts grad student in the second decade of the millennium, Kallie is trapped in an entirely different way. She is caught between two separate ways of *being* a poet. She must negotiate the academic elitism of her elders and the much more democratic, dynamic ideal of her contemporaries among the Internet generation. Her mentor, distinguished poet Albert Goldbarth, has scarcely used a computer in his life, yet Kallie finds that even the most reputable of the poetic journals and prizes are going electronic. Two seemingly exclusive realms are competing for her attention, and both demand blood if she hopes to be successful. The position of the modern artist has shifted.

Up until now, even the avant-garde was contained within a closely-guarded community of the poetic elite. But that story has become antiquated; it is the *old* version of the new. With the widespread integration of digital media into society, poetry has changed. Genres have blurred, new methods have emerged, consumption has shifted, and definitions have largely fallen apart. Yet, these new developments have not obsoleted older, more familiar forms. Poets continue to produce works within the oral and print traditions that we have come to know, pushing the limits of

these media and innovating in their own right. In many ways, it appears that the world of poetry has split into two separate strands, print and digital.

With this understanding, new theories of “digital poetics” are arising to help account for differences between “digital poetry” and more familiar print forms. While proponents of this view make no claim as to the effectiveness of traditional poetics in regards to *traditional* poetry, many believe that it falls short in explaining digital poetry. This claim seems to have some heft – can a poetic theory which takes as its subject words, literary devices, syntax, etc., really be useful in explaining works that go beyond these methods to derive meaning from manipulation of media, distribution methods, network structures, and other affordances of digital media?

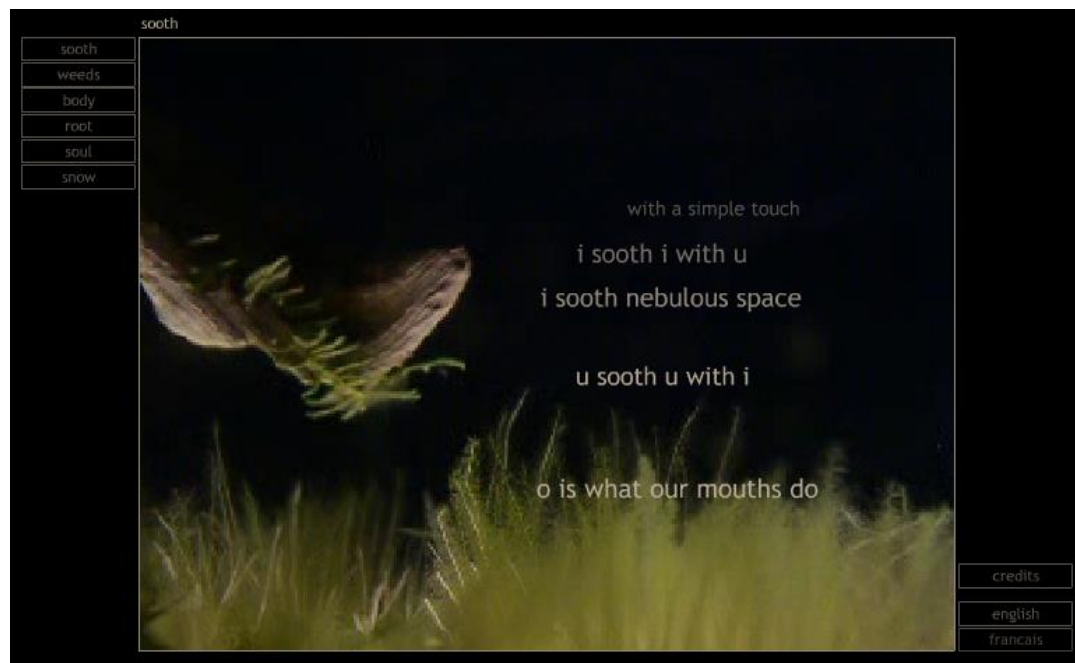


Figure 1 “Sooth” – Screenshot of a digital poem by David Jhave Johnson

Take, for example, a work by the digital poet David Jhave Johnson entitled “Sooth.” In “Sooth,” a series of love poems is presented overtop of looping videos accompanied by eerie sound clips. The poems appear bit by bit only when the reader interacts by clicking on the backdrop. In addition, the reader can switch between French and English versions of the poem almost immediately. On the website of the Electronic Literature Organization, they describe this piece, explaining that “...these images and soundscapes can stray far from the type of imagery associated with "love poems," leading the viewer/user into a compelling meditation on the body, the soul, the subconscious and the desires and fears that plague it.” This type of work derives meaning from its foregrounded use of media and technology, a realm of analysis often untouched in regards to traditional poetry. Perhaps traditional poetics is simply not equipped to deal with the possibilities of the Internet and digital technologies.

Yet, a contrasting interpretation suggests that poets have *always* been exploiting media in innovative ways in order to create new meanings. Might we be committing a historical cliché to say of this avante-garde movement, digital poetry, that it is entirely disconnected from traditional forms? I want to argue that it would be a critical error to pose digital poetry as a force in conflict with print.

Let’s look at some evidence for this. Firstly, digital media is unlikely to supplant the print work, as has often been argued by some of the more apocalyptic of print apologists. Rather, in many ways the digital medium, by appearing as a foil, has rejuvenated aspects of print. Often, for modern artists, the two realms exist in a symbiotic relationship. As author Adelaide Morris argues, “Far from displacing print, in fact, new media texts frequently depend on a differential relationship with analogous or related print materials” (32). Morris is suggesting that print and digital

texts can draw new meanings from their contrasts to each other. The digital realm is not the “unreal” realm, not the “immaterial” as compared to print, but only a new type of materiality. Print is a rich and long-standing tradition of its own, with unique affordances that could never be replaced by what is in its essence an entirely different entity. Rather, modern poets are learning to combine both into their works, their lives, and their understandings of their art itself.

Not only do these two media traditions exist within a harmonious relationship, but because of the integration of digital media into publishing, almost *all* contemporary works exist in a digital format at some point in their life cycle, be it in a word processor during composition, a website for exhibition, or even a simple photograph posted on the Internet. Works often exist in many media instantiations simultaneously. In light of this, the distinction between “print works” and “digital works” becomes unclear.

Yet, the two media are often depicted in terms of a dramatic schism of form. If, as I am suggesting, poetry has always involved experimental uses of media, and if print and digital are not truly as separate as they are often considered, then why does digital poetry seem so radical? Why do many believe that it requires an entirely new theory of poetics?

In this thesis, I argue that the shift since the Internet Generation merely appears radical because it highlights an aspect of poetic meaning that has, historically, often been ignored: the technological aspect. While this aspect of poetry has always been a part of its meaning, the relative consistency in media use up until now has generally made this a non-issue. Now, however, because of the new possibilities afforded by digital media, as well as the ambiguous distinctions between media forms that I have

mentioned, appealing to technology is *always* relevant in explaining poetic meaning. Even purely non-digital poetic forms, I will show, take on a new significance in light of technological developments.

I do not wish to claim that we need an entirely new theory of poetics to account for digital poetry, nor do I wish to say that traditional poetics is adequate. Rather, I am arguing for an updated and expanded view of poetry that accounts for meaning at many levels. I propose an ecological model of poetry which explains meaning as a three way, reciprocal relationship between individual, culture, and technology. First, I will explain the rationale behind an ecological model of poetic meaning. Next, I will develop in detail the forces at work in the noted ecological relationships. After that, I will demonstrate the characteristics of various forms of poetry, focusing on new and digital forms. Then, I will explain how these relationships play out in the processes of creating poetry. Finally, I will show how the ecological model can be applied towards explaining digital poetry while preserving its ties with history. Ultimately, I believe that this model is useful in furthering our understanding of all forms of creative acts.

Chapter 2

MODEL AND RATIONALE

In this section, I will explain the rationale behind adopting an ecological model of poetic meaning. The primary goal here will be to shed light upon the points of entry for each component of the model: individual, culture, and technology. Then, I will show how the case of digital poetry reveals the need for this ecological approach. Because of an illusory schism between the print and digital traditions, I argue, we have “lost sight of poetry.” In order to make sense of digital poetry as well as print (and any form in between) in a coherent picture, an ecological view is needed.

Poetry is inherently ecological because of its nature as a linguistic act. Language represents the thoughts of an individual, but is always *mediated* by a technological form and *embedded* within a cultural context. Therefore, any use of language will draw some of its meaning from the interaction between an individual mind, a technological form, and a cultural environment.

Poetic use of language, I argue, is a particularly interesting case because of its position as a cultural force. Beyond being a simple expression, poetry reveals something of the human condition. Furthermore, because of the spirit of innovation in the poetic tradition, poetry is particularly sensitive to changes across individuals, cultures, and periods. This makes it a powerful demonstrator of the shifts that have occurred since the Internet Generation. To sum, poetry’s status as a *human* and *creative* act make it, among language use, especially revealing of meaning on each dimension of the ecological model.

The new possibilities that digital poetry allow for the creation of meaning necessitate that we appeal to factors not generally considered relevant in other forms of poetry. Because of this, I will show, many theorists have split poetry into the separate fields of “digital” and print. However, I argue that this split is not as definitive as it is sometimes considered. Due to the status of digital media in society, all poetic works now draw meaning in some way from their technological aspects. Therefore, a new form of poetics is not needed to explain digital poetry, but rather an expanded poetics which accounts for *all* forms of poetry in their new positions since the Internet Generation. For this reason, I argue for an ecological view that will help us to “relocate” poetry.

The Ecological Nature of Language: A Mediated and Embedded Act

In order to understand why poetry should be considered an interaction between individual, culture, and technology, we can first look at very nature of language. Every use of language, I will show, entails each of these aspects.

One important purpose of language is to communicate a thought between individuals. However, it is not a direct reflection of thoughts, but rather a symbol meant to represent these thoughts. Nor is language necessarily a reliable messenger, at times falling short of adequately describing an idea or feeling. Language is, in other words, a *mediator*: that which comes between two things, namely the mind of an expresser (speaker, writer, etc.) and the mind of the receiver (listener, reader, etc.). One function of language, then, is to act as a bridge across which a thought can be relayed. The language used is not equivalent to the thought, but rather its means of transportation.

It can already be seen that the use of language entails something beyond individuals; it is a technological form, or medium. The very expression of a thought in language is a transformation of that thought into sounds, images, or combinations of symbols. While the spoken word is not typically considered a technology, I include it here in the sense that it is one of many tools for representing thoughts. The choices an expresser makes regarding this representation will differentially affect the thoughts of the receiver of their language. This is one interpretation of Marshall McLuhan's well-known catch phrase "the medium is the message" (Logan, *Understanding* 353). His colleague, Robert Logan, elaborates:

Like most good aphorisms, McLuhan's famous dictum, "the medium is the message," has more than one meaning. One is the notion that, independent of its content or messages, a medium has its own intrinsic effects on our perceptions, which are its unique message [...] The effects of a medium impose a new environment and set of sensibilities upon its users [...] "The medium is the message" also carries the notion that a medium transforms its message or content. A movie shown on television or a play that is filmed affects its audience differently from the original. Even a telephone conversation on a cellphone is different than one on a land-line. (353)

Of course, McLuhan is known for his exaggeration, and his wording was chosen carefully to incite his audience. In light of this, it is important not to take this idea *too* literally. It should be noted that content of a message is not entirely usurped by the medium in which it exists. In other words, we can say that "the message is *still* the message," but also must recognize that the medium both *alters* the message as well as offers up a unique message of its own. In expressing ourselves, we cannot escape the fact that our language is also a *mediator*.

However, the use of language is more complex even than this. Each instance of language is *embedded* in a cultural context. During each use of language, an individual

expresser and the technology they implement for representation are interacting with a cultural atmosphere. Attitudes, social norms, history and recent events will all have some influence. From the very words chosen to the way a particular technological medium is understood, culture is inextricably intertwined with the use of language itself. As anyone who has travelled abroad must be wary, a word or symbol that is harmless at home can get you into trouble in another country. And this cultural shift in meaning can occur on both larger and smaller scales, shifting across time periods, social classes, groups of friends, and even individuals. Far from being a universal expression, our language relies on the world around it to garner its meaning.

I am now ready to make an addendum to McLuhan's famous aphorism: the technological medium, the cultural context, and the individual message are *all* "the message." While less succinct, and certainly less attractive, I am willing to make such a sacrifice in the name of accuracy and explanatory power. This view of language use as a *mediator* which is *embedded* shows how it involves each factor of the ecological model and provides the foundation of the entire argument that is to follow. I argue that, in various ways, individual, cultural, and technological aspects are relevant to understanding language use. These three elements interact in complex ways, as I will show in detail in the next chapter. By adopting this perspective, I believe that we can achieve new levels and types of understanding regarding the human condition, at least where language is concerned.

What Poetry Can Tell Us: A Human and Creative Act

When viewed as mediated and embedded, all linguistic works have more to say than simply *what they say*. However, while all uses of language are ecological in this sense, creative writing, and poetry in particular, is an especially didactic case. First,

creative writing provides us with the most direct window into the human condition. Creative works reveal not only how individuals think and feel, but also how cultures see themselves: they carry with them an entire tradition. Furthermore, being *creative* works, they are the least socially restricted in terms of form and content, making them especially sensitive gauges of cultural and historical change.

Of course, all instances of writing are creative in some regard. They all inherently involve choices on the part of the author which can be telling. However, we generally consider a business memo or a medical experiment write-up to be less creative than a novel. This is because those genres are highly restricted in their form and content. They are intended to focus on the clarity of content rather than to be expressive agents. Thus, instances of writing can be viewed on a continuum, with “less creative” works on one end being primarily governed by norms and restrictions in the pursuit of usefulness, while “more creative” works may choose to exploit norms, restrictions, and uses.

While works on the less creative side of the spectrum are, and should be, analyzed, they are more static and formal, making them less affected by external factors. In other words, they are much more about “the message” than they are about “the medium” and “the context.” Therefore, they are, relatively speaking, more useful for their content than for what they reveal about the human condition.

Creative writing, on the other hand, foregrounds the medium and the context at every stage, in addition to the content. A focus on expression rather than purpose allows the creator and his or her world to carry more of the load in terms of the meaning and effect of a work. In addition, more dynamic than works at the other end of the spectrum, creative works better reveal changes in each aspect of the ecological

model over time. A spirit of experimentation and originality allows for new ideas and methods to emerge. As the saying goes, “Art imitates life, and life imitates art.” Examining creative works, then, tells us about both art and about life; it provides us with a window into the human condition.

Poetry, among creative works, is the least restrictive form. Poetry allows us the opportunity to escape from norms of content, form, and method. Poetry can move beyond even the rules of grammar and spelling, word usage, organization and the like. In every way, poetry foregrounds expression over content. Out of every creative form, poetry says the most *beyond* “what is being said.” Because of this, it is crucial to understand poetry if we wish to understand ourselves as people. For the reasons I’ve mentioned here, poetry is not only a useful demonstrator of the value of an ecological model, but also provides the most powerful insight into the significance of what the ecological model can uncover.

The Problem: Relocating Poetry

Somehow, poetry has become disjointed as we have moved rapidly into the digital age. The longstanding print tradition has received a quite a shock to the system. With the integration of the Internet, new poetic forms have emerged, methods of creation and consumption have changed drastically, and traditional understandings of poetry have quickly become outdated.

As such, poets, critics, and theorists have been struggling to find new ways to talk about and analyze poetry in the Internet Generation. This new theory of poetics has been called variously “digital poetry,” “new media poetry,” “e-poetry,” “cybertext,” and many other names. As theorist Talan Memmott explains:

These terms are liquid delimiters for *creative cultural practice through applied technology*. The context in which any given term is used provides the framework for its definition, however tentative or temporary. (293, emphasis in original)

Because of the multi-media possibilities of this modern form, it has proven very difficult to define and categorize poetry in this new era or to distinguish it from other forms, art or otherwise. According to Memmott, digital poetry “moves writing beyond the word to include visual and sound media, animations, and the integrations, disintegrations, and interactions among these signs and sign regimes” (294). Because of this, he suggests the adoption of “taxonomadism,” the idea that critical practice allows “technologies, terms, and categories [...] to emerge, evolve, and dissolve in obsolescence” (304-305). Clearly, the speed at which changes are occurring has made it a difficult task for theorists to keep up.

At the same time, traditional poetry seems to be moving forward in parallel with the new field of digital poetic practices. Progress and originality continue to develop within in the same familiar forms. Poets still publish books. They still write coherent verse without images, sound, or hypertext. They still compose sonnets. As mentioned previously, digital poetry is unlikely to ever fully replace print poetry. Each allows for different possibilities, and to abandon one or the other would be tantamount to leaving behind an entire art form. It would be as if we simply *replaced* drawing with painting, or we *replaced* The Blues with Hip-Hop. The print poet still has a place in this world, and will likely continue to do so.

However, it would be misleading to say the tradition of the lyric poet has not undergone changes as well. Understandably, traditional poetic forms have not stayed frozen in time. Poets, like most of us, turn more and more to computer technologies to compose their works. They incorporate multimedia forms such as video and sound

bytes to display their readings. They turn more and more to Internet sources to publish. As such, readers are going to these same sources to discover and share poetry. Over time, poetry journals and magazines are going electronic as well. Along with these transitions come changes in ideas of reputation, authority, and success, to name a few. In other words, “traditional print poetry” is no longer entirely traditional, nor entirely print.

In this light, the supposed distinction between traditional and “digital poetry” seems less clearly defined. Perhaps the two forms are not truly isolated. Just as traditional poetry forms may in some ways be digitized, poems generally considered digital may be instantiated in the analog as well. Poet and theorist Marjorie Perloff writes:

In evaluating electronic poetries, therefore, we should not subordinate the second term to the first...the artist or poet uses a particular medium not because it is “better” than others but because it seems most relevant at his or her moment...Does this make the poet in question a digital poet? (160, *Screening*)

Perloff is suggesting that electronic or digital poetry is not a new thing in itself, but simply another type of relationship between individual poet and medium. While changes in the possibilities for poetry that came along with the digital medium have spurred some theorists on towards defining a new field of critical theory, Perloff’s consideration reminds us not to forget that one crucial factor unites all media usage: the human person; in this case, the poet.

Poetry has *always* involved an interaction between a human person and a medium. Yet, this technological aspect has not always seemed relevant. Perhaps this is due to the fact that, for most of history, inscription technologies have tended to remain

relatively static. Arguably, technology as an aspect of poetry has only been noticed in times of technological transition.

When the middle ages poet Dante Alighieri wrote, for example, all of his contemporaries used the same or quite similar methods. Therefore, it would seem rather unhelpful to compare works of this period on the basis of the writing technologies used. The contribution that technology made to the meaning of these works is negligible when considering that no other technology existed at that time to act as a comparison. However, when comparing the style of Dante to that of a typewriter poet such as E.E. Cummings, for example, technology becomes a highly present factor. Let's take Cummings's "in Just-" for example:

in Just-
spring when the world is mud-
luscious the little
lame balloonman

whistles far and wee

and eddieandbill come
running from marbles and
piracies and it's
spring

when the world is puddle-wonderful

the queer
old balloonman whistles
far and wee
and bettyandisbel come dancing

from hop-scotch and jump-rope and

it's
spring
and

the

goat-footed

balloonMan whistles
far
and
wee

Cumming's avant-garde (in its time) usage of elements like spacing and capitalization foreground the use of the typewriter as the method of creation. The work could not have been created prior to the use of this technology because the meaning of its components derives from specific technological affordances. The definitive features of Cummings's work simply wouldn't be meaningful or sensible in Dante's handwritten generation, although it would have been possible to visually create them. This illustrates the fact that technology is not simply an aesthetic component of poetry, but also has a conceptual and cognitive impact on the author as well as the reader.

These aesthetic, conceptual, and cognitive possibilities for poetry take on many new forms with the use of digital technology in particular. For example, Alison Clifford has created a digital poem entitled "The Sweet Old Etcetera" in which she uses the work of E.E. Cummings as a basis for an interactive web piece. The poem begins with a line from "in Just-" which appears to sprout from the bottom of the screen. When clicked on by the reader, it grows into a literal tree of text, blowing in the digital wind. Through continued interaction, the scenes continue to grow and shift in a number of ways. Clifford elaborates:

e. e. Cummings' poetry is highly visual, playful and experimental. "The Sweet Old Etcetera" interprets selected poems for a new media context and introduces additional layers of meaning through the use of motion, graphics, sound and programming. The project hopes to offer a fresh response to the print poetry, aiming to release it from the confines of

Philosopher Friedrich Nietzsche described this idea when he said that “our writing tools are working on our thoughts also” (Kittler, 200). As media theorist Friedrich Kittler explains in his seminal work *Gramophone, Film, Typewriter*, Nietzsche was the first philosopher to adopt the typewriter when in 1881, suffering from progressively deteriorating vision, he purchased a Hansen Writing Ball directly from the inventor himself. Now able to write without relying on his eyes, Nietzsche found that his writing style changed right along with his technology (200-203). Kittler explains:

Nietzsche [...] changed from arguments to aphorisms, from thoughts to puns, from rhetoric to telegram style. That is precisely what is meant by the sentence that our writing tools are also working on our thoughts. Malling Hansen’s writing ball, with its operating difficulties, turned Nietzsche into a laconic. (203)

Having made the transition from solely using handwriting to solely using a typewriter, Nietzsche bore witness to the ways in which technologies can alter our relationships with language. He reminds us that both our writing as well as our thinking are physical activities that take place in relation to our physical world.

Therefore, we should no longer remain blind to the impact that technologies have always had on the meaning of writing. It is not that digital works require an entirely new theory of poetics, but that traditional poetics ought to call attention to the medium of inscription in the same way as it does to historical and cultural context. Such a method would allow us to explain new, drastically different digital works, while also re-contextualizing more traditional works.

In order to enact this perspective shift, in this thesis I will construct and argue for a *new ecology of poetry*. I have shown that poetry is simultaneously a *mediated*, *embedded*, *human*, and *creative* act. As such, poetry has always, in actuality, derived

its meaning from an interaction between individuals, cultures, and technologies. By combining these elements, we can arrive at a new method of examining poetry which places it back in our hands.

In order to effectively construct this ecology, I will turn to an interdisciplinary study which takes into account poetics, psychology, cognition, philosophy of language, and cultural studies. As the name *ecology* implies, this method entails an interrelation of various types of elements, each of which has a significant, unique body of literature standing behind it. In her book, *Writing Technology: Studies on the Materiality of Literacy*, author Christina Haas makes note of how daunting of a task this really is, explaining that writing is simultaneously an “individual,” a “cultural,” and a “material” act, making the examination of it a necessarily interdisciplinary one (26-27). While scholarly fields are notorious for being highly specialized and out of contact with one another, I believe that interdisciplinary collaboration is becoming more and more necessary to keep our academics grounded, and I hope that the present examination will begin to demonstrate the usefulness of such an approach. By studying language, and specifically poetry, in each of the individual, cultural, and material (read: technological medium) aspects that Haas describes, we are not simply learning about poetry, we are learning about each of these things, about how they interact to create our world and our culture. In relocating poetry in this way, we are relocating ourselves in the Internet Generation.

Chapter 3

ECOLOGICAL RELATIONSHIPS IN POETRY

Overview

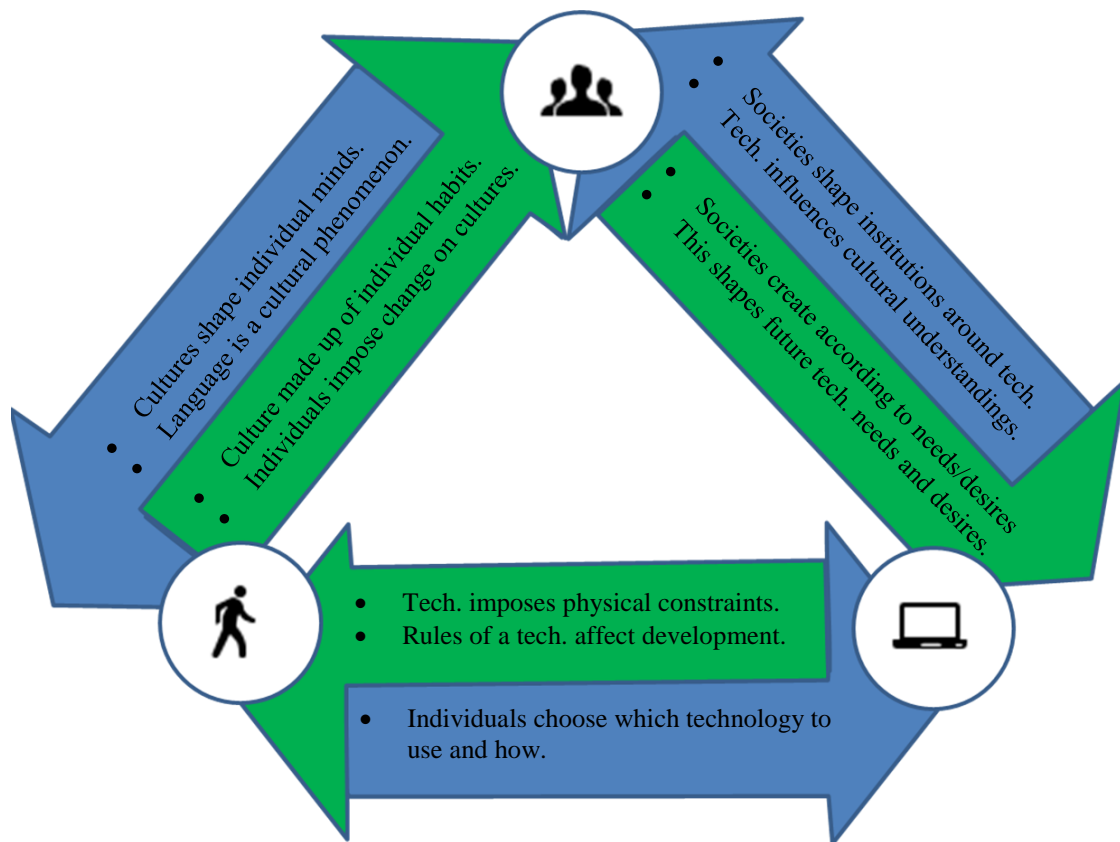


Figure 3 The Ecology of Poetry: a three way, reciprocal relationship between individual, cultural, and technological variables. Each relationship makes a specific contribution to the meaning of a poetic work.

Culture by Individual Interactions

The creation of poetry is a culture-making act. By culture, here I mean the set or sets of beliefs, traditions, forms, and customs that dominate a group of people, the history leading up to those sets, as well as the social “climate,” so to speak. It is the poets who translate this overall sense of an era into a receivable form. It is to the new works of poetry, the avant-garde, that we look for a sense of ourselves. Poetry is, in many ways, the cultural temperature gauge.

Yet, at the same time, each work of poetry is a part of a tradition. Of course, new styles and forms can only *be* new in relation to that which came before. Each poem is speaking to the history that has come before it. Each poem is a product of its culture.

This dichotomy is the first crucial part of the ecology that makes up our world, as well as our art. Individuals are products of history and culture, but they are also the producers of the same. For the most part, human beings tend to act within a set of socially constructed norms, beliefs, and understandings that are passed down generationally. Understandably, the works that individuals create will reflect their cultural and historical climate. However, if the force of culture upon individual were the only one at work, culture would remain stagnant. It is clear to see this is not the case. In fact, culture can change very rapidly across generations. Our culture can be understood as a collection of individual beliefs and customs. The force of direction in this relationship goes two ways. Culture exerts pressure on individuals to conform, while individuals exert pressure outwardly to enact change over time.

In order to understand how people create culture, we must start by examining how a culture first creates its people. A valuable model for accomplishing this goal is

the one first set down in the early 20th century by Russian psychologist Lev Vygotsky, commonly known as cultural-historical psychology.

Vygotsky called attention to a schism between academic psychology and the reality of the environment in which we live. His goal was to provide a more accurate picture of how psychological phenomena occur not in a vacuum, but within a complex relationship to society and culture. In *Vygotsky and the Social Formation of Mind*, sociocultural anthropologist and translator James Wertsch explains:

This intellectual isolation is nowhere more evident than in the division that separates studies of individual psychology from studies of the sociocultural environment in which individuals live. In psychology we tend to view culture or society as a variable to be incorporated into models of individual functioning. This represents a kind of reductionism which assumes that sociocultural phenomena can ultimately be explained on the basis of psychological processes. Conversely, sociologists and social theorists often view psychological processes as posing no special problem because they derive straightforwardly from social phenomena. This view may not involve the kind of reductionism found in the work of psychologists, but it is no less naïve. (1)

While Vygotsky proposed a new method of understanding psychology nearly 100 years ago, Wertsch explains that we still remain plagued by these reductive views.

The core truth that the work of Vygotsky and his followers point to is the understanding of psychology as a *system*. This framework accounts for not only the behaviors of an individual, but also the group, the environment, the culture, the entire history of the individual, and the social reality as determining factors within the individual consciousness. Wertsch writes:

The three themes that form the core of Vygotsky's theoretical framework are (1) a reliance on a genetic or developmental method; (2) the claim that higher mental processes in the individual have their origin in social processes; and (3) the claim that mental processes can

be understood only if we understood the tools and signs that mediate them. (14-15)

By “genetic or developmental method,” Wertsch means the way that the individual develops through social interaction. On this view, the “burden of explanation” for human development “shifts from biological to social factors” (Wertsch, 20-21).

The mechanisms underlying social development of mind are what Vygotsky has called “signs and tools.” Vygotsky explains:

The use and “invention” of tools...creates the basic psychological prerequisites for the historical development of behavior. Labor and the associated development of human speech and other psychological signs with which primitives attempt to master their behavior, signify the beginning of the genuine cultural or historical development of behavior. (Wertsch, 22-23)

The claim here is that individual minds are culturally formed because we master certain cultural “tools,” including “language; various systems for counting; mnemonic techniques; algebraic symbol systems; works of art; writing; schemes, diagrams, maps and mechanical drawings; all sorts of conventional signs, and so on,” (Wertsch, 79).

Vygotsky expands on this idea:

A sign is always originally a means used for social purposes, a means of influencing others, and only later becomes a means of influencing oneself [...] if the primary function of psychological tools such as language is to communicate, it is reasonable to expect these mediational means to be formed in accordance with the demands of communication. If these means also play an important role in shaping individuals’ mental processes, we can expect such processes to be indirectly shaped by forces that originate in the dynamics of communication. (Wertsch, 80-81)

It is in this process of absorbing “signs” that culture, as a function of historical development, comes to form the characteristics of individual minds.

It is important to note that signs include not only the psychological, but also the physical in terms of works of writing and art. The mastery of historical works

makes a major contribution to the cultural formation of mind. Historical works are signs in their own right because they offer a logic and understanding which influences their audience. Receiving historical works can be considered a type of social interaction across time. In this way, earlier works come to define the understanding with which we approach later works.

This social-historical formation is especially pertinent in the case of poetry, which takes as its explicit subject the deployment of language. Language, as a type of sign, is socially constructed. Even in the case of particularly unique or masterful use of language, it must be socially derived. One cannot effectively know how to bend and manipulate a language without first understanding the way that it is typically used. Therefore, even the avant-garde in poetry at any particular time is tied intimately to the typical usage of language in that time. A particular use of linguistic signs cannot be explained without reference to the cultural history in which it is expressed. Perhaps this is precisely why Gertrude Stein stated that we must strive to be *in* our time because “[n]o one is ahead of his time” (Morris, 2).

The flip side of the relationship I have just examined is the fact that culture changes over time as a product of the actions of individuals. While social force contributes to forming individuals, individuals also exert a formative pressure on society. This process can be understood simply by reversing the mechanism that Vygotsky has provided. Because culture is simply the aggregate of individual behaviors on a large scale, when “society” exerts pressure on an individual, it is, of course, only by means of many individuals acting upon the one. Therefore, cultural norms, beliefs, attitudes, behaviors, and so on are accumulated over time within one individual by means of his or her interactions with many other individuals. When this

process is viewed on a large scale, it appears as the passing of cultural constructions between individuals over a long period. In this way, each individual is, within every interaction, exerting a force upon society to change in the direction of his or her personal understanding.

More broadly, in being the audience of historical works, the individual is imposing a modern understanding. The reception of these works is intimately tied to the modern cultural context in the time that they are viewed. Because individuals approach historical works with the lens that their own culture has given them, the meaning of a historical work will change over time.

Once again, poetry is intertwined deeply with this process. As an artistic act, poetry is a culture making act. Individuals look to poetry for a sense of their own time, and in doing so, feel the pressure of the poet's individual world view weighing upon their own. In this manner, poetry can be a particularly powerful force of social change, artistic and otherwise. .

Individual by Technology Interactions

The relationships of individuals to their material tools can be seen in this same light, as a bi-directional force. On a daily basis, we interact with various forms of technologies. These technologies provide us with certain affordances; they have specific qualities and ways in which they can be manipulated. Necessarily, the characteristics of these technologies encourage certain ways of interacting with them. Therefore, the technologies that we use are patterning our behaviors. At the same time, we choose certain technologies and certain ways that we wish to employ them. We enter into a personal relationship with our tools. In a sense, we are both using and being used by our tools.

This is what is meant by the claim that writing is a mediated act. The process of translating our thoughts into writing is a physical process, one that is shaped by the characteristics of the medium that we use. As Nietzsche has pointed out, there is good reason to believe that the writing tools that we use are also altering our thoughts.

From a Vygotskian perspective, we can see that our physical tools are in many ways shaping our minds. Physical tools give us the opportunity to expand every one of our senses as well as our mental abilities. For example, microscopes extend our vision, microphones extend our hearing, calculators extend our mathematical abilities, and information storage devices like books and computers extend our memory. By shaping the flow of our actions, these technologies also shape the way in which we comprehend these actions. On this subject, Marshall McLuhan explains, “The effects of technology do not occur at the level of opinions or concepts, but alter sense ratios or patterns of perception steadily and without resistance” (Logan, *Understanding* 352).

While we can see that technologies do in fact shape our minds, media theorist Mark Hansen argues that to stop here is a fatally reductive approach, a mistake commonly made by authors throughout the history of media analysis. In his book *Embodying Technesis*, he explains that most modern approaches to technology reduce its effect to the intervening force of human thought. A more accurate approach, he suggests, takes into account the fact that technology has a real, concrete effect.

Following cultural critic Michelle Kendrick, Hansen writes:

...[W]hat [...] reductive approaches overlook is the “technological real,” a “symbiotic and contentious – hence dialogic – relationship between the human and the machine.” Attention to the technological real – to the concrete ways in which technology intervenes in our “selves” – requires a recognition “that subjectivity is always in the process of being reconstructed by the technologies – material and semiotic – which it purports merely to manipulate” (ibid.). (15)

Hansen is calling attention to the fact that technologies, including writing technologies, are not simply altering our modes of thinking, but are very real participants in our behavior. The various media that we often think we are simply taking advantage of are shaping both our thoughts, as well as becoming equal, concrete participants in the processes that shape our physical world.

This complex relationship between individuals and the technologies they use has far-reaching implications for the creation of poetry, particularly in the Internet Generation when the possibilities for technological involvement in our lives have exploded. If, as Vygotsky claims, the formation of higher mental processes occurs according to the way we master tools, both psychological and physical, then the integration of new tools should certainly affect the characteristics of the culturally formed mind. For example, many children today are growing up with the use of very advanced digital technology such as iPads from their earliest ages. Tools such as this operate according to very different rules than the type of tools with which we have been familiar in previous generations. On Vygotsky's model, these tools are likely to shape which behaviors and mindsets become internalized by children.

Every act of poetry involves a specific, purposeful use of technology. However, technologies also constrain the operations in which poets can engage, both mentally and physically. Without taking into account this often ignored relationship between individuals and writing technologies, we can't account for digital poetry which uses technology in new ways. However, this relationship manifests itself in *every* form of poetry, and thus it is a necessary factor for contextualize poetic works.

Technology by Culture Interactions

The final factor within the ecological model, the relationship between technology and culture, will bring the web of interactions full circle. When the forces in action between individuals and their technologies are extended to a larger scale in time and space, we start to see that cultures change with and through technologies. Societies create tools according to their needs and desires, which in turn shapes future needs and desires. At the same time, a high level of integration of certain tools into society shapes social institutions over time. This interaction is involved with both how individuals relate to their cultures, as well as how they relate to their technologies.

It has long been noted that technology is one of the major drivers of social change. Since the ideas of Marx, it is widely believed that labor and production operations are powerful forces in the tide of society. This material approach to history suggests that physical tools are not simply harmless assistants in human endeavors, but in fact shape our world. In her book *How We Think*, N. Katherine Hayles offers the concept of “technogenesis,” the idea that humans and technologies have evolved together in a complex, intertwined process. She describes the evolutionary “Baldwin Effect,” named for psychologist James Mark Baldwin, in which, after changes in a species occur, that species reengineers its environment to make that change more adaptive (10). This change in environment then leads to a sustained shift in the behavior of a species, which in turn alters further evolution.

Applying this viewpoint to human society, observe that humans create tools which make our specific evolutionary characteristics more advantageous. In other words, our tools are useful to us only because they are a “fit” with our genetic characteristics. These tools come to shape our environment in certain ways. This new environment encourages specific behaviors, understandings, and organizations of

society. In turn, this new environment suggests the development of more types of tools, the need or concept for which would perhaps otherwise not be apparent. Certain tools exist only because of the way in which society has already integrated other tools. Mark Logan finds an analogy between this form of development with the theory of evolution of science put forth by Thomas Kuhn. He writes:

Kuhn observed that once a new scientific theory scores a success, it serves as a paradigm for further scientific work, and every conceivable extension, articulation, and application of the original idea is developed. This process, which he calls “normal science,” occurs with technology, as well. A technological breakthrough also serves as a paradigm, which is extended, articulated, and applied in every conceivable way. (*Understanding* 357)

These extensions, articulations, and applications come to permeate our society, in many cases. In this way, societal development is, in part, determined by our technologies.

Media theory in the tradition of Marshall McLuhan will be useful in understanding the intricacies of this mechanism. Robert Logan explains:

At first, technology serves as an extension of humankind, but after a while, a subliminal flip takes place and suddenly the users are transformed into an extension of the technology they have come to consider part of them. (*Understanding*, 356)

According to McLuhan, this “flip” occurs because of the fact that we embrace certain technologies. He writes, “To behold, use or perceive any extension of ourselves in technological forms is necessarily to embrace it. By continuously embracing technologies, we relate ourselves to them as servo-mechanisms” (Logan, *Understanding* 356). Therefore, when we integrate certain technologies on a large scale, such as books, television, digital media, or any other media that has become very common, we start to form ourselves around the use of these media.

Over time, Logan goes on to explain, societies come to imitate their technologies. He writes:

McLuhan observed that the dominant media and technologies of a society create patterns of usage that infiltrate or penetrate the social structures of that society and as a consequence, these patterns of usage change those social structures and create new ones [...] And eventually, these changed and new social structures come to imitate or replay the patterns by which the dominant technologies are organized. In other words, the society comes to imitate their dominant media and technologies. Communities alter their form to accommodate the technologies they use, which literally become extensions of them... (*Understanding* 357)

In this way, there exists a bi-directional force of change between technologies and cultures. This is why McLuhan describes media as “living vortices of power” that create “hidden environments (and effects) that act abrasively and destructively on older forms of culture” (Logan, *Understanding* 352). We create our technologies, but our technologies also create us.

To the degree that poetry represents our culture, it reflects these mechanisms. Poets integrate various forms of technology into their works, but these technologies are also, in a sense, determining the types of works that will come to be. By taking part in forming our society, technology directly affects what will come out of our society. Since poetry acts as so strong a reflection of our culture, we cannot ignore the presence of technology as an aspect of culture.

Conclusions

Individuals make up and pass on a culture, but they are also products of that culture. Technologies become “extensions of the individual users,” but also impose mental and physical effects upon those users (Logan, *Understanding* 355). We create these technologies according to our needs and desires as a culture, but our society also

comes to shape itself around technology. Ultimately, this shift is manifested within individuals as the recipient of culture.

I have chosen the term “ecology” for this model in that none of these relationships is primary. Rather, they each exist in a continual web, an ongoing push and pull in every direction. Any aspect within one of these singular relationships cannot be explained without reference to each of the other relationships.

Poetry is created by interplay of each of these dimensions. Therefore, meaning or significance in poetry is most fully explained by appealing to this model as a whole system. Poetry is *mediated* by our tools and signs, it is *embedded* in our cultural environment, and it is a uniquely *human* action. While, as I have argued, periods of consistency in the tools of writing have led to a disregard for the technological aspect of poetry, we can no longer explain poetry without appeal to this factor. In the Internet Generation, a multitude of different media forms are incorporated into poetic works. Without examining the specific ways in which media use are related to poetry, therefore, we cannot explain digital poetry, nor its more traditional relatives. When we do account for these factors, however, we will find that we are able to place all forms of poetry on a spectrum in which all of the relationships discussed in this chapter become definitive. Later on, in Chapter 5, I will examine some of the concrete ways in which we can see the effects of this complex ecology upon creating poetry.

Chapter 4

IN THE NAME OF POETRY

If you ever hope to locate something, the first step in the right direction is to know what it looks like. While this may be a relatively simple matter when it comes to people or landmarks, unfortunately, this is easier said than done in regards to something as abstract and evanescent as poetry. Throughout history, many types of works have appeared under the moniker of “poetry,” but often the deservedness of this title has been hotly debated as avant-garde works push the boundaries of tradition. Works presented as poetry include a list as broad as the epic works of Homer, Shakespeare’s sonnets, the free verse common in the 20th century, the prose poetry of Charles Baudelaire and Oscar Wilde, the typographically manipulated work of poets such as E.E. Cummings, the concrete poetry style in which text takes a shape, and the visual poetry of artists such as Jenny Holzer, which takes physical form in places like billboards, neon signs, and stone benches. As author Alan Golding notes, some even claim “that work ranging from nonalphabetic, glyph-like designs to hand-produced letter-like drawings to barely legible palimpsests to simple pen strokes can be seen/read under the sign of poetry” (251). Clearly, there is an incredibly diverse range of styles, techniques, and forms that can generally be called poetry, and this list is by no means exhaustive.

Work in the Internet Generation has complicated the matter tenfold. Not only does “digital poetry” allow for all of the aforementioned forms to exist within it, but it twists, morphs, and animates these forms. It uses multimedia methods to give poetry

life in each of the five senses. It shifts our sense of space and time. It allows us to interact and even create the poetry ourselves. It encourages entirely new styles and aesthetics. Digital poetry is pushing the boundaries of what we consider to be poetry and altering the way that we create and consume poetic works.

Given the ever changing and vague borderlines of “poetry,” what holds all these works together? What is common among all things poetry? The goal of the next section will be to provide a usable answer these questions and to give the reader an idea of what counts as “poetic” in the Internet Generation.

What is Poetry, Anyway?

A mentor of mine once said, “I can’t tell you what a poem is, but I know one when I see one!” She was pointing to the fact that perhaps there *isn’t* one thing in common with all poems, that no definition will fit all works. While I agree with her, unfortunately this won’t suit the purposes of an essay on “relocating poetry.” If I wish to make claims about “traditional poetry,” “digital poetry,” or any kind, for that matter, I first need a satisfactory way to understand what exactly constitutes poetry in the first place.

There are many possible ways to explain what poetry means, and a complete explication of poetry is beyond the scope of this work. Surely, something of that nature could fill an entire volume. However, I do hope to give an adequate synopsis of what qualifies a work as “poetry” which will serve the present purpose. Luckily, a number of strong definitions have formulated by poetic theorists. I will offer up a few of them here. While no single definition may encompass every work, hopefully an analysis of them can help us to “know a poem when we see one.”

As a start in defining poetry, I will first turn to the all-too-obvious option: a dictionary. How is poetry commonly understood by the layperson? Merriam-Webster defines it in a few ways. For them, it is “metrical writing” or “the productions of a poet.” The first definition is quite unhelpful, as contemporary poetry is often non-metrical, and, as I have mentioned, may not even necessarily be ‘writing’ as we know it. The second seems to be more broad and encompassing, but proves equally problematic due to its circularity – how exactly can we identify a “poet” if we still can’t say what poetry is? Luckily, Merriam-Webster also offer a better definition: poetry is that which “formulates a concentrated imaginative awareness of experience in language chosen and arranged to create a specific emotional response through meaning, sound, and rhythm.” This gives a bit more to work with; now I can say that poetry involves “imaginative experience” and “emotional response,” as well as that it may use “meaning, sound, and rhythm” to accomplish this end. Famous English poet A.E. Housman was getting at this aspect of poetry when in 1933 he wrote that its function was “to transfuse emotion – not to transmit thought, but to set up in the reader’s sense a vibration corresponding to what was felt by the writer.” Definitions such as these do us a service by not limiting the specific devices of poetry, but rather pointing to its overarching function.

However, this definition remains a bit vague. Certainly, one can think of other things which elicit emotional response through meaning, sound, and rhythm. Music, for example, would fit in this box. While it may be that music has poetic qualities (or vice versa), one would not want to say that they are one in the same thing.

Therefore, a positive next step towards distinguishing poetry is to uncover exactly how it achieves this same type of emotional quality and meaning that is

present within music, without placing the focus on the same type of devices such as tone, pitch, melody, harmony, and timbre, among others.

While poetry may implement some of these devices, its particular focus, according to poet and essayist Rachael Blau DuPlessis, lies in the concept of segmentivity. Author Brian McHale sums up her claims nicely, quoting DuPlessis:

Poetry is segmented writing, ‘the kind of writing that is articulated in sequenced, gapped lines and whose meanings are created by occurring in bounded units...operating in relation to...pause or silence.’ Segmentivity, ‘the ability to articulate and make meaning by selecting, deploying and combining segments’, is ‘the underlying characteristic of poetry as a genre. (144)

On this view, poetry garners meaning through the way in which units are placed in combination, or in relation to their antithesis, be it pause, silence, space, or something else which separates them.

Another definition, given by linguist and literary theorist Roman Jakobson, can help to articulate this combinatorial nature of poetry. According to Jakobson, there are six main functions of communication: the referential function, “communicating information about the world”; the emotive function, relaying the interior state of the speaker; the conative function, “influencing the addressee”; the phatic function, “ascertaining that the communication channel is open”; the metalinguistic function, “reflecting on the code being used”; and finally, the poetic function, the focus on the “*message as such*” (McHale, 149). While, on this view, poetry may participate in any of the prior five functions, its main function is the last. But what exactly does it mean to focus on the “message as such?”

In order to explain this, I will make use of a further elaboration coming from Swiss structuralist linguist Ferdinand de Saussure. Saussure placed language on a

structure of two axes: selection, and combination (McHale, 150). In other words, in using language, we must select the appropriate unit, as well as the appropriate way to combine these units. Normally, identity in language hinges on the axis of selection: which words are chosen. However, the poetic function hinges on the axis of combination. In typical language, the focus is on the literal meaning of the words, on the *message*. McHale explains that in ordinary conversation, you would generally be comfortable in replacing the phrase “Your house is on fire, your children are gone” with an equivalent one such as “Your domicile is ablaze, your offspring are dead” (150). However, in poetry, you would not be justified in such a replacement. This is because the focus of the poetic function is not on the literal meaning of the message, but rather on the *message as such*.

As an example, take the seminal 20th century poem “The Red Wheelbarrow” by William Carlos Williams:

so much depends
upon

a red wheel
barrow

glazed with rain
water

beside the white
chickens

The content of this poem reflects a not a-typical English sentence in length and meaning. While the message of the poem could be expressed using any number of alternatives, one can see that the effect poem would be inextricably altered by the changing of a single word. In addition, the spacing and format lead to a very particular effect on the reader.

While I have laid out poetry as something that elicits emotion and that creates meaning through a focus on the specific combination of specific units, it is important to note that these definitions are only helpful conveniences, not hard and fast distinctions. The process of categorization has been a continued debate throughout the history of philosophy, and is not likely to be solved presently. An illustration of this is an old legend: Aristotle, whose seminal work *Categories* attempted to enumerate all the possible kinds of things, was working with his students of a definition of “man.” Ultimately, they reached the conclusion that man was a “featherless biped.” Upon hearing this, the cynic Diogenes plucked a chicken, marched into Aristotle’s classroom, and holding it up, announced, “Behold, Aristotle’s man!” What this story illustrates is that any list of qualities presented as a category will miss certain members, and it will also encompass things that we do not wish to list as members.

To overcome this problem in the case of poetry, I will turn to Wittgenstein to borrow his concept of the “family resemblance.” Rather than adopt strict categories, Wittgenstein suggested that we look instead for overlapping commonalities. Adelaide Morris explains this idea in terms of new media poetry:

If we gather together five members of the same family, [Wittgenstein] argues, they will probably not share any one distinctive feature – two may have dark eyes, another two an aquiline nose, and three, one with dark eyes and two without, the same long torso – but we can, nonetheless, identify them as members of the same group. If, by extension, there is no single defining characteristic of all exemplars of the category “new media poem,” we can nevertheless recognize constructions that cluster under this rubric through a series of overlapping similarities and relationships. (18)

In formulating this idea, Wittgenstein shows an insight from which Aristotle certainly could have benefited. By moving towards this type of categorization, we are able to

formulate an idea of what constitutes poetry, as well as new media poetry, without taking up overly specific definitions which limit our field of vision. Perhaps now, by combining Wittgenstein's "family resemblance" with the several concepts of poetry presented, we are better able to "know a poem when we see one."

However, one aspect of this understanding is still problematic, particularly when it comes to digital poetry. Although I have purposely tried to avoid making this limitation, most of the definitions presented here have made the assertion that poetry is "writing." However, as I have mentioned, digital poetry is often multi-media in nature, encompassing text, image, sound, animation, interaction, and codework. At this point, it becomes unclear what exactly "writing" means. Certainly, we agree that inscribing a letter with a pen is writing, but what about inscribing a non-alphabetic image with your pen? We would say that typing words on a typewriter or keyboard is writing, but what about using those same symbols to make a picture or diagram? In the digital age, we must not only expand our definition of poetry, but also of writing itself.

Recently, scientists at Harvard succeeded in storing the contents of an entire book in DNA sequencing, "formatting, images and Javascript" along with it (Young). Needless to say, the idea of composing literature in DNA does not fit the typical notion of "writing." However, the researchers went on to compare DNA to a digital media form like any other (Young). It is clear that vast strides in technological advancement are forcing us to reconsider ideas that have long been taken for granted.

Writing in other digital forms may seem similarly foreign. While what we often see on our screens appears as the text of our native language, underlying it are fields of code. Represented at times as 0's and 1's, HTML, Javascript, or other coding

languages, these forms are just as much writing as the kind that occurs in a notebook with a pencil.

A digital poem by Jessica Loseby entitled “code scares me” illustrates this point. In it, the text of a somewhat traditional, English language poem reads, “if i could only get rid of this darkness/ i could see you/ and you could see me.” However, the poem is obscured by fields of shifting code language. The work brings forth a digital language, usually hidden from sight, which forms the basis of what we ultimately “see” on our screen. While the digital text seems unnatural and even “scary,” Loseby asks the reader which is the *real* writing in a digital environment.

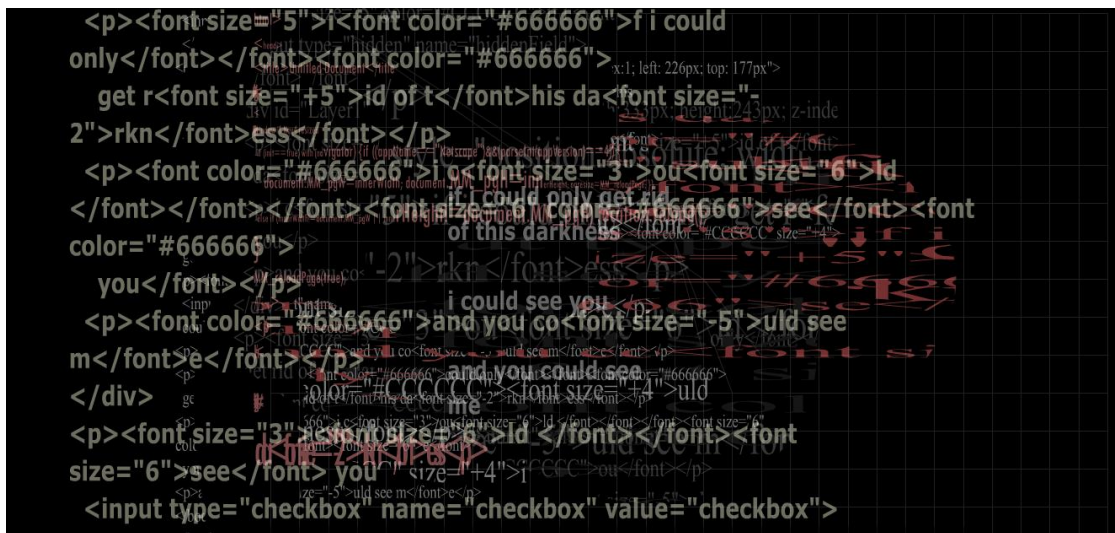


Figure 4 Screenshot of “code scares me” by Jessica Loseby. The text of the “poem” is obscured by coding language that rises, fades, and moves in the background, calling attention to the many types of writing that underlie our singular experience of a digital text.

What every form of writing has in common is the storage of information. Be it alphabetic symbols, numbers, DNA, arrangements of beads on strings, or some other form of information storage that we can't yet imagine, all of these things can be seen as writing. While adopting a definition such as this may lead us to accepting some questionable forms as writing, I believe that is an acceptable sacrifice to make. As we have seen, no strict categorization will be perfect. However, what would be lost for not expanding our understanding of writing in this way far outweighs the risk: namely, an understanding of this new cultural era. Surely, as time goes on and technology continues to make advances in this regard, we will come to achieve clearer understandings of what exactly writing is and will be. But that's a task for the future. For now, in order to understand poetry in the Internet Generation, we must, at the very least, open our minds to new possibilities in the field of writing.

Poetry in the Internet Generation: A Snapshot

"Digital Poetry"

In October of 1969, computing researchers successfully sent the first computer transmission from a laboratory at UCLA to another at Stanford (Leiner, 3). To say that these researchers didn't comprehend the importance of their work would be a lie. To say that they couldn't possibly envision its eventual impact, however, would be the undeniable truth. Jump forward about 15 years, and the "Internet was already well established as a technology supporting a broad community of researchers and developers" and "[e]lectronic mail was being used broadly across several communities" (Leiner, 8). Before long, the Internet would become a household staple, an important facet of contemporary life.

Artists and poets were not long in picking up this technology for their own purposes. By the mid-90's, communities were cropping up all over the Internet, forming their own styles, concepts and understandings of art (Greene). However, in 2013, we are a long way from that era. We are no longer in the first generation of poetry on the Internet. As the Internet has become increasingly integrated into our daily lives, a lot has changed in the world of poetry, technologically, aesthetically, conceptually, and culturally.

The goal of this section will be to provide some contextualization for the reader. A bit of history and some examples will help to illustrate where poetry in the Internet Generation has been, where it is now, and where it may be going. In order to see why digital poetry poses unique challenges to creators and consumers of poetry, as theorists and critics, and also as a culture, it's necessary to have an idea of what constitutes this "family."

Most generally, digital poems are that which, in the words of Adelaide Morris, "spend at least part of their life cycle in digitized form" (7). She goes on to explain:

[T]hey can assume a number of different configurations: at their simplest, these poems are electronic documents that can be traversed, navigated, and/or reconfigured by their "users," "operators," or "interactors"...(7)

Because of these many "configurations," author C.T. Funkhouser notes that there is a great deal of difficulty "[...] establishing definitive, fundamental distinctions between poetic forms embracing digital media" (13). Very few digital texts present only one media form, showing a tendency to mix text, image, and sound together. "We might thus be tempted to regard all digital poetry as hypermedia," says Funkhouser (13). Despite this diversity of form, digital poems contain "three inseparable components,"

which include “data fields, code, and display,” of which only the final element appears to the “reader” of a digital poem (Morris, 9).

However, definitions such as these are very basic, they reveal only the obvious fact that digital poems contain the same elements as anything present in a digital environment. If this were the sole difference between digital and traditional poetry forms, we wouldn’t need to put any consideration into analyzing them as a distinct form. However, the type of digital poetry that poses new questions for the field of poetics is that which features unique compositional processes as well as effects on the reader that are unlike anything that existed within print, or even within the media of video and sound before the internet. Funkhouser notes that:

[D]igital poetry functions as something other than poetry presented on a computer, involving processes beyond those used by print-based writers, and that poetry made with computers has unusual qualities – representing something inventive and worthy of engagement. (1)

In order to show how poetry has changed since the Internet, I will examine some of these special tendencies of digital poetry.

Adelaide Morris breaks down digital poetry into three “broad categories” of “hypertextual poems, poems composed for dynamic and kinetic manipulation and display, and programmable texts” (20). She explains that “new media poems are not often lineated or rhymed, do not necessarily maintain stable or consistent configurations, and seem by nature to bend – if not break – the founding constraints of the lyric.” Within the family of digital poetry, Morris notes at least six types including “literal art,” “poem games,” “programmable procedural computer-poems,” “real-time reiterative programmable poems,” “participatory networked and programmable poems,” and “codework” (20-30). A quick summary of these forms will help to illustrate some of their unique features.

Literal art, as Alan Golding explains, has its origins in “visual and concrete poetics” due to its focus on the “visual and (re)combinatorial component of Language writing” (251). Morris notes that this form generally features “not the stanza, the line, the phrase, or resonant word,” which are generally static, but rather “tumbling, morphing, graphical and semiotic letters” (20). Their meaning, therefore, is not fixed, but changes over times. This is a common element of digital poetry.

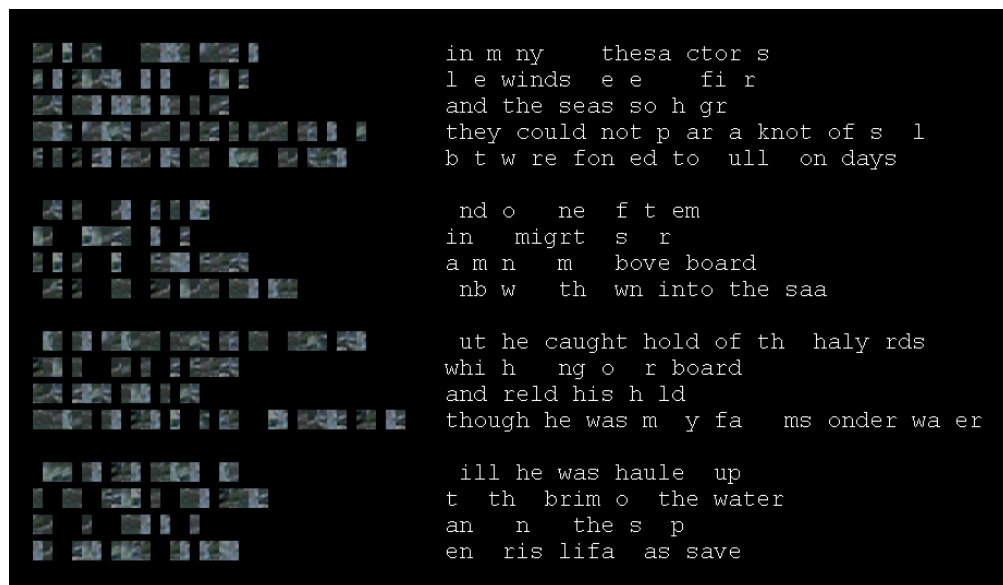


Figure 5 Example of Literal Art – Screenshot of “overboard.” By John Cayley in which text appears, disappears, and shifts over time, variously revealing and obscuring the poem, while accompanied by music.



Figure 6 Example of visual poetry. This genre is an important precursor to many of the concepts present in digital poetry, such as a focus on visual and contextual elements. - Installation on Times Square Spectro Billboard by Jenny Holzer

Next, poem-games are “rule-driven ritual spaces dependent on an engaged player” (Morris, 21). While these are similar to literal art in their focus on the visual and changing elements of the poem, they differ in that they are highly interactive. The resulting poem depends upon the specific actions taken by the ‘reader’ or ‘user.’

Forests range the veins.
 Brows linger.
 Heights frame the vein.

 direct the cool clear driven —

 Stones roam the shape.
 Veins hum.
 Shapes hold.
 Forest frames the stone.

 shade the sinuous objective dim —

 Brow roams the stone.
 Veins hold.
 Stones relax.
 Brow exercises the stones.

 progress through the objective —

 The crags trail the shapes.
 Shape ranges the veins.

 progress through the rough sinuous cool —

Figure 8 Example of a real-time reiterative programmable poem – Screenshot of “Taroko Gorge” by Nick Montfort, in which a poem is continuously generated according to an algorithm accessing a source body of text.

Finally, codework is the type of new media composition in which the programming language which underlies these forms, generally invisible, steps to the surface. Computer code may variously mingle with and disrupt human language. The purpose of this style of new media program is to foreground that which structures our common digital interactions, but generally remains hidden. Morris suggests that this type of work poses questions such as, “What is the feedback loop between humans and their machines?” and “Which language is “natural,” which “artificial?”” (30).

As this list reveals, digital poetry comes in a wide variety of instantiations, and this list is simply a sample. Morris writes:

If these new media poems could be plotted on a grid, their characteristic links, perspective, access, determinability, transience, dynamics, user functions, and coding strategies would variously overlap and differ. What gives them their family resemblance is an imagination that mobilizes programming code as a poetic device. (31)

This focus on digital poetry as united by programming points to a fundamental change from traditional poetry: a shift from the static poem, to the poem as a “process,” in the words of N. Katherine Hayles. Hayles explains that in this form “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” (*Time*, 181-182). An important result of this is a temporal shift in the poem. Now, Hayles says, “the time of a poem can be considered to consist of the time of writing, the time of coding, the time of production/performance, and the time of reading” (*Time*, 182).

This temporal shift has major implications for the “reader” of the poem. I place the word “reader” in quotes primarily because this concept of the poem as a process shifts the idea of poetry away from the traditional writer-reader roles. Instead of having a passive role, the “reader” of a digital poem engages the text in new ways. Funkhouser writes:

a digital poem’s reader often determines the content of a work – a kind of ‘reading’ virtually impossible in print poetry – by modifying virtual structures provided by the digital poem’s author. (211)

Morris says that this is unlike traditional ‘reading’ in that one does not “decipher and interpret the letters and signs of a document” but rather “sample,” “morph,” “infect,” “inflect,” “aggregate,” “amplify,” “or transform it from object to event” (15). She suggests that this style of interaction may change “processes of thinking and knowing” which alter “structures of subjectivity and patterns of emotion that were once the

providence of the lyric poem” (15). In other words, these poems invite an entirely different style of comprehension that Funkhouser suggest may increase cognitive demands on the reader (24).

Clearly, given the sample of characteristics demonstrated here, digital poems are quite different than traditional forms. As such, it’s no surprise that theorists and critics have gone out of their way to set up digital poetry as an entirely new field, separate from traditional poetry and having its own methods of creation and consumption, as well as requiring new methods of discourse.

Extending the Boundaries

However, the sample of digital poetry I have has been misleading in that the type of works discussed so far are only one highly specific subset of digital poetry: they all represent a “high art” perspective on poetry in the Internet Generation. What I mean by this is that they have taken digital poetic works out of their context to place them on a pedestal. These works typically exist in purposeful isolation on a web page, analogous to one specific room of paintings in an art museum. In this way, these works are dislodged from their greater cultural milieu. The effect of this is, I want to argue, to exaggerate the differences between “digital” and “non-digital poetry,” situating digital poetry as the “other,” which makes it seem discontinuous from the rest of the poetic world.

If, as N. Katherine Hayles has said, the “time of a poem” includes “the time of writing, the time of coding, the time of production/performance, and the time of reading,” then all poems, even print ones, can be considered as a process (*Time*, 182). We could, for example, view a human flipping through a book of poetry in the same way as a “reader” of digital poetry causes a program to run “the appropriate software

loaded onto the right hardware” through a click of their mouse (Hayles *Time*, 182). Just like the old adage of the tree falling in the forest, is a poem really a poem until someone ‘reads’ it? In this light, *every* poem is an “event” rather than a “self-contained object.”

Furthermore, given the ubiquity of computers and the Internet today, most poems created today spend, as Morris says, “at least part of their life cycle in digitized forms,” whether they have been composed using a computer, displayed online, distributed by email, or any other number of possibilities (7). Most of the definitions provided by new media poetic theorists have indicated that works falling under this category can exist in a number of forms. Marjorie Perloff writes:

The most interesting exemplars of digital poetics to date have tended to be what I have called elsewhere *differential* texts – that is to say, texts that exist in different material forms, with no single version being the definitive one. (146, Screening, emphasis in original)

She goes on to make note of works that include print, digital, as well as gallery versions. If works such as this qualify as “digital,” it is unclear why a poem composed in Word® that is destined solely for a print book is not also digital. Considerations like this blur the line between the digital and otherwise. It seems that theorists have greatly exaggerated these distinctions, which are, in fact, quite unclear.

In presenting digital poetry in this way, every academic delineation of poetry has almost completely ignored the effect of digital media on poetry as a larger cultural practice. Of course, it would be a mistake not to analyze the unique forms of digital poetry which focus on codework as an overarching method of creation. However, a snapshot of poetry since the Internet Generation is not complete at that point. Because of developments in technology, almost anyone is able to generate nearly limitless types of content with little to no knowledge of coding. By working within preexisting

programs and interfaces afforded by computers, browser, and websites, individuals can generate poetry in a way that is not focused on the underlying coding, but is still a unique result of digital technology.

“Alt Lit”

This often ignored side of digital poetry I will refer to broadly as “alt lit.” This form of poetry is particularly “digital” in nature in that it takes advantage and foregrounds the Internet or computer programs through its use of *source material, format of presentation, and constraints*. Although its practitioners may in fact take part in coding in order to create websites or other means of displaying their work, this is generally not the focus of the genre. Instead, the point seems to be to highlight the Internet context that is in many ways coming to be a dominant part of our daily lives. In other words, these works are digital in the way in which they highlight digital *culture*, not just digital technology.

According to poet K. Silem Mohammad, the very first instantiation of this style, dubbed “Flarf poetry,” came about around 2000 when poet Gary Sullivan submitted an intentionally bad poem to a competition. Upon sharing his work with his friends and fellow poets, they were struck by the aesthetic that included, according to Mohammad:

[...] deliberate shapelessness of content, form, spelling, and thought in general, with liberal borrowing from internet chat-room drivel and spam scripts, often with the intention of achieving a studied blend of the offensive, the sentimental, and the infantile.

Eventually, this style was picked up by others, who took to using Google search results to form part of the content of their poetry. More recently, poets have been known to create “found poetry” using Google’s autocomplete feature, Youtube

comments, and Facebook and Twitter statuses (Roggenbuck, “Internet,” “steve”). Additionally, it has evolved into a new form of visual poetry called “image macros” in which text which represents a web “aesthetic,” often involving grammatical or spelling errors common in Internet correspondence, is overlaid onto an image (Roggenbuck, “steve”).

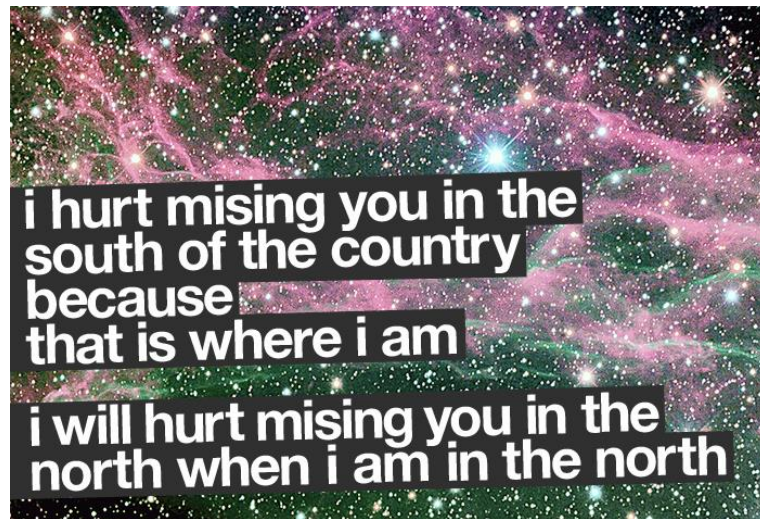


Figure 9 Image macro by Steve Roggenbuck posted on his website *LiveMyLief.com*

While the first “Flarf” poems were digital in their source material, they were generally formatted to appear like a traditional poem, separated into lines and stanzas, and often appearing in print sources. The next generation of this style, however, is highly embedded within its web context. In a Youtube video entitled “breaking free from the shackles of word documents with other forms of poetry,” poet Steve Roggenbuck describes a new style wherein a poem is composed using a web platform such as a blog or social media site and is left to exist in this format. Because these

websites are in flux, the poem is often saved by taking a screenshot of the page featuring the poem. Composing poetry in this way hearkens back to the visual poetry of artists like Jenny Holzer. In placing poetry on Facebook or Twitter statuses, poets are doing the same thing in virtual space that visual poets did in physical space, namely, highlighting the context as a poetic device.

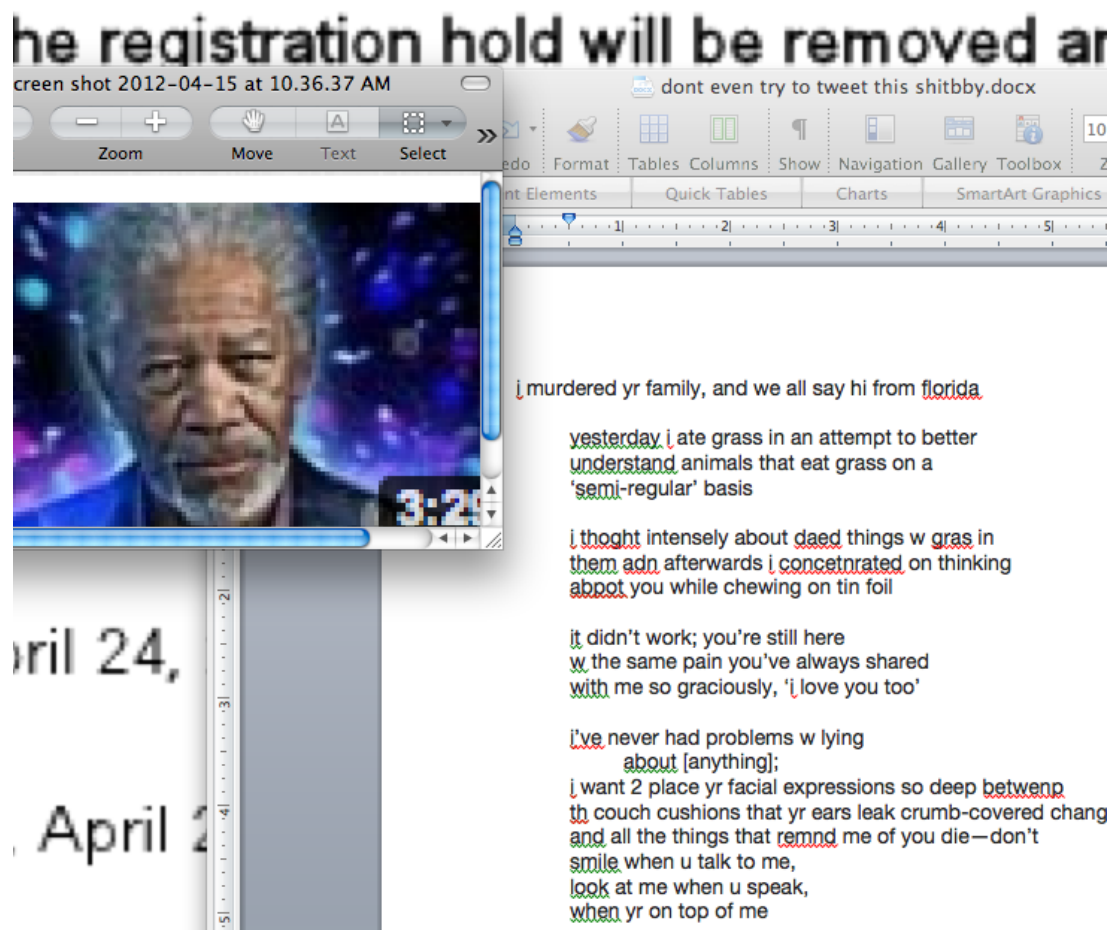


Figure 10 'i mis u lyke a daed thing heh' – Screenshot of a poem by Wynn Koval, courtesy of the author.

Another feature of this style may be its integration of the constraints of certain web formats as a sort of procedural poem. For example, many poets use Twitter statuses, which have a 140 character limit, to compose. This method suggests an emergent style of poetry in which the entire feed of short blurbs is viewed as a continuous work in progress. Steve Roggenbuck has even suggested that web correspondences, such as those on Facebook comments, which maintain a certain aesthetic can be viewed as a type of social poem. This is similar in many ways to interactive and real-time reiterative programmable poems, but in a more organic sense, where a group of individuals become the source body of information and the affordances of the web format fill in for the constraining algorithm.

Putting It All Together

Including these “alt lit” forms in a discussion of poetry in the Internet Generation is an important step in understanding how digital media has affected poetry. They stand as a necessary middle-ground between traditional poetry and the digital poetry forms typically discussed by new media theorists. Because of the vast aesthetic differences between many digital poems and the traditional forms that we are familiar with, theorists have tended to dissociate digital poetry from the greater context in which it has appeared. However, alt lit works demonstrate that all poetry is simply an interaction between media forms and broader cultural practice. In other words, they help us to reconnect digital poetry with culture.

Therefore, the real uniting of all digital poetry is a shared space in the ecological web. What all “digital” poems have in common is a certain shift in technological medium relative to older forms. The focus on the digital medium creates altered relationships between poetic works and their readers and writers. The very way

these poems are created differs substantially from print poetry because they involve coding and the affordances of web pages. Nor are digital poems read in the same way, appearing in new contexts and with new elements such as shifting or interactive text. As the model predicts, along with these altered relationships come cultural shifts, such as the new concept of poetry as “process,” delivered over an extended time. On the reverse side of this relationship, the cultural contexts of digital technologies and specific web spaces alter the meaning of poetic works.

Because computers and the Internet have become so integrated into daily life, works cannot now categorically be called “digital” or “non-digital.” Rather, poems have a distributed existence that now often involves digital media at some point in their “time,” to use the phrase of N. Katherine Hayles. While a poem may not immediately incorporate coding into its process, it may still be digital in that it is composed on a computer, is displayed on a web page, uses the Internet as source material, is shared through digital files, or in any other number of ways integrates digital media. Poems often exist in multiple formats, are multimedia in nature, and poets combine digital and analog elements. Therefore, conventional distinctions between “digital” and “traditional” poetry are no longer relevant; they reveal little about a work in themselves. Instead, we can turn to the ecological model which will account for digital works as they relate to more traditional works; it will both explain them and place them back in a context of culture and tradition. On this perspective, poems can be characterized by the way in which these elements interact at various scales. The next step in relocating poetry, therefore, is to build a model in which we can see and understand the relationships that underlie poetry.

Chapter 5

THE MAKING OF A POEM

Reaching for the Intangible

Before applying the ecological model to poetry, it is necessary to see how each factor of the ecology is relevant to the creative process. If, as I have argued, multiple ecological factors constitute the meaning of a work of poetry, this constitution can only be a result of the role that these factors play in the writing process. Therefore, without having a sense of the process that takes place in the making of a poem, we lack an understanding of how each ecological factor is relevant to meaning. In this chapter, I will explain how the nature of the writing process entails the influence of ecological elements. I will outline some contemporary understandings of what exactly occurs within the writing process in order to show how and at what stages various aspects of the ecology will be at play. Because the ecological elements are material components with physical effects, I argue for a methodology that unites scientific study with literature in order to examine those effects. Such a methodology would be able to put the ecological model to real use, allowing us to supplement abstract literary theory with and knowledge of the concrete history of texts.

The key point here is that writing is itself a *process* of creation, not a simple transcription of some divine utterance. This means that everything that happens *within* or *to* this process is causally implicated in the end result. Yet, we often ignore the fact that our works of writing are influenced by exterior and unconscious processes, that they belong just as much to the individual author as they do to the surrounding world.

As a mediated and embedded act, writing is both a physical and constructive process. Each moment of writing alters the end result.

For this reason, contemporary theories of writing tend to eschew a static understanding of writing as a transcription of thoughts in favor of a process-based view. Influential composition and literature scholar Janet Emig writes:

[T]here are at least three assumptions which modern philosophers and writers question. The first is that there is a dichotomy between thinking-about and doing – here, planning and writing; the second is that one never writes and then plans; the third is that writing is best defined as recording the already formulated conception. (15)

The work of Emig and like-minded authors attempts to shake up an outdated view of writing as an act in which content flows straightforwardly from a pre-formulated conception in the mind of the author. Linguistic philosopher Gilbert Ryle masterfully debunks this type of idea:

Now very often do we go through such a process of planning what to do, and if we are silly, our planning is silly, if shrewd, our planning is shrewd. It is also notoriously possible for us to plan shrewdly and perform stupidly, i.e., to flout our precepts in our practice. But [by?] the original argument, therefore, our intellectual planning process must inherit its title to shrewdness from yet another anterior process of planning to plan, and this process could in its turn be silly or shrewd. The regress is infinite, and this reduces to absurdity the theory that for an operation to be intelligent it must be steered by a prior intellectual operation. What distinguishes sensible from silly operations is not their parentage but their procedure...(Emig, 37)

When Ryle's considerations are applied to writing, it becomes clear that it is impossible for the content of writing to be a direct result of a planning operation.

Instead, the content of our writing is something that *arises* in some way from a process. Along these lines, Gertrude Stein explains:

...You will write...if you will write without thinking of the result in terms of a result, but think of the writing in terms of discovery, which

is to say the creation must take place between the pen and the paper, not being in a thought, or afterwards in a recasting.

We can see that this view of writing is not an abstract one, but a very concrete, materialist conception. According to Stein, what ultimately becomes present in a work of writing is not also present *before* the physical act of writing takes place. In other words, we don't really know what we're going to say until we actually say it. Therefore, anything that is present when pen touches paper, so to speak, will be an inevitable participant in the act of creation.

However, the effect of external factors on writing is largely unconscious to the writer. As writers, we are aware only of our thoughts, and not of the complex causal chain that preceded them. While this causal chain is, in an ecological sense, a part of the writing process, an exact delineation of it is not tractable. As such, in pursuing an absolute understanding of the writing process, we are reaching for the intangible.

It will never be possible to articulate the writing process in its totality – as an inextricable part of the ecology ourselves, we cannot step outside of this system to view it in whole. Every creative process will involve many factors, some of which will inevitably lie beyond our vision. As such, we can never fully lay out the ecological contributions that formulate any specific work. However, with a general understanding of the creative writing process, we can learn where to look for the mark of these ecological elements when addressing poetry.

As such, the elaboration of the creative writing process that will follow in no way purports to be a universal or formulaic account of every act of writing. Certainly, just as each piece of writing is different, the process that accounts for it must be different. Even in the case of two works that are exactly the same in their ultimate

content, such as a copy of a piece of writing, the processes that create them are necessarily different so long as they take place in different moments of time and space.

Therefore, I will take a more modest approach in outlining some of the sub-processes that are often implemented in the act of creative writing and how they may variously implicate the components of the ecology. By understanding how the creation of writing occurs as an ecological process, we will then be able to account for some of the more specific contributions of individual, culture, and technology. Ultimately, this will provide a method for evaluating poetry, or any other type of creative work, according to the ecological contributions that give rise to it.

The Creative Writing Process

Each creative writing process is unique, and poets are notorious for their highly individualized practices. In his essay called “The Making of a Poem,” from which I have borrowed the title to this chapter, poet and critic Stephen Spender colorfully describes this fact:

The supposed eccentricities of poets are usually due to mechanical habits or rituals developed in order to concentrate...Schiller liked to have a smell of rotten apples, concealed beneath the lid of his desk, under his nose when he was composing poetry. Walter de la Mare has told me that he must smoke when writing. Auden drinks endless cups of tea. Coffee is my own addiction, besides smoking a great deal, which I hardly ever do except when I am writing. I notice also that as I attain a greater concentration, this tends to make me forget the taste of the cigarette in my mouth, and then I have a desire to smoke two or even three cigarettes at a time, in order that the sensation from the outside may penetrate through the wall of concentration which I have built round myself. For goodness sake, though, do not think that rotten apples or cigarettes or tea have anything to do with the quality of work of a Schiller, a de la Mare, or an Auden. They are part of a concentration which has already been attained rather than the causes of concentration. (Emig, 49)

Right off the bat, Spender notes the fact that writers quite often rely on external stimuli as a crucial part of their process. On his view, the cognitive and internal writing processes are subject to external influence. This, again, highlights the very physical nature of writing. Janet Emig points out similar quirks in the process of Ernest Hemingway:

After an accident in which he severely injured his writing hand, Hemingway was quoted as saying that he feared he would have to give up writing, so crucial to him (as to many writers) is what might be called the manuality of the task – the physical necessity to feel a specific pen or pencil pressing against the fingers and palm in a wholly prescribed and compulsive way; the sense of sculpting, of hewing the word out against a paper of specific size and weight. (50)

This example shows that those who are heavily involved with writing have an intuitive sense of the importance that factors beyond themselves have in their creative endeavors.

However, at what point exactly do these external factors become relevant to the writing process? In these examples, there are a few different claims concerning components of the process. Stephen Spender mentions that “concentration” may be a part of the story. In his essay, he also focuses on the idea of “inspiration,” writing that it “is the beginning of a poem and also its final goal” (52). He goes on to write that “memory exercised in a particular way is the natural gift of poetic genius” (55). In the case of Hemingway, the very specific way in which text is physically crafted becomes a crucial element. These accounts suggest that there are various elements of the writing process that must all be curated in an effective process. At this point, in order to gain a more accurate picture of how the ecology relates to the writing process, I will have to get a bit more precise about what exactly these elements of the creative act are.

In order to accomplish this, we can look to the field of composition studies, in which many valuable attempts have been made to understand the cognitive functions involved in the writing process. In his essay “In Search of the Writer’s Creative Process,” Todd Lubart brings together many of these attempts. One useful version he presents is that which was first put forth by Linda Flower and John Hayes in 1980. According to the most updated version of this theory, the three main cognitive functions of “reflection, text production, and text interpretation” are the definitive features of the writing process (Lubart, 152). In the reflection phase, a writer engages in “planning, problem solving, and decision making” (Lubart, 152). The text production phase is the one in which “the cognitive operations of turning mental representations into spoken or written text” occur (Lubart, 152). In the text interpretation phase, an individual will read, listen, and create “internal representations from linguistic and graphic sources,” as well as engage in “revision-related actions” (Lubart, 153).

According to Hayes and Flower, these three phases recur in various orders during the writing process. In doing so, they interact with the cognitive functions of “motivation, affect, and memory” (Lubart, 153). In addition, they claim that “task environment” plays a critical role. As aspects of this environment, they include the text under construction, the compositional situation, such as the physical elements around the writer, and the social environment, including the audience or possible network of collaborators (Lubart, 153). This model is already ecological in a sense in that it accounts for both internal and external contributions to the formation of a text.

In a different take on the creative process, Finke, Warde, and Smith present what they have dubbed the “Geneplore” model in which generative and exploratory

processes are combined together in “cyclical sequences” (Lubart, 157). Generative processes involve forming loose ideas, which Finke, Warde, and Smith call “preinventive structures” (Lubart, 157). Among such processes, they include “knowledge retrieval, idea association, synthesis, transformation, and analogical transfer” (Lubart, 157). Exploratory processes, on the other hand, involve the examination, elaboration, and testing of the “preinventive” structures, as well as interpretation of these structures, hypothesis testing, and searching for limitations (Lubart, 157).

These two explications of the writing process are somewhat convergent. This is because, as Lubart notes, most modern approaches eschew highly compartmentalized models of the creative process in favor of ones that focus on the general subprocesses that occur over the course of the extended “time” that makes up a work. In doing so, these models bypass the pitfalls of restrictive and overly specific versions of the story. By taking into account many interacting components within writing, these models allow us to gain a fuller picture of the factors that influence a piece of writing. As I have mentioned, the way in which creative processes implicate ecological factors comes to define the created work.

Therefore, a ‘subprocess’ view of creative writing clears the way for an understanding of how the three relationships within the ecology come to constitute meaning in writing. Each of the subprocesses in writing is influenced in different ways and amounts by each factor of the ecology. For example, Hayes and Flower’s idea of “task environment” relates both to technological elements of writing as well as social and historical atmosphere. “Production” or “generation” phases of writing necessitate

that we account for individual cognition as well as how our writing is mediated and embedded.

Uniting Science and Literature

This method of understanding the writing process builds toward a new way of looking at literature, one in which it is not exclusive from science, but rather incorporates scientific understanding as a definitive component. The subprocess view entails an understanding of human cognition. It suggests that, as a human product, works of writing can be more fully understood if the human mind is more fully understood. It tells us that there are observable ways in which a complete ecology takes part in the act of writing, and that we should incorporate these observations into our understanding of literature.

It is just this argument that Mark Turner puts forth in his book *Reading Minds: The Study of English in the Age of Cognitive Science*. Turner writes, “Literature lives within language and language within everyday life. The study of literature must live within the study of language, and the study of language within the study of the everyday mind” (4). “Language,” says Turner, “is inseparable from conceptual thought; conceptual thought from what it means to have a human body and lead a human life” (17). Because language flows out of a uniquely human experience, Turner thinks that it would be a mistake not to view literature under this lens in an age where we are able to make robust scientific claims about the human mind.

If we follow Turner’s lead, we will certainly go far towards understanding the way that the mediated and embedded nature of language use comes to define our works of writing. There is, in fact, no way to account for even the most “poetic” uses

of language without appeal to the ecology in which language participates. Turner explains:

Reason and poetic thought are not mutually exclusive; they are rather hypertrophies of a common nucleus of human imaginative capabilities. Structure of language supposedly poetic are ubiquitous and irreducible in everyday language. (20)

Turner is calling attention to a fact that I have elsewhere described in this thesis: the meaning and significance of any language use, even those which are particularly masterful, unique, or experimental, can only be explained relative to the typical uses of language, those that flow out of normal communication needs. He writes:

The difference between Shakespeare and his contemporary speakers is not that he speaks a different language, or that he thinks with different conceptual resources, but rather that he is a master of clarity and nuance. Shakespeare's contemporaries can appreciate his mastery exactly because he is using conceptual resources they use, and speaking a language they know. (13)

Both Turner and I are arguing for the understanding that "[p]oetic thought is part of everyday thought; poetic language is part of everyday language. What is poetic derives from the everyday" (49). If we take this as a truth, we see that our ability to explain works of poetry is in fact very limited unless we use a model that accounts for the whole human experience, such as the ecology that I have proposed here. Once we adopt such a paradigm, we can start to engage in a concrete, scientific examination of what goes into a creative act. The purpose of such an examination is not to replace literary analysis, nor to get rid of a tradition that focuses on content and reference within a work, but rather to supplement this type of approach with new considerations that can aid our understanding.

Chapter 6

APPLYING THE CRITICAL ECOLOGY

The Effects of Digital Media on Writing

With the proliferation of the Internet and digital media forms, many critics have cried the downfall of literary culture. Authors such as Nicholas Carr have argued that Internet culture rejects intellectualism, and that the practices that digital media encourage contribute to a withering of the kind of critical reading and deep thinking skills necessary for an appreciation of poetry (*The Shallows: What the Internet is Doing to Our Brains*). A 2003 *Newseek* article asked, “Poetry Is Dead. Does Anybody Really Care?” The answer it gave was clear: “Poetry is designed for an era when people valued the written word and had the time and inclination to possess it in its highest form.” That era, it says, was long gone even by the time the ‘90s rolled around. Not surprisingly, poets and fans alike reacted harshly. The claims of the article were “bitterly and defensively refuted,” says Lauren Wilcox in a *Washington Post* article, but simultaneously “tapped a rich vein of suspicion nationwide.”

Regardless of which stance one takes on the subject, the very presence of such an argument reveals an irrefutable fact: the state of poetry has changed in the Internet Generation. If the world of poetry was in any sense stable for the last, well, few thousand years, it appears that it is not so anymore. Poetry seems, all of a sudden, somehow *different* than what we as a culture have come to expect of it. With the transformations that have occurred since the Internet Generation, we have lost sight of poetry.

This is why understanding poetry through an ecological lens has become particularly relevant today. While all works of any era are inherently ecological, a relative consistency in the presence of poetry in the past has allowed us to get by without generally needing to appeal to factors that now appear crucial. The technological element, in particular, has become a critical element in the way that we explain poetic works. The technological revolution that is the Internet has permeated almost aspect of our lives. Any contemporary poetry now fits into a new dynamic which becomes constitutive of its meaning. Even an attempt to flout digital media or reject its presence in poetry necessarily draws its significance from the existence of these very technologies in the first place. When looked at in this way, even ancient poetic works, in their conspicuous contrast to modern technology, take on a new meaning in the Internet Generation. It is in this spirit that Geoffrey Winthrop-Young and Michael Wutz, in their introduction to Kittler's *Gramophone, Film, Typewriter*, explain that "the media of the present influence how we think about the media of the past or, for that matter, the future" (xii). This is why a new ecology "relocates" poetry: It both explains the new, as well as resituates the old. The components of any ecological system are necessarily relative to each other.

The goal of the present section will be to participate in the process of this ongoing resituating of poetry. In it, I will begin to apply the ecology herein developed in order to see exactly how writing has changed since the Internet Generation, and, in doing so, to see how this alters our understanding of poetry in general. I will follow in the footsteps of Mark Turner in his attempts to unite science with literature. In order to find observable ways in which we can understand the impact of digital media, I have taken a multi-disciplinary approach. Because the act of writing is, according to the

ecological model, a *mediated, embedded, human, and creative* act, the study of writing necessarily entails the study of materials, of environments, of cultures, and of cognition. All of these aspects, I suggest, can help to deepen any analysis of poetic meaning.

However, this is an entirely new approach to looking at poetry. This means a ripe opportunity for investigation, but also that we are only at the very surface of understanding the specific mechanisms at work. As such, the examination that will follow should in no way be considered an exhaustive picture. Rather, the goal is to begin the conversation on the ecological study of creative works by bringing together some of the work to date that is relevant to the topic. I want to present a preliminary outline of the ways in which ecological dynamics since the Internet Generation have had an impact on poetics and, in doing so, provide a basis for future research using this lens. The true value of the ecological model is not that it automatically explains each poetic work, but that it allows one to ask the right questions. Therefore, in this section I will show how the ecological model can afford new ways to look at meaning in contemporary poetry. By applying the principles of the relationship between individual, culture, and technology, we can begin to draw out some of the specific types and combinations of ecological factors that are relevant today.

Material Constraints

An ecological understanding of poetics is a philosophically “materialist” view. In other words, it takes poetry to be a material form, and every aspect of the system that creates poetry, in some way, a material aspect. While each relationship within the ecology can be understood separately and provide a unique insight, they are able to interact only in that they represent physical components affecting each other in

physical ways. Even abstract poetic concepts of “meaning” or of features like emotional impact are, on this view, derived from physical operations. The different elements of the ecology can be best understood as universal, *material* principles at work on various scales. Since every operation of an ecological system is a material operation in its essence, they will necessarily overlap and bleed into each other in any delineation. Nonetheless, I will make a reasonable attempt here to separate these operations into the most explanatorily useful scales on which they impact the human experience. I will divide the effects of the ecology upon poetry into the scales of material effects, cognitive effects, cultural effects, and conceptual effects. These scales represent the zones of assessment that ecological analysis may examine in order to determine how a work draws its meaning from various factors.

The first scale that I will address here represents the most basic, or pure, material effects. This scale represents the effects that arise from the physical operations of various technologies. As objects with certain physical characteristics, technologies affect us, prior to anything else, in the ways that they place constraints on our bodies. Simply by being lighter or heavier, for example, technologies may differ in their mobility and range of use and thus the situations in which they are implemented. The types of effects that are relevant at this level can be broken down into spatial, temporal, and sensory aspects.

Spatial aspects can be thought of in two ways. Firstly, a technology defines a physical space. It has certain qualities of size and shape which constrain our interactions with it. For example, the first computers that originated in the 1950’s were massive, room sized devices. Interacting with one of these computers involved walking around to different points of the device, standing or bending to reach various

components, and plugging and unplugging cables to complete operations. These physical aspects are very different than the ones that take place with a modern computer, which takes up a small space on a tabletop and requires little motion besides the pressing of some keys. Besides the internal operations of the technology, these physical aspects contribute heavily to the ways in which the device will be implemented. Therefore, this will impact the types of interactions in which a user or reader of a poem can engage.

We can also consider spatial aspects of a technology in terms of where a said technology will be used. A corded phone which plugs into a wall automatically defines the physical space in which it can be implemented. A mobile phone, on the other hand, can be taken virtually anywhere. From the get go, this means that a different range of situations will coincide with its usage. Technologies invite incorporation into specific types of environments. As I have shown, both digital and traditional poems can draw meaning from the environment in which they are displayed. Whether it is on a print page of specific qualities, on a wall in a gallery, on a billboard, or on a web page, this will contribute to the meaning of the poem.

These spatial aspects of technologies are directly intertwined with temporal aspects. The same operation on a 1950's computer versus a modern computer will take place across very different time frames. Expecting an important call in a bygone era might require one to sit at home by the phone for hours. The invention of voice-messaging machines allowed us to free up our time to a large extent. The development of mobile phones now allows for the possibility of instant communication in almost any time and place. These examples reveal how the physical involvement of technologies in our lives can encourage certain allocations of time or paces of

operations. Poetic works can occur variously over time periods. Poems can be long or short, fast or slow to engage with. Again, this will impact what is evoked within the reader of the work.

Finally, every technology has specific sensory aspects. The appearance, sonic quality, and tangible features of a specific device factor into ease of use, enjoyment, and popularity, among other things. E-books, for example, are sleek, lightweight, and recent models offer a visual experience very similar to a printed page. However, many people find that the reading experience is very different than that of a traditional book. The difference between the print page and the digital screen in these terms is particularly relevant when considering their differential effects upon poetics. All of the factors discussed here become part of the significance of a particular technology, which carries over into poetic works which use that technology. They are a part of the “message” of a particular medium.

How exactly these effects are manifest has been a topic of interest of psychologists for some time, particularly spurred on by the advent and popularizing of computers and word processors for writing. As such, numerous studies have been conducted on this subject over recent years. Author Christina Haas collected and examined many of these studies, finding significant differences between the manual writing process and the computerized writing process. First, Haas notes that the ability to read differs from page to screen. Since a computer screen distorts the spatial properties of a text, writers often notice a number of differences from using analog techniques. Haas names four variables that factor into this effect: “screen/page size,” “legibility,” “responsiveness,” and “tangibility” (Haas 70-71). Since computer screens often display less text, or text at a different size, than on a page, writers have less of

their text available to their eyes at any one time. While legibility can be a problem on computer screens as well, this has diminished significantly in recent years as technology has improved. “Responsiveness” refers to how quickly the text responds to the actions of the reader or writer. While pen and paper may be less responsive than a computer for writers, Haas believes that print texts are often more responsive for readers (Haas 70-71).

The final factor, “tangibility,” includes a number of “visual and tactile aspects of interacting with texts” (Haas 71). With print, writers may physically hold a text in their hand, having the ability to manipulate it in virtually any way, i.e. turning it, drawing on it, and so forth. Some computer systems have more tangibility than others, but as it stands, it is generally much less than with a text. This factors heavily into what Haas calls “text sense,” the ability of a writer to critically read and assess their work. She found that “direct manipulation of the text” was very important in tasks where writers had to “construct a text meaning and determine how to rearrange the text” (Haas 72). Writers often use “moves to change perspective,” “distancing moves,” and other “physical interactions” to get an understanding of their text, but this is not always possible on a computer (Haas 130-132).

All of these spatial, temporal, and sensory aspects of technologies come into play both in terms of how a poem is created and distributed which, as textual scholar Jerome McGann reminds us, are important parts of the meaning (Golding, 250). How these factors are involved in a work can be understood collectively as the “materiality” of a work. In the words of N. Katherine Hayles, “The materiality of an embodied text is the interaction of its physical characteristics with its signifying strategies” (Cayley, 307). This means that when a text is “embodied,” or put into any one of various

material forms, there becomes an interaction between the physical characteristics of the work and its content. In other words, there is an interplay between the “medium” and the “message” that is crucial to the significance of any work. “If we neglect the category of ‘materiality’,” says N. Katherine Hayles, “we have little hope of forging a robust and nuanced account of how literature is changing under the impact of information technologies,” “nor,” according to Alan Golding, “an account of how some literature has anticipated or complicates that impact” (Golding, 276).

Cognitive Effects

The material constraints that any technology affords us bleeds into how we use it and, therefore, how we understand the meaning of a work created using that technology. Up to this point, I have been discussing the bare physical qualities of devices and our bodily interactions with them, but I am now moving into the mental components of these relationships. While material constraints are factors of the technologies themselves, what can be called “cognitive effects” are how those factors read out into our minds and, subsequently, our behaviors. We must remember that we are not entirely separate from technology, nor is a technology relevant simply in how it physically constrains usage. Rather, both humans and technologies are equal participants in an ecology. Therefore, to understand the impact of digital media on poetry, one must understand the way that humans cognitively interact with works of poetry.

To this end, I will draw both from the notions of the creative writing process herein developed, as well as concepts of developmental cognition. Modern studies on cognition, such as those presented by Nicholas Carr in *The Shallows* reveal that the brain as a structure is not fixed, but can reorganize itself (25). This concept of brain

“plasticity” has led Carr and others to the conclusion that, over time, systematic usage of certain technologies leads to changes in brain function. Carr argues that shift from page to screen and Internet usage leads to patterns of thinking that are distinctly non-linear as well as shifts in attention and depth of immersion (8, 90). Ultimately, he believes that the Web promotes the executive functions of the brain, such as decision making, and may increase problem solving and multitasking abilities, but that this may come at the cost of deep thinking (121, 140). In addition, N. Katherine Hayles has written, “Research indicates that the small habitual actions associated with web interactions – clicking the mouse, moving a cursor, etc. – may be extraordinarily effective in retraining (or more accurately, repurposing) our neural circuitry” (*How We Think*, 2)

While the jury is still out on this topic, it is clear that different technologies have different immediate effects on our cognition and, perhaps, long term ones as well. This, of course, is relevant to the poetic process. In an immediate sense the use of certain technologies encourage different habits of thinking. Studies such as those presented by Christina Haas find noticeably different characteristics of planning, note-making, and areas of focus between writers using pen and paper versus those using a word processor. Studies on how the eye scans the digital page have revealed that individuals read faster and assess significant aspects of texts more quickly, but that they may also absorb less information (Carr, 134-135). Technologies will also impact memory, attention, information retrieval, and the other subprocesses of writing. This may mean that poems created using digital media may involve different processes in both their creation and their reception. Writers who understand this are likely to tailor

their works accordingly. This may be part of the reason that digital poems are often highly visual and brief.

In the long term, not only may individual brains be affected, but the process of human development may become entirely different. If, as Janet Emig suggests, “Very early developments in the personality and in the perceptions of an infant are prerequisites or precursors to certain features and practices of mature rhetoric,” then systematic interaction with different media forms in childhood are likely to impact the way that language is used later on (56). Therefore, we cannot separate the historical development of the use of language, poetic or otherwise, from the development of these technologies that contribute to shaping the human mind.

Cultural Effects

The creation of any form of art, as I have said, is a culture-making act, but also a culturally constructed act. In an ecological framework, I have argued, an artwork has meaning only when understood from some specific cultural-historical perspective. Creative works take part in a historical dialogue with the works that have come before. Therefore, the cultural scale is perhaps the one most crucial to understanding poetry. Today, the operations of digital media, I argue, are a major “talking point” in this cultural dialogue. We can no longer place poetry in a context without accounting for the impact of modern technologies on culture.

Culture, I have shown, can be understood both as an aggregate of individual habits, as well as a major force in constructing individual habits. In chapter 2, I went into detail about the principles at work in this relationship, drawing heavily from cultural-historical psychology as well as the media theory of Marshall McLuhan and others. Through this model, one can see how material constraints and cognitive effects

of technologies play out on a cultural scale. The effects of a media form in terms of physical and mental constraints upon individuals come to be manifest on a cultural level, and these cultural changes will, in turn, influence individuals. By and by, through ecological operations, technological changes coincide with changes in institutions, worldviews, ideologies, concepts, and the like. It can hardly be debated that major cultural changes have occurred in every sector since the Internet Generation. It is relative to *this* digital culture that we must explain poetic works. Therefore, the process of locating poetry will be a continued task of examining the exact ways that culture shifts along with technologies. I will describe a few of them here.

Language is one of the most directly impacted aspects of culture when technologies of communication change. Author Sheelah Sweeny makes the point that writing has a different meaning altogether for an adolescent generation engaged in text messaging and instant messaging. She explains:

[I]nstant messaging (IM), text messaging (or texting), Twitter, and e-mail, as well as shared electronic documents and postings on blogs and social networking sites [...] does not always follow traditional conventions, featuring instead images, audio recordings, and a form of shorthand in which vowels and punctuation are irrelevant and time-consuming to use.

Just as Nietzsche altered his writing style when he began to compose with a typewriter, the use of mobile phones, computers, and other modern technologies for communication alter the way that we use language. However, it is not only that, as in the case of Nietzsche, the physical characteristics of the devices have a tendency to bring out an aesthetically different usage of language. Rather, the way that these technologies influence social habits also means different needs in terms of

communication. What we are seeing is that, to follow McLuhan, our society is “imitating” its technologies. Low level changes brought about by technologies, such as the shifts in pace of communication and degree of connection discussed in the last section, flow upward to changes in use of language.

As communications change, so do relationships. In *Gramophone, Film, Typewriter*, Kittler has argued that the advent of the typewriter led to an entirely new type of relationship in which women, having found a role as typists, developed a unique sort of intimate interaction with male counterparts who they assisted in transposing (214). This example shows that technologies, in creating new possibilities for interaction, form new styles of relationships. While the one presented by Kittler is a very specific type of relationship, we can also observe how technologies impact relationships in a more general sense. A “relationship” represents the sum total of interactions among a cohort of individuals. Every interaction occurs within a specific medium. Medium of communication, then, makes a definitive contribution to relationships. As a modern example, social networking has drastically altered human relationships. Individuals can partake in virtual “relationships” without ever having met in real life. They can become connected to groups in a dynamic that has never before existed. The impact of digital media in this realm is profound, easily a major topic of investigation of its own merit. For the present purposes, suffice it to say that human relationships have taken on many new forms since the Internet.

Shifts in relationships also occur on the scale of cultural institutions. As one example, Katherine Hayles points to academia. She notes that digital media use results in large changes, from info storage, to research methods, collaborative possibilities, research space, publication, mentoring, credentialing and peer evaluation, and the

relationship of academia to larger society (*How We Think*). Since communication needs permeate every aspect of society, technological changes on this plane have far reaching consequences for every social institution. When we implement new technologies on a large scale, we also begin to reorganize societal structures.

While I have only presented a few examples here, there are countless ways that to observe how culture has changed as a result of computers, the Internet, and digital media. This is important in that cultural shifts are truly shifts in the human condition. Technologies not only impact how we *do* things, but how we understand the world. Poets are uniquely positioned to reveal this, to act as our cultural mirrors, and it is for this very reason that I have chosen poetry as the center of this examination.

Conceptual Changes

This leads me to the most overarching aspect in terms of relocating poetry in the Internet Generation: what I will refer to as “conceptual changes.” Ultimately, any investigation is useful if and only if it contributes in some way to a human understanding. In science as in art, religion, or any realm of human thought, we are not simply trying to reveal what things *are*, but in doing so, also to uncover what they *mean*. Along these lines, of what value is a description of a human, material, and cultural ecology besides in how it helps us to assign meaning? This is, in large part, one of the major goals of the present work – to create an ecology which will assist in assigning human meaning. Therefore, while I aim only to create a *tool* for revealing changes in meaning rather than to assign it absolutely, it is necessary to at least touch upon some of the ways that our concepts have begun to shift since the Internet Generation.

There are many ways in which we can think about ideologies shifting in conjunction with technologies today. In much the same way as the age of Enlightenment incorporated scientific reasoning into virtually every other aspect of human thought, one could argue that digital media technologies and the Internet offer up their own form of reason that has been culturally internalized in many ways. The very operations of digital media and the Internet have their own logic which, as these forms become increasingly integrated into culture, are taken up into our ideologies. Because these technologies may permeate our lives in many ways, the conceptual changes they bring about can be best understood by examining the subtle reasoning that underlies our relationship with them

In *Understanding New Media*, Mark Logan describes “fourteen messages of ‘new media’ (48). According to Logan, these include “two-way communication,” “ease of access to and dissemination of information,” “continuous learning,” “alignment and integration” of various types and bits of information, extended “community,” “portability and time flexibility,” “convergence of many different media,” “interoperability,” “aggregation of content and crowd sourcing,” increased variety of choice, “closing of the gap between producers and consumers,” “social collectivity and cooperation,” “remix culture,” and a “transition from products to services” (48-49). According to Logan, these are the features which distinguish “new media” forms from simple “mass media.” What should be noted here is that these characteristics are not simply physical or operative, they are, more importantly, concerned with human possibilities. They represent not only the ways that certain technologies are different, but the ways that our lives are different as a result of them. When the human condition changes, ideologies are sure to change in suit.

Let's take a look at some examples of these messages bringing about conceptual changes. Logan makes note of the potential for two-way communication and community with new media. These possibilities, I would argue, alter our sense of connection with the world and even our group identities. Ease of access and dissemination of information, along with Logan's concept of "continuous learning," mean a shift in our understanding of what constitutes knowledge. Variety, a closing gap between producers and consumers, and the possibility of remixing changes our ideas of things like originality, ownership, and the value of art. Nicholas Carr has suggested that, with Internet usage, "social concerns override literary ones," leading to the rejection of Intellectualism (107). Examples such as these show us how shifts in lifestyle that come with technology may also lead to philosophical shifts.

Some of these philosophical shifts are particularly relevant to the world of poetry, and so I would like to go a bit more in depth. The logic of digital media and the Internet in many ways acts in opposition to long-standing traditional ideas that are present in poetry and other art forms. It is for this reason that, in the Introduction to this work, I mentioned a schism between traditional and new poetic forms. It is the differences in logic, ultimately, that have created an apparent disconnection of distinctly contemporary poetic forms from some traditional ones. It is these two seemingly opposed logics that I have been attempting to reconcile here through an ecological model.

Let's examine some of the specific logical disparities between some traditional and newer poetic forms. For one, we can look at what Jay David Bolter calls the "writing space," the "physical and visual field" that is defined by a technology of writing. Bolter writes:

Each physical writing space fosters a particular understanding both of the act of writing and of the product, the written text [...] The conceptual space of a printed book is one in which writing is stable, monumental, and controlled exclusively by the author...The conceptual space of electronic writing, on the other hand, is characterized by fluidity and an interactive relationship between writer and reader. (11)

As a result of these shifts, many have cried the “death of the author” and lamented that electronic poetry is, according to Alan Golding, “evanescent, instantly transformable, in short, immaterial” (250).

However, poet and critic Mark Amerika takes a different standpoint. He writes, “Authorship is not necessarily disappearing [...] Rather, it is being reconfigured into a more fluid, often collaborative networking experience” (171). He goes on to discuss an idea which he calls the “Network Author.” This, I believe, is a radical conceptual shift in our understanding of art. As I mentioned in the discussion on alt-lit forms, poets such as Steve Roggenbuck have come to consider threads of Facebook comments or entire Twitter streams to be poems in themselves which represent this sort of “collective authorship.” This suggests a kind of emergent poetry in which the identity of a poem is never fixed or complete, but arises continuously in a flowing, interactive environment. Because of the fluidity of the Internet, a poem, on this view, could cease to be a single unit, but rather be constituted by a distributed network. This possibility is radical in that it obscures the identity and boundaries of artistic works.

This idea of distributed poetry involves what Kenneth Goldsmith calls “nude media,” media stripped of their context (52). Because media on the Internet can have a distributed existence, their context often becomes unclear and detached from the works. They can then become “remixed,” or infinitely recontextualized. Goldsmith notes that this raises several questions:

How does having a variety of contexts influence the cultural reception of such objects? Who or what determines an avant-garde artifact's value, both commercially and intellectually? How does this in turn impact the artist's reputation, both commercially and intellectually? If artifacts are always in flux, when is an historical work determined to be "finished"? (60)

Although we may speculate, many of the questions are not yet answerable because they are not scientific or even philosophical questions. Rather, they are *cultural* questions, they reflect the way that we as a culture may come to conceptualize art since the Internet Generation. Thus, they will need to be answered historically.

What we can already clearly see, however, is that digital media and the Internet oppose "standardization, hierarchy, and unity," in the words of Jay Bolter (233). In other words, these media forms offer up an entirely new conceptual framework from that which has been present, more or less, in traditional poetry. Genre has blurred, meaning has blurred, identity has blurred. Poetry that is made today cannot be explained without accounting for these facts as definitive features. Poetic works reflect these new conceptual understandings in everything from their material constructions, to their thematic content, to their cultural significance and reception. Therefore, we can no longer understand poetry without appealing to ecological methods in order to draw upon these ideas.

Rethinking Print Poetry

Ultimately, it is not only "digital poetry" that has changed since the digital age. In an ecological system, changes in any one aspect cause shifts in all others. Therefore, print poetry, in its opposition to digital technology, has also taken on new significance.

The possibilities for print poetry to take on new meaning in the digital age come in many forms. Firstly, works that were produced before digital technologies become conceptually separate from newer works. They are likely to be seen as a different “era” of poetry, thus taking on a new historical significance simply as the result of new technology coming to be. When these works are presented in a digital format, such as on a website or in PDF file, contexts become mixed. The interaction of the content with its technology shifts. This could potentially mean that some of the original value of analog works is lost, or that it becomes highlighted in an ironic way by its presentation in a new context.

In either case, these possibilities are a concrete example of the ways that shifting ecological elements can change the meaning of a poetic work. Poets can take advantage of this mechanism in many ways. For one, producing print poetry in the digital age may constitute a purposeful flaunting of technology as a part of the poetic message. For some, in a time of widespread digitization, print may take on a special mystique or “golden-era” connotation. Producing works specifically in print may attempt to highlight their nature as traditional, stable, or permanent. Regardless, all of these meanings are new possibilities that arise only with the presence of digital as a contrast to print.

There are numerous other ways that poets can exploit differences in print and digital to arrive at original significations. One notable example is the work *Only Revolutions* by Mark Z. Danielewski. This print poem features many aspects that could have been produced only by digital technology. The work contains two poems which read from opposite ends of the book, requiring the reader to rotate the book constantly. The text is presented in a database structure of several quadrants on each

Figure 11 A spread from *Only Revolutions* by Mark Z. Danielewski. This shows the two streams of poetry juxtaposed on each page, one always inverted relative to the orientation of the book. Note the formatting: each “o” is in a specific color depending on the stream. The bold words are those which Danielewski selected from online submissions by fans. The center of each page features a sidebar with obscure historical references and dates.

By mixing digital and print media in the creation of *Only Revolutions*, Danielewski is able to arrive at an entirely original message. The way that the work is structured requires a high degree of physical manipulation in order to read it, such as rotation and flipping back and forth between pages. This aspect highlights the nature of the book as a physical object. At the same time, its structure and content makes reference to digital technology in every aspect. Danielewski even chose many of the words in his poem from fan emails. Mark Hansen reflects on this contradiction:

Although the main narrative was written initially in pencil on paper – a fact on which Danielewski insists – it could not have been completed without a large computer screen and the internet. Thus, without being in any way thematically focused on digital technology, the book is thoroughly if indirectly permeated by it, both through the history of its composition and in the infrastructure underlying its appearance. (*Print*, 178-179)

By mixing media in this way, Danielewski creates a unique experience that cannot be gained by either one.

Just as the opportunities for mixing media in the graphic arts has not been exhausted, there are countless opportunities for poets to use technology in this differential manner to create new meaning. Print poetry can in many ways be rejuvenated by existing as both a contrast to digital poetry, as well as within a harmonious relationship. These examples illustrate the way that a poetic work can

alter its meaning by using technology. In ecological terms, this represents the ways that an *individual* poet can manipulate *technology* in innovative ways to exploit the *cultural* connotations of those technologies to arrive at new meanings.

Chapter 7

THE BIG PICTURE FOR POETRY

As technology changes, the relationship of humans to their world is shifted. As our culture changes, so does our literary values. In this thesis, I have shown that the meaning, value, and significance of a poetic work is inextricably tied to a system in which peoples and technologies evolve together. We do not judge the work of poet E.E. Cummings on the same grounds as Dante Alighieri, but rather, we consider both in light of a complex ecology of factors.

In our time of media in transition, this ecology of poetry can help to explain the changes happening in poetry – both aesthetically and conceptually – as well as to maintain a connection with the rich heritage of poetry. In modern poetry, I have shown a movement towards incorporation of many media characteristics which can be both analog and digital in nature. In part, these shifts are explicable in terms of new technological developments and the way they are manipulated by humans. At the same time, poetry is certainly not intelligible solely from a scientific perspective. In a 1999 *Prospect* article, author Ray Monk describes “Wittgenstein’s forgotten lesson” as his distinction between scientific and philosophical knowledge. Monk writes:

Scientific understanding is given through the construction and testing of hypotheses and theories; philosophical understanding, on the other hand, is resolutely non-theoretical. What we are after in philosophy is “the understanding that consists in seeing connections.” Non-theoretical understanding is the kind of understanding we have when we say that we understand a poem, a piece of music, a person or even a sentence [...] How does one demonstrate an understanding of a piece of music? [...] What is needed, Wittgenstein says, is “a culture” [...]

What is required for this kind of understanding is a form of life, a set of communally shared practices, together with the ability to hear and see the connections made by the practitioners of this form of life.

The point here is that poetic meaning is not scientific; it is not universal or explicable simply by a singular theory. Rather, it is tied intimately to a culture and a history. Thus, while the making of a poem involves technological and scientific aspects, these aspects are only meaningful at their intersection with human persons.

What I hope to have demonstrated in this thesis is the value of a perspective which unites the material and the literary. The physical, scientifically observable aspects of poetry are necessary components of meaning, but only once we understand that they exist in a continual, dynamic relationship with individuals and cultures. By investigating the position of technology in the role of creating and distributing poetry, we can gain new insight into how poetic works vary in their conceptual meanings.

I have given several examples of the ways that technologies place material constraints upon humans. I have shown several ways that the constraints of digital media feed out into cognitive, cultural, and conceptual differences across poetic works. The final result of this shift in media is still unclear. Will we see the death of intellectualism, as Nicholas Carr and others have claimed? Will we see the death of the author, or the rise of Mark Amerika's "Network Author?" Will we arrive at a culture unified only by disunity, with a distributed existence across the Internet?

Ultimately, only history can reveal the answer to these questions. The value of the ecological model is not that it allows us to predict the future, but that it gives us a method for explaining and addressing these questions. In using this model, it becomes possible to examine the ways that human products, human institutions, and human values arise out of an interaction between individuals, societies, and the material world. While poetry functions as a powerful exemplar of these principles, the

ecological model is not limited to poetry. I believe that this framework opens new questions for both the humanities as well as the sciences. In the future, it can be applied towards increasing our understanding of every type of creative, human act.

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