

WRITING (DIRTY) NEW MEDIA: TECHNORHETORICAL OPACITY, CHIMERAS,
AND DIRTY ONTOLOGY

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Dirty Ontology

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ABSTRACT

There is little doubt that emerging technologies are changing the way we act, interact, create, and consume. Yet despite increased access to these technologies, consumers of technology too seldom interrogate the politics, subjectivities, and limitations of these technologies and their interfaces. Instead, many consumers approach emerging technologies as objective tools to be consumed, and engage in creative processes uncritically. This disquisition, following the work of Hawisher, Selfe, and Selfe, seeks ways to approach the problem of a “rhetoric of technology” that uncritically praises new technologies by drawing on avant-garde art traditions and object-oriented ontology. I argue that, by following the philosophies and practices of glitch, dirty new media, zaum, dada, circuit-bending, and others, we might approach writing technologies with the intention of critically misusing, manipulating, and revealing to ourselves and audiences the materiality of the media and technologies in use.

In combination with these avant-garde practices and philosophies, I draw from object-oriented ontology to argue that we, as new media composers, never simply write *on* or *through* our technologies, but that we write in collaboration *with* them, for they are active and agential coauthors even (and especially) despite their status as nonhuman. I argue for an model that not only levels the ontological playing field between humans and nonhumans, but also one that embraces irregularities and “glitches” as essential features of systems and the actors within those systems. Finally, I provide examples of how to perform these models and philosophies, which I call *object-oriented art*.

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My thanks and respect and love to: my first mentor, and reason I undertook graduate education, Ann Burnett; a kindred spirit and inspirational mentor, Andrew “Doc” Mara; an endlessly generous and patient teacher and collaborator, Bruce Maylath; my guide to McLuhan and reminder to make a difference in the world, Kevin Brooks; a source of laughter, encouragement, and healthy skepticism, Miriam Mara; artists and art scholars who adopted me as one of their own, Michael Strand, Kris Groberg; inspirational and inviting scholars, Thomas Stanley, Byron Hawk, et al.; the kindest soul I know in academia, Betsy Birmingham; my partners-in-crime and lifelong friends, Darren Zufelt, MK Laughlin, and Gina Kruschek; my best friend and collaborator, Shawné Michaelain Holloway; my friends and heroes in the gli.tc/h and dnm movements, jonCates, Rosa Menkman, Jon Satrom, Ben Syverson, Nick Briz, Curt Cloninger, et al.; my partner in life and most patient supporter, Erin; the loves of my life, Lily and Rowan.

DEDICATION

For my son Rowan, who taught me that the bravest of people and the most worthwhile of things are irregular, noisy, and often dismissed in the society they inhabit.

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CHAPTER ONE: TECHNOLOGICAL PACIFY, HOW TECHNOLOGY
CONVINCED THE WORLD IT DID NOT EXIST

“Pay no attention to the man behind the curtain!”
(Wizard of Oz, 1938)

“In effect, you can’t hack what you can’t see.”
(Unisys Stealth Solution Suite Brochure, 2014)



Figure 1. Steven Hammer. "Pay no attention to the man behind the curtain." Digital Image. 2014.

Preface: Conventions + Disruption

A benchmark of academic prose, particularly of the disquisition persuasion, is *the absence of error or irregularity*. Precision, correctness, clarity, and adherence to formal standards marks the disquisition as a document to be taken seriously, one that may participate in the well-regulated conversation within Burke’s famous parlor. It marks the disquisition as a document carefully filtered through committees, editors, graduate schools, advisors, printers, libraries. It denotes careful work, mastery of a discipline and subdiscipline. It separates the disquisition from other work, from undergraduate work, from non-academic work, from un-publishable work, from work not really considered work at all. It calmly reassures the reader, “yes, you can trust me.”

Because my primary argument in this disquisition is that glitches—disruptions, errors, malfunctions, and interruptions—should be both viewed as valuable and always-existent components of composition and embraced as methods of production, this text, from time to time, embraces errors and disruptions. Sometimes these errors are intentional and sometimes they are accidental; but they are always rhetorical and illustrative. And while this may *seem* radical to some readers, I am merely following a long tradition of disruptive linguistic behavior performed by the likes of Aleksei Kruchenykh and the other Zaumniks, Helene Cixous, the Oulipo poets, Bryon Gysin, James Joyce, Marshall McLuhan, William S. Burroughs...

Perhaps now is an appropriate time to perform an example. This text was written using Microsoft® Word for Mac 2011, or, more precisely:

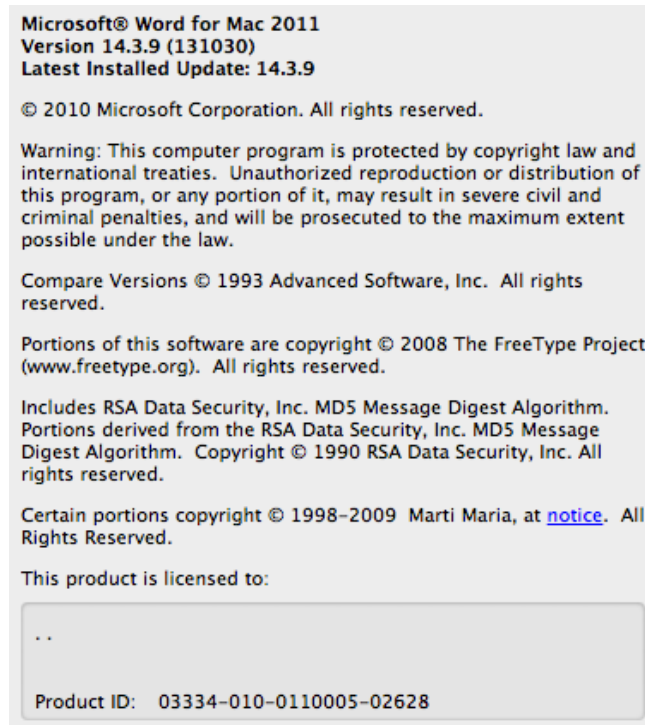


Figure 2. Screenshot from Word for Mac 2011.

The following phrase was inscribed on Word's famous WYSIWYG (what you see is what you get) interface combined with the keyboard on my Apple® MacBook Pro running OSX 10.7.5:

This is text.

But as you will read later in this chapter and throughout this disquisition, there are tools and techniques available to convert digitally produced text into much stranger, *glitched* representations of that text. In the following examples, I used new media artist stAllio's browser based "glitch text generator" to alter the same phrase. Similarly, I used the Zalgo text generator by tchouky to "translate" the same phrase.

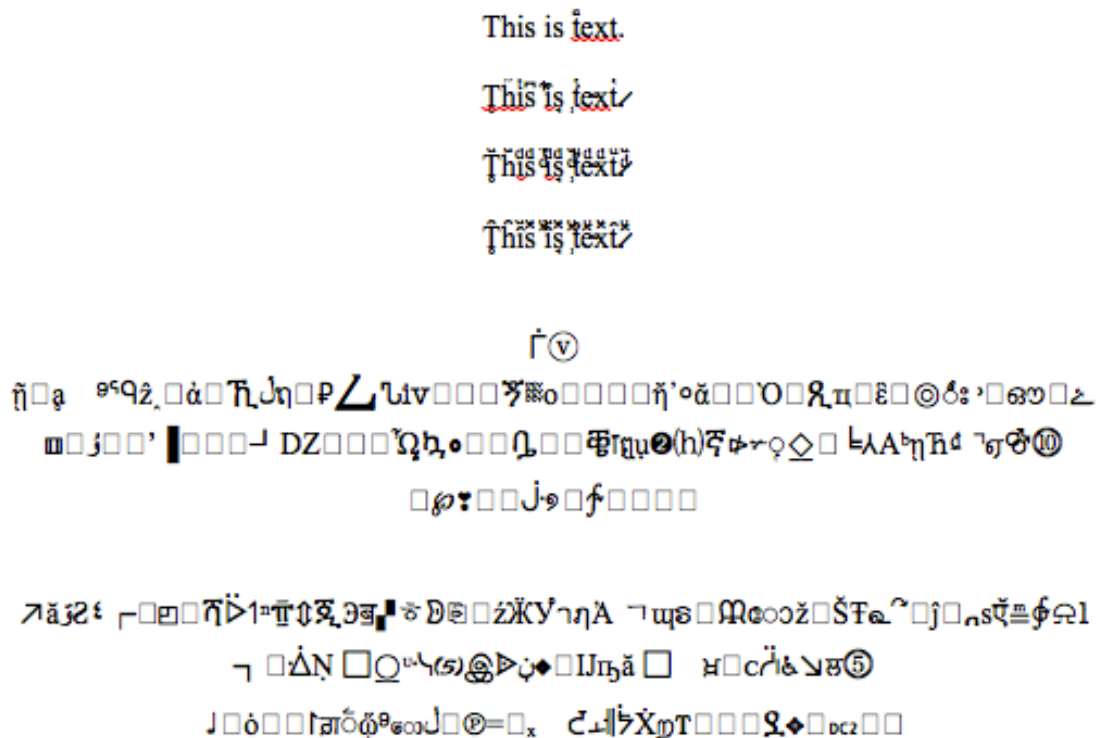


Figure 3: Text generated by stAllio's "glitch text generator."

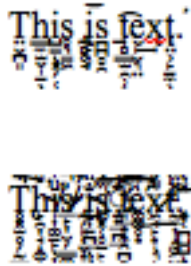


Figure 4: Text generated with Zalgo

These tools corrupt, or *glitch*, the clean signal of 12-point Times New Roman text in U.S. English, and in the process accomplish several other tasks, including a) revealing the vulnerabilities of digitally generated data-as-text, b) highlighting the production and materiality of the text itself, and c) engaging in the performative and aesthetic conventions of glitch/dirty new media/object-oriented art. I will expand on these tasks later in this disquisition, but for now it should suffice to simply warn readers that this document contains stylistic irregularities.

Introduction: Approach/Theory versus Practice/Performance

Much of the scholarship upon which this work relies—and indeed most scholarship in rhetoric and composition, object-oriented ontology, authorship theory, and so on—is dedicated to the development of approaches, frameworks, and/or theories dealing with their respective practices and agendas. While I will spend time with those texts, borrowing and critiquing, as one is wont to do in scholarly endeavors, the overarching aim of this text is not to generate big “T” Theory or critical framework, but to instead construct and perform critical *practices* (e.g., creative misuse of technologies and language, transparent construction and dissemination of creative work).

Part of this decision is no doubt rooted in my own identity as an artist/scholar; in fact, these two identities (or single hybrid identity) have helped to develop and inform one another over time. Even more importantly, though, scholars of rhetoric and composition—especially those affiliated with computers and writing—have been engaged with critical technology studies. Recent works by Sid Dobrin, Byron Hawk, Thomas Rickert, Collin Brooke, and many, many others, as well as not-so-recent works by Gail Hawisher, Cynthia Selfe, Richard Selfe, and many others, *have* approached emerging technologies quite critically, and have aptly called for critical practices. While these works are not all encompassing, they are certainly an adequate base from which to do what critical technology scholars have less often undertaken: perform critical practices.

In many ways, then, I am much less concerned here with documenting historical patterns of philosophy, pedagogy, or scholarly publications and more concerned with drawing from—and more importantly, *performing*—a variety of applicable theoretical approaches which have largely remained static and theoretical on our bookshelves. Exceptions to this accusation exist, of course, and scholarship is certainly a kind of performance. The recent popularization of coding practices and literacies in composition and rhetoric, for instance, stems from some of the critical practices advocated for by Selfe and Selfe in the 1990s. Ian Bogost's notion of carpentry is also an important gesture in the performance of object-oriented ontology, though as I will discuss in detail much later, overlooks a great deal of existing extradisciplinary practices, some of which I will employ directly.

This text-as-performance, then, while necessarily making many of the rhetorical moves required of a disquisition (citation of sources, documentation of histories and intellectual conversations, etc.), also documents experiences and experiments with technologies (typewriters in chapter one, multimedia art installations chapter four, etc.) in order to venture beyond the integration of sources, beyond social scientific collection of data, beyond tracing and revising histories, and so on, to a place of experimental textual performance. I hope this process and resulting media artifact renders the development of this project somewhat transparent, as opposed to the deceptively polished products commonplace in scholarly undertakings.

TechnoTextual Production in Three Acts

“Apple has grown to be a very sophisticated marketing company. We do research on our brand awareness, advertising recall, market share. But I received a letter from a six-and-a-half year old boy a few months ago which to me, sums up what we’ve accomplished in the last few years. It reads: “Dear Mr. Jobs, I was doing a crossword puzzle and the clue was ‘As American as Apple Blank.’ I thought the answer was ‘computer,’ but my mom said it was ‘pie.’”

-Steve Jobs at the Apple Shareholders Meeting, January 23, 1985

Because this text is preoccupied with technologies we often consider “new” or “emerging,” perhaps we should begin with a short exercise that not only addresses “old” media, but also engages with them. After all, there is quite a difference between writing *about* media and writing *with* media. For example, a few minutes spent with a typewriter, particularly for those too young to have used them regularly or at all, quickly becomes a process as much concerned with negotiating with the inscription technology itself as with the process of translating thoughts to written prose. Marshall McLuhan’s observation that “a typewriter is a means of transcribing thought, not expressing it,” (Essential McLuhan, 289) is of course true of all inscription technologies, but becomes achingly apparent as a

user steps outside of familiar writing technologies and engages with strange and unfamiliar inscription technologies. Or, to again call on McLuhan,

One thing about which fish know exactly nothing is water, since they have no anti-environment which would enable them to perceive the element they live in... What fish are able to see bears a close analogy to that degree of awareness which all people have in relation to any new environment created by a new technology—just about zero. (WPGV 175)

While McLuhan's observation is an important one, my work may cast doubts on his choice of words in this quotation. For instance, *new* technologies typically depend upon their ability to be highly visible as a consumable commodity, whether this visibility emerges from new features and capabilities or on marketing strategies completely unrelated to the technology itself. However, as a technology comes to define and inhabit a technological *environment*, McLuhan's analogy is all too accurate, much to the detriment of our own critical engagement with such technologies and environments.

Others have echoed critiqued of technological invisibility or, as I call it, *opacity*. Richard Lanham argues that digital interfaces, like collage techniques of 20th-Century art, place readers in “bi-stable oscillations” between recognizing the materiality of the medium (looking AT) and seeing past the medium to the intended message (looking THROUGH). He lauds the contemporary “interactive” reader for “incarnat[ing] the responsive reader of whom we make so much,” though he admits that sometimes (I would argue, *most* of the time) these readers “choose not to” “do all of the things that are claimed for them” (6).

In *Remediation*, Jay Bolter and Richard Grusin make a very similar argument in their construction of the terms *immediacy* and *hypermediacy*. Immediacy, or “transparent immediacy,” according to Bolter and Grusin, is “a style of visual representation whose

goal is to make the viewer forget the presence of the medium...and believe that he is in the presence of the objects of representation,” while hypermediacy is “a style of visual representation whose goal is to remind the viewer of the medium” (273). Even more recently, Anne Wysocki generously proposes that we define “new media texts” as “those that have been made by composers who are aware of the range of materialities of texts and who then highlight the materiality” (15). For Wysocki, Bolter and Grusin, Lanham, and McLuhan (and certainly others), the ideal composer or designer produces a text that, for readers, successfully oscillates between IN and THROUGH, so as to be simultaneously transparent and rhetorically effective. Later in this chapter I will introduce the first major concept of this dissertation, the spectrum of *technoRhetorical opacity*, as a supplement and extension of the works of Wysocki, Bolter and Grusin, and Lanham. My contribution lies primarily in exploring the concept not as a fixed point or dichotomy, but as an oscillating spectrum between at least three points. But first, I will revert to my experiment/performance with multiple inscription technologies as a way to show how these ideas came into formation.

In order to explore strange new (new to me, old historically) technological environments of textual inscription through direct experience and experimentation, I walked to 316 Minard Hall, where the North Dakota State University Department of English is presently housed. There I found an alien machine, and I began to explore what it meant to write on an electric typewriter in an attempt to reach beyond my own experience of keyboards and screens.

One: IBM Wheelwriter®3 Series II Typewriter 6782

This page was written with an IBM Wheelwriter 3
Series II typewriter, first produced and sold in
1961

This page was written with an IBM Wheelwriter 3 Series II typewriter,
first produced and sold in 1961

This page was written with an IBM Wheelwriter 3 Series II

This page was written with an IBM Wheelwriter 3 Series II
this page was written with an IBM Wheelwriter

}}{

this is frustrating
LMar is stuck here.
dissertation, chapter one
=

Testing
Testing

This page was written with an IBM Wheelwriter 3
Once again
LMar is moved right by 4"
After the printwheel passes 4" mark
and keeps moving
over
until there's
no room left to type

Figure 5. Page written with IBM Wheelwriter3 Series II Typewriter, digitized.

~~This page was written with an IBM Wheelwrit~~ I attempted to write this page with an IBM Wheelwriter®3 Series II typewriter, first produced and sold in 1988. Like any new technology, the Wheelwriter®3 Series II touted new, “special features such as Automatic Centering and Underlining...designed to make your typing jobs easier, faster, enjoyable, and more productive” (v). Additional features that make this typewriter “like having three typewriters in one” include the ability to “type in either pica, elite, or micro elite,” available *Soundhood* option, and upgrade-ability through an IBM Authorized Dealer (v).

While the machine itself works differently than a typical manual typewriter, its basic form and functions remain. In other words, while the Wheelwriter®3 Series II boasts features typical of electronic typewriters of the mid- to late-1980s, it still depends upon type striking an ink ribbon and then a piece of paper. The Wheelwriter®3 Series II utilizes an integrated ribbon cassette system, meaning that the ink ribbon cassette and the Printwheel (the component containing the type) fasten together prior to installation onto the typewriter chassis (Figure 6). The Printwheel, available in a number of “*attractive types*” (Figure 7), allows the Wheelwriter®3 Series II user to “select one for readability, emphasis, or space requirements to make your work look the way [she] want[s]” (4-1).

Ribbon Cassette System

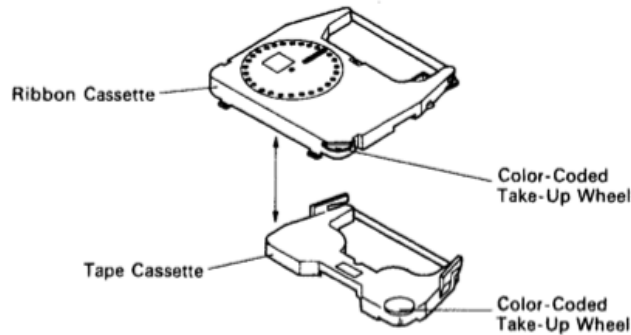


Figure 6. Screenshot from IBM Wheelwriter 3 Series II Operator's Manual, p. 4-8.

Typestyle Samples and Pitches

10 Pitch

▲ Advocate 1353845	IBM's variety of attractive type
▲ Artisan 10 1353520	IBM's variety of attractive type
▲ Bookface Academic 1353844	IBM's variety of attractive type
▲ Courier 10 1353511	IBM's variety of attractive type
▲ Delegate 1353843	IBM's variety of attractive type
▲ Manifold 1353846	IBM'S VARIETY OF ATTRACTIVE TYPE
▲ OCR-A 1353246	IBM's variety of attractive type
▲ OCR-B 1353247	IBM's variety of attractive type
▲ Pica 1353829	IBM's variety of attractive type
▲ Presentor 1353015	IBM's variety of attractive type
▲ Prestige Pica 1353503	IBM's variety of attractive type
▲ P&P #3 OCR 1353054	IBM's variety of attractive type
▲ Rhetoric 1353736	IBM'S VARIETY OF ATTRACTIVE TYPE
▲ 1403 OCR 1353075	IBM'S VARIETY OF ATTRACTIVE TYPE

Figure 7. Screenshot from IBM Wheelwriter 3 Series II Operator's Manual, p. 4-2.

In use, the Wheelwriter®3 Series II lies somewhere between a manual typewriter and a word processor. As the user types, the type hammers do not immediately respond to

key presses. Instead, the typed text is displayed on a small screen just above the keys, and once either a full line of text is complete or the user presses return, the Wheelwriter®3 Series II automatically reproduces the displayed text onto the paper. This functionality is made possible by the same affordances that word processors would later capitalize on: memory. The Wheelwriter®3 Series II has “a one-line correction memory which remembers the line you are typing, up to 72 characters,” (1-15) giving the user the opportunity to correct any mistakes before the type hammers reach the paper.

I was born on March 30, 1981. I do not recall using typewriters as a child, nor had I used them as an adult before this exercise with the IBM Wheelwriter. Sometime in the winter of 1987, my father came home with a Commodore 64 computer, and there began my experience with a QWERTY keyboard and text entry, as well as with computing systems, though all of those then-novel skills would certainly become essentials as I grew alongside the booming growth of the personal computer. As such, I am something of a keyboarding (as opposed to typing) native; thus, using the Wheelwriter®3 Series II to compose the present text is in many ways an alien experience. I turned the typewriter on, and was greeted with the rapid movement and sounds of the Printwheel, a melodic series of beeps, and a cryptic series of words and symbols on the small screen.

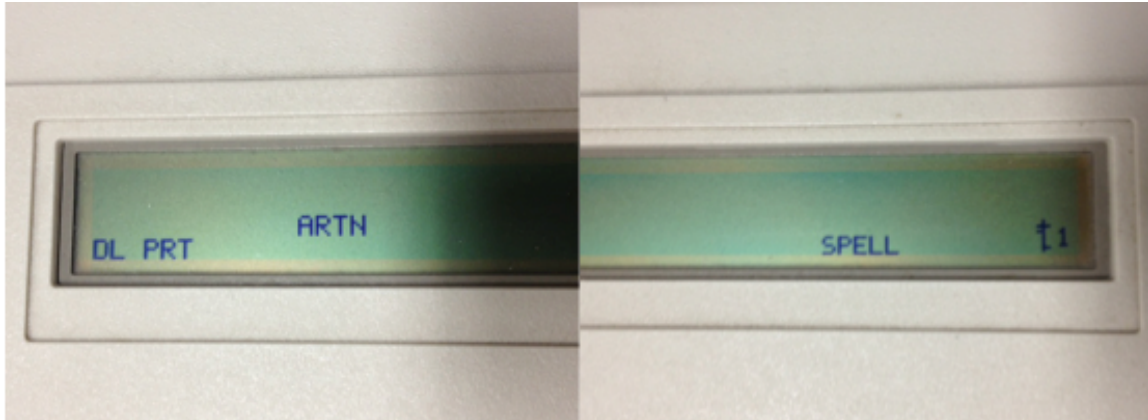


Figure 8. Photograph of IBM Wheelwriter 3 Series II display screen after powering unit on.

I was then immediately faced with the need to consult the Operator's Guide (which gratefully, was available as a .pdf online) in order to complete the most basic functions. Yet even equipped with this guide, my first attempt at this introduction looked like this:



Figure 9. Text written with IBM Wheelwriter.

It did not occur to me that I needed to set up the page in order to begin at the left margin (though that had not yet been defined). As I typed, the text appeared in the small display window, and when prompted by a beep after typing "Wheelwriter 3," I assumed I was out of room for the line, so I struck the "C Rtn" key (what I would normally call "Enter" or "Return"). The typewriter then quickly typed the text onto the page, but I

noticed that my margins were far too large. Upon typing the second line, beginning with “Series II typewriter,” I decided to type more text, ignoring what I thought was a warning beep. I again struck the “C Rtn” key, only to see that the type began nearly two inches to the right of the previous line, and extended far beyond the sheet of paper. The third line of text followed the same pattern. I was puzzled, and returned to the operator’s manual.

My next attempt began with a wave of confidence as I loaded a sheet of paper (that I removed from the HP Laserjet P4015n next to the typewriter) correctly. I knew I needed to set my margins. The operator’s guide directed me to simply use the spacebar or backspace to “move the carrier to the desired” margin position (1-13), but this action did not yield intended results. Gratefully, Michele, our infinitely patient and kind office administrator walked into the room and asked how I was doing (I’d proudly announced my intentions to “use a *typewriter!*” about thirty minutes prior, in the way a young child announces that *today*, she’ll learn how to ride that bicycle without training wheels). I said that I was already lost, even *with* the operator’s guide in front of me. She told me that in order to set my margins, I first needed to use the “Mar Rel” (margin release) key. Victory was mine.

...until the second line of my second draft. I set my left margin correctly, and continued writing across the line until the Wheelwriter®3 Series II automatically sent me to the next line, enforcing a 1.5 inch right margin. The first line looked great. I typed the second line, however, and the text began not just two inches to the right of the left margin, but almost six inches, leaving most of the text far to the right of the page.

A scan of a document page showing two lines of text. The text is in a monospaced font and reads: "This page was written with an IBM Wheelwriter 3 Series II typewriter, first produced and sold in 19". The text is slightly faded and has a grainy texture. A vertical black line is visible on the right side of the page.

This page was written with an IBM Wheelwriter 3 Series II typewriter,
first produced and sold in 19

Figure 10. Text written with IBM Wheelwriter, digitized.

I regrouped, loaded a new sheet into the Wheelwriter®3 Series II, and attempted to again set the left margin, but though the blinking cursor on the screen indicated a left margin of one inch, I was unable to position the printwheel in a similar physical position. I wrote the first lines again anyway to see what would happen. The second line of type did not even make contact with the paper this time; all of the text was again wasted on the platen to the right of the paper.

A scan of a document page showing a single line of text. The text is in a monospaced font and reads: "This page was written with an IBM Wheelwriter 3 Serie". The text is slightly faded and has a grainy texture. A vertical black line is visible on the right side of the page.

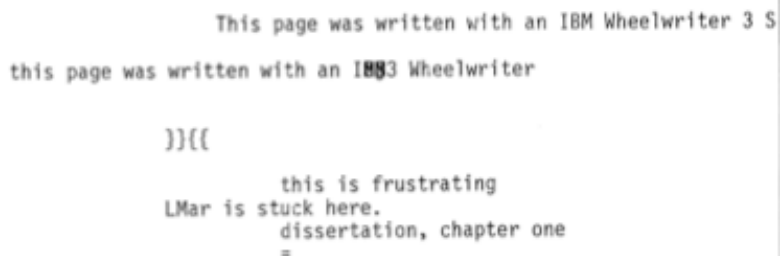
This page was written with an IBM Wheelwriter 3 Serie

Figure 11. Text written with IBM Wheelwriter, digitized.

Puzzled, I again consulted the operator’s guide, which offered little help. More dependably, Michele again came into the room. I described my difficulties, and Michele informed me that this machine was “slowly dying” and had become somewhat “glitchy,” and this was one common glitch. I was somewhat relieved. A few other colleagues came through the room. Justin, a graduate student, asked what I was doing with the typewriter, and I told him that I was writing the introduction of my dissertation on a typewriter as a kind of performative exercise. He seemed amused. Then Bruce, a faculty member in the English department, stopped to ask what I was up to. He smirked and asked me how it

was going, and I again explained my odd behavior. He also told me that this particular machine was difficult to work with, and offered to lend me his manual typewriter. He recounted his first experiences with similar technologies, from early IBM electronic typewriters that used magnetic disks to store an entire document, to using an Apple Lisa in graduate school. He wished me luck and told me to “have fun” learning this new/old technology.

Finding myself at an impasse with the Wheelwriter®3 Series II, I did what I always do when encountering a technological problem. I powered the typewriter down, and then turned it on again. The printwheel returned to its left-justified position, and I began again, this time hoping to account for the glitch. Again, I failed. Though my left margin was seemingly set accurately, the printed text began at the center of the page (Figure 12, below). Another reboot, and the same result. This Wheelwriter®3 Series II, it seemed, really *was* “glitched” and “dying slowly,” though I wondered if my inexperienced experimentation accelerated its fatal trajectory.



This page was written with an IBM Wheelwriter 3 S
this page was written with an IBM Wheelwriter
))((
this is frustrating
LMar is stuck here.
dissertation, chapter one
=

Figure 12. Text written with IBM Wheelwriter, digitized.

Testing
Testing

This page was writ~~een~~ with an IBM Wheelwriter 3
Once again
LMar is moved right by 4"
After the printwheel passes 4" mark
and keeps moving
over
until there's
no room left to type

Figure 13. Text written with IBM Wheelwriter, digitized.

I consulted with Miriam, another faculty member who happened to pass through and noticed my frustration turning into concession. She smiled, and said something like, “It doesn’t matter where you set the margins, it knows where *it* wants the margins to be.” The object, as it were, was *objecting* to my desires by what we typically call a *glitch*. Alex Reid understands glitches in rhetoric and composition as “key ontological condition[s]” that are “everywhere, and they are features not bugs” (Composing Objects). While embracing glitches in a field still largely preoccupied with some degree control over the composition process may seem unlikely, Reid uses glitch as a kind of entry point into his object-oriented rhetoric. His approach considers “the objections of objects,” or the ways in which nonhuman actors actively contribute to composition. An object-oriented rhetoric, Reid argues, prepares us for “an ever-stranger compositional environment where the rhetorical roles we imagined for ourselves as modern humans will not function” (Composing Objects).

In fact, Reid’s brief comments on the normalcy of glitch inspired this dissertation. While his comments and observations certainly resonate with much of what I discuss here, his investigation failed to draw from a community that has been practicing and theorizing glitch (and other error-based creation) for more than a decade. Glitch and Dirty

New Media, two fields concerned precisely with the nature of glitches and their role in creation, reception, and relationships with technologies, have developed a rich body of work, and exist within a much wider history of disruptive avant-garde practices. My intention here, then, is to expand significantly on Reid's remarks regarding glitch ontology, working to both define and complicate the notion of glitch. There is much more to unpack here, including a deeper investigation into glitch, ontology, and authorship, which I will address in detail in later chapters. But for the moment, I will return to my experience with the IBM.

As a final attempt, I re-read the section of the operator's manual dealing with margins, the section titled "Problem Determination," and the often useful Google search for "Wheelwriter®3 Series II margin problems" and so on. I was unable to find a solution to the problem, much less ascertain a reason why the Wheelwriter®3 Series II was objecting so strongly to my desires. I would later learn, however, why two colleagues had offered, and by doing so subtly *recommending*, a manual typewriter. As one colleague pointed out, when *memory* became a feature of the typewriter, the typewriters became simultaneously more convenient and more troublesome. In the case of my experience with the Wheelwriter®3 Series II, we might say that its failing memory had morphed a once-obedient tool into an object with *objections* to my ideas, intentions, and processes. Its failures made the Wheelwriter® a less dependable tool, but to end analysis here would be shortsighted. Its state of malfunction, its *glitch state*, had given the Wheelwriter® the agency to object; its *glitch state* had usurped my position of control and mastery in the process of textual production. I had indeed arrived to a McLuhanesque anti-environment, and I understood very clearly the disconnection between thought and transcription.

Although the concept of *glitch* is central to this dissertation, my real intention in using the Wheelwriter®3 Series II typewriter was to discuss the ways in which its own materiality and functionality is more apparent and transparent to the contemporary writer than the technology with which I am presently composing: Microsoft® Word. Frankly, I expected to a) encounter difficulty with the Wheelwriter®3 Series II by virtue of unfamiliarity, b) learn to successfully use the Wheelwriter®3 Series II after becoming more familiar with the typewriter and its features, parts, and limitations, and c) be able to illustrate how the opacity, or hidden-ness of a technology and its functionality contributes to the critical awareness of the user. While all three objectives have been met to some degree, the greatest asset to the process was not learning the *functions* of the Wheelwriter®3 Series II, but the *malfunctions*.

Two: Adler J2 Typewriter

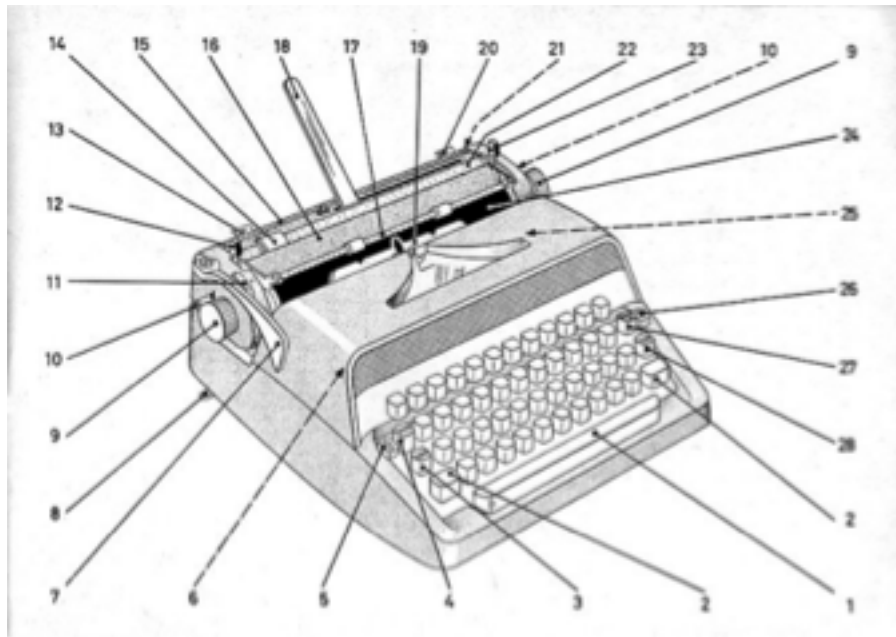
“There is nothing to writing. All you do is sit down at a typewriter and bleed.”
-Ernest Hemingway

The next day, I received a manual typewriter on loan from Bruce. I opened the case in my office, and there was an Adler J2 manual typewriter, produced some time in the mid-1970s. As was common in those days, Bruce received the Adler J2 as a high school graduation gift, along with a suitcase. While this technology was even further removed from my experience than the Wheelwriter®3 Series II, I became a reasonably functional writer much more quickly than I had the day before.

I sat down with the Adler J2 and, for lack of a better description, began to *tinker* with it. Because there were no possible hidden features due to the absence of screens, memory, save for the “shift” key enabling the user to use an uppercase letter or alternate symbol, I began to look for direct connections between movable components and action.

For example, as I turned the platen knob on the right side of the machine, the platen moved. It stood to reason, then, that this would enable me to move paper vertically. After only a few attempts, I inserted a sheet of paper into the correct slot, and turned the platen knob, drawing the paper into correct position. Then, once I realized that the carriage was locked, I unlocked it and used the line space lever to push the cartridge to the right, allowing me to begin typing at the left margin. Within just a few minutes, I was successfully composing on a typewriter.

Relatively quickly, I learned how a typewriter works by simply touching, watching, and experimenting with the technology. I did not know what a platen or carriage was, but after a few minutes with the operator's manual, I was able to connect the names and functions of typewriter's parts to my immediate physical experience. The basic typewriter's translation of input to output is mechanical, and is in many ways (audibly, visually) quite transparent to the user. Put simply, as the user presses a key, a series of levers raises the *type hammer* toward the paper. As the type hammer approaches the paper, a spool of inked cloth called a ribbon rises up so that the type meets the ribbon then strikes the paper, therefore making an inked impression. Upon releasing the key, the type hammer springs back to its original position while the *carriage* moves over one space, ensuring that the next keystroke is properly spaced.



- | | |
|--------------------------------------|------------------------------------------|
| 1 Space bar | 15 Scale |
| 2 Left and right shift key | 16 Paper discharge guide |
| 3 Shift lock | 17 Paper holder |
| 4 Marginal release | 18 Paper support with terminal indicator |
| 5 Ribbon indicator | 19 Card holder |
| 6 Ribbon reverse switch | 20 Line finder |
| 7 Line space lever | 21 Right margin stop |
| 8 Carriage lock | 22 Stops |
| 9 Platen knob | 23 Paper rest |
| left side variable line space device | 24 Paper release |
| 10 Carriage release | 25 Platen |
| 11 Line space gauge | 26 Ribbon spool |
| 12 Platen release | 27 Tabular set and clear key |
| 13 Left margin stop | 28 Back spacer |
| 14 Left hand paper guide | 29 Tabular key |

6

Figure 14. Screenshot from Adler J2 Instruction Manual, pp. 5-6.

While I obviously did not encounter any glitches of the digital variety using the Adler J2, there were moments that my own misuse of the technology yielded some physical glitches, namely the entanglement of type hammers when my typing rhythm and speed were inappropriate for the technology (Figure 15). Yet using the Adler J2, like my previous adventure with the Wheelwriter®, was a helpfully alien experience, one that plunged me into an anti-environment that forced a “writing about writing” experience which follows, as typed on the Adler J2, scanned with a Lanier LD140, and inserted into this document as a .pdf.



Figure 15. Photograph of Adler J2.

This is a test. My first real experience with a manual typewriter. The major differences? First, it is extremely difficult to type with any sort of speed, though that is getting easier as I go along. It is more physically tiring to be sure... I am noticing that, aesthetically speaking, I really enjoy the variance in ink darkness, and the more-than-occasional gaps in words, when the type fails to make an inscription on the paper. Or when my typing speed increases so that the type hammers become entangled.

It is a noisy affair. Two of my office neighbors, no doubt struck with a nostalgic wave of aural recognition, quickly entered my office and looked upon this, the Adler J2 typewriter, with some amazement. For a while they recounted some of their experiences and then wished me luck.

Observations:

Writing is less planned, more adaptive. I am accustomed to a lot of deliberation while I write with a word processor. I write, then erase and rephrase, or select a different word. Currently, I am in some ways forced to finish my thoughts once I put them into motion. The technology asks that I trust myself. But it also requires that I write with care, with a sense of intention. A sense of dread, lest I make an error great enough, all of my labor will have been tragically wasted on a careless movement.

It is a noisy affair, as I mentioned a moment ago. Many people have now stopped by to see what the commotion is all about. Perhaps it is an inconvenience? A welcomed nostalgic trip? A novelty? Some hipster move? Either way, writing is noisy. It is taxing. It demands energy and a kind of endurance (attention, physical, noise tolerance, etc.). And, unless prolonged exposure creates in the typist a kind of immunity to the incessant clattering, it is clear to all, like a not-so-humble declaration, "I, am writing!"

I am touching the tool. Imposing my desires on it. Like contemporary tools, it sometimes objects to my wishes. The Adler J2 does not crash, nor does it fail to save or format the document correctly (or, I should say, submit to my will). But it certainly object in particular ways. It asks that I type with a particular (or maximum) rhythm and speed. If I find a familiar rhythm, one that I have found successful on my Macbook Pro, I may well find myself untangling the type hammers. "T" and "Y" are good examples.

More to come.

Figure 16. Text written with Adler J2, digitized.

Why is this easier than yesterday's experience?

In some ways, the IBM yesterday reminded me of my experiences with some electronic instruments from the 1980s and 1990s, such as the Yamaha DX-7, a drum machine, namely in that many features are not immediately available or visible to the user, and when they are made visible by navigating through shift functions and menus, they are abbreviated to the point of unrecognizability. Not surprisingly, then, I used the "operators manuals" extensively when using both the Yamaha drum machine and the IBM typewriter.

The Adler, on the other hand, features a more immediate interface. That is, each function is carried out by a physical mechanism, one that is largely apparent. For example, the very basic task of loading a sheet of paper on the IBM required movement of two separate levers, only one of which seeming to directly affect the platen (the cylindrical part of the typewriter that serves as a backing to the paper and which moves as new lines of text are required). Conversely, the Adler loads paper manually by rotating the knob (aptly named the "platen knob" in the user's manual).

Have I mentioned that using a manual typewriter is noisy? My office is an ideal something of a tourist attraction to passersby, hearing the unmistakable sounds of a gone-but-not-forgotten inscription technology. To say that this kind of writing was more transparent (i.e., not black boxed) would be an understatement. Not only is the interface apparent to me in terms of mechanical functionality, idiosyncrasies, and the ways I need to adapt to it (e.g., typing rhythm, speed, etc.), but the technology is readily apparent to those within an earshot of the noise. While there are noisy features of contemporary technologies, they are

not surprisingly very quiet in comparison. I once purchased a latex keyboard cover for my MacBook to reduce the noise as I typed. Often, we also associate the noise of computer-based work with the tinny sound of music emitting from the worker's headphones, particularly those of a white earbud variety. Yet somehow, these relatively quiet markers of technological production feel more invasive in a (techno)culture obsessed with the quiet and cleanliness associated with emerging technologies.

I am carrying other baggage. I have yet to correctly use an apostrophe, because my right pinky finger reaches and finds a "q" instead of a "'". This is puzzling to me. Why does the "q" possess such valuable real estate on this technology? Why does the "'" require a SHIFT keypress?

One clue to this question might lie in an alternate version of the user's (hey, I found the apostrophe!) manual I located online.

Figure 17. Text written with Adler J2, digitized.

The most interesting feature of the Adler J2 instruction handbook was, by far, as short phrase on page 2: "Confide in 'J2' or 'J5'. The machine will show you everything by itself." This statement is of interest in a number of ways. First, I will admit that it is in some ways accurate, at least more accurate than the IBM with its reliance upon hidden features and what I would consider "unintuitive" interface. Yet the more interesting feature emerged when I located another version of the handbook. In this version, an illustration of a woman accompanies most of the pages and photographs. She is outlined in red, wears a dress and a bow in her hair, and totes a typewriter (an Adler, no doubt).

To miss this feature of the handbook would be difficult. Further, while it might be tempting to attribute her appearance as a function of Adler's target market would miss a more valuable opportunity to discuss the role of gender in the rhetorical framing of technology. In her 2005 text, titled *My Mother Was a Computer: Digital Subjects and Literary Texts*, N. Katherine Hayles points to her own mother as an illustration of the ways technologies have been rooted in gendered labor. Her own mother worked as a cleric; she performed calculations in much the same way that computers would just a few decades later. Mothers, according to Hayles, have been replaced with computers, from teaching children to read to providing advice and counsel.

Returning to the handbook, then, we might consider the pink woman as a kind of metaphorical guide to the user, signaling her own replacement, but not before easing the transition through gentle guidance and reassurance. She is synonymous with the Adler J2, and for a brief moment, that representation is painfully obvious and troubling to contemporary eyes.

Earlier, I wondered about the incredible noise that must have accompanied an office full of typewriters. That question contained a few problematic assumptions. Chief among them is the assumption that typewriters were the inscription tools of all workers. This is, of course, not true in the majority of situations in the mid-20th century.

Typing pools, or secretarial pools, were widespread throughout the 20th century U.S., and consisted of a group of women charged with producing typed documents for their superiors. In fact, men rarely used typewriters, except for writers, novelists, and so on. Typing pools in many ways resemble (and some visions of cramped factory conditions as the photographs below illustrate) noise, then, was obviously a significant part of this working context, and, true to other tendencies of Modernist design, worked to sharply separate signal from noise, public from private, and intellectual from replaceable labor. Unsurprisingly, secretaries and typists were evaluated on their ability to produce faithful reproductions of dictated information, as well as their ability to do so efficiently. In other words, the landscape of mid-20th century America in terms of gender, labor, and power, can be neatly illustrated just by investigating the role of the typewriter in establishing and maintaining gendered power relations, especially in terms of voice and linguistic agency.

Figure 18. Text written with Adler J2, digitized.



Figure 19. Typing pool circa 1913. National Building Museum, courtesy Sears Roebuck and National Museum of American History.

The machine will show you everything by itself.



Figure 20. Screenshot from Adler J2 Instructional Manual.

Y

Yet as print technology (production, that is) advanced, particularly with those with word processing technology, the need for these typing pools

decreased significantly. In an email from Bruce, he commented that "One of the happiest days of my life was the first time I composed text on an Apple Disc." *** Bruce was in graduate school the first time he used the

List, and not relying on typing pools, but you can imagine the impact of the word processor on the collective consciousness within the workplace in which typing pools were the norm. Specifically, the skills of typing suddenly became valuable, whereas before they had been largely devalued as work for women, the real academic and relatively unskilled labor force. Gradually, as Hayles points out, computational developments and technological developments served to replace women's work. Hence, the title of her text, "My Mother Was a Computer."

But I should get back to my original reason for all of this discussion of typewriters. Or perhaps it has become obvious by now?

The Adler J2, the IBM Wheelwriter 3 Series II Typewriter 6782, and the next technology I will discuss, Microsoft Word for Mac 2011, version 14.3.9 (sidenote: I cannot type the symbol for copyright or registered trademark. An interesting but entirely logical omission, removed from the mechanisms of copying and distribution accelerated by technologies post-Internet) all possess very different features, affordances, limitations, glitches, and so on. My point, which will become clearer as I discuss contemporary word processing, is that technologies exist at

different points on what I call the "Spectrum of Opacity." ** Briefly, this term refers to the extent to which technologies obscure their own materiality, functionality, subjectivities, biases, glitches, and production. Thus far, I have investigated through direct experience the ways that just a few technologies object to authorial intention, as well as the ways that their failures and malfunctions teach the user about its materiality and contribute to the relative opacity of ** themselves. My argument, simply put, is that greater degrees of opacity, those technologies that obscure themselves under the guise of "ease" and, increasingly, "user friendliness" ensure a less critical use, and work to normalize themselves as canonical means of production and authorship. As this happens to greater degrees, technologies become largely invisible, reinforcing the illusion that writing, and indeed all communication is unmediated, somehow a purer form of converting thought into *** distributable and consumable texts. . Why is this problematic?

For that, I will call back to Hawisher, Selfe, and Selfe's work in the 1990s regarding the Rhetoric of Technology. But first, I will continue my adventures in writing technologies.

Figure 21. Text written with the Adler J2, digitized.

Three: Microsoft® Word for Mac 2011 Version 14.3.9

In many ways, Microsoft Word has been an invisible co-author throughout my life as a writer and teacher of writing. Most syllabi I encounter—and many I have *written*—include a phrase like “all assignments must be submitted in .doc or .docx format.” My career as a student could likewise be measured in the production of .doc and .docx documents. Yet I have never engaged in a focused reflection on textual production with Word, at least as I have just done with typewriters. This is not surprising, however, since Word is in many ways the centerpiece of my own invisible technological (inscription) environment.

In this way, even now, it is difficult to write about writing with Word. I could talk about choosing fonts, margins, spacing, headers and footers, typing speed and rhythm, alignment, cut/copy/paste, saving, printing, special characters, integrating images, captioning, various views, spell check, and so on, but that cataloguing would likely be as tedious and obvious to read as it would be to write. Readers of this text, to a significant extent, understand the operational features of the Word interface; that is, they know how to interact with the interface to produce such effects. What we are far less likely to know, however, is the ways that word processors such as Microsoft® Word *actually* translate keystrokes into the text we see on the WYSIWYG (what you see is what you get) interface and distribute to print or digital artifacts.

The first WYSIWYG editor, which would lead to the development of Microsoft® Word many years later, was developed in 1974 by Charles Simonyi and Butler Lampson. The WYSIWYG interface was “revolutionary,” for it was the first time writers could gaze on a “paper-like screen” (Markoff). Prior to the WYSIWYG, users were engaged in

a much more obviously-mediated exchange between their thoughts and desires, the program's interface and capabilities, and the work of translation required to meet those desires. Consider, for example, the non-WYSIWYG interface of the early word processor Wordstar below (Figure 22). Then, consider an early iteration of the program I am currently using, Microsoft® Write (Figure 23).



Figure 22. Screenshot of Wordstar interface.

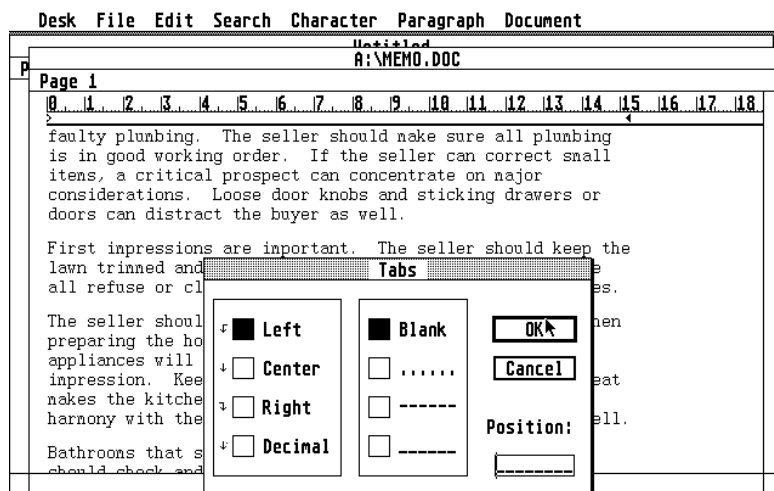


Figure 23. Screenshot of Microsoft Write.

While both programs have similar capabilities, their user experience is quite different. While Write's interface provides a sense of realism (or, more aptly, *rearview mirrorism*), it simultaneously (and necessarily) obscures its means of production. The Wordstar likewise obscures some of its production, but there were likely no illusions among users that they were somehow writing on a paper-like document in a way similar to using a typewriter.

Yet we should come back to our original question of how a word processor works *outside* the view of the user. Just as the IBM Wheelwriter® afforded its users the capability to correct mistakes within the space of a line of text by using memory, the word processor also used memory—though a great deal more—to allow for the composition and editing of relatively large documents.

For a relatively simple explanation of the *inner lives* of word processors, I turn to Paul Lutus, author of the widely popular Apple Writer word processor. Lutus explains that there are two primary categories of word processing functions: text editing and print formatting, text editing and print formatting.

Text editing features include the ability to enter, edit and delete text with ease, speed and flexibility. Also necessary is the ability to find any arbitrary character string and replace it with another. Advanced functions include the ability to automate completely certain text editing tasks and to define sentences or control sequences that are then made available with a single keystroke.

Print formatting (sic) functions include the ability to print the file created with the text editor, read embedded formatting commands and carry them out, and provide various margins and text justifications (e.g., left and right flush, centered, fill). Early text editors intended for use by programmers were mated with print formatters and sold as word processors. The newer products are fully integrated software packages in which the text editor and print formatter functions are simultaneously available without changing program environments. (Lutus)

For this discussion, we might simply look at the word processor in action as we write, in much the same way that in earlier sections I focused on the writing-in-process aspect of inscription technologies.

As I mentioned, the word processor is possible because of memory. Yet the mechanisms of memory associated with a word processor bears little resemblance to the display on the WYSISYG interface. Instead, each character is assigned a numerical code and a memory address. In the example of the text input “The quick brown fox,” Lutus provides a chart indicating the word processor’s response:

Display		
The quick brown fox		
<i>Memory Address</i>	<i>Number</i>	<i>Character</i>
1	84	T
2	104	h
3	101	e
4	32	
5	113	q
6	117	u
7	105	i
8	99	c
9	107	k
10	32	
11	98	b
12	114	r
13	111	o
14	119	w
15	110	n
16	32	
17	102	f
18	111	o
19	120	x
20	32	

Figure 24. From Lutus, "How a Word Processing Program Works."

Note that spaces in the example are represented by the number 32. Each character or text formatting action has a number. The command to move the printer's carriage down and to the left, for instance, is assigned the number 13. When you press RETURN, the number 13 is placed in the computer's memory.

Now the cursor is moved left along the typed line. When the cursor position is changed, some of the characters are moved up into higher memory locations to make room for subsequent text insertions:

Display		
The quick brown fox		
Memory		
<i>Address</i>	<i>Number</i>	<i>Character</i>
1	84	T
2	104	h
3	101	e
4	32	
985	113	q
986	117	u
987	105	i
988	99	c
989	107	k
990	32	
991	98	b
992	114	r
993	111	o
994	119	w
995	110	n
996	32	
997	102	f
998	111	o
999	120	x
1000	32	

Figure 25. From Lutus, "How a Word Processing Program Works."

Now a new word is typed at the cursor position.

Display		
The very quick brown fox		
Memory		
<i>Address</i>	<i>Number</i>	<i>Character</i>
1	84	T
2	104	h
3	101	e
4	32	
5	118	v
6	101	e
7	114	r
8	121	y
9	32	
985	113	q
986	117	u
987	105	i
988	99	c
989	107	k
990	32	
991	98	b
992	114	r
993	111	o
994	119	w
995	110	n
996	32	
997	102	f
998	111	o
999	120	x
1000	32	

Figure 26. From Lutus, "How a Word Processing Program Works."

Even though the file has two memory segments, the display shows them as an integrated whole. This has the advantage that in most common text manipulation actions only one character needs to be moved or saved, adding to program speed. Most text editing functions include this basic scheme. Text search and replacement involves moving characters between the file's high and low memory segments, searching for the desired text, then performing deletions and insertions as instructed by the user's entry.

Placing the text in the computer's memory makes it possible to perform fast text manipulation and display. The drawback is that file length cannot exceed available memory. The normal solution to this problem is to break the file into segments, each of which can fit in memory. An alternate method is to read and write to a mass storage device as text editing takes place. This method shields the user from memory limitations but is often very slow. (Lutus)

In this very brief and simple example, we realize that WYSIWYG interfaces are valuable in terms of productivity, efficiency, and ease. Yet hopefully, we also begin to realize how, when *this* inscription technology glitches or fails completely, the average user is suddenly baffled and powerless to adapt to the conditions because the mechanisms of the technology are removed from the immediate consciousness and access of the user. In other words, the WYSIWYG renders the procedures of textual production highly opaque to the user; what you see is *not always* what you get. Or, put even another way, we might say that the WYSIWYG has been *black boxed*.

Black Boxes

Rhetoric and composition scholarship has long been concerned with the affordances and limitations of inscription technologies. And while much of such scholarship has focused on documenting material histories, the impact of specific technologies on pedagogy, literacy, access, or participation, computers and writing scholars such as Cynthia Selfe, Richard Selfe, and Gail Hawisher have ventured beyond historical accounts of technologies, instead critiquing the ways that inscription technologies obscure their own limitations, biases, and materiality. Indeed, *all* inscription technologies possess affordances and limitations, and while each inscription technology enjoys its temporary position of dominance in the landscape of textual production, its own materiality and subjectivities often remain mysterious at best, completely opaque at worst. The central concern of this work, therefore, is to expand on the work of Hawisher, Selfe, Selfe, and many others, and argue that the *black boxes* within which inscription technologies obscure themselves perpetuate largely uncritical and consumerist approaches to creativity and composition.

The concept of the black box emerged from cybernetics and, broadly, denotes a system in which input and output are visible and apparent to the viewer, but the means of translation or computation of the input are opaque, or hidden. In the preface of his 1948 text, *Cybernetics: or Control and Communication in the Animal and the Machine*, Norbert Wiener introduced black and white boxes as

...convenient and figurative expressions of not very well determined usage. I shall understand by a black box a piece of apparatus, such as four-terminal networks with two input and two output terminals, which performs a definite operation on the present and past of the input potential, but for which we do not necessarily have any information of the structure by which this operation is performed. On the other hand, a white box will be similar network in which we have built in the relation between input and output potentials in accordance with a definite structural plan for securing a previously determined input-output relation. (xi)

Bruno Latour famously adopted the term black box in his critique of scientific and technical work. In *Pandora's Hope: Essays on the Reality of Science Studies*, Latour expands on Wiener's black box, noting "When a machine runs efficiently, when a matter of fact is settled, one need focus only on its inputs and outputs and not on its internal complexity. Thus, paradoxically, the more science and technology succeed, the more opaque and obscure they become" (304). While my work is certainly building on Latour's notion of the black box, particularly in terms of technologies' trends toward obscurity via success, I suggest that there are degrees of opacity and present a possible model for understanding those degrees and the ways in which they are achieved and maintained.

In practice, of course, black boxes take many shapes, but all obscure partially or render completely opaque the processes and mechanisms by which one thing—an input—becomes another—output (Figure 27, below).



Figure 27. Blackbox.svg, courtesy Wikimedia Commons.

Speaking in terms of contemporary writing, we might consider human cognition, idea formation, linguistic translation, and interface interaction (e.g., keystrokes) as the input, and the display of text, web publishing, printing, and so on as the output. While this system has become significantly easier and more efficient since Gutenberg, and thus allowing for greater access to both the creation and consumption of information, it has simultaneously become more opaque to both human parties. Let us revisit the case of WYSIWYG word processing technologies, a staple of contemporary composition practices and pedagogies. The input of keystrokes is transformed into text displayed on the screen (Figure 28, below). In users' perceptions, then, the word processor works in a very similar way to manual and electric typewriters.

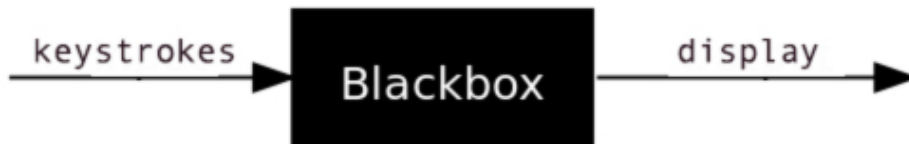


Figure 28. Blackbox, version two.

Even further, however—and more critically—I would suggest a more realistic (and problematic) model of contemporary writing in Figure 27, below. While the above

model is accurate and to some extent understood by users, locating evidence that writing instruction addresses these kinds of basic processes is quite difficult. Indeed, most first-year writing textbooks fail to account for *any* type of technological processes beyond software suggestions and tips; instead they move briskly from preliminary rhetorical strategies (invention, research, etc.) to presentation (style, delivery, etc.). Much of our foundational literature deals primarily with the translation of ideas, intentions, and personae into written artifacts, with very little attention to the mechanisms of translation embedded within inscription technologies themselves. Figure 29, then, represents two commonplace practices in rhetoric and composition. First, there is the assumption that technologies (and their respective interfaces, subjectivities, limitations, affordances, etc.) are relatively unimportant in the big picture of composition; they are merely tools that accommodate production and publication in a 21st-Century context. Second, the embedded message suggests that our *selection* of inscription technologies is an unimportant step in composition processes, one that will apparently bear little effect on the transition from idea to product.

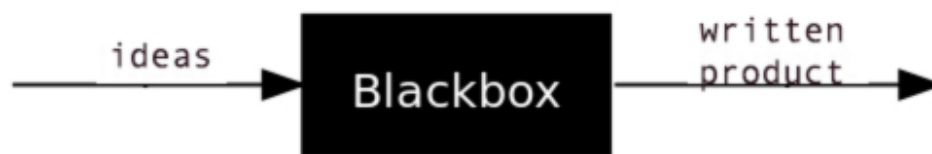


Figure 29. Blackbox, version three.

To illustrate, consider Richard Johnson-Sheehan and Charles Paine’s *Writing Today*, a widely-used first-year composition textbook from Pearson that promises to provide “strategies and assignments [to] teach 21st-century composing skills...[that]

encourages students to use Web 2.0 platforms and technologies to publish their compositions” (“Writing Today, 2/E: About This Product”). The second edition prominently features an iPad-like device (Figure 30, below) and its various applications on its cover. But while this may lead readers to believe that the text will address, if not *foreground* issues of technology in writing, this assumption would be erroneously—and literally—judging a book by its cover.

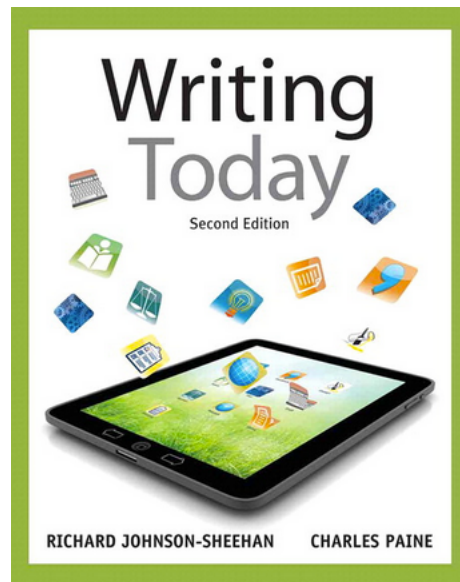


Figure 30. *Writing Today* cover art.

Chapter 29 of the text, titled “Using the Internet,” is the first in-depth investigation of writing technologies, though previous chapters do feature images of websites and word processing screenshots. Though we may be tempted to praise the inclusion of these images and references to writing technologies with which many students are familiar, the *uncritical* inclusion of these images work to reinforce the notion that these technologies are objective tools by which to translate ideas into products. In a similar way, chapter 29 does little work to introduce students to a critical framework when writing with emerging (in this case, Web-based) technologies. Instead, the authors

seem to simultaneously praise the possibilities of such technologies and convince students that such writing is legitimate and exists within a history of changing writing technologies. These aims are not necessarily *wrong* or unwarranted; my point is simply that this approach—common in these kinds of textbooks—fails to address technology in a way that encourages informed critiques of our relationships with writing technologies.

Perhaps the most useful section of this chapter addresses the question of “Is This Writing?” Johnson-Sheehan and Paine address some possible objections to web-based writing technologies by positioning such technologies in a larger history of writing technologies,

More than likely, the monks working in the scriptoriums of medieval Europe would have been mystified by the kinds of writing that we take for granted today. Mass-produced books, newspapers, magazines, junk mail, brochures, and posters, would have seemed odd and even threatening. They would have seen computers as a form of magic or witchcraft. So it’s not surprising that we wonder about these media tools. Writing will continue to change, making it look very different than it does now. The new technologies described in this chapter are only the beginning of that change. (555)

Though likely an unintentional rhetorical move by the authors, their justification of writing with emerging media is premised on the argument that web-based writing is essentially the same (in terms of history and perception) as any other writing technology, and therefore, to critique these emerging technologies equates one with antiquated systems of belief like “magic.” In other words, from the outset of the chapter devoted to addressing web-based writing technologies, the authors not only ignore a critical approach to technologies, but seem to actively discourage critique among readers/students.

So what do the authors say about “Using the Internet” to a contemporary audience? Overwhelmingly, the Internet is discussed in familiar terms of opportunity,

access, and to some extent, democratization. The authors impart to us in the introduction to the chapter, “There are now more ways than ever to publicize your writing and make an impact on the world through your words,” a framing of emerging technologies that promises virtually unlimited potential for writers and creators to have their voices heard (555). Johnson-Sheehan and Paine continue, briefly introducing social networking platforms solely in terms of their possibilities and affordances:

Facebook, Myspace, and Bebo, can help you connect and stay in touch with friends and family. Increasingly, these social networking sites are used by non-profit organizations, political movements, and companies to stay in touch with interested people...LinkedIn and Spoke...will help you connect with colleagues, business associates, and potential employers” (555).

Similarly, the authors’ very brief introductions to blogs and wikis remark on their surface-level capabilities and purposes, again omitting even marginally critical approaches or the inclusion of non-canonized alternatives to these familiar technologies.

When Johnson-Sheehan and Paine *do* address risks of such technologies, they unfortunately resort to the kind of technology panic (this is not to say such fears are always unfounded) common in contemporary culture, especially those regarding potentially inappropriate photographs and posts and how they might impact others’ perception of the writer. The authors make several of these warnings: “It’s tempting to add everyone you know, but that isn’t the best approach. You don’t want so-called “friends” writing things on your wall that would make you look bad to important people at your university or to future employers” (555); “[Don’t] post private information, such as contact information or anything that would allow a stranger to track you down” (555); “remember that you can be sued for writing slanderous or libelous things...so keep it

clean and truthful” (557); “These sites are public, so don’t show, do, or say anything illegal, unethical, or embarrassing. Be careful about your personal information” (559).

In fairness, issues surrounding copyright, online stalking and identity theft, and so on *are* important issues for students to consider. My critique here is not to suggest that these issues be avoided altogether; rather, I object that these issues are framed not as thoughtful considerations (e.g., the ethics of copyright and fair use practices) but as “thou shalt not...” statements. Although there are texts that do engage with such issues more carefully (see Howard Rheingold’s *Net Smart: How to Thrive Online*, for instance), they have largely failed to successfully break into the carefully guarded and regulated textbook industry that, unsurprisingly, neither practices nor promotes usefully critical engagement with copyright, access, or technologies. David Parry has commented much on the restrictive and oppressive tendencies of major (read: closed-access) publishers, which he dubs “knowledge cartels,” noting “academic publishers exist not for the sake of distributing knowledge (if that were the case they would make it free), but rather for the purpose of restricting knowledge, producing an artificial scarcity in order to charge for access to said knowledge” (“Knowledge Cartels Versus Knowledge Rights”). Parry not only advocates for open-access scholarship, but also for the use of open-access technologies and deep ethical investigation of technologies and contemporary policies governing those technologies in classrooms.

The point of this critique is not to demonize the authors of *Writing Today* as isolated examples of uncritical engagement with writing technologies. A similar critique could be waged on a number of textbooks, practices, and bodies of research within the field. Additionally, *Writing Today* was developed for first-year *writing* students; few

English departments or programs of which I am aware explicitly state “critical technology use” as a desired outcome or general education requirement. In other words, like so many knowledge-products dominating our market, *Writing Today* seems to cater to existing power structures that value skills like citation, genre awareness, and document design above critical technology use. These texts and their authors come by their uncritical approach to inscription technologies rather honestly; there is a long tradition from both inside and outside of academia that romanticizes the affordances of emerging technologies and perpetuates the notion that they are objective tools better left underexplored or ignored altogether. Such approaches are what Hawisher and Selfe call “The Rhetoric of Technology.”

The Rhetoric of Technology

At first glance, practical, technology-as-tool approaches to teaching writing, and the WYSIWYG may seem unproblematic and necessary in the contemporary technohistorical landscape that applauds—even *demand*s—the now-ubiquitous feature of “user friendliness.” Yet as I have already suggested, “user friendliness” is in fact *not* an empowering feature of inscription technologies; instead, it denotes the degree to which a given technology—or its means of translating input to output—pretends to not exist, or at the very least, have an impact on the process of inscription. Cynthia Selfe has raised this point since the early 1990s, yet much of academia still approaches the implementation of technology in the university with awe and novelty, especially as evidenced by the recent popularity of the ubiquitous-yet-seemingly indefinable term *digital humanities*. Touted by many as groundbreaking and cutting-edge research and pedagogy regarding digital technologies’ possibilities across disciplines in the humanities, *digital humanities* often

performs what Selfe and Hawisher (1991) call “The Rhetoric of Technology,” a dangerous techno-utopian vision that frames the emergence of computers in classrooms “in overly positive terms.” (56) This rhetoric engenders a false sense of “hope, vision, and persuasion” (57) that, according to Selfe and Hawisher, overstate the democratization of classroom spaces and overlook the negative—or at least status-quo sustaining— aspects of emerging inscription technologies.

While my aim here is not to argue that our fields and subfields have ignored this scholarship (because there are *many* in our field doing highly critical work), there are recent examples of the rhetoric of technology, even within computers and writing circles. Ann Hill Duin’s keynote address at the Great Plains Alliance of Computers and Writing, for example, explored “[from] the days of Appletalk to today’s enhanced networks and to the emergence of a sea of Google Glass(es)... each decade ignites an *increase in learner engagement*” (italics added). Largely devoted to celebrating the vast opportunities and beauty of speculative technologies, Hill Duin made no gesture toward the ideological and political baggage associated with emerging technologies, even when asked directly to talk about the problematic aspects of some advertisements she used as part of her presentation, especially one titled “[Productivity Future Vision](#),” produced in 2011 by Microsoft Office (OfficeVideos). While the video is saturated with a technoUtopian vision of a clean, functional, and *highly productive* future, it also reinforces a number of problematic issues, especially issues of race, class, and professions (compounded by the fact that the video takes place in South Africa). For instance, below, technology is featured as a way for people (of color) to better serve (white) travelers.



Figure 31. Screenshot of "Productivity Future Vision, 2011."



Figure 32. Screenshot of "Productivity Future Vision, 2011."

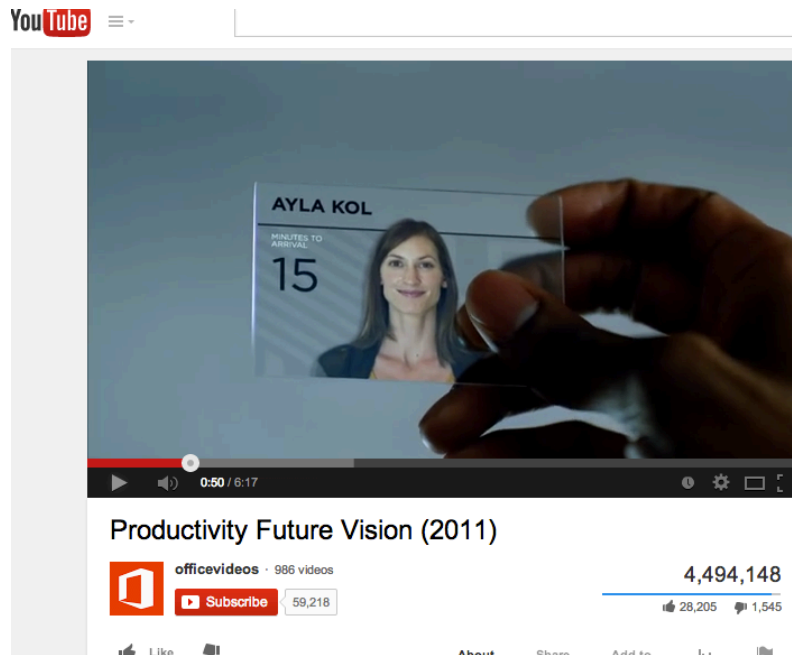


Figure 33. Screenshot of "Productivity Future Vision, 2011."

Selfe and Selfe (1994) expanded on the cautions of technoutopianism in 1994, focusing especially on the “Politics of the Interface.” Their article focuses on

the computer *interfaces*, those primary representations of computer systems or programs that show up on screens used by both teachers and students. Within the virtual space represented by these interfaces, and elsewhere within computer systems, the values of our culture—ideological, political, economic, educational—are mapped both implicitly and explicitly, constituting a complex set of material relations among culture, technology, and technology users. In effect, interfaces are cultural maps of computer systems, and as Denis Wood points out, such maps are never ideologically innocent or inert. (485)

The complexity and relative opaqueness of writing and accompanying inscription technologies has, of course, always existed, but the accelerated emergence and rapidly changing digital technologies (both underwritten by dominant, capitalist-patriarchal notions of “progress” and “innovation”) since widespread access to and use of personal computers placed them into increasingly opaque black boxes. Selfe and Selfe addressed a number of then-prevalent—and *still-prevalent*, I argue—characteristics of dominant

interfaces, including “a tendency to value monoculturalism, capitalism, and phallogoc thinking, and does so, more importantly, to the exclusion of other perspectives. Grounded in these values, computer interfaces, we maintain, enact small but continuous gestures of domination and colonialism” (486). Selfe and Selfe plead for an integration of technological *criticism* and technological *use*, but their well justified and articulated still seem to be missing from rhetoric and composition scholarship and pedagogy writ large.

Bruce and Hogan (1998) echo the work of Selfe, Selfe, and Hawisher, cautioning that despite dominant rhetorics of technology, emerging technologies often “reinscribe existing inequitable power relations” including “the loss of jobs...poor working conditions, surveillance, ...regimentation,...censorship and unequal access,...and technologies [that] support abuses by their very design” (269). Further, they critique dominant conceptualizations of technologies as mere tools, “mechanistic, exterior, autonomous, concrete devices that accomplish tasks and create products” (270). More importantly, Bruce and Hogan observe,

We do not generally think of them as intimately entwined with social and biological lives. But literacy technologies, such as pen and paper, index cards, computer databases, word processors, networks, e-mail, and hypertext, are also ideological tools; they are designed, accessed, interpreted, and used to further purposes that embody our social, physical, and psychological beings. Thus, we need to look more closely at how technologies are realized in given settings. We may find that technological tools can be so embedded in the living process that their status as technologies *disappears*. (270, italics added)

Bruce and Hogan pinpoint the most probable explanation for the continued lack of technological criticism in the field, one that Selfe echoes a year later and many continue to observe: technology disappears, becomes invisible.

Selfe's 1999 CCC article points to the sustained absence of critical engagement with technologies in rhetoric and composition scholarship, this time using the metaphor of *invisibility*. She writes,

[W]e have computers available to use for our own studies, in support of our classes and our profession—but we have also relegated these technologies into the background of our professional lives. As a result, computers are rapidly becoming invisible, which is how we like our technology to be. When we don't have to pay attention to machines, we remain free to focus on the theory and practice of language, the stuff of real intellectual and social concern. (413)

Notable exceptions do exist, of course. Alongside the countless articles and conference presentations lauding the possibilities of new technologies and techniques, many scholars *are* critically investigating technology in creative and classroom spaces, particularly in discussions of disability studies, open access, and coding literacies (Salvo 2002; Portolano 2002; Anderson 2003; Sheridan, Ridolfo, and Michel 2005; Ridolfo 2005; Stolley 2008; Kyburz 2010; Yergeau, Brewer, Kerschbaum, Oswal, Price, Selfe, Salvo, and Howes 2013; Parry 2012).

Yet despite this growing corpus of critical scholarship, I argue that the opacity of technology remains a persistent cultural problem facing composers, consumers, and teachers of composition. Further—and this is the impetus for my practice-based (as opposed to theory-building) approach—even the most critical of scholars addressing the rhetoric of technology in its many forms sometimes halt prior to active performances of their critique. In other words, it is one thing to identify a problem, another to propose possible solutions, and yet another to *perform* solutions. This is where I diverge from scholarship like that of Hawisher and Selfe, not as a correction of their work, but as a performance-based extension. I argue that as writing technologies have advanced and evolved, they have become increasingly invisible, although there are degrees of opacity.

Recall that the Adler J2 manual typewriter, the IBM Wheelwriter®, and Microsoft® Word varied in terms of their apparent functionalities, glitches, affordances, limitations, and (in)visibility. Given the language of technological “invisibility,” our analytical options become rather limited, assigning a given technology to either the “visible” or “invisible” category. Instead, I propose that technologies lie somewhere on a scale of invisibility, or as I will call it, *a spectrum of technoRheorical opacity*.

Spectrum of TechnoRhetorical Opacity

We might say, then, that technology (and here I am speaking conceptually, not referring a specific object, corporation, etc.) exists on a *spectrum of opacity*. As a working definition, the *spectrum of opacity* refers to the degree to which a technology’s materiality, subjectivity, and agency are performatively concealed in marketing, application, criticism, and/or use. In other words, I propose that there are degrees to which a given system or technology is black boxed, rather than typical discussions of black boxing, white boxing, un-black boxing, and so on. I will identify three points on the spectrum, though given its identity as a *spectrum*, I do not mean to propose that there are necessarily fixed points or universal applicability. Rather, I hope to define these points as illustrative references so that we have a more nuanced model of black boxing pertaining specifically to inscription technologies.

This spectrum is not a radical shift in thinking or visualizing engagement with technologies. Lanham’s description of oscillations between looking “at” and looking “through” technologies, Bolter and Grusin’s concepts of “immediacy” and “hypermediacy,” as well as Wysocki’s definition of new media all account for the ways in which humans interact with visible/material or invisible interfaces. The difference,

though, is that my spectrum of opacity attempts to account for the *rhetorical* production of technological opacity, focusing more on production and dissemination rather than user experience.

Typically, as a new technology emerges, its existence *as a technology* is quite visible and apparent. That is, we recognize it as a tool that completes or aids in some process that was previously difficult, unnecessary, or impossible; it is visible as a medium between desire and technoManifestation of that desire. This position on the spectrum, which I call *translucent*, is defined by its rhetorical performance in which we typically discuss the technology in terms of its characteristics: speed, interface, features, applications, connectivity, philosophy, workflow, etc. In this way, the technology is visible *as a material technology* distinct from both the function it performs and the user who engages with it. Technologies in this position are typically new or updated versions, and therefore rely on differentiating themselves from previous versions or competitors' technologies. We should be careful, however, to avoid interpreting translucency as transparency, for those occupying this position are seldom out of the black box. Rather, they are apparent and marketed as one of many technologies, with specific capabilities, functions, and features. Their inner workings, limitations, and subjectivities are often *not* completely apparent.

Spectrum of Opacity



Figure 34. Spectrum of Opacity: Translucent.

We can see evidence of translucence especially in marketing materials, product reviews, and user’s manuals. Even those technologies we might presently consider opaque, such as Microsoft® Word, once displayed tendencies of translucent technologies. In a 1990 review of Microsoft® Word for Windows, or Winword, Infoworld writer John Lombardi illustrates a translucent position of TechnoRhetorical opacity for the now-opaque word processor. Winword, Lombardi notes, is “*one* of the best known word processors” that “competes effectively with Samna’s Ami Professional and NBI Legend,” by introducing features apparent and advantageous to users (78, emphasis added). Such features include “capably [handling] complex formatting, mail merging, fill-in-forms and tables, macros, graphics, document conversions, and fonts,” offering “various views of a Word document...from a complete or partial WYSIWYG editable display to a quick-editing draft mode” (78). Lombardi’s review goes on to detail a wide range of features and performance specifications of Winword, praising it as a “dazzling graphical word processor” that “has clawed its way to the top of the word processing heap” (80).

These kinds of rhetorical framing, while not completely unveiling the internal complexities of the technology—and thus, they are translucent, not transparent or unblackboxed—do frame technology as one option among many. The technology has specific features and capabilities that differentiate it from others, and from this we may reasonably infer that it is a subjective tool, one that will provide a different experience from another option. Therefore the user, actual or potential, is lead to focus on the technology *as a technology*, regardless of how optimistically or romantically it is framed. Further, this type of framing foregrounds the technology as a choice on the part of the potential user.

The choice, however, is far from arbitrary. In fact, many technologies are framed rhetorically by what I call *technoBootstrapping*, a promise that if one chooses a particular technology, she will succeed and overcome a variety of obstacles. In a 1987 commercial for Apple titled “War Room,” a team of co-workers sits around a boardroom table with a sense of urgency. The man in charge of the meeting quickly moves from department to department, making demands that are time sensitive. One member of the meeting, an Apple Macintosh user, follows up each department’s unacceptably slow response with something like, “Our computer can do it in a day.” In business, it seems, the Apple Macintosh will elevate users above their peers’ limited abilities.

Yet an even more apparent example of technoBootstrapping is evident in a 1991 Apple Macintosh advertisement titled “Industrial Revelation.” In this advertisement, a teacher delivers an enthusiastic lecture to his students.

We are entering a whole new era, a decade of positive change. Around the world, organizations have realized that you cannot intimidate human beings into productivity. The key is to let people do what they do best, whatever way works best for them. At the same time, fundamental principles of mass production give

ordinary people access to powerful technology. That which was affordable to the few becomes available to the many. Mass production becomes mass productivity. The industrial revolution meets the age of enlightenment. The walls have come down! Opportunity has gone up. And your only limits will be the size of your ideas and the degree of your dedication.

In many ways, this speech echoes the unfulfilled promises of the rhetoric of technology, and overtly connects Apple Macintosh with this revolution/revelation of access, opportunity, and democratization. Again, consistent with *translucent* rhetorics of technology, the advertisement highlights the technology *as-technology*, makes a clear distinction between users and tools, and differentiates itself from competitors via affordability and access.

The second point of the spectrum of opacity, which I call *obscure*, might be understood as a midpoint between translucency and complete opacity. We can begin to define *obscure* as a technology's tendency to obscure, or further cloak, its own materiality and subjectivity. Again, this position is best defined through its performances. Obscured technologies tend to avoid preoccupation with themselves *as technologies*, instead presenting themselves as tied to fashion, identity management, and the hybridization of user and technology.

Spectrum of Opacity

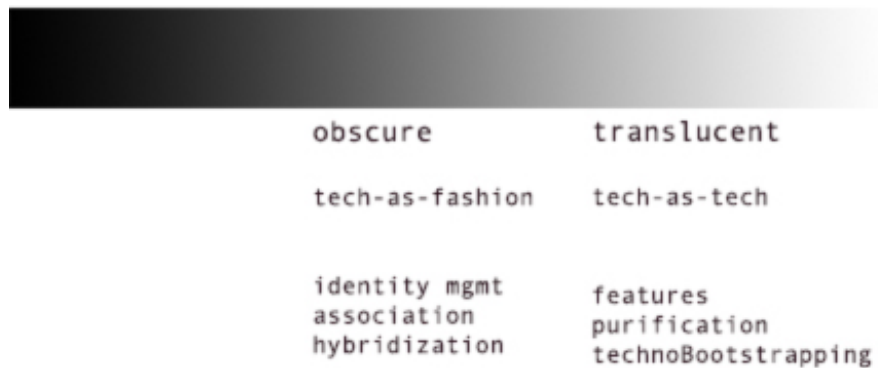


Figure 35. Spectrum of Opacity: Obscure

The notion of technology-as-fashion, while inspired by McLuhan’s observation of “clothing as an extension of the humans skin is as much a technology as the wheel or the compass,” here takes on quite a different meaning, as here I depart from McLuhan’s view of technology as a mere extension of (hu)man. Here, I use technology-as-fashion to denote the ways that obscured technologies evade their own identities as technologies (as was the case in the *translucent* position) and are instead positioned as markers of identity or association. In other words, choosing a technology here has less (or nothing) to do with its features or technoBootstrapping promises, and more to do with the identity associated with that technology.

Again, we might return to Apple’s long history of successful marketing campaigns, in which several examples of technological *obscurity* can be easily located. Perhaps their most famous commercial, titled “1984,” first aired during Super Bowl XVIII, and bore little resemblance to then-standard approaches television advertisements that prominently featured the product being advertised, its features, capabilities, and other markers of a *translucent* rhetoric of technology. In fact, no Apple computer or product

was in sight, no features described, only the promise that “1984 would not be like 1984.”

As Linda Scott observes,

It commands attention, but with a strange, other-worldly imagery instead of the frenetic, brightly-colored patterns common to television advertising. It raises questions and problems without introducing the product as hero and without a friendly announcer voice-over to tell us what is happening. It bends a sixty-second time-frame into a much shorter virtual time-space, while using our inner clocks to create tension, as second after second passes without fulfilling our need for some explanatory jingle or exhortation. Then it stair-steps this tension to a dramatic climax, only to present a paradox in the form of a cryptic promise and that friendly, brightly-colored apple... The realization comes only afterward, and with a quandary. (70)

While viewers may well had been in a quandary regarding the then-unconventional advertising strategies of “1984,” there is much less chance that the message of the advertisement was lost, even to contemporary viewers. Obviously reminiscent of George Orwell’s famous dystopian novel, “1984” leads viewers into a very cold and bleak world, where drone-like workers march vacantly toward an all-powerful Big Brother figure on a large screen, who announces ominously,

Today, we celebrate the first glorious anniversary of the Information Purification Directives. We have created, for the first time in all history, a garden of pure ideology—where each worker may bloom, secure from the pests purveying contradictory truths. Our Unification of Thoughts is more powerful a weapon than any fleet or army on earth. We are one people, with one will, one resolve, one cause. Our enemies shall talk themselves to death, and we will bury them with their own confusion. We *shall* prevail! (1984)

Apple CEO Steve Jobs made no effort to hide the message of “1984” and the intended interpretation of Big Brother. In a 1983 Apple keynote address, Jobs prefaced the premier of the commercial by referring specifically to IBM, a company that had been a dominant player in the personal computer industry:

It is now 1984. It appears IBM wants it all. Apple is perceived to be the only hope to offer IBM a run for its money. Dealers initially welcoming IBM with open arms now fear an IBM dominated and controlled future. They are increasingly

turning back to Apple as the only force that can ensure their future freedom. IBM wants it all and is aiming its guns on its last obstacle to industry control: Apple. Will *Big Blue* dominate the entire computer industry? The entire information age? Was George Orwell right about 1984?" (EverySteveJobsVideo)

If Big Blue was stylized in "1984" by Big Brother, then Apple's savior took the shape of a dynamic young woman, dressed in red, running with a large hammer, eventually hurling it into the screen in a glorious moment of rebellion against the tyranny of the IBM ideology made this dystopia possible.

The advertisement in itself was visionary, but not only in its unconventional approach, narrative, or Hollywood-quality production (the advertisement was directed by Ridley Scott). It in many ways began Apple's long history of rhetorically *obscuring* their products behind a sense of identity and fashion. Instead of promoting Apple as a superior product with superior features that would enable users to overcome obstacles and achieve unparalleled success (as they did in some other advertising campaigns), this line of advertising instead presents users with a question of fashion or identity, asking, "Are you an IBM? A robot? A mindless slave to Big Brother? Or are you young, brave, vibrant, and rebellious like an Apple?"

Later iterations of this theme emerge in Apple advertising, such as their 1985 advertisement "Lemmings," their "Think Different" campaign in the mid- to late-1990s, their iconic "iPod + iTunes" advertisements featuring popular music and colorful silhouetted dancers, and especially the "Get a Mac" (or "I'm a Mac, I'm a PC") campaign, wherein two distinctly different human characters represent each computer, thereby offering yet another fashion or identity-based choice for consumers (Figure 34, below). While in some of the individual advertisements characters do superficially refer

to specific technologies, features, capabilities, and/or limitations, the crux of the rhetorical strategies are to interlink a technology with a hyperbolized character, whether it be a brainwashed slave-worker, lemming, uptight and humorless suit-wearing “PC,” or their counterparts, the laid-back but intelligent, well-dressed, youthful, independent person “of the people” who engenders innovation, equality and accessibility.



Figure 36. "I'm a Mac, I'm a PC."

One might rightly argue that *all* advertising actively constructs product-based personae with which potential or already-attained consumers might identify. What are the consequences of pairing *technologies* with identity? What happens when a Mac user who has been explicitly tethered to visual representations (Justin Long, above) or promised seamless functionality (“It just works,” figure 35 below)? In short, that user, by virtue of choosing a Mac no doubt experiences a degree of cognitive dissonance when it “just does *not* work.” When the spinning beachball rears its ugly head, when a program “quits

unexpectedly,” when any number of errors or irregularities occur, this hypothetical user must surely face an uncomfortable moment in which she recognizes the unfulfilled promises of Apple, and either a) denounces Apple as a “bad” technology and seeks an alternative, b) attributes malfunction to some outside agent (herself, third-party software, etc.), or c) some combination of a) and b). Whatever the case, our hypothetical user seldom confronts the *actual* issue at hand: that technologies—Apple or otherwise—do not always “just work,” or need they be indicative of the user’s own identity, contrary to the constant stream of technoRhetoric. One possible counterpoint, or counter*practice*, lies in examining those who invite a *non*-identification with technologies, interfaces, and all things technoRhetoric. I will end this chapter, and spend nearly all of the next chapter inviting those voices to this conversation.

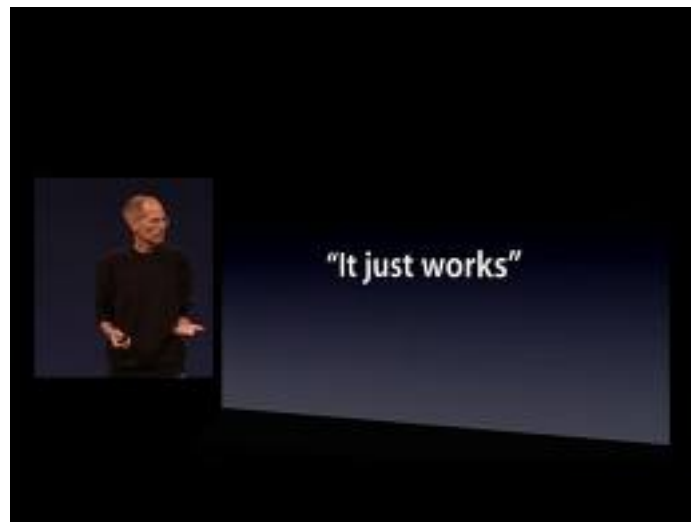


Figure 37. Screenshot of "Apple Special Event", WWDC Keynote, 2011.

Finally, the third position on the spectrum of opacity is what I will call *opaque*, and refers to a highly shrouded rhetoric of technology, which is not only invisible as a technology, but is also completely dematerialized and absorbed into what we consider to be *doing*, or performing some action. That is, obscured technologies’ materiality and

subjectivity are no longer recognized as “using technology ‘x’ to complete some task” (translucence) or “using technology ‘x’ will contribute to my identity as ‘y,’” but instead the technology becomes synonymous with the function.

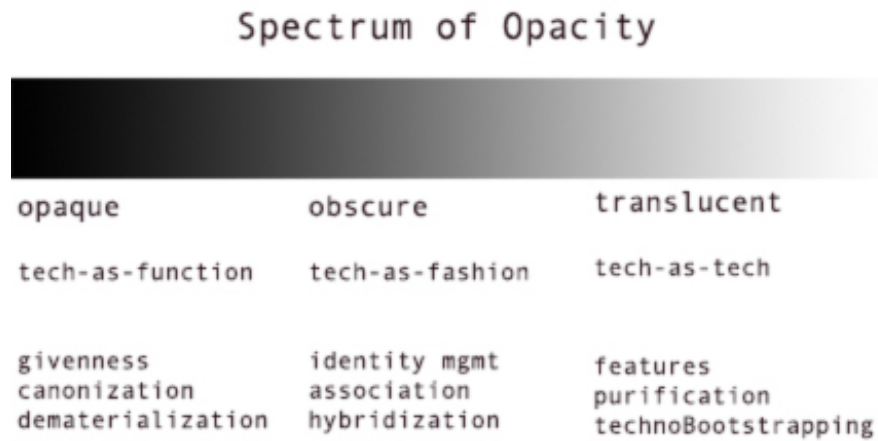


Figure 38. Spectrum of Opacity: Opaque

The now multifaceted Google serves as a perfect illustration for opaque rhetorics of technology. Google began as a Stanford-hosted search engine called BackRub in 1996, and its founders, Larry Page and Sergey Brin, registered Google.com in 1997. In 1998, Google became the newest search engine available to Internet users, and received high praise for its “uncanny knack for returning extremely relevant results,” and earned the highest search engine ranking among the Top 100 Web Sites for 1998 (company history). The same year, co-founder Larry Page used the term “googling” on a mailing list document. As Google became more popular in the early 2000s, others began to use the verb “google,” including its first popular culture reference in a 2002 episode of *Buffy the Vampire Slayer* (Arthur). In 2006, the term was added to the Oxford English Dictionary, perhaps officially signaling Google’s dominance of the search engine market. By 2007, Google held a 55.2 percent share of the search engine market, performing 3.8 billion

searches in April of 2007 alone, far exceeding its closest competitor, Yahoo, which performed 1.5 billion searches (Burns).

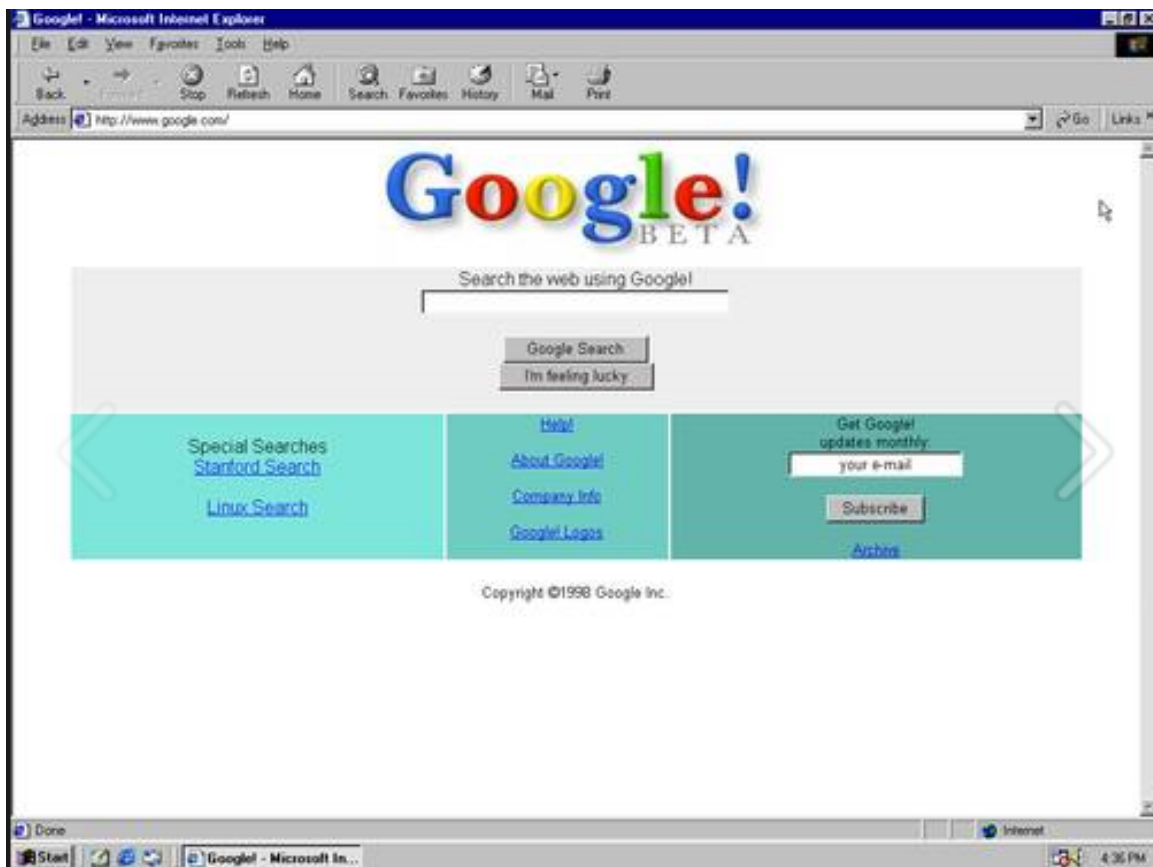


Figure 39. Screenshot of Google! Beta, circa 1998.

Officially speaking, the verb Google means to “search for information about (someone or something) on the Internet using the search engine Google” (“Google”). But increasingly, the term became associated with the broader (read: not specific to Google) action of searching for information on the Internet, so much so that in 2006, Google publicly announced its displeasure of the trend. “We think it’s important to make the distinction between using the word ‘Google’ to describe using Google to search the Internet and using the word ‘google’ to generally describe searching the Internet. It has some serious trademark issues” (Qtd. in Sturgeon).

Speaking, then, in terms of the rhetorical *opacity* of technology, the genericizing of the term “Google” serves as an apt illustration. Whereas Google (the search engine) was once praised for its features and performances as a translucent technology (*as-technology*), its dominance contributed to the technology being associated not with the selection and use of a specific technology, but with the function of finding information online. Paradoxically, and much to Google’s chagrin, its own success effectively rendered the materiality and subjectivity of its technology almost completely opaque. Yet Google’s work of rhetorical opacity has reached beyond the limits of the generic verb.

Chrome, Google’s popular web browser, ran a television advertising campaign that performed rhetorical *opacity* in a much more misleading way, one which in my estimation illustrates the more problematic aspects of Hawisher and Selfe’s rhetoric of technology. The slogan of the campaign read, “The Web is What You Make of It,” and its general trajectory was to portray human relationships exclusively through Google technologies. The 2012 advertisement titled “Coffee” begins as an email from a man named Mark to his apparent ex-girlfriend, Jen, announcing “I hate how things ended. Can we meet for coffee?” From then, viewers follow Mark’s highly networked and hyperlinked message, first navigating to a Google Document titled, “Reasons to say yes.” What follows is a narrative of their relationship as represented through various Google technologies, including YouTube videos, posts and photographs on Google+, their travels via Google Maps, a Google Forms spreadsheet of times Jen was right during disputes, a Google Maps Street View of the place where they broke up, and so on. Mark ends by asking, “So...how about that coffee?” (Google Chrome).

The audience is left hopeful and inspired, and is then reminded, “The Web is What You Make of It,” inspiring a sentiment reminiscent of Apple’s earlier commercial “Industrial Revelation.” Yet there is little indication that Google itself was facilitating Mark’s attempt at a reunion, because with Google, the possibilities of the web are only limited by what one makes of it. Indeed, the slogan “The Web is What You Make of It” erases the affordances, limitations, and especially *subjectivities* of the technologies featured in the advertisement by failing to account for the features that distinguish Google from other services. It is likely that they do not need to distinguish themselves, as their own name (as well as their later acquisition, YouTube) exists generically not as a product or brand, but as a *function*.

We could of course also return to a discussion of the overwhelming grip that Microsoft Word holds on textual production in higher education, or the countless companies, schools, and other organizations that require members to use specific technologies, effectively constructing a technological canon of composition. Yet for purposes of this chapter, namely to define and illustrate the spectrum of opacity, three possible positions on the spectrum, and illustrations of those positions, we may now be able to begin responding to the problem of technological and rhetorical opacity I have been articulating.

So, if we are in fact still experiencing many of the same problems posed by Hawisher and Selfe, namely an overly optimistic and uncritical engagement with technologies, and we can begin to speak about them using the model I am suggesting, what then is our goal? In many ways, this question is where Hawisher, Selfe, and Selfe fall short in their important critiques. While their articulation of the problem(s)

surrounding the rhetoric of technology are both accurate and (still) relevant, their suggestions lack both specificity and applicability.

Hawisher and Selfe's 1991 article suggests that "we must plan carefully and develop the necessary critical perspectives to help us avoid using computers to advance or promote mediocrity in writing instruction" (62). They use Foucault's Panopticon to warn teachers against such disciplinary and surveilling actions such as using students' online discussion board posts as positive or negative examples of writing. They remind teachers that they occupy spaces of power by virtue of their position as "the architects of the spaces in which [their] students learn" (64). Surely, these are important observations and connections, yet in many ways, Hawisher and Selfe are as optimistic as those they critique, assuming that readers, armed with warnings against overly optimistic approaches to technologies and reminders of the dangers of digitally-enhanced power, will make an about-face and know how to better approach digital pedagogy.

Selfe and Selfe's 1994 article, "The Politics of the Interface" likewise makes important observations, as I have already noted. They call for English composition teachers to become technology critics, and think carefully about the ideologies of various technologies prior to using them in classrooms. They are again specific in detailing specific problems embedded within technologies, from Macintosh's privilege of corporate, white, middle- and upper-class users to the privileged position of the English language in WordPerfect 5.1. Yet again, their solutions hinge upon the assumption that given the *realization* of the materiality, subjectivity, and ideology hidden within technologies, "English composition teachers can begin to exert an increasingly active influence on the cultural project of technology design" (484). This is not to say that Selfe

and Selfe are inherently wrong in their suggestions. They rightly ask that we, as composition teachers “ask ourselves where we stand in this colonial landscape, how we have cast our own multiple subjective positions within the territory that we have created and examined” (494-5). We must “[acknowledge] our own role in composing the map,” and “recognize—and teach students to recognize—the interface as an interested and partial map of our culture and as a linguistic contact zone that reveals power differentials” (495). Selfe and Selfe suggest that we become involved with interface development to these ends, and again, my critique is not with their ideas, but with their ideas’ relative inaccessibility to the typical composition instructor.

Similar conversations have arisen in recent years, for example, that are interrogating the importance of learning how to code. Karl Stolley has emerged as an advocate of coding as a vital literacy skill, cautiously echoing Douglas Rushkoff’s appealing-but-ominous tagline, “program or be programmed.” He writes

My vision for Computers and Writing places craft at the center of what we do. And what we do is digital production. We make things from raw digital materials: open-source computer languages and open formats. Which is to say, we write digital things. To write digital things, we rely on a strong command of source literacy...By embracing, instead, a deep appreciation for the raw materials, the languages, of the digital medium, and seeing digital writing as more than the on-screen result of the machinations of commercial software. (“Source Literacy: A Vision of Craft”)

Stolley contributes much to my own argument, of course, and responds directly—and more importantly with *practices*—to the Rhetoric of Technology. Source literacy does enable users to create and alter interfaces, understand digital technologies more deeply, and create more freely. Further, such approaches are helpful insofar as they are practice-based; they provide concrete pathways by which to oscillate between looking at and through media. Yet Stolley and other source literacy proponents also risk reiterating

Modernist/phallogocentric principles of (authorial) mastery and control over technologies in order to (re)produce opaque interfaces and experiences (for audiences), paradoxically undercutting scholarship calling for critical practices. In other words, while I sincerely embrace Stolley's vision of widespread source literacy, we must be careful to avoid a) hiding behind a metaphorical curtain, ourselves reproducing canonical and opaque products for consumption, and b) uncritical allegiance to web standards and coding languages themselves.

Dirty TechnoRhetorics: PoxParty

“Once you open yourself to the possibilities of a 100 percent problem-based operating system, you really start to see that anything is possible.”

-Ben Syverson, PoxParty

My response to the rhetoric of technology, then, is rooted neither in heightened awareness nor in gaining mastery over technologies. Instead, I will model my practice- and performance-based approach after a long tradition of confrontational avant-garde art, from Russian Cubo-Futurism to Dada, and I will focus especially on two contemporary new media art movements, glitch art and dirty new media art. I will work in the next chapter to define and apply these movements to questions we face in rhetoric and composition, but for the moment I will talk about one project in particular that has emerged out of glitch that in many ways serves as a point of contrast with opaque, obscure, and translucent rhetorics of technology.

I call this counterpoint, or a fourth point on the spectrum of opacity, “dirty.” Dirty technoRhetoric resists both opacity and mastery, and manifests as a self-aware, often-playful critique of technoUtopian visions, and celebrates malfunction, noise, and error. Dirty technoRheoric may of course take many shapes, from unintentional flaws in new

media artifacts to intentional glitch- and error-based art. Many of us encounter the former, particularly as video streaming services such as Netflix have become popular. The nature of digital video necessitates both a small file size and the highest quality possible. In order to accomplish this task, digital video is comprised of two basic types of frames: I-frames and P-frames.¹ I-frames, or key frames, are standalone and self-referential; that is, they act in a fashion similar to a single, high-quality image. P-frames, or predicted frames, exist in reference to I-frames, and display what has changed from the previous frame. In other words, digital video compression acts very differently from film-based motion pictures (a series of still images) in order to occupy less memory.

Because of compression strategies applied to digital video, sometimes we are witness to “compression artifacts,” apparent distortions in digital media that reveal the materiality, the digital-ness of the media. Digital video compression artifacts typically result from missing I-frames or lagging processing, which results into blended frames, like the image below. These unintentional moments of dirty technoRhetoric disrupt not only the viewers’ intended experience of the medium, but also draw their attention to the noise, malfunction, and subjectivity of the medium and the network of agents responsible for its production and dispersal. Of course, one may also intentionally provoke compression artifacts, and these acts are at the root of glitch art, a movement I will spend considerable time discussing and applying to the current discussion. But the important point here is that an essential component, or action, of practicing dirty technoRhetoric is the manipulation, exploitation, and communication of “production artifacts,” which might

¹ This is a simplified description. Digital video also consists of B-Frames or bi-directional predicted frames, which are essentially P-frames that work both in forward and reverse order.

be understood as moments in which the production and materiality of media are forcefully imposed on an audience.



Figure 40: Digital Video Compression Artifact.

PoxParty is a satirical glitch/new media art project created and performed by Chicago-based artists Jon Satrom and Ben Syverson. Their works consist of a handful of programs and an operating system that are “problem based,” meaning that their products work to undercut the kind of clean, linear, and functional technologies available to contemporary users. Their first project, called The Satromizer, is a multi-touch glitch program for Mac iOS that allows users to “easily corrupt a file by scrambling data” (PoxParty). Their other programs include a web-based version of the Satromizer, called Satromizer Online (or SOL) and an interface designer called Inter FacePainter. They also developed Satromizer OS (or, sOS), “the world’s first Easter Egg Operating System,” that they describe as “an alternative operating system...positioned as a productivity and

entertainment platform for glitch art” and includes “a bug game, a glitchy word processor, a desktop drum machine, an MP3 sample corruptor, in addition to the legacy Satromizer” (sOS).

While PoxParty’s works each warrant a deeper analysis, I will instead concentrate on the ways that they rhetorically frame their projects both on their website and in their satirical promotional videos and live presentations, and perform dirty technoRhetoric. You no doubt noticed PoxParty’s playful use of language in naming their products, including sOS and SOL, both of which simultaneously parodying existing technologies (iOS and AOL, respectively) and highlighting the problematic aspects of technologies. PoxParty makes similar gestures in their descriptions of programs that invoke rhetorical strategies of industry giants such as Apple. Inter FacePainter’s slogan reads, “Paint interfaces that are as expressive and beautiful as you are,” and wryly touts an a “Contemporary Expressive FacePainted UI Design” as illustrated in figure 39 below.

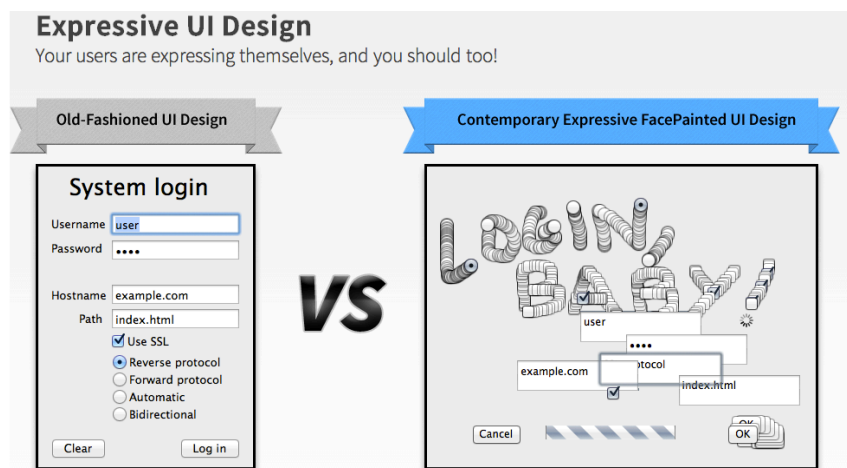


Figure 41. Screenshot of PoxParty's FacePainter webpage.

Satromizer Online (SOL) similarly parodies the rhetoric of technology, including “cloud” technology and asking users to “imagine not having to leave your web browser—ever again.”



Figure 42. Screenshot of PoxParty's Satromizer webpage.

Their parody is not limited to language, however. Their website design is clearly reminiscent of Apple’s own website, and as the images below illustrate, their visual design works to remind readers of current and past technologies, invoking both a sense of nostalgia and suspicion.

PoxParty

You're Welcome.

sOS 4

The world's first Easter Egg Operating System.



Congratulations, You've Won

10,000 HOURS FREE

Enough free hours to become an expert. Enough power to be a pro.

Figure 43. Screenshots of PoxParty website.

Artists like Satrom and Syverson have not only identified the problematic tendencies of contemporary rhetorics of technology, but have engaged with those tendencies in a way very different from those adopted within composition and rhetoric scholars. Not only have they composed “promotional materials” with palpable satire and critique, they have also developed alternative interfaces, applications, and operating

systems that avoid replicating the canonized technologies they are meant to replace. In other words, unlike proponents of coding and interface creation/alteration as a means to produce functional and less problematic technologies, PoxParty and other glitch artists have called something much larger into question: the underlying notion of the rhetoric of technology that values new, improved, and functional technologies that more seamlessly interface with human desire and intention.

In this way, I am defining the problem of technoRhetorical opacity not only in terms of invisibility or uncritical engagement with how something works. Instead, I argue that the assumptions underlying contemporary rhetorics of technology, from Apple marketing to coding advocates, are strikingly similar. They inherently value functionality, noiselessness, and cleaner approaches to working with technology. These assumptions emerge from even larger apparatuses: consumer and upgrade culture, Western notions of progress, and patriarchal-Modernist notions of mastery and control. In order to call on voices that counter these assumptions and approaches, I next turn to the world of avant-garde and new media art, both of which have a long history of radically escaping these assumptions and approaching both composition and authorship in ways helpful to those of us seeking greater transparency, openness, and access in both digital and analog environments.

“My dear brothers, never forget, when you hear the progress of enlightenment vaunted, that the devil's best trick is to persuade you that he doesn't exist!”
-Charles Boudelaire, from “The Generous Gambler”

CHAPTER TWO: DISRUPTIVE PRACTICES

“Our goal is simply to point out irregularity as a device, to show the necessity and the importance of irregularity in art.”
(Alexei Kruchenykh, 1913)

“The glitch is a wonderful experience of an interruption that shifts an object away from its ordinary form and discourse.”
(Rosa Menkman, 2010)



Figure 44. V. Kamenskii and A. Kruchenykh "1918" (Left); R. Menkman "BMP" (Right)

In Chapter one, I articulated the ways that *technoRhetorical opacity* impacts the practices and philosophies of writing instruction, and despite the presence of critical voices in rhetoric and composition, the ways in which our inscription technologies continue to define the boundaries of what it means to write with/in emerging media. In sum, I argue that emerging inscription technologies, rooted in principles of Western progress, user-friendliness, and intuitive use, actively resist deep engagement with their limitations, biases, and subjectivities. As a result, contemporary pedagogical approaches often adopt the techno-utopic visions evident in the widespread rhetoric of technology as first problematized by Selfe, Selfe, and Hawisher more than twenty years ago. I have also demonstrated that despite the many voices calling for critical approaches to inscription technologies, few have developed practices that explicitly resist various strategies of opacity. My hope is that practices of dirty technoRhetoric—those that seek to radically

break from opacity by exploiting “production artifacts” that make apparent the production and materiality of media—begin to inform the scholarship and teaching of those in rhetoric and composition.

It is difficult (and not of primary concern to this work) to answer the question of why critical, or dirty, approaches to technology have not become more widespread, so perhaps our best course of action is to reframe the conversation by inviting the voices of other times and disciplines in order to discover how other composers critically approach the impacts of technology on creative production and communication. If we are concerned with the current intellectual flows of technological engagement, perhaps we ought to seek those who intentionally and aggressively break those flows. This chapter will invite some notoriously disruptive voices that will provide gestures toward circumventing uncritical technoComposing methods and pedagogies, *technoRhetorical opacity*, and force us into a McLuhan-esque “anti-environment” from which to articulate new composition practices, practices that emphasize the imperfect, complex, ambient, and hybrid nature of composition, to echo recent works of Byron Hawk and Thomas Rickert.

While one could easily devote an entire book to exploring the many movements that embody disruptive compositional practices, this chapter will focus on three major strains of art for the sake of depth and concision, all of which promote a few common approaches and practices, including the disruption of linearity, the embrace of violence upon materials (literal) and audiences (figurative), and an explicit acknowledgment of materials and processes. In other words, practitioners and thinkers that embody and inform dirty technoRhetorical practices. Dada’s technoHistoric situatedness and

reactionary impulses to critique society's engagement with technology, notions of mastery and expertise, and relation of technology to materiality and subjectivity make it an obvious point of inquiry, especially following in the wake of Geoffrey Sirc's continued attention to the movement as one that can and should impact composition pedagogical strategies. Next, I will discuss an even more apt—but certainly less explored—movement that emerged in early 20th-Century Russia, Zaum. The Zaumniks critiqued the politics of language, linearity, and composition processes dominant in multiple disciplines, concentrated on the importance of transparent materiality of multiple media, and explicitly recommended *irregularity* as a central compositional device. Finally, I will outline both glitch and dirty new media art, as well as some of their immediate precursors, from John Cage and Fluxus to the circuit-bending movement and the work of Q. Reed Ghazala.

Dada

The artistic (non)movement known as Dada was born in Zurich, Switzerland in 1911. The concurrence of Dada and WWI had a significant effect on Dada's decentralized leadership, anti-nationalistic philosophy, and confrontation of social conditions that caused and existed within wartime Europe. Dadaists actively rejected the sense of neat order and rationality present in Europe since the Enlightenment, instead embracing nonsense and anti-art. It reimagined artistic practices that blatantly disregarded dominant values of skill, mastery, and individual expression. Dada was arguably the first radically international artistic collaboration that, due to technological developments such as the popularization of film, employed a multimedia approach to creation. According to Leah Dickerman, "Dada was born of a moment of moral and

intellectual crisis, poised between the disaster of war and the shock of an emerging modern media culture” (2). While Dada certainly existed in an artistic genealogy, borrowing conceptually from cubism, futurism, and expressionism, its techno- and sociohistorical position led to some novel and startling images, sounds and performances.

The impact of emerging technology on the Dada movement is difficult to overstate. World War I changed the face of warfare drastically, not only in terms of widespread international involvement and unprecedented casualties and infrastructural damage, but also in the harnessing of technology to streamline the war machine: “the wristwatch, the steel helmet, poison gas, the semiautomatic rifle, and aerial surveillance photography were the most notable” (Dickerman 2). The introduction of these modern technologies, which also included barbed wire, mustard gas, and trench warfare, coupled with a longstanding notion of European rationality, caused something of a crisis among intellectuals and artists, and in many ways, Dada was a confrontational response to this crisis.

Dickerman emphasizes Dada’s “violation of traditional artistic categories—art and non-art, medium and its domain. A defining premise for the movement is deceptively simple and yet has shaped the century: that art might be assembled from the stuff of modern life itself” (8). Dadaists produced art from found objects (and often simply presented the objects themselves as art), due to a surplus of media in a commodity culture: “propaganda, the press, and the mass-produced object” (8). By 1915, Dadaism emerged informally in New York, and only two years later, Marcel Duchamp would submit perhaps his most recognizable work, *Fountain*, to the first exhibition of the Society of Independent Artists. Duchamp’s piece, a white porcelain urinal, was rejected

and thus helped to “galvanize the disparate personalities of New York Dada into a cohesive group” (Taylor 277).

Yet even beyond engaging with technologies themselves, Dadaists disrupted audiences’ relationships to technologies. Walter Benjamin understood this paradigm shift in terms of the audience no longer experiencing art as theological, but as militarized: “[Dada] became an instrument of ballistics. It hit the spectator like a bullet, it happened *to him* [sic], thus acquiring a tactile quality” (238). Hence a phenomenological shift occurred, one that employed mass media and commodity culture to aggressively confront the spectator. In other words, audiences were confronted with the materiality of media. Duchamp’s *Fountain* (Figure 43, below) was more than a critique of Art as an institution and a promotion of found art; it offered a strange new way to experience the common urinal, a technology that had quickly passed into opacity. Found art is especially applicable to dirty technoRhetoric, drawing intense and direct attention to the materiality of the invisible, in order to re-view production and consumption. The found object is an un-aestheticized object, one that has not been altered significantly to obscure its typical appearance. And while found art such as Duchamp’s *Fountain* were, and still are, condemned as either lazy or simply “not art,” such critiques continually miss the point of dirty rhetorics of all kinds, that is, that the enterprise of art extends beyond the manipulation of material for the sake of institutional standards of aesthetics; art (and here I would certainly include the art of writing) can—and should—transcend the superficial appreciation for seamless beauty and the mysterious talent behind it. Art can do more than draw attention to what has been made for aesthetic purposes; it can draw attention to

the most mundane and unoriginal everyday objects, in order to provoke us into a deeper understanding of the networks of materials with which we co-inhabit the world.



Figure 45. Alfred Stieglitz. *Fountain* (photograph of assisted readymade by Marcel Duchamp). 1917.

Dadaists not only sought to violently reject artistic conventions, but they also *performed* violence. Dada's confrontational nature resonated in various works, from Arthur Cravan's firing of a pistol at a lecture performance to Guillaume Apollinaire's *Mamelled de Tiresias*, in which Jacques Vache "dressed as an English officer and disrupted the intermission by threatening to 'shoot up' the audience" (Dickerman 11). Other Dadaists directed violence and aggression toward materials and media. Collage is certainly a form of violence and destruction, as was Kurt Schwitters' sound poetry; other Dadaist exhibitions encouraged audiences to destroy pieces on display. Again, we can observe Dada's violence not only as a means to critique political conditions, but as a material critique of emerging technologies like the gun, and the ways those technologies had slipped into the collective unconscious. Performing violence on technologies and media was (and still *is*) more complex than mere rebellion or protestation; it was a

reaction against the opacity of inscription technologies and the consequences of technocultural ignorance. Vache—and others who did works involving weaponry—did more than shock audiences for the sake of novelty or notoriety. These acts drew attention to the technologies of war and violence that had already disappeared from the collective consciousness of a continent all too familiar with war. Since its invention and rapid physical and ideological proliferation, the firearm has disappeared into the landscape of what it means to live in the world. The Dadaists drew attention to these objects, this violence, these mundane objects, forcefully confronting audiences with old objects in new ways.

Geoffrey Sirc has of course written much regarding the intersections of Dada, Fluxus, and other 20th-Century avant-garde movements and techniques with (potential) college composition practices and pedagogy. In *English Composition as a Happening*, Sirc describes the composition classroom as a space in which we “need to disrupt this tedious exchange [of repetitive theme writing exercises]. Disturbing cultural reification, literally changing the rules of the game through the materials and methods used, was the whole point of Late Sixties Composition” (161). Sirc calls for a return to various techniques, from happenings to *Décollage*, to encourage students (and certainly ourselves) to rethink text and textual creation. Text, for Sirc (drawing from Macrorie, Deemer, Rauschenberg, Cage, and others), has been needlessly stuck in our field as representational (text-as-product) rather than a presentational (text-as-place/event) “text-as-performative-gesture” that allows for composers to “[let] them bring forth themselves full of their own experiences and ideas and feelings” (162-3).

Sirc has also drawn heavily from Duchamp's *Green Box* (1934) as a way to think about texts as boxes and composers as collectors. His students are encouraged to approach texts as "strange-d, made curious, something interesting to consider, an object of intellectual fascination as much as emotional possession," and envision themselves "not only as collector, but as dissatisfied collector, one impatiently seeking pleasure" (Box-Logic 117). Sirc is asking composers—new and old—to think of themselves less as writers (in the traditional sense: crafting arguments based on sources, etc.) and more as *artists*, an important gesture I am in many ways attempting to replicate here. Byron Hawk has extended Sirc's "Box Logic" in order to discuss and develop object-oriented rhetoric. Hawk's "Stompbox Logic" examines musicians' use of looping pedals (commonly referred to as "stompboxes" as they are controlled by the user stepping on large buttons) and that their first audience is the pedal itself, not the present or imagined human audience.

Hawk's reinterpretation of Sirc is a useful bridge between OOO and art practices, and provides precedence for the ways I make similar gestures in chapter three. Yet we can immediately draw from Dadaists, Sirc, and Hawk in several ways in order to continue building a repertoire of dirty technoRhetorical composition practices. First, we must actively acknowledge our compositional materials as vital to the product of composition. This is a relatively easy task when we, for instance, invert a urinal and declare it our work. Yet, as I discussed in the first chapter, it is much more difficult to identify, much less acknowledge and highlight for audiences, the materialities and subjectivities of dominant writing technologies, such as Microsoft Word, because it has been rhetorically

and operationally obscured. We are taught (and we teach) to look *through* the interface and concentrate our efforts on what we might call “content.”

Second, and in a similar vein, like the Dadaists we must change the rules of engagement with our audiences. After all, even if the composer achieves a state of technoTransparency with her writing technologies, if she fails to signal to her audience that she has done so and fails to help them do the same, we have effectively re-black boxed composition practices. The seemingly magical powers of production are reproduced, and the audience is again left with a passive, clean, and functional product to consume with awe. Therefore, as Wysocki suggests, the (new media) writer’s job is to not only be aware of writing materialities, but also “help readers/consumers/viewers stay alert to how any text—like its composers and readers—doesn’t function independently of how it is made and in what contexts. Such composers design texts that make as overtly visible as possible the values they embody” (15). While our violence may only be figurative as composers, we must be violent toward our own texts, sources, media, technologies, and most of all, our audiences.

Russian Cubo-Futurism and Zaum

The Russian Cubo-Futurists emerged in the early twentieth century as a result of influence from the Italian Futurists and French Cubists. Yet to dismiss the Russian Cubo-Futurists as purely derivative would be an egregious error; Douglas notes the symbiotic nature of early 20th century movements, “[i]t would also be a mistake to imagine that ideas flowed in one direction only. Visitors to Russia were impressed by the modern interest in icons, in Eastern and folk art, and in the passion for theorizing that led

eventually to abstraction” (229). Due especially to increased mobility, the purity any one artistic movement in early 20th century Europe is highly suspect, if not impossible.

Regardless of the extent to which Russian Cubo-Futurism was initially indebted to Italian Futurism, by 1914 the Russians had altered the trajectory of their theories and practices in very different—and certainly more radical—ways. Multimedia artists/poets such as Vladimir Mayakovsky, Alexei Kruchenykh, Velimir Khlebnikov, Benedikt Livshits, Vasily Kamensky, and David Burlyuk are most commonly associated with this short-lived movement (1912-1915). When “intellectual and refined Symbolism had exhausted itself in Russia,” in 1910, the so-called *Hylea* group of Cubo-Futurism emerged seeking to “[start] art again” (Murray 4). Together, Burliuk, Kruchenykh, Mayakovsky, and Khlebnikov penned the first Cubo-Futurist manifesto, titled *A Slap in the Face of Public Taste*, in which they expressed disdain for traditional literature and poetry and “[felt] an insurmountable hatred for the language existing before their time” (Lawton & Eagle 51-52).

Perhaps the most radically disruptive, prominent, and in many ways *still* avant-garde innovation to emerge from Russian Cubo-Futurism is what Aleksei Kruchenykh called *zaum*. *Zaum*, a combination of *za* [across; beyond; to the other side of] and *um* [mind; intellect; head], denoted a new mode of linguistic expression in which words’ meanings were indefinite or indeterminate. *Zaum* has been translated as “trans-mental,” “metalogical,” “transrational” or “beyondsense” (Janacek 1; Dworkin 185). Together with other *zaumniks* including Velimir Khlebnikov, Vladimir Mayakovsky, and Ilya Zdanevich, Kruchenykh began experimenting with alternative verbal forms to escape the static and stale language incapable of expressing contemporary life and experience. In

Kruchenykh's 1913 *New Ways of the Word (the language of the future, death to Symbolism)*, he boldly indicts contemporary language as not only incomplete, but futile: "Wishing to depict the incomprehensibility, the alogicality of life and its horror, or to depict the mystery of life, [Russian writers] make recourse time and again to the same (as always, as always!) 'clear neat' common language this is the same as feeding a starving man cobblestones, or trying to catch small fish with a rotten net." Instead, he continues, "in order to depict the new—the future—one needs *totally new words and a new way of combining them*" (72).

Zaum emerged as a practice, but was clearly rooted in ongoing philosophical discussions surrounding the nature of meaning, language, and thought. Plato explored the nature of language and its relationship to sound in *Cratylus*, wherein Socrates argued, "language has both natural and conventional elements" and also acknowledged the importance of the "kinesis of articulatory movements, rather than the acoustic product, upon which the 'meaning' of individual sounds is based" (Plato). Much later, Veselovsky would describe the oldest forms of language as "syncretism," wherein verbal, musical, and kinetic expression were intertwined and indistinguishable. Andrey Bely's text *Symbolism* in 1910 also served as an important precursor to zaum by arguing the primacy of sound and effectiveness of abstract word creation in language systems: "every word is a sound before it is anything else...when we hear living, imaginal speech, on the other hand, it kindles our imagination with the fire of new creations, that is, with the fires of new word constructions. And a new word construction is always the beginning of the acquisition of new acts of cognition" (qtd. in Janacek 8). Bely's claim that sound and meaning precede the static linkages of signifier-signified language systems and that new

thinking must be preceded by new language had an immense impact on the development of zaum, especially as practiced by Kruchenykh.

The work of psychologist B.P. Kiterman, as deployed by Shklovsky, also contributed to zaum's development. Kiterman understood the word to be a combination of "acoustic properties, oral articulation, and emotional import" that, like musical tones, may result in "'neuro-psychic [responses]'" (qtd. in Janacek 9). Gornfeld likewise understood language's frequent inability to represent inherently emotional experiences as well as the illusory nature of complete clarity in written expression. Wilhelm Wundt was widely read and highly influential in early 20th century Russia, especially to F.F. Zelinsky, who praised Wundt's combining of experimental psychology with linguistics. Namely, Wundt stressed that gestures, movements, and sounds comprised expression, and even more importantly, proposed the concept of "sound pictures." Sound pictures are distinct from both onomatopoeic utterances and primitive exclamations; they are symbols that express visual ideas. For instance, in the acquisition of language, a child utters a series of meaningless sounds so that when those sounds begin to be combined into words and phrases, the utterances are invisible to the speaker. For Wundt, the sounds of language are a result of mimetic gestures, and such linkages are largely arbitrary. Zelinsky disagreed slightly with this, instead arguing that mimetic movement was linked to internal feelings and ideas, and that the linkages between utterances and gestures was "completely natural and inevitable" (187).

Another stream of philosophy and art vital to the zaumniks was concerned with the disconnection of language, thought, and comprehension. Wilhelm von Humboldt argued that because individuals each "[possess] unique language, which remains to some

extent beyond the complete comprehension of any other individual... *all understanding is simultaneously a noncomprehension, all agreement in ideas and emotions is at the same time a divergence*" (32). Potenbnya similarly argued (and Bely later echoed) that the word was independent of thought, and both Goethe and Spinoza doubted whether or not anyone can really understand one another. These streams of thought bear significance not only on a close study of language and mediation, but also of the existence—even prominence—of malfunctions and “glitches” within social systems and communicative technologies. Even language, perhaps the most opaque communication technology of all, has vulnerabilities capable of exploitation. Language is a network comprised of *materials*, and material networks must experience both function and malfunction. The Zaumniks no doubt experienced a feeling similar to Dorothy when Toto pulled back the curtain, exposing the seemingly all-powerful Wizard of Oz as a man who simply knew how to obscure his own materiality behind impressive technological feats of strength.

These philosophic influences and precursors peaked with the rise of Cubism, Primitivism, Rayism, Suprematism, and other contemporary abstract art movements, in which artists were concerned with what P.D. Uspensky called the fourth dimension in space⁴. The fourth dimension, according to Uspensky, was imperceptible to the untrained senses, and transcends the logical and rational constructs experienced to others. He linked the fourth dimension to a futuristic, intuitive language in which “the artist must be a clairvoyant: he [sic] must see that which others do not see; he must be a magician... Art sees more and farther than we do” (qtd. in Janacek 39). That is, to achieve a higher, truer consciousness and perception, the artist must move beyond logic, beyond rationality, beyond sense. Uspensky’s concept of the fourth dimension would reach the zaumniks via

Mikhail Matysuhin in 1912, and have a direct influence on the development of zaum and the trajectory of Russian Cubo-Futurism. That the artist must serve as this medium by which others might is not insignificant; the zaumniks would accept Uspensky's challenge directly and use it as a rationale in various writings. Yet Uspensky's version of reality is rooted in a "timeless, fixed" system of meaning, an idea with which influential philosopher of the time Henri Bergson would disagree in ways useful to the zaumniks. Bergson instead posited that reality is instead in constant flux and movement, and any sense of fixity is indeed illusory (40).

In sum, the aforementioned linguistic and philosophical approaches created a space for the zaumniks to push the boundaries of language to the very edges of language and meaning. People were beginning to critique the consequences of the Gutenberg revolution (i.e., the transition from oral to print culture, acoustic to visual space), question the neat and seemingly deterministic models of language and meaning, and consider alternative means of expression possible. The possibilities of language as complex, multimodal, and indeterminate emerged and the zaumniks responded. Yet as Janacek details, it was more than theoretical linguistics and philosophy that paved the way for zaum. In many ways, zaum was always already in practice.

The zaumniks, especially Kruchenykh, were keenly interested in several zaum-esque linguistic manifestations in Russian culture. As mentioned previously, the seemingly nonsensical babble of young children during language acquisition was typically linked to sound, emotion, and muscular reflexes and memories. But as Shklovskiy argued, children's folklore had long been in the business of using semi- or unintelligible language, relying primarily on rhythm, rhyme, and sound and secondarily

on content and its meaning. Such use of language not only serves practical concerns such as learning via mnemonic exercises, but also provides a sense of pleasure in the sounds for their own sake. And yet these practices were not limited to children's folklore, as Janecek argues, "This is the case in particular for magic spells and incantations, which are made more frightening and effective by their mysterious language. In adult folklore, there are counting rhymes exactly like those for children" (24). Janacek also points to a notable example that has since gained almost international recognizability: "When witches are flying to Bald Mountain, they chant the internationally famous 'A.b.r.a.k.a.d.a.b.r.a...' Each sound of this 'word' is supposed to release a soul from hell" (25). Similarly, the *zaumniks* studied and drew from various forms of ecstatic speech, from the shamanic chants of Siberian shamans and Russian sects to the glossolalia of both Christian and non-Christian groups. Like many theorists already discussed, Konovalov linked glossolalia utterances to sound and bodily experiences in which a "genuine *automatic speech*" emerges that is both incomprehensible *and* highly meaningful (Janacek 27-28). The *zaumniks* also looked to the utterances caused by mental illness, organic trauma, and the indecipherable "Holy Fools."

The *zaumniks* approached their radical subversion of language in a number of ways, and like most movements, diverging individual philosophical approaches developed. Dworkin observes that *zaum* "quickly came to cover a wide range of activities, including the onomatopoeia familiar to readers of Italian Futurism, lettristic and sound poems with affinities to later avant-garde practices, and even works as far afield as the use of dialect...absurdism, and...proto-surrealist similes" (186). For purposes of this discussion, however, I will focus on the work of the two best-known

zaum practitioners, Alexei Kruchenykh and Velimir Khlebnikov, which are representative of two major strains of *zaum* and those which will most closely bear influence on glitch theory.

Khlebnikov studied Slavic languages and Sanskrit at St. Petersburg University, and while still a student, he was invited into the literary world via Vyacheslav Ivanov's "famous Wednesday literary soirees" (Weststeijn 28). Khlebnikov joined the Hylaea group in 1912, a membership of avant-garde Cubo-Futurists that included Vladimir Mayakovsky and Alexei Kruchenykh. As *zaum* began to develop, Khlebnikov took a somewhat rational (and then popular) approach to the language, attempting to "fix meaning with such intensity and precision that he could recover a universally intelligible *Ursprach*" (Dworkin 187). Khlebnikov was interested in "a kind of writing based on words from a single root, use of epithets, universal phenomena, painting with sound" (49). For Khlebnikov, fixed meaning was central to utterances, and his objective in pursuing *zaum* was to discover new artistic and scientific language; he sought to "create an entirely new world" by discovering a universally understandable language (Weststeijn 32). Early in his career, he explored Slavic root words to reach this language, and later he attempted to locate and articulate the "primal units of language," the original linguistic forms from which all other languages developed (Weststeijn 36). Although his explorations into alternative language systems remain of interest to scholars of the Russian avant-garde, Khlebnikov eventually abandoned his pursuit of *zaum*, commenting, "a work written entirely with the New Word does not affect the consciousness. Ergo, its efforts are in vain" (Scobie 221).

While Khlebnikov was instrumental in the development of *zaum*, his approach varied significantly from that of Kruchenykh. Khlebnikov conceptualized the development of *zaum* as a quest for pure, fixed meaning, and in this way, he was not a *zaumnik* by most accepted definitions. In ways, we could compare Khlebnikov's relationship *zaum* to Karl Stolley's (and other proponents of coding literacy) relationship to dirty technoRhetoric. Both approach the problems of their time, but suggest standardized mastery as the solution. Again, I do not mean to imply that they are incorrect, just that their approaches may lead to the reification of the problems they set out to remedy. While Khlebnikov was constructing his *zaum* as an increasingly limited and precise linguistic system, Kruchenykh worked to keep his linguistic system in unstable, liminal spaces between sound, word, and meaning.

Kruchenykh is perhaps best known for his books that featured unusual fonts, textures, linguistic features, and images. He collaborated often on these texts with artists including Natal'ya Goncharova, Ol'ga Rozanova, Mikhail Larionov, and Velimir Khlebnikov. Kruchenykh's poem, "Dyr bul shchyl," officially began *zaum* in 1912, which was inspired by David Burluk's suggestion to "write a whole poem of 'unknown words [*nevedomykh slov*]" (Janacek 49). "Dyr bul shchyl" received overwhelmingly negative reactions, especially from within Futurist circles.

Kruchenykh's *zaum* was, above all, transrational. That is, it was a linguistic system that transcended the possibility of fixed meanings but avoided the absence of meaning. In other words, *zaum* was a language that resisted static signifier-signified relationships but remained a system of transmitting meaning. His 1913 manifesto, "Declaration of the Word as Such," while in some respects resembling Khlebnikov's

more calculated approach (e.g., Kruchenykh's assertion that a poetry consisting solely of vowels can restore a kind of pure, universal language, which would soon fade from his theorizing), also argues against static signifier-signified relationships: "a language which does not have any definite meaning (not frozen), a transrational language" (67). The same year, he published "New Ways of the Word (the language of the future, death to Symbolism)," in which he argues, "clear and conclusive proof of the fact that up to the present the word has been shackled is provided by its *subordination to rational thought*" (70). A new language was required, according to Kruchenykh, one that preceded fixed and rational meaning and instead embraced disorder, irregularity, dissonance, and the unexpected.²

Kruchenykh's new language responded to the changing face of pre-Revolutionary Russia and the rapid proliferation of various technologies. Kruchenykh called on readers to "invent new native words!" (77). In *A Slap in the Face of Public Taste*, Kruchenykh et al. not only desire "to enlarge the *scope* of the poet's vocabulary," but also "to feel an insurmountable hatred for the language existing before their time." The word, according to Kruchenykh, had been "shackled [in] its *subordination to rational thought*," and only an exploration of zaum could begin "to depict our dizzy contemporary life and the even more impetuous future." (New Ways 70)

Kruchenykh indicted the erroneous linkage between the word and rational thought. Language as some kind of noiseless channel, serving as fixed signifier for dominant (linear) notions of human thought was highly objectionable to Kruchenykh and the zaumniks: "until now they have maintained: 'rational thought dictates laws to the

² Kruchenykh was neither the first nor last thinker to question and/or undercut the notion of innate signifier-signified linguistic relationships. Saussure, Derrida, and others approached language in similar ways.

word, and not vice-versa.’ We pointed out this mistake and provided a free language, transrational and universal” (70). In fact, Kruchenykh boldly critiques all previous use of the word as non-art:

before us there was no verbal art, there were the pathetic attempts of servile thought to present everyday reality, philosophy, and psychology (which were called novels, short stories, epic poems, etc.), there were rhymes for domestic and family use, but *the art of the word* did not exist. (New Ways 70)

Kruchenykh argued that in order to understand and articulate both language and life itself, the artist must seek irregularity as a method of subversive creation: “Irregular structuring of a sentence (in terms of logic and word formation) generates *movement and a new perception of the world*...we must combine words in a new way, and the more disorder we introduce into the sentence structure the better” (73). Kruchenykh proposed some specific methods of imposing irregularity onto—or *glitching*, if you will—the language in “New Ways of the Word (the language of the future, death to symbolism):

1. grammatical irregularity—unexpected twist
 - a. lack of agreement in case, number, tense, and gender between subject and predicate, adjective and noun: lake ran past white flying
 - b. elimination of the subject or other parts of speech, elimination of pronouns, prepositions, etc.
 - c. arbitrary word-novelty (pure neologism): he doesn’t give a “shoot” (*A Trap for Judges*, 1), dyr bul shchyl etc.
 - d. unexpected phonetic combination: *euy, rlmktzhg* (Let’s Grumble).
 2. Semantic irregularity
 - a. In plot development...
 - b. Unexpected simile
- (73-75)

Kruchenykh’s goal for zaum, in his own words, was “simply to point out irregularity as a *device*, to show the necessity and the importance of irregularity in art” (75, emphasis added). Kruchenykh draws on analogous principles in the sonic world, asserting that zaum’s goal is to “underscore the great significance for art of all strident elements,

discordant sounds (dissonances) and purely primitive roughness” (75).

Kruchenykh’s zaum was not simply a method of destructive manufacture of nonsense (and this is the significant difference between zaum and its contemporaries in experimental sound poetry/word art, namely Dada); zaum was a means of discovery: “Our new devices teach a new understanding of the world” (75). Kruchenykh exclaims, “We split the object open! We started seeing the world through to the core. We learned how to look at the world backward, we enjoy this reverse motion” (76).

From zaum, we can extract and adopt several approaches and practices for a dirty technoRhetoric. Like Dada, zaum argues for confrontational, even violent interactions with the materials and audiences of composition. Yet moving even further than the Dadaists, Kruchenykh understood *language* and *meaning* as writing material themselves, offering an even deeper possibility to Lanham’s looking at/through oscillation model. In this way, we must be careful to leave no black box unopened in composition spaces; after all, the WYSIWYG interface is by no means the only technology with politics, and even the most careful technological critics may forget that the interface of language is often the most opaque of all. Kruchenykh also offers a concrete suggestion in terms of methodology, which I used to open this chapter: “Our goal is simply to point out irregularity as a device, to show the necessity and the importance of irregularity in art.” Like many will echo later, Kruchenykh articulated what has always been at the heart of avant-garde practices, namely that irregularity is not only a possibility, but a necessity.

Early Hardware Hacking: From Pianos to BEAsapes

Just as the Dadaists challenged the very core of artistic production and interaction largely in the realm of visual art, John Cage would later challenge many of the

conventions of music and sound. Notably, Cage explored chance operations in the composition process and culminated in his Concerto for Prepared Piano and Chamber Orchestra (1950-51). The prepared piano consisted of various objects, including “bolts, screws, strips of plastic and rubber...as well as a ‘plastic bridge,’” inserted systematically between the strings of the piano, thus creating a new set of tonal possibilities previously unexplored by traditional composers (Pritchett 56). His Concerto also included various traditional orchestral instruments as well as a few unconventional instruments, including a “radio, an amplified coil of wire, a buzzer, and a recording of a generator” (Pritchett 56).

Cage succeeded not only in imagining new sonic landscapes and orchestral configurations, no doubt drawing from Luigi Russolo’s Futurist Manifesto, but he actively undercut a largely unchallenged technology in radically—and we might say *violently*—modifying the piano. The piano had not only been a dominant touchstone of classical music for more than a century, but its basic design philosophy had not been significantly altered since the 18th Century. In other words, the piano had long been living as an technoRhetorically opaque technology, especially in terms of its privileged position as the instrument *par excellence* (Isacoff). Cage not only undercut its privilege by radically altering its materiality, but he re-revealed the piano as a technology. It was no longer merely an instrument on which to perform or compose music; it was itself a piece of art, a material with limitations and affordances that had become obscured within technological opacity. The piano was suddenly visible *as a technology* again after a long hiatus. While the influence of Cage on subsequent artists and theorists is virtually incalculable, a clear connection can be made from the prepared piano to circuit-bending,

a direct precursor to glitch art and a major influence in my formulation of glitch theory, particularly in terms of authorship and composition.

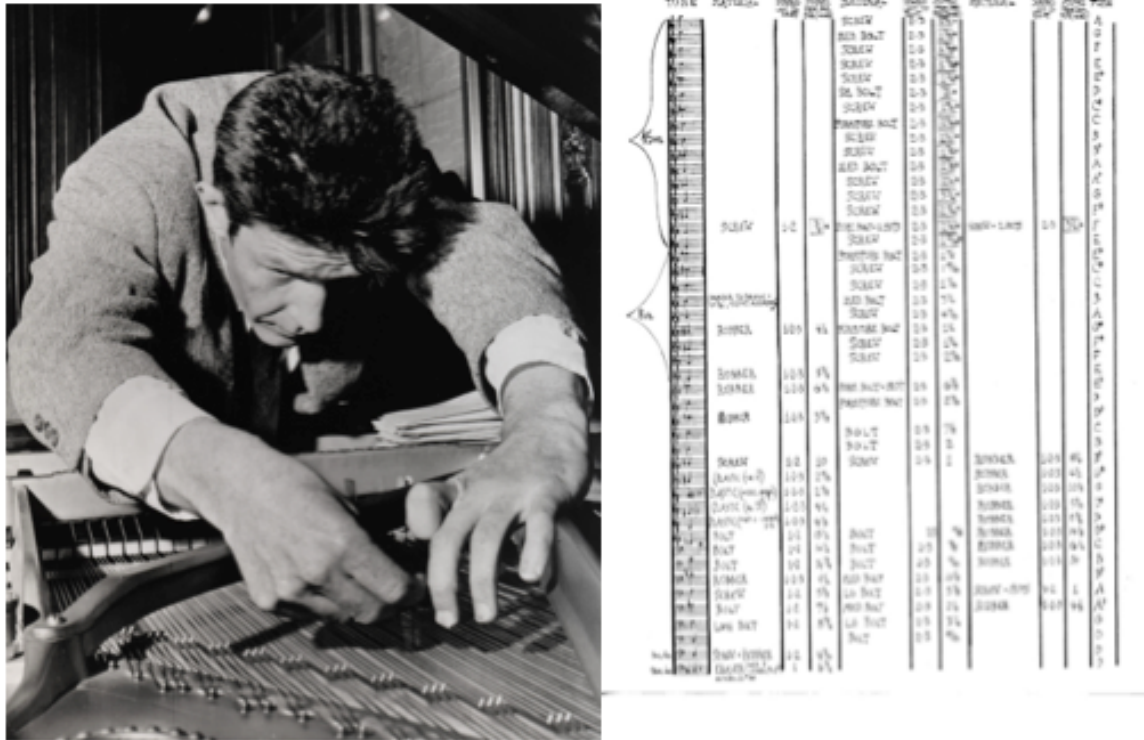


Figure 46. Ross Welser. Photograph of John Cage, 1960 (Left); First page to score of Sonatas and Interludes for Prepared Piano, John Cage (Right).

The folk art known as circuit-bending was first articulated in by Q. Reed Ghazala in 1996 as “the process of creative short-circuiting by which standard audio electronics are radically modified to produce unique experimental instruments” (The Casio SK-1). While his writing seldom draws on previous works (theoretical or otherwise) or overtly cites influences, his artistic approach clearly draws from the genealogy of experimental sonic art, noise, and indeterminacy. Ghazala recounts the his first circuit-bending experience as quite accidental:

Sometime during the psychedelic 1966–1967 “Summer of Love” era, in a rush to find a forgotten item for a lost-in-time project, I closed my desk drawer and the world changed... In my drawer a small battery-powered amplifier’s back had

fallen off, exposing the circuit. It was shorting out against something metallic, causing the circuit to act as an audio oscillator. In fact, the pitch was continuously sweeping upward to a peak, over and over again. (The Folk Music 97)

Ghazala's encounter with electronic failure, the sound of malfunction, began what would be a lifelong pursuit:

I immediately thought: If this can happen by accident, what can be made to happen purposefully? If this can happen to an amp, not supposed to make a sound on its own, what might happen if one were to short out circuits that already make a sound, such as keyboards and radios and toys? (The Folk Music 97)

Ghazala soon modified his amplifier with various electronic components, added body-contacts and photoresistors, and rehoused the circuit several times, inventing his alien instrument much to the confusion of those around him. The innovation of and accessibility to new, more complex circuits caused new circuit-bent instruments to emerge from Ghazala's laboratory. He would continue to work on the creative short-circuiting of various sound-making devices.



Figure 47. Photograph of Reed Ghazala (Left); Reed Ghazala's Incantor (Right).

Yet circuit-bending practices and writings do more than simply exploit, reveal, and reimagine the materiality of electronic devices. They also provide the dirty technoRhetorician with a more nuanced, transparent conception of the composer-tool relationship. Recall that the crux of the issue dirty technoRhetoric seeks to disrupt is the disappearance of technology. Most frequently, the disappearance of technology occurs as a result of a simultaneous human-technology split and merger. We either identify with our technologies, or we are masters of them. Neither of these options comes to grips with the fact that we *collaborate* with materials, and the “fingerprints” of each collaborator are evident on the materially-transparent text. The dirty technoRhetorician must then radically question the ontology of objects and humans, and the ways that they have access to one another. I will address this directly and in detail in the next chapter, but let us here investigate the ways that Ghazala and other circuit-benders have also bent the rules of Modern, anthropocentric authorship in their practice of dirty technoRhetoric.

Circuit-benders often describe their instruments in the language of organic beings: Ghazala calls some of his creations (as well as other, non-circuit-bent instruments) “new, albeit temporary creature[s]” that are much more like people than usually understood:

Conceptually, a living instrument is somewhat more difficult. You and I are living instruments. We accept that our voices will change, becoming deeper over time, quieter in the end, and some day failing. We accept that our friends and lovers will change as they age. However, can we accept this in our musical instruments? (The Folk Music 101)

Another artist describes circuit-bending as a process of “rewiring the veins within the organism so that it bleeds differently” (What is Circuit-Bending?). While these articulations of instruments as living beings are neither official nor consistent (Ghazala also refers to his instruments as devices, machines, instruments, for example), even the

brief explorations of such articulations suggest very different approaches to composition and conceptualizations of the composer/instrument relationship.

Circuit-bending has, in many cases, circumvented the traditions that drive an imperialist wedge between humans and nonhumans in the creative process, suggesting instead a sort of amalgamated, hybridized event-as-composer. Ghazala's writings over and over again address the joining of human and nonhuman. One of Ghazala's first explorations in circuit bending included the integration of human bodies into the circuitry via "body contacts," which are

simply metal contacts -- drawer knobs, threaded brass light fixture balls, whatever -- that are wired to the pair of circuit-bending points. Each of the two circuit points goes to its own body-contact. Nothing is wired between them at all... no switches, potentiometers, sensors... nothing. These contacts, when mounted on the instrument's case, are meant to be bridged by the player's body. This placing of human flesh amidst the circuitry, now conducting electricity as surely as any other component on the board, turns the body into a potentiometer of sorts. A variable human resistor (but then, mustn't we all be already?). (Body Contacts)

The body-contact certainly begins to suggest changes in the human-nonhuman relationship. Not only has the circuit become a sort of living flesh, but the human has become an electrical component, a resistor, a part of the circuit. Ghazala continues: "Body-contacting was one of the very first things I found possible within the bending process. From the start I had the feeling that I was transformed in some way when body-contacting an instrument, myself becoming a part of the circuitry as surely as any capacitor soldered in place" (The Folk Music 101). Further, Ghazala understood that the happening, the moment of sonic creation in circuit-bending was not merely a result of two distinct entities interacting; instead, a sort of hybridization had occurred, a "new creature" was born when he could no longer "see where either the amp or I began or

ended. We *were* one” (The Folk Music 17). Ghazala named this new creature a “BEAsape...[a] Bio-Electronic Audiosapian. Instrument or animal, hybrid or mutant, musically as well as zoologically we clearly have a horse of a different color. Yes, the BEAsape’s material is temporary, its existence momentary. Like you and me” (The Folk Music 17). Ghazala’s BEAsape not only radically (re)exposes the materiality of electronic technologies, but he exposes the materiality of human technologies; composition is an *interactive* undertaking of which humans are but a component. To take Ghazala seriously is to significantly rethink Modernist human/nonhuman dichotomies, agency, creative practices, and authorship theory. I will expand on this much more in the following chapter, but for now, I simply want to reveal a genealogy of avant-garde art that might lead us to a new theory of composition that critically questions multiple levels of technological opacity: language, thought, object, instrument, art, body, human.

By the time Wiley Press published Ghazala’s comprehensive 2004 book, *Circuit-Bending: Build Your Own Alien Instruments*, a host of other circuit benders had emerged worldwide. Due especially to the accessibility to the art of circuit bending, both in terms of minimal cost and required knowledge, circuit-bending became a growing phenomena in the early 2000s. Artists such as Pete Edwards (aka Casper Electronics), Andy Ben, Phillip Stearns, Dave Wright, and several others became active circuit-bending performers and educators³ in the United States. Yet circuit-bending also grew rapidly in Western Europe, particularly in the United Kingdom⁴ and the Netherlands.⁵ While circuit-bending remains confined to relatively small numbers and has not achieved widespread

³ This is a distinctive feature of circuit-bending, that its practitioners quite often participate in both creation/performance and education/engagement.

⁴ Home of an active online community, circuitbenders.co.uk

⁵ See the works of Gijs Gieskes, Karl Klomp, and others.

recognition, a community of practitioners does remain intact and active in artistic, musical, and educational capacities.

As Hugh Manon and Daniel Temkin observe, glitch art is rooted in the “history and sensibility of hardware circuit-bending...by using existing equipment in unanticipated ways, and by building new instruments from electronic detritus. In the late 1990s and early 2000s, digital artist such as Ant Scott and Iman Moradi began to carry this approach over to software-based visuals” (Notes on Glitch). For my intents and purposes, this shift from hardware- to software-based avant-garde art marks the birth of glitch art and dirty new media practices.

whatis(glitch)

In his 2012 Computers and Writing keynote address, Alex Reid used a word many readers will recognize immediately, but seldom in the context of rhetoric and composition research: *glitch*. The rapid proliferation of technological innovation—as well as our increased dependence on such technologies—ensures that most of us encounter glitches rather frequently, from operating system error messages to slight lags—and subsequent crashes—of streaming audio and video. First used by American Astronaut John Glenn to denote a sudden change in voltage in spacecraft electrical systems, *glitch* now signifies a wide range of phenomena in which systems—especially digital—experience some kind of malfunction or irregularity.



Figure 48. Steven Hammer. "Do You?" Digital Image. 2013.

Reid understands glitches in rhetoric and composition as “key ontological condition[s]” that are “everywhere, and they are features not bugs” (Composing Objects). While embracing glitches in a field still largely preoccupied with some degree control over the composition process may seem unlikely, Reid uses glitch as a kind of entry point into his object-oriented rhetoric. His approach considers “the objections of objects,” (Composing Objects) or the ways in which nonhuman actors actively contribute to composition. An object-oriented rhetoric, Reid argues, prepares us for “an ever-stranger compositional environment where the rhetorical roles we imagined for ourselves as *modern* humans will not function” (emphasis added) (Composing Objects). Reid’s jab at modernist models of rhetoric and composition calls on Latour’s work, *We Have Never Been Modern*, in which Latour disputes the nature-culture binary fabricated during modernity and maintained as the dominant postmodern ontological model of the humanities writ large.

Latour’s antimodernist approach helpfully problematizes traditionally dominant conceptions of composition and authorship rooted in intentionality, precision, and

control. In order to fill the void left by the illusion of modernism, we might reconsider mistakes, objections, and interruptions as *necessary* conditions of composition; we might relinquish control of “our” texts, and reframe them as collaborative endeavors, crafted *hand-in-hand* with various nonhuman actors. This approach is certainly a shift away from what Geoffrey Sirc calls the “dry modernist enterprise of college writing (formal, autonomous, univocal, meaning-driven),” (4) but as I have shown, there are many models of composition that enthusiastically embrace noise, irregularity, and collaboration. In many ways, contemporary art movements like glitch and dirty new media are enthusiastic responses to Reid’s proposed antimodernist future of composition, yet these movements have been neither explored nor articulated sufficiently within the context of composition studies.

Glitch studies and dirty new media (DNM) are two interrelated yet distinct contemporary art movements based primarily in Chicago, IL, USA, and Amsterdam, NL. At their most basic level, the movements are concerned with disrupting and interrupting signals, patterns, and structures of various media and data to produce work that highlights the ways in which technologies (mal)function. Glitch and DNM artists exploit the very tools and interfaces which are often portrayed or understood to society at large as seamless, functional extensions of ourselves in order to reveal the fallibility of technologies and systems. In many ways, glitch art—but especially DNM—will serve as a critical framework through which we can view technologies and their often-invisible subjectivities, limitations, and shapers of the human experience.

Because glitch art and DNM are such recent phenomena, writing decisive histories and descriptions is difficult at best. In lieu of attempting an objective and

historical survey, then, I will provide a brief account of only some of the formal events and publications devoted to the movements. Selecting texts and voices of glitch and DNM inevitably requires that I ignore others, of course, and this is another reason this should not be read as a comprehensive guide to the movements. Instead, my interest lies in extracting those philosophies and methods that lend themselves to theoretical transportability and my own construction and performance of dirty technoRhetoric.

While present manifestations of glitch and DNM are certainly distinct and pushing at boundaries of the art world, they are also firmly rooted in artistic and philosophical traditions, a few of which I have already described. Nick Briz identifies pre-glitch practices in analytical cubism, dada, structural-materialist filmmakers, pop art, Robert Smithson, Andy Kaufman, Gordon Matta-Clark, and John Cage (*Glitch Art Historie[s]*). Manon and Temkin add Nam Jan Paik, Annie Albers, Hiroshi Kawano, Max Headroom, Lou Reed, Iannis Xenakis, Reed Ghazala and others to the list of precursors (*Notes on Glitch*). Curt Cloninger often points to the early-1960s French writing movement OuLiPo, and I have written about others, including Samuel Taylor Coleridge and Alexei Kruchenykh.⁶ Despite their diversity, the artistic traditions from which glitch and DNM draw are bound by a thread of disruptive, materially conscious avant-garde practices.

Iman Moradi's 2004 dissertation, *GTLCH AESTHETICS*, is one of the earliest formal (read: written in an academic setting) explorations and articulations of glitch art, "ask[ing] some defining questions about the fundamental characteristics and importance

⁶ See Steven Hammer, "Meatspace Glitch: Exploring Pre-Digital Glitch/ Art in/with Human Bodies" (paper presented at Gli.tc/h 2112, Chicago, Illinois, December 6-9, 2012). And Steven Hammer, "Zaum as Linguistic Glitch, Glitch as Critical Theory." Accessed February 28, 2013, <http://stevenrhammer.com/2013/02/28/zaum-as-linguistic-glitch-glitch-as-critical-theory>

of the Glitch in conceptual and fine art practice” (3). Moradi gestures toward an ancestry of glitch that pre-dates “the 1980’s-90’s and the ‘home computer’ retro aesthetic imagery that is often associated with that time” (19). He points to Jackson Pollock, Pablo Picasso, Georges Braque, Piet Mondrian, Georges Seurat, Gerard Richter as important precursors to the practices and styles of glitch artists, both in terms of processes and philosophies. Yet Moradi’s greatest contribution to the development of glitch is his categorization and articulation of glitches, processes, and philosophies.

Moradi outlines four common visual characteristics of glitches: fragmentation, replication/repetition, linearity, and complexity. More importantly to a discussion of writing with new media, he also discusses two “less explored glitch characteristics” (37). First, Moradi describes physical embodiment, or the *viractual*⁷ quality of glitch, drawing the glitch out of “two dimensional screen displays” and into three dimensional, perhaps even non-digital artifacts. I expanded on the notion of non-digital glitch in 2011, suggesting that glitches are common occurrences in the human body, evident in both psychoactive drug use and contemporary neuroscientific techniques such as transcranial magnetic stimulation. The important notion here, though, as Reid, Moradi, Menkman, Cloninger, and more have articulated, is that the term *glitch* need not (and ought not) be relegated to digital spaces, but can instead come to denote broader ontological approaches.

Secondly, Moradi emphasizes the importance and integration the medium and the glitch. Reminiscent of McLuhan’s famous observation that “the medium is the message,” (8) Moradi underlines that glitches “exist within other media but their often out of place

⁷ “Viractual,” a concept developed by Joseph Nechvantal, is the blending of the real space/form and virtual space/form.”

characteristics have the capacity to convey a message” (35). While Moradi is less than precise in his description of the glitch as a medium, we can infer that glitches appear to both exist within and, more importantly, *reveal* the medium (hardware, software, or wetware) previously obscured by cycles of opacity and the rhetoric of technology. For example, consider the image below, titled *modern3rror*. This image is a result of corrupting a screenshot of the Google search interface, a technology I have already discussed in terms of *technoRhetorical opacity* in chapter one. Yet when presented as glitch art on a physical page or a digital .pdf, this image loses its opaque, black boxed association with web browsing, and assumes what Moradi calls a “distinct medium-like quality.” In effect, glitch art breaks sharply with *technoRhetorical opacity* by revealing its own materiality and its multiple levels of mediation via previously opaque technologies.



Figure 49. Steven Hammer, "modern3rror," Animated GIF, 2012.

Rosa Menkman, arguably the most prolific contemporary glitch studies theorist, began writing about glitch in 2006 after an encounter with “UNTITLED GAME,” (see figure 48, below) a work of Dutch/Belgian artist collective Jodi. “UNTITLED GAME,” a set of modifications for the video game *Quake 1*, transforms the graphics as well as the code of the software into highly a highly abstract, disorienting experience.

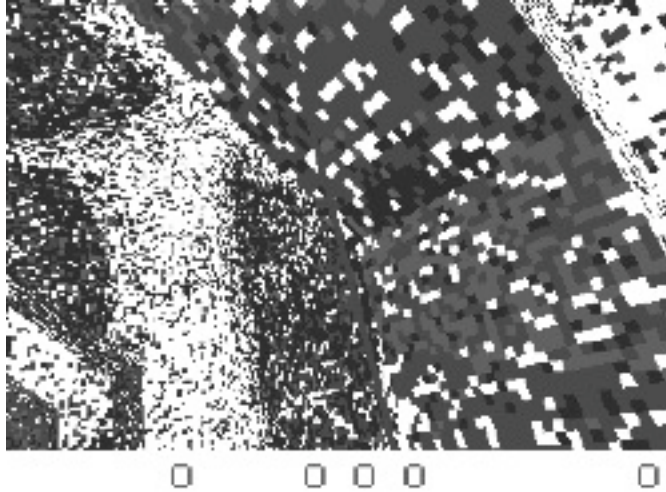


Figure 50. JODI, "Untitled Game," Video Game, 1996.

Jodi's earlier work, titled "SOD," performed a similar modification, or hack, on another videogame from the early 1990s, *Wolfenstein 3D*. Jodi's corpus of work had a significant impact on the development of glitch and DNM aesthetics and philosophies, especially in their use of lo-fi, black-and-white visual aesthetics as well as their disruption and exploitation of state-of-the-art graphics, interfaces, and user experiences. Menkman also credits her collaborations with goto80 (Anders Carlsson), Matthew Fuller, and Geert Lovink as instrumental in leading her to articulating glitch studies.

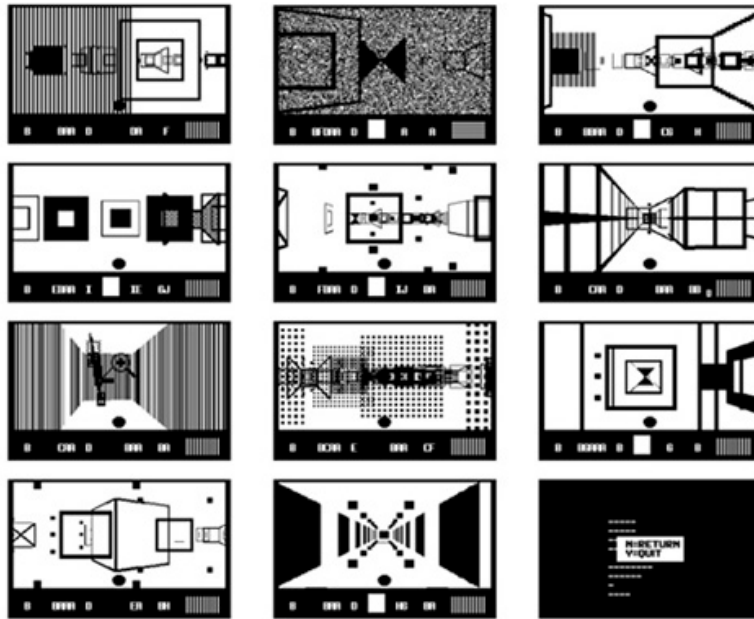


Figure 51. JODI, "SOD," Video Game, 1999.

Because she perceived a significant gap in the theorization of glitch art, Menkman composed and distributed her first “Glitch Studies Manifesto” in 2010, which in many ways still serves as a foundational document in glitch studies. She has since published an updated version of the manifesto in her book *The Glitch Moment(um)*, an in-depth investigation into the history of glitch art, aesthetics, and politics.

Menkman’s glitch studies manifesto offers some theoretical baselines for a glitch theory, especially her observation that “although the constant search for complete transparency brings newer, ‘better’ media, every one of these improved techniques will always possess their own inherent fingerprints of imperfection” (7). In other words, noise and failure are essential components of any system, no matter how seemingly clean and functional they appear. As such, glitch studies becomes a celebration of that noise, that *glitch*, and Menkman makes a series of suggestions to would-be glitchers, including “find catharsis in disintegration, ruptures and cracks; manipulate, bend and break any medium

towards the point where it becomes something new; create *glitch art*” (8). By engaging in glitching and glitch art composition, the artist exposes the previously invisible and highly political features of technologies, in much the same manner that composition scholars like Selfe, Selfe, Hawisher, and others have gestured.

Menkman also defines glitch art as an inherently procedural art form, focused not on the artifacts constructed, but on the *process* of creation. To better understand this, consider the glitch as a momentary break or interruption, that moment between function and failure. Glitches are *moments* of malfunction, and the provocation of the glitch is the act of glitching. *Glitch art*, however, is a result of capturing of that moment of malfunction, *documenting* the act of glitch; it is proof that the glitch occurred. In this way, glitch art is never really a glitch, but rather a second-hand account of a moment, in the same way telling a story about a past event is not the same as the event itself. Just as Moradi distinguished between the “pure glitch” and the “glitch-alike,” Menkman differentiates between practices that engage the “procedural essence of glitch art” and those that construct “conservative,” or “domesticated” glitch art.

[S]ome artists do not focus on the procedural entity of the glitch. They skip the process of creation-by-destruction and focus directly on the creation of a formally new design, either by creating a final product or by developing a new way to re-create or simulate the latest glitch-archetype. This can for instance result into a plug-in, a filter or a whole new ‘glitching software’...focus[ing] more on design and end products then [sic] on the procedural breaking of flows and politics. There is an obvious critique: to design a glitch means to domesticate it. (6)

Hence, Menkman warns against the commodification of glitch via presets and effects.

Many programs like this exist, of course, and while there is some contention as to whether or not these “conservative glitches” (55) are in fact legitimate glitch or glitch art,

the importance of composition-as-process remains intact; glitching is an action, a process, not merely an aesthetic or stylistic convention.

While many glitch theorists avoid preoccupation with digital/analog divides,⁸ there exists a strong sense of glitch art as “very much a practice situated in digital culture” (Notes on Glitch 7). Manon and Temkin acknowledge that glitch is not a solely digital phenomenon, but rather “an intersection of analog and digital modes of (re)production,” a “combinatory, but (self-evidently) not a blending of [analog and digital] signal types” (6-7). Further, they purport that using “glitch” to describe events in the absence of digital factors, i.e., “analog-on-analog damage,” ensures that the “term loses potency” (6-7). Others have briefly explored possibilities of glitch outside of digital spaces, including Tim Barker (with whom Manon and Temkin directly disagree), and Curt Cloninger. Cloninger seems to have stepped outside strictly digital spaces to identify analog glitch events, though he differentiates analog and digital glitches in terms of time and intensity. Digital glitches, “more instantaneous and frequent,” are therefore more evident to the perceiver and more prevalent in identifications of glitch art conventions (32).

Cloninger makes an even more important observation, one that my own practice/theory is extending, particularly in the following chapter: “The glitch event is not ‘unnatural.’ It is just that we humans are still acclimating ourselves to it. We are less used to seamlessly absorbing its affect. Analog affect is more qualitatively gradual, whereas

⁸ See Menkman, *The Glitch Moment(um)* in which she states “I do not feel locked into one medium or between contradictions like real vs. virtual or digital vs. analog,” (p. 55), and Curt Cloninger, “GlitchLinguistx,” which calls for several Platonic “dichotomies to be exploded” (23-24).

digital affect can dramatically spike” (31). While this is not always correct,⁹ he helpfully differentiates the digital from the analog in terms of time and intensity, while allowing glitch to remain applicable and theoretically useful to both. Above all, he establishes that the glitch is a more-or-less “normal” feature of both digital *and* analog environments. This deployment of glitch as a theoretical concept rather than a specified event under specified conditions is central to my own argument. Glitch is certainly a malfunction within a network, but it is ever-present in a variety of networks; networks—digital, analog, and otherwise—are *always already* glitching.

Glitch bears much resemblance (and owes much) to its precursors, particularly in terms of media/audience violence, disregard for linear approaches, embrace of irregularity as methodology, and illumination of technoMateriality. Yet glitch has done what few other movements have done before: its entire existence is devoted to corrupting material, making strange the familiar, focusing especially on rapidly developing digital technologies, and most of all, actively resisting the institutionally-sanctioned copyright and upgrade culture.

There’s Not Much ‘Glitch’ In Glitch Art

While glitch is an essential component of this disquisition, it is neither static (i.e., well-developed and widely agreed upon) nor unproblematic. Among my critiques, some of which I will expand upon in the following chapter, are an overreliance upon

⁹ Cloninger’s assessment of the analog glitch as being slower and more gradual is correct in a majority of instances. Several examples of nearly immediate analog glitches exist, however: various physical, chemical, and electrical interruptions occur in the human body, for instance. We might consider the use of Transcranial Magnetic Stimulation, for instance, a method of using magnetic pulses to noninvasively manipulate the polarity of neurons in the human brain. In the words of Mark George of the Medical University of South Carolina, “We can turn a part of the brain up or down, or temporarily turn it off.” TMS is indeed an immediate and sudden (analog) glitch.

humanist/modernist philosophy that sharply distinguishes between human and nonhuman, as well as what I call the *curation of glitch*, which is a major theme of chapter four. In short, though, we must be cautious when approaching the still-infant notion of glitch, particularly when attempting to export its philosophies and practices into intra- and interdisciplinary conversations.

Daniel Temkin's 2014 article "Glitch & Human/Computer Interaction" problematizes glitch (the concept and the art) in very useful ways, commenting "

The glitch aesthetic may be rooted in the look of malfunction, but when it comes to actual practice, there's often not much glitch in glitch art. Yes, some glitch artists are actually exploiting bugs to get their results – but for most it would be more accurate to describe these methods as introducing noisy data to functional algorithms or applying these algorithms in unconventional ways.

Temkin argues that what has come to signify a glitch is the application of noise to logical systems, not an actual failure or malfunction within the system. A "glitched" JPEG, for instance, if truly broken or corrupted, would fail to display anything at all; "if we still see an image, the JPEG algorithm has successfully rendered it. Even if we somehow make the file undisplayable...we risk no failure – there's nothing at risk when digital files are effortless to duplicate and store" (Temkin). Instead, Temkin suggests that most glitch art is, at least in practice, an activity of (re)producing an aesthetic consistent with traditional glitch art.



Figure 52. Daniel Temkin, "Ceci n'est pas une glitch," 2010

Temkin is not the only artist/theorist hesitant to embrace contemporary manifestations of art increasingly wrapped up in aesthetic (re)production. In my correspondence with Jon Satrom and Ben Syverson (PoxParty), we discussed our own issues with the term “glitch/art,” rooted primarily in our own creative endeavors.

Jon: “Glitch art people have expectations of what glitch art should look like, and it needs to be glitchy. This program that we made, it slogs all the processors on your computer, and makes everything slow and, not *glitchy* but it’s with that glitch ethos. You know, so I think it’s like glitch art but it bumps up against where things need to go for that now genre.

Ben: Yeah, and half of that is how we talk about it. Like, the most important aspect of it is that it slows your computer down, it brings you back to that older time when you had to really think about clicking on that menu because you’re going to have to wait a half second for it to pop open. Everything was more intentional.

Later, I shared a story—which I discuss in detail in chapter four—in which my art installation at a local museum concerned with critiquing functionality and glitch-lessness had both taken a lot of work to “glitch properly” and had needed to be updated three times due to emails from the museum curator who commented that my piece was

“experiencing technical difficulties.” I shared with them my temptation to tell the curator, “Exactly! The fact that it is failing performs the rhetorical-aesthetic purpose of the piece,” but instead went and fixed the piece to *glitch correctly*. Ben and Jon expressed similar opinions and experiences.

Ben: “There is this funny thing that happens in every PoxParty project where we’re like trying to remove glitches from the tool...the sOS, the app had to run uninterrupted. If it ever quit, that means that someone has to relaunch it.”

Jon: “And they might not know, because it looks like the OS!”

Ben: “So it’s really critical that the app never crashes. So I spent like half the development time developing it, and half the time combing through it removing memory leaks and anything that might slowly accumulate over the course of eight hours and crash the app. So half the development...was trying to remove any glitch and make it as polished as possible.”

Jon: “So there’s a real irony there about making an app that produces situations that don’t fail themselves, too much...like bugs, we like bugs because bugs can become features.”

Ben: “But that does complicate our relationship to [glitch] I think.”

...

Jon: “There are a number of quagmires or traps that can happen when people look at glitch art..I mean, I’m still warming up to the entire term because it’s a category. A lot of it, when it’s talked about it’s talked about from a formalist roots, the aesthetic of it rather than what produces that aesthetic and aesthetic is all we know. But we’re in the right time now, because we’re seeing all of these systems glitch, and culture is OK with that word now...But I think it can be dangerous to genre-fy something, and this is weird because I promote, I teach a class on glitch art, but it’s almost to like kill it. Kill it dead and get people to think about it, what’s outside of it because it’s dangerous to put things into compartments but things almost need to be in compartments to break out of them.”

In many ways, glitch has become an increasingly complicated movement/genre/philosophy/aesthetic, one filled with contradictions and problems. Yet

as its practitioners work to navigate just what glitch means (or veer away from glitch altogether while retaining some of its methods and underpinning philosophies), I likewise find many of its conversations, though certainly “compartmentalized,” to be fruitful when positioned in composition, rhetoric, communication studies, and the humanities at large.

whatis(dirtyNewMedia [DNM])

Dirty New Media, a Chicago-based branch of New Media Art, was first articulated by Jon Cates as a direct response to the surplus of clean, seamless digital art. Cates recounts the development of DNM as a means “to express a contrast with the kind of cleanliness that I associate with more commercial or corporate styles of digital art and design” (~~1337-134R\$~~). Like Reid, Menkman, Moradi, and others, Cates understands that “brokenness is a primary feature” and “humans live in a noisy, glitch, messy + broken world” (~~1337-134R\$~~). Cates foregrounds DNM as a response to a techno-culture that is increasingly hidden, obscured behind a veil of Western “progress.”

Technology is a field typically associated with smooth screens, organized interfaces, and on a larger scale, with the pride and “progress” of western civilization. Dirty New Media, a branch of New Media Art, seeks to subvert these unquestioned assumptions by problematizing, rather than idealizing, common technologies. The “dirty” stems from the movement’s deliberate incorporation of brokenness as artists, hackers, and activists alike hack, reconstruct, and complicate aspects of computer culture. By embracing the cyber flaws, short circuits, and disjointed components, Dirty New Media refers to a menagerie of alternative practices and subcultures spanning from punk and digital sampling to piracy and pornography. (Peplin)

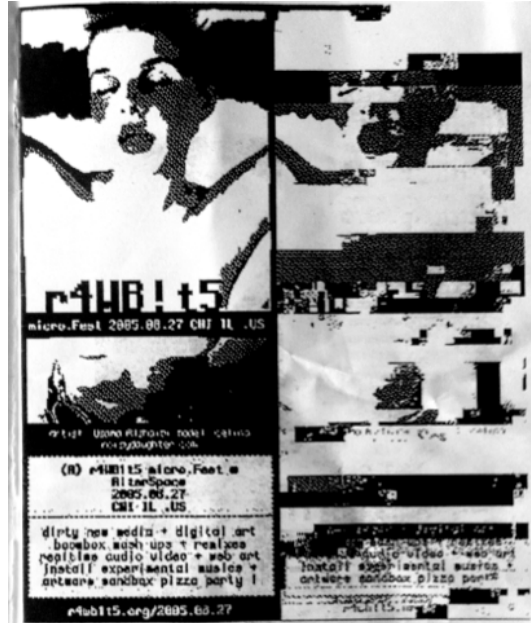


Figure 53. Screenshot from J. Cates, ~~1337~~ *Y34R\$ of DIRTY N3W M3DIA: 2005-2012 CHICAGø*.

Cates, along with Jake Elliott, argue that glitches extend beyond the digital borders of computation, notably in linguistic systems, which is why most DNM texts veer far away from standard conventions of document design and grammatical features.

Notably, DNM writing employs

L33T/Elite (speak) [as] not only a vocabulary but a pervasive affect guided by radical inclusivity of error of internal incoherence bent into recognizable (b/c repeated) shapes/paths/flows forward in reverse to re:wryte + revise itself perpetually in mistakes..."The" becomes "teh" and "owned" becomes "pwned" as mistakes fold into the language, dirty glitch becomes linguistic atom moving horizontally and playfully rather than being controlled by linguistic legitimacy... We want to resist clean code. Dirtiness prevents simple reductive indexing because it destabilizes indexicality, introducing and embracing noise. (5)

By critiquing dominant notions of communicative cleanliness, linguistic stabilization, and technological opacity, Cates echoes the sentiments of Kruchenykh.

Another central tenet of DNM as presented by Cates concerns hacktivism and issues of copyright. Heavily influenced by the work of Chicago video artist and activist

Phil Morton. In the 1970s, Morton developed a concept he called “COPY-IT-RIGHT,” an anti-copyright approach to his own work, which resembles contemporary iterations of creative commons licensing practices. Together with Dan Sandin, Morton documented designs for the Sandin Image Processor, a video synthesizer, and self-published them with the title *Distribution Religion*. The text was freely available, and the authors encouraged readers to share the information with others.

Contemporary DNM concerns with COPY-IT-RIGHT philosophy are hardly limited to the copying of texts and other media artifacts. Many DNM thinkers are as concerned with the increasing inaccessibility of hard- and softwares as they are with, say, sharing Torrents. Rapidly updated operating systems and proprietary hardware have rendered most consumer products *physically* and literally black boxed, and work to keep users within specified boundaries of how they may use them. Nowhere is the critique of clean, seamless, invisible technologies more apparent than a recent work of DNM and glitch artist Nick Briz. His 2013 work titled “Apple Computers,” an open letter to Apple Computers and “prosumer manifesto,” addresses “issues of planned obsolescence, upgrade culture, technological self-reliance, control and copying” (Briz).



Figure 54. Screenshot of Nick Briz, "Apple Computers." Click image for video.

DNM's direct and confrontational approach to the politics of new media art and emerging media technologies is rooted in hacker/diy culture, and in this way DNM begins to blur the lines between artist and activist. Even more recently, Jon Satrom and Ben Syverson presented a tongue-in-cheek demo of their glitch softwares, simultaneously demonstrating their work and commenting on the marketing rhetoric of cleanliness and productivity employed by contemporary software/hardware companies.

In my writings with Shawne Holloway, a Chicago-based DNM artist and scholar, we have argued that DNM's frequent attention to bodies—in the form of pornographic images, for example—highlights the situated ontology of human and nonhuman actors in new media spaces. That is, DNM highlights the materiality of both digital media *and* the human body: “DNM is an act of...liberating the object from thing-ness (resisting the modernist hyperdichotomization machine) and the subject from formlessness. The hybrid body-object emerges. DNM is simultaneous subjectivity + object-ness” (Hammer & Holloway). In other words, drawing on Object-Oriented Ontology, we argue that DNM recognizes both the ways that bodies are objectified (both ideologically and technologically) in digital spaces and the ways that nonhuman objects actively contribute to artistic production. Holloway and I argue that DNM reveals not only the “dirtiness” of media and interfaces, but also the layers of inherent and performed subjectivity contained within technologies. That is, much like Ian Bogost's discussion of the interpretive agency of the Sigma camera in *Alien Phenomenology*, (68-70) DNM reveals the materiality of increasingly opaque and actively obscured technologies.

Toward a Glitch Theory

From Dada to Dirty New Media, we have explored some of the ways avant-garde artists have been breaking technological opacity and performing dirty technoRhetorics, demanding that we approach technologies critically rather than as passive consumers. While in the next chapter I will present a more developed approach to composition which draws on the movements I have just discussed, I will conclude here with a glitch theory manifesto that I composed in 2012. While not fully developed, it should serve to summarize this chapter and provide some insight into the development of my approach over time.

Glitches reveal the already present imperfections, or glitch potentiality, within systems typically associated with seamless functionality. In this way, the glitch practitioner is simultaneously an artist, activist, and techno-critic. Glitch Theory and criticism extends beyond an examination of form and the performance of disruptive writing. It is also a theory concerned with the analysis and critique of material production of objects and systems as well as the often “clean” and seemingly-seamless technologies that produce, curate, and guide reception of various texts.

Likewise, a glitch theory of composition is interested in resisting the culturally fostered narratives of cleanliness, effortlessness, and pure intentionality that revolve around techno-cultural production and consumption. The glitch critic should certainly observe and interpret through a lens of malfunction, seeking the ways a given text’s production results from various overt malfunctioning systems and processes. Yet this is only one half of the glitch critic’s task. Her other task is to critique the ways in which the given text obscures its own materiality, its own production, its noise and malfunction. By

design, most texts conceal these characteristics in favor of a highly polished exterior, and the glitch critic must locate, highlight, and foreground the noise contained within each system, and attempt to reveal the means and politics behind such obfuscation.

Glitch theory is concerned with the location of irregularities, interruptions, and malfunctions as *essential features of networks*. Glitch theory, drawing from articulations of glitch studies art and literature, acts as a possible framework through which we might understand and interpret environments, systems, and actants. Drawing from Latour's Actor Network Theory, glitch theory posits that actants exist insofar as they interact, or ally, with other actants in networks. When network configurations are repeated in order to achieve a consistent process or product, and therefore establish what we might call a *function* or *flow*, they become inevitably prone to *malfunction*, *interruption*, or *glitch*. We might call these repeated networks *systems*. Glitch theory contends that systems can be understood in terms of the varying states of mal/function. I do not mean to push function and malfunction into binary opposition; network functions always exist dynamically in liminal spaces.

The glitch is a posthuman phenomenological happening; it shapes and is shaped by both human and nonhuman actors. Indeed, all composition emerges from complex networks of actors. While it is important to understand the glitch as an essential ontological condition of all objects and systems, as I have discussed, we must also discuss the phenomenological concerns of glitch theory. While objects and networks exist in perpetual glitch-potentiality, the glitch is indeed a momentary event in-between functionality and failure. It is a moment, a happening, which is documented and re-

presented in the form of glitch art. Therefore, we need to briefly explore the moment of the glitch in terms of experience and perception.

There is no doubt that glitch theory (or glitch studies, or glitch art) is a tool intended for humans to apply as a sort of heuristic; in this way, Menkman is correct in framing glitch studies as both a technological and socially constructed affair. Yet her claim that “[glitches] do not exist outside of human perception” (345) is problematic. It is true that glitch *art* does not exist outside of human perception; glitch art is bound within human constructions of aesthetic qualities and production. The glitch as a phenomenological happening, however, as a fluid state of mal/function, *must* exist outside of human perception; the results of various glitch acts have very real impacts on the forms, functions, and alliances experienced by a range of actors, both human and nonhuman.

Returning to my critique of Menkman’s argument that the glitch is only perceivable by humans, let us briefly consider the case of a circuit bent toy keyboard. As the bender constructs new networks of switches, buttons, and potentiometers, the instrument changes both in terms of its constituent materiality and its sonic expression. Such expression is certainly perceived by humans as a glitch (or glitch art); yet the glitch in this case is not perceived directly by the human. The human observer only observes the artifact, the proof of the glitch. The actual glitch is felt *only* by the instrument, sometimes to the point of complete electronic failure or inaudible expression. Further, occasionally a combination of “bends” fails to yield any perceivable output whatever. In this case, neither the glitch nor the glitch artifact are evident to human actors (except in the form of silence), but remain very real to the instrument and its components.

I do not mean to imply here that nonhuman actors are somehow aware or conscious in the same way as their human counterparts, as the word “perception” frequently requires. Nor do I wish to somehow deprive humans of consciousness, relegating them to mere objects. Rather, I dispute Menkman’s anthropocentric assessment of the glitch as a phenomenon relegated to human perception. Instead, we might consider Ian Bogost’s *Alien Phenomenology*, in which he argues for a metaphysical model in which all objects, human and nonhuman, material and conceptual, experience the world in relation to one another. In this way, glitch theory resists the anthropocentric, modernist impulse to set opposite culture and nature, humanity and “everything else.” Glitch theory borrows from Object-Oriented Ontology and Speculative Realism in its placing of all objects (or actants) on equal ontological and phenomenological footing. All objects exist equally, and all objects experience the world equally (i.e., independently of human interpretation and/or observation).

The glitch critic, then, must move beyond the ways in which failure, malfunction, and error affects human actors, especially the author(s) and audience(s). Instead, she must understand textual and cultural production in more complex, ecological terms. In other words, following Latour, knowledge production is a collaborative affair co-performed by humans and various inscription devices. Similarly, we must understand reception as a supra-human affair, as texts interact with and are perceived/received by a number of non-human objects.

In the application of glitch theory, we have the opportunity to both write *about* the occurrence of the glitch—for instance, in a literary or cinematic text—but also write *in*

glitch. Just as Kruchenykh,¹⁰ Cixous,¹¹ and countless others have advocated for new languages to express divergent identities and experiences, so too have glitch artists. Menkman advocates for “Glitchspeak...expressions [that] teach the speaker something about the inherent norms, presumptions and expectations of a language: what is not being said, what is left out” (345). To perform glitch criticism is not only to seek evidence of interruption within objects or systems; it is also to enact, perform, and *write* glitch. Glitch composition is itself a disruption, interruption, and corruption of dominant models of production and critique.

Noise is an essential ontological and phenomenological feature of systems.

Glitch theory foregrounds the illusory nature of technological progress and improvement. That is not to say that technologies are not changing and becoming more sophisticated or advanced, of course; there is little doubt that technology is changing at an incredible pace, particularly in the last half century. The objection to the so-called “progress” of technological innovation instead centers on the assumption that new technologies are somehow closer to perfect, that they are efficient, streamlined, and becoming more perfect extensions of our own bodies.

The prevalence of gestural technology also contributes to the increasingly obscured material nature of emerging technologies. In many ways, these technologies and marketing strategies begin to resemble McLuhan’s problematic and anthropocentric about changing relationships between bodies and media, “all media are extensions of

¹⁰ See Alexei Kruchenykh, “Declaration of the Word as Such,” In *Words in Revolution: Russian Futurist Manifestoes, 1912-1928*, ed. Anna M. Lawton and Herbert Eagle (Washington: New Academia Publishing, 2004) and Alexei Kruchenykh, “New Ways of the Word (the language of the future, death to symbolism),” In *Words in Revolution: Russian Futurist Manifestoes, 1912-1928*, ed. Anna M. Lawton and Herbert Eagle (Washington: New Academia Publishing, 2004)

¹¹ See Helene Cixous, Keith Cohen, and Paula Cohne, “The Laugh of the Medusa,” *Signs* 1 (1976)

some human faculty—psychic or physical” (The Medium is the Message 26). Our interfaces and wares are presented and received as highly functional, intuitive extensions of a monolithic *us*, in turn cementing dominant, hegemonic models of human-ness, objectivity, composition, and so on. In other words, as the producers of interfaces and wares claim increasingly seamless integration between their products and bodies, knowledge, relationships, and so on, humans (and certainly other organic/nonorganic actors) are thus increasingly defined by the marketing campaigns of Apple and other agents of the rhetoric of technology.

Instead of consuming emerging media with the expectation of high functionality and celebrating the seeming noiselessness of technology, we must instead seek, find, and exploit the always existent “fingerprints of imperfection” in all media (The Glitch Momentum 11). All systems contain noise as well as a signal, failure as well as functionality. We can easily extend this position on noise in media to other contexts. In fact, in the closing pages of this dissertation I will begin to apply technoRhetorical opacity and dirty ontology, the topic of the following chapter, to the context of disability studies, arguing that the myth of perfection and noiselessness not only pervades rhetorics of technology, but also of the human body.

Notions of noise and glitch are more than merely moments of malfunction or interruption; they are essential features of various actors’ being-ness and experience. Media and systems—and certainly humans—are defined and understood as much in terms of failure as in terms of function, as much in terms of accident as intention, as much in terms of indeterminacy as order. As such, glitch critics must look beyond the successful, intentional, consistent, and otherwise orderly features of systems and objects.

Glitch theory ignores the clear, legible signals in favor of that which interrupts, disrupts, and corrupts the order of the object or system in question. Such deviations are of paramount importance not only in reconstructing the narratives of control, precision, and intentionality in the composing process, but also but also in the revelation of the previously invisible structures underlying the production and reception of texts.

Currently, textual and cultural critics have no way to account for interruption or malfunction outside of broader critical approaches. We might, for instance, examine various institutional breakdowns, revolutions, and conflicts, but such examinations are typically understood through a parent theory such as Marxism, in which we might frame our analysis as the malfunctions of material production, class constructions, etc. For Marxists, however, materialism is at the conceptual center, not the mal/function of systems. While systems theory, object-oriented philosophy, actor network theory, and speculative realism all approach analyses from systemic or ecological frameworks, none focus solely on the presence and importance of *malfunction* and failure within systems and networks. Therefore, glitch theory fills a void for scholars to understand and express networks, objects, and systems in terms of various interruptions and malfunctions. In many ways, the glitch theory I have begun to articulate answers Reid's questions of "what if we view these glitches as features rather than bugs? What if glitches were the sources of agency and thought rather than their limits?" as well as his call for a digital rhetoric that "might begin with an investigation of the rhetorical operation of these objects so that we might understand how our democratic, scientific, and cultural discourses develop these objects as participants" (Composing Objects).

“Glitch artists have been doing this for a long time, treating it as an equal collaborator and seeing where it leads us as we cede control to broken processes and zombie algorithms...in this way, glitch is a cyborg art, building on human/computer interaction. The patterns created by these unknown processes is what I call the wilderness within the machine.”

(Daniel Temkin, 2014)

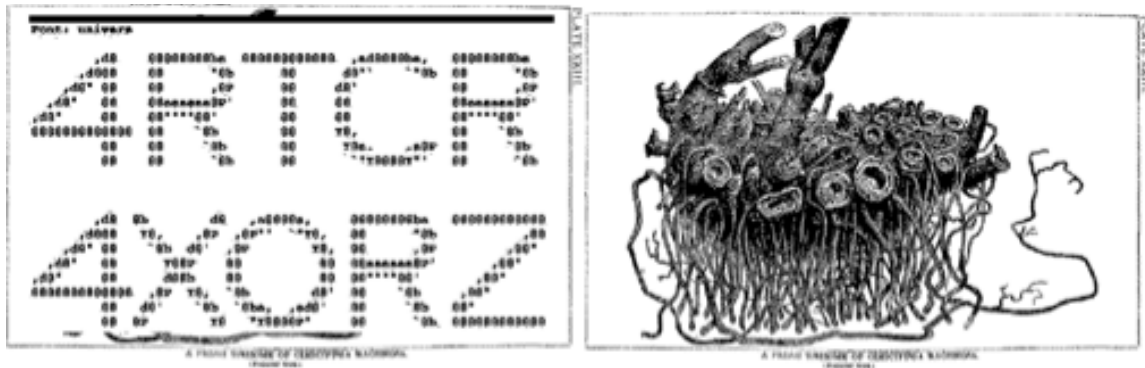


Figure 55. Screenshot from J. Cates "4RTCR4XORZ."

Thus far I have approached the problem of the rhetoric of technology by both expanding concepts of black boxes and rhetoric of technology by formulating a spectrum of technoRhetorical opacity, as well as offering alternative and interdisciplinary avant-garde practices, dirty technoRhetoric, to the composition and rhetoric scholar's already substantive toolbox. Yet as I articulated in the last chapter, “glitch,” both as a concept and as an art movement still in its infancy, requires supplementary theoretical ties and much elaboration/clarification before one can satisfactorily call on a glitch “theory.”

You will recall that many of my breaks with glitch practitioners and theorists lie in my opposition to the anthropocentric philosophies that place humans at the center of creation, meaning, experience, and agency. When paired with my evolving argument in this disquisition—that composition, whether it be abstract painting or crafting a five

paragraph essay, is always a collaborative affair between human “authors” and the writing technologies with which they find themselves “entangled,” to use Karen Barad’s term—the notion of the glitch *must* afford nonhuman entities and systems a much greater sense of agency that most glitch thinkers are willing to secede. I must, then, construct an ontology that allows for agential humans *and* nonhumans as coauthors, errors and irregularities as active objectors, and technological interfaces as active shapers of compositions.

Therefore, while my intention at the beginning of this project was to craft a glitch theory, I will refrain from doing so and instead begin to weave together an ontological model to compliment dirty technoRhetoric, which I will simply call *dirty ontology*. Though it is itself a philosophy/practice in its infancy, I will spend much of this chapter discussing, altering, and applying an Object-Oriented Ontology (OOO) to our current discussion of technoRhetorical opacity, errors and irregularities as material and as processes, and networked authorship.

The Latourization of Philosophy

Object-Oriented Ontology, pioneered by philosopher Graham Harman as an extension and reaction to the work of Bruno Latour, must in some ways begin as a discussion of Actor Network Theory (ANT), developed by Latour, John Law, and Michael Callon. While Callon and Law have had significant impacts on the landscape of OOO, Latour is no doubt the most prolific thinker to impact the connected-yet-divided schools of OOO, speculative realism, ANT, new materialism. Therefore, as both a skeleton on which to impose my own ontological approach and as a primer to all things “object-oriented,” I should spend some time discussing both how Latour came to

spearhead what some have called the “nonhuman turn” in philosophy, and how his work has influenced other philosophers and rhetoricians.

Prior to earning his Ph.D. from the Université de Tours, Latour served in the military in the form of study at ORSTOM under the direction of Marc Augé, an influential anthropologist best known for his ethnographic methodology. Latour was trained in anthropological fieldwork, and collaborated with Augé while under his tutelage. Latour would later note that while studying under Augé, he began to formulate a study: to observe scientists’ daily activities in their natural habitat. This idea would materialize a few years later after Latour completed his Ph.D.

When Latour’s military service ended, he returned to the Université de Tours, earned his Ph.D., and made a connection with Roger Guillemin, a resident of Latour’s hometown of Dijon and future Nobel Award winning scientist. Guillemin was working at the Jonas Salk Institute for the Biological Sciences in La Jolla, California, and graciously agreed to allow Latour to carry out his research at the laboratory for a period of two years, provided he could secure funding. In 1975 Latour received both his Ph.D. and funding for his groundbreaking ethnographic research in the form of a Fulbright grant. He embarked on a two-year research study at the Salk Institute, and co-wrote (with Steve Woolgar) *Laboratory Life: The Social Construction of Scientific Facts*, which would later be heralded as “the most influential sociologically based work in the rhetoric of science” (Bazerman, et al. 2005).

Latour’s approach to his study at the Salk Institute was to enter a new and foreign environment (the scientific laboratory, in this case) as something of a stranger in a strange land; he likens scientists to a strange and understudied “tribe.” For intents and

purposes then, Latour was entering the Laboratory as an anthropologist. Latour admittedly had no understanding as to the existence of a field of inquiry (the sociology and rhetoric of science) in which he would later become so influential; it was not until the writing phase of *Laboratory Life* that Steve Woolgar joined the project and began to shed some light on the sociology of science. Woolgar was, after all, a trained sociologist from England, who studied at the University of Cambridge under Mike Mulkey.

Mike Mulkey is an important figure to the sociology of science and technology, and even more specifically and significantly to the Strong Programme that emerged from the Edinburgh School and researchers such as David Bloor, Barry Barnes, Harry Collins, and Donald MacKenzie. Mulkey responded to and refigured some classic sociology of science works and used them to propel an argument for sociological inquiry into the sciences. He drew from Kuhn's work, agreeing that most scientific inquiry is paradigm-bound, yet suggested that Kuhnian revolutions—a series of crises leading to a *changed* field—may be better reformulated as a creation of *new* disciplines by dissenting members. Mulkey also favored Mertonian views regarding the socially constructed nature of scientific knowledge. In the same vein of social constructivism, Mulkey drew from Ziman (knowledge as consensus) and Berger & Luckmann. Also of note is Karl Popper, who appears less in the work of Mulkey and other Strong Programme thinkers, but would arise in Latour's later work. Specifically, Popper argues that knowledge is objective in two ways: in the sense that it is both objectively true and in the sense that it is something with ontological status (1972). We might read the latter classification as “knowledge as object,” something that Latour is concerned with after the articulation of ANT.

The Strong Programme deserves more elaboration here. The Strong Programme grew out of the Science Studies Unit at the University of Edinburgh, and was articulated by David Bloor in his 1974 text *Knowledge and Social Imagery* as having four tenets, causality, impartiality, symmetry, and reflexivity:

1. It would be causal, that is, concerned with the conditions which bring about beliefs or states or knowledge...
2. It would be impartial with respect to truth and falsity, rationality or irrationality, success or failure. Both sides of these dichotomies will require explanation.
3. It would be symmetrical in its style of explanation. The same types of cause would explain, say, true and false beliefs.
4. It would be reflexive. In principle its patterns of explanation would have to be applicable to sociology itself. Like the requirement of symmetry this is a response to the need to seek for general explanations... (7)

The Strong Programme's primary argument is that science is a social affair, and should be studied accordingly, i.e., by sociologists. It became a philosophy associated with radical social constructivism for this reason, though some supporters of the Strong Programme have refuted that accusation. Along with Mulkay, the Strong Programme was responsible for an external examination of scientists and their laboratories in the 1960s and 1970s.

Latour was introduced to social constructivism and the Strong Programme, and these influences are apparent in his first three texts; adherence to them initially, and departure from them in later works. For example, the first edition of *Laboratory Life* was titled *Laboratory Life: The Social Construction of Scientific Facts*, while the second edition omitted the word *social* in the subtitle. Some have suggested that this signaled Latour's parting with and critique of social constructivism and the Strong Programme. Latour accused the Strong Programme of reducing all phenomena to purely social factors, and furthermore that sociology, a social *science*, committed many of the same sins as the

sciences they critiqued. Adherers to the Strong Programme objected strongly to Latour's use of *social* to refer to nonhumans; Bloor wrote an article in 1999 titled *Anti-Latour* that expressed this critique. Yet Latour seems to downplay the conflict's role in the title change, commenting in 1986 that the term "social" had lost its meaning, and therefore its place in the subtitle of the text, when interactions between objects became included under its umbrella, that it had become so pervasive in the sociological study of science that it had become useless (*Laboratory Life* 281). In other words, Latour assumes that objects *are* social and therefore omits the terms, while Strong Programmers reject his appropriation of *social*.

While Latour's relationship with social constructivism and the Strong Programme is more complex than I have stated, the important pieces have been assembled: Latour's introduction to the sociology of science was heavily influenced by social constructivism, but later rejected it based on definitions of "social." Such a relationship is important to acknowledge if we are to understand Latour's early work and the development of ANT and Object-Oriented Philosophy. Latour would later publish two other notable texts, *Science in Action* and *The Pasteurization of France*, in 1987 and 1988 (dates of English translations), respectively. In these texts, Latour builds on his foundational arguments found in *Laboratory Life*, and in the final pages of *The Pasteurization of France*, builds the foundation of Actor Network Theory (ANT).

Throughout his catalogue, Latour focuses much of his analysis on written documents, arguing that science, like politics, is highly rhetorical, rooted in the phrasing of language (*Science in Action* 23). Recalling his work in the veiling of production in *Laboratory Life*, Latour articulates positive modalities "those sentences that lead a

statement away from its conditions of production,” and negative modalities, “those sentences that lead a statement in the other direction towards its conditions of production and that explain in detail why it is solid or weak...” (23). Positive modalities, because they lack any authorial presence, are considered fact. Rooted in these facts, or positive modalities, is Latour’s famous concept of *black boxes*. *Black boxes* are seemingly unified, uncontested ideas that appear to have no author, no production. They simply *are*. And they *are* by virtue of rhetorical framing: increasingly technical (inaccessible) language, casting of doubt on alternative interpretations, and so on.

Latour also calls back to his social constructivist and knowledge by consensus (Ziman, Mulkay) roots, arguing “the construction of facts and machines is a collective process” (29). Further, Latour notes the importance of “bringing friends in,” due to the necessity in networks of alliances (31). In the second appendix, Latour extends this, “Scientists and engineers speak in the name of new allies that they have shaped and enrolled; representatives among other representatives, they add these unexpected resources to tip the balance of force in their favour” (259). In a theoretical framework centered on networks of actors, it is not surprising that alliances—the connective webbing between objects—is of utmost importance. Even as the dissenter (an imaginary character that daringly challenges a scientist *ad nauseum*) may challenge scientific process and fact almost infinitely, s/he does so at the risk of complete alienation, or alliancelessness, if you will. Latour presents other principles that reflect the immense importance of alliances: “we are never confronted with science, technology and society, but with a gamut of weaker and stronger associations...there is no great divide between minds, but only shorter and longer networks...” (259).

Latour's *The Pasteurization of France* is an extended case study of Louis Pasteur's work, emphasizing the network/alliance approach to the creation of scientific and social fact. Latour's driving observation behind this text is stated early, "When we are dealing with *scientists*, we still admire the great genius and virtue of one man and too rarely suspect the importance of the forces that made him great" (14). He asks why we have such a difficult time applying sociology to science, when we frequently do so in war and politics. And so Latour sets out to articulate the network of forces, because as he has been writing all along, scientific knowledge requires alliances in a network, and in order to gain such allies, one must engage effectively in persuasion.

I must pause here and point out the similarities between Latour's work in *The Pasteurization of France* and my argument in the present text, namely that like scientists, artists and writers are assumed to exist as lone geniuses rather than successfully networked agents, connected to and with a wide variety of human and nonhuman agents. This assumption is not only rooted in historical representations of authorship—which I will document and discuss later in this chapter—but also in a rhetoric of technology that obscures the technologies, along with their materiality, agency, and subjectivity. After all, when considering genius-based authorship and current practices of opaque technoRhetorical practices, it is difficult to imagine one existing without the other. If we became aware and transparent about writing technologies, production processes, and interactions with materials, our identities as Authors would certainly suffer, our heroes may perish, and the teaching of writing would become highly difficult.

In order to substantiate that claim, I ask you to consider Sadie Plant's exploration into the role of psychoactive drugs in literature. In her book *Writing on Drugs*, Plant

describes the ways in which a range of drugs—from opium to hashish to LSD—not only emerge as subjects of writing, but as active agents in writing processes. Samuel Taylor Coleridge’s famous poem “Kubla Kahn,” certainly a classic of the Romantic period in which the genius author is often said to have emerged, was in fact not a result of individual genius, but of extensive opium use. Coleridge himself described the material conditions of the poem’s production after he fell into

a profound sleep, at least of the external senses, during which time he has the most vivid confidence, that he could not have composed less than from two to three hundred lines; if that indeed can be called composition in which all the images rose up before him as *things*, with a parallel production of the correspondent expressions, without any sensation or consciousness of effort. On awakening he appeared to himself to have a distinct recollection of the whole, and taking his ink, pen, and paper, instantly and eagerly wrote down the lines that are here presented. (Qtd. in Plant 11)

Thus, “Kubla Kahn” was, even according to Coleridge, a collaborative affair between himself and opium. Likewise, Robert Louis Stevenson’s classic tale *The Strange Case of Dr. Jekyll and Mr. Hyde* during a cocaine binge lasting nearly a week. Stevenson described his work not as a figurative collaboration, but as a literal, personified collaboration between himself and characters that would visit him in his dreams. “The Little People, or Brownies, the characters who... wrote his plots and dreamed his scenes for him...’who do half my work for me while I am fast asleep, and in all human likelihood, do the rest for me as well, when I am wide awake and fondly suppose I do it for myself” (Plant 70).

Of course, these narratives of authorship seldom make their way to classrooms or anthologies. How, after all, are we to teach students to be authors if our canons are filled with drug-inspired and hallucination-driven invention methods? Instead, most views,

particularly of authorship in the Romantic period, have been shrouded in the opaque black box of genius authorship, and thus, ignore the materiality of technologies, chemicals, and psychoactive experiences essential in understanding a vast swath of canonized literature. If we were to open the black box of authorship, how would the author fare? How would we as an academic field, concerned with interpreting and teaching texts as well as instructing students how to themselves write, deal with this lack of cleanliness? How do we teach students to collaborate with nonhuman entities?

These are the questions and considerations that Latour, in his early work, posed in relation to scientific inquiry. In a distinctly dirty technoRhetorical manner, Latour explodes the illusions of Pasteur as a scientific genius, and argues that Pasteurization faced considerable obstacles in becoming what we now accept almost unconditionally. In order to succeed, to become *fact*, Pasteur needed to recruit allies, both human and nonhuman, including microbes, the public hygiene movement, medical professionals, military personnel, various scientific tools, colonizing forces, distributors of funds, and so on. Because he succeeded, his work became unquestioned, black boxed, singular, fact. Yet rhetorically and historically, Pasteur was transformed into a pioneer, a discoverer, a lone genius, the man hovering over a microscope.

Echoing many sentiments of artists like Kruchenykh, Cage, Ghazala, and others I have mentioned in the previous chapters, Latour writes of a need for an “emancipation of the nonhumans from the double domination of society and science,” that will require us to “abandon many intermediary beliefs: belief in the existence of the modern world, in the existence of logic, in the power of reason, even in belief itself and in its distinction from knowledge” (150). He would later tackle some of these in *We Have Never Been*

Modern (1991), but the emancipation of nonhuman actors, perhaps his most novel concept, is explained further in the appendix that follows, titled *Irreductions*.

Irreductions succinctly proposes four central ideas that stand at the center of Latour's philosophy. First, *actors* comprise the world, include both human and nonhuman entities, and place all entities on "exactly the same ontological footing" (Harman 14). Second, Latour argues that no actor is reducible or irreducible to any other actor. He calls this principle *irreduction* (158). There is no hidden essence within actors, no core of selfhood isolated from other actors. We may, of course, attempt to attribute some event or actor to some another actor, or explain something in the terms of something else, but that requires a good deal of convincing and is always more or less an attempt. Third, Latour discusses *translation* as a work of identifying layers of mediation, the process of linking one thing with another or changing one thing into another (162). Finally, he reiterates what he has been arguing for several years at this point, that actors have no inherently strength or weakness, as they are on equal footing with one another. Power is instead gained through *alliances*, the connections of agreement between actors that define the network in which meaning and identity are constructed and managed (160).

Beyond Latour: Object-Oriented

In many ways, *Irreductions* served as a springboard from which many other object-oriented-isms would emerge, though each thinker and approach invariably diverges from previous work. Graham Harman coined object-oriented philosophy (OOP) in his 1999 dissertation *Tool-Being: Elements in a Theory of Objects*, as a reinterpretation and expansion of Heidegger's notion of readiness-to-hand. For Harman—and certainly other OOO proponents—the "distinctly anti-realist philosophies that have held sway for

some decades” are rooted in what Meillassoux called “correlationism,” referring to “the belief that things can only exist in relation to (human) minds or language...[and] is anthropocentrism in philosophical form” (Morton 164). Therefore OOO revisits realist philosophy, namely that things not only exist apart from our experience and conceptual frames, but we can, to some extent, know of things-in-themselves. Because Harman holds fast to the belief that all objects withdraw completely from one another, however, he advocates for what he calls a “weird realism,” in which objects do exist independently and in-themselves, but never reveal to one another their whole being. In other words, we (as well as nonhuman objects) can only access one another through heavily distorted relations.

Here Harman draws especially from Whitehead, whose own philosophy then radically argued that we have very limited access to objective knowledge. Further, Harman extends speculative realist philosophy, championed by Meillassoux, which combines realism (the world exists outside of the human mind) and speculation (the world outside of the mind is “weird,” meaning unknowable, alien, or foreign). Harman’s most radical (and critiqued) addition to speculative realism, however, is his assertion that all objects and relations exist and occur on the same ontological footing, indicating his reliance upon Latour. That is to say, at the level of being, a human is no more real or meaningful than a eucalyptus plant, the fictional character Harry Potter, or a cassette tape.

Yet an even—or flat, tiny, or messy, whichever brand of OOO you prefer—ontology is not the only critique of contemporary OOO. Many have rightly asked how such philosophies differ significantly from much earlier and concurrent work done by posthumanist scholars like Donna Haraway, N. Katherine Hayles, and others. Certainly,

there are valuable and oft-overlooked linkages between these fields of inquiry, and in my estimation exploring those linkages are vital to (re)discover if OOO is to gain any traction in a field rightly suspicious of movements that consist and draw from primarily white, male, privileged positions.

In order to begin this rediscovery, I argue that OOO is a sort of *hyper*-posthumanism, or rather, a *non*-humanism. To explain this, I will have to draw from Latour's *We Have Never Been Modern*. Latour describes the Modern constitution as a kind of "double vision" in which its adherents claim two contradictory dichotomies. First, the Modernist commits an act of purification, which sharply divides humans and nonhumans, nature and culture. Second, the Modernist does "work of translation," in which hybrids (nature *and* culture, human *and* nonhuman) are constructed, though the Modernists will not credit their success to these hybrids. "The moderns have always been using both dimensions in practice, they have always been explicit about each of them, but they have never been explicit about the relation between the two sets of practices" (51). Latour points out this inherent paradox of Modernism, and quickly moves on to critique the postmoderns even more sharply, because while they reject the artifacts and trajectories modernist thought, "[they believe they are still modern because they accept the total division between the material and technological world on the one hand and the linguistic play of speaking subjects on the other" (61). In other words, because postmodernists acknowledge the existence of modernism, and to a great extent play by the modernist constitution, they have somehow "missed the point." Latour offers an alternative, *nonmodernism*: "a nonmodern is anyone who takes simultaneously into

account the moderns' Constitution and the populations of hybrids that the Constitution rejects and allows to proliferate" (47).

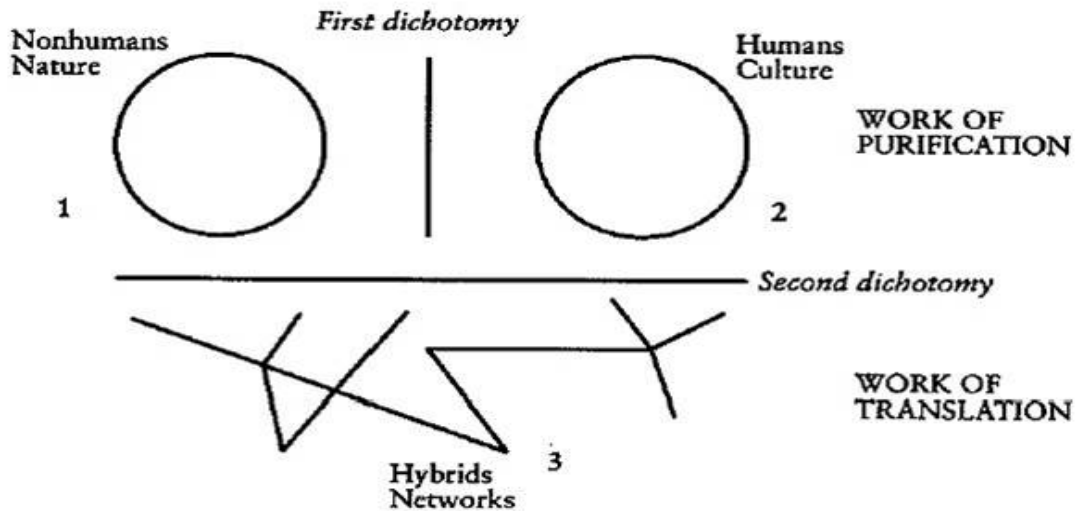


Figure I.1 Purification and translation

Figure 56. Latour's model of the Modern Constitution.

Again, we can see how the fabrication of Modernism, oscillating between translation and purification, exacerbate technoRhetorical opacity and the genius author. Instead of acknowledging the collaboration and cooperation between ontologically-equal agents—both human and nonhuman—the Modern constitution obstructs meaningful examinations of those relationships and thus propels us into a model of authorship that *must* be a result of one or more individual. How, after all, can we begin to examine relationships if only one party is supposed to meaningfully exist? Postmodernism does not fare much better because, as Latour points out, its foundations rest on the acknowledgement of the Modernist constitution, and seldom reaches outside the realm of anthropocentric thought.

Using Latour's discussion of modernism/postmodernism as a kind of starting point, I posit that posthumanism is to humanism as postmodernism is to modernism. My answer, or proposition, is that OOO, or some variant thereof, is the equivalent of Latour's *nonmodernism*. To explain further, we need to examine posthumanism as an inherent acceptance of humanism, except that it foresees a future (or a recent past) in which, through the proliferation of (especially digital) technologies that interface with the human body, the human/ist ceases to exist. A chimera, a monster, a cyborg is born. It is this occasional—but not universal, as a caveat—dependence on digital technologies and explicit interfacing methods that often corners posthumanism into a curse of historicity, a plight shared by the moderns.

Instead, and perhaps because it engages analog/organic nonhumans in its analyses, OOO occupies the position that humanism has indeed never existed, because humans, as just another object among other objects, has never held a privileged ontological position. Here I do not mean to say that the human is not privileged in philosophical or scientific thought, only that “on the field of battle,” to use Latour's words, such privileged positions simply do not exist. While some posthuman thought does engage with non-digital or non-mechanical objects (and here I am speaking especially of N. Katherine Hayles), it is much more rooted in the construction, the joining of human and machine, and thus accepting the inherent division between them. While OOO does acknowledge, to greater or lesser extents, the distinctness of objects, its net is cast much wider into an always-already existing plane of being, experience, and interaction.

To provide further evidence for this argument, we might call back to Max More's influential and definition-changing article, "Principles of Extropy." "Transhumanism shares many elements of humanism, including a respect for reason and science, a commitment to progress, and a valuing of human (or transhuman) existence." As I said before, much of posthuman scholarship approaches humanism in the same way that the postmoderns approach modernism. Part of this tendency likely results from the increasingly visible human-machine hybridity that emerged alongside advances in medicine and biological sciences. Likewise, OOO theorists have traditionally approached theories via science and technology. Latour, of course, began his work by examining the "*Social Construction of Scientific Facts*" with Steve Woolgar.

Even the more recently, those calling themselves "new materialists" helpfully ground their analyses in the realm of science and technology, from Karen Barad's illustrations of atomistic metaphysics to Jane Bennett's examination of power grids and electricity, both of which have done much to critique longstanding notions of agency that seem to lie at the heart of most OOO critique. Bennett's reconceptualization of agency in her 2005 article "The Agency of Assemblages and the North American Blackout," is quite helpful in illustrating nonhuman agency. Her analysis of the electrical power grid escapes the anthropocentric grasp that centers both natural and cultural phenomena in relation to the human experience (a defining paradox of Modernism, as discussed in Latour's *We Have Never Been Modern*). The assemblage becomes a kind of monster with various elements acting in close proximity, always necessarily affecting the whole.

Bennett argues that in order to move beyond human *agency*, which is obviously a more difficult move to make, as agency has either been rooted in morality (Kant),

intentionality and decision (Davidson), or strictly within human networks, even though it may involve a variety of actants (Coole). Bennett indicts the social sciences to an extent, following a long tradition including Latour, claiming that because they limit their definitions of “social” to the activity of humans. Because the “social” by most definitions excludes nonhumans, and most explorations of agency have been undertaken and articulated within the humanities and social sciences, agency has thus been confined to a strictly human affair. Bennett, in an effort to extend either definitions of the “social” or the notion of agency, provides a *constellation* of agency, consisting of three related ideas: efficacy, directionality, and causality. I will draw from the first two concepts only, as causality unhelpfully places agency within actions themselves, in a way similar to Harman grants “object” status to relations between objects.

Efficacy refers simply to the ability to make something new occur (456), and while traditionally this has been tied inextricably to “a sufficiently close relationship to a preexisting plan (i.e., it is not accidental or random),” Bennett calls attention to the way a single event causes a kind of “unstable cascade” within an assemblage, and thus asks us to consider agency simply as the “power to make a difference” (457). Directionality, Bennett argues, is the movement away from something (condition, state, etc.) to something else. Again, this is typically grounded in intentionality or goal-orientedness. But calling on Derrida, she attempts to decouple agency from intentionality by using his notion of “messianicity,” which positions change not as a logical, linear chain of intentional events, but as a perpetual *waiting game*, with no real resolution or resting point. That is to say, directionality is not the movement from one designated point to

another, but rather, an ever-present sense of movement, interruption, interaction, and transmutation.

Efficacy and directionality accomplish two important tasks as we continue to define the nonModern, dirty technoRhetorician. First, efficacy underlines the inherent instability not only of the composition process itself, but also of the media and the authorial network. Composition is a noisy and complex affair in which clean functionality is impossible on any level. Further, we no longer require consciousness as a prerequisite to agency. Recalling Reid's observation, anything that objects to another object in the composition process is understood to possess agency. Directionality supplements this new, dirty authorship, by reinforcing the notion that composition is neither linear nor logical, because it does not take place exclusively within a single and distinct (human) agent. Composition is a process in which agency is in continuous flux, within and between intentions, desires, limitations, designs, objections, malfunctions, accidents, and noise.

Recently, a conversation in our field has emerged regarding possible definitions and applications of an Object-Oriented Rhetoric (OOR). At the 2010 RSA conference in Minneapolis, MN, a panel was assembled to discuss possibilities of OOR, appropriately titled "Toward an Object-Oriented Rhetoric, or, What Happens When the Human is No Longer the Center of Rhetoric?" Panelists included Scot Barnett, Thomas Rickert, Byron Hawk, and Robert Leston. Barnett's opening paper, framed the conversation citing Graham Harman:

The consequences of treating objects as philosophically significant are, as Harman says in his book *Guerrilla Metaphysics*, quite profound. 'Once we give up the notion . . . that philosophy should deal only with the conditions of possibility of objects or of human access to them,' he writes, 'everything changes. From that

moment on, every aspect of our experience, from the simplest motion of dogs and waiters to our dealings with ruined glass, wire, and cardboard in a garbage dump, begins to bear witness to a genuine metaphysical event.' (Brown)

Barnett continues,

rethinking publics through object-oriented rhetoric would encourage us to develop other notions of rhetoric beyond those of identification and the making of common bonds—conceptions that, even as they compel us to cultivate a radically inclusive posture with respect to nonhuman others, reach farther than notions of rhetoric as an instrument for communing with others, that attune us in their stead to the very impossibility of communion, and that encourage in the wake of such failures what Diane Davis has called 'a togetherness of otherness . . . that is not a communion of sameness' or a 'calculation of equivalence.' (Brown)

Collin Brooke's *Lingua Fracta* also shares much with my concept of dirty ontology/composition, especially in his revision of the canon of invention. Brooke observes "restrictive attitudes toward invention—invention's ecologies of culture—are tied closely to the modernist figure of the author" (62). Brooke proposes a more complex, technologically-aware, ecological model of invention that draws from Barthes' *Proairesis*, and move toward authorship based on networked relations rather than isolated, information-generating authors. Likewise, dirty technoRhetoric leaves behind the Modern author and Modern interpretations of the canons of rhetoric. Instead of a series of objectives the successful rhetor must apply appropriately to a given situation, the (dirty) canons of rhetoric must surely conceive of invention, disposition, style, delivery, and memory as tasks shared and negotiated among and between a range of actors.

In his book *A Counter-History of Composition*, Byron Hawk inches toward a composition model that is complex, situated, and comprised of multiple objects. His more recent—albeit unpublished in the traditional sense—work, "Stompbox Logic," reimagines traditional (Modernist) conceptions of audience as the tool or technology of inscription rather than the imagined human audience. In many ways, Thomas Rickert's

new text, *Ambient Rhetoric*, does explicitly what Hawk's text implied. Through the metaphor of ambience, Rickert revises the rhetorical situation to include local environments and the multiple objects within, arguing that they are active players in their own right (29). Rhetoric, according to Rickert, contains a "material dimension" not situated solely in human subjectivity and performance. Instead, rhetoric is "the emergent result of many complexly interacting agents dynamically attuned to one another" (34). Other scholars such as James Brown, Nathaniel Rivers, Casey Boyle and Alex Reid have also been exploring definitions of OOR, but what all would-be OOR scholars have in common is a debt to Latour's "emancipation of the nonhumans" (*The Pasteurization of France* 150).

While this has been only a broad overview of the OOO landscape, three salient points of object-oriented approaches have hopefully emerged. First, OOO exists as a radical opponent to correlationist philosophies that place humans at the center of meaning, being, and experience. Second, even while OOO argues for a realism described in the first point (i.e., that the world exists just fine without human thought and conceptualization), it is not a realism in which we can objectively access the experiences and being-ness of other things; it is a "weird" realism in which complete access is impossible. Finally, because OOO has complicated, or in Latour's words "reassembled" the social, humans are no longer the only things in the universe with agency and interactive capacity. There is certainly more to the OOO story than these three basic points, and in the next section, I will continue to draw from this field of inquiry as I work to develop a *dirty ontology*, one which counters the rhetoric of technology by combining OOO and avant-garde art philosophies and practices.

The Epistemic Fallacy

As begin most object-oriented inquiries, Levi Bryant's *The Democracy of Objects* too frames correlationism and foundationalism, especially via Kant, as the basic philosophical point of conflict OOO is attempting to address. Specifically, Bryant points to Bhaskar's notion of the epistemic fallacy, and inserts his own version as a cornerstone of his realist ontology, "What the epistemic fallacy identifies is the fallacy of reducing ontological questions to epistemological questions, or conflating questions of *how* we know with questions of what beings *are*. In short...wherever being is reduced to our *access* to being" (60, Bryant's italics). This fallacy, says Bryant, is the common error not only of foundationalist and correlationist thought, but also of contemporary hostilities (there are many, and they *are* usually hostile) toward realism(s) and various object-oriented -isms. While for Bryant, illuminating this fallacy is mostly a theoretical one—and this is not to diminish its importance—similar approaches have been undertaken and aptly applied within rhetoric and composition.

Hawk similarly problematizes the ubiquity and assumed primacy of epistemology at various points throughout the history of composition. James Berlin, a favorite target of Hawk's critique, promoted and obscured a "commonsense epistemology [that] sees a direct and unproblematic correspondence between world, mind, and language," resulting in an ongoing "conflation of current-traditional rhetoric and vitalism with romanticism" (51). While Hawk's primary objective is a resurrection and clarification of vitalist methodologies and philosophies, he simultaneously calls for a rhetoric rooted in more complex, ontological inquiries. Calling for immersive and ecological approaches to composition pedagogy, he approaches with skepticism "any account of the subject in a

contemporary rhetorical theory for technological culture [that] presupposes an interiority” (189). Like Bryant (and virtually every OOO scholar), Hawk advocates for methods that avoid anthropocentric, epistemology-first (i.e., how the world occurs to *us*) assumptions in favor of methods that first ask what it means to be a thing among other things, or what it means to be within complex ecologies in which rhetoric takes place. At the very least, Hawk remarks, “a more comprehensive theory of epistemology should consider how conscious knowledge emerges from complex embodied situatedness” (114).

Of course, I could continue to draw connections between OOR scholars (including Hawk) and OOO in a broad sense, but the point I am trying to make here is that epistemology-first philosophy must be immediately, even preemptively struck out before I continue to construct a dirty ontology, particularly when writing within the humanities, which tends toward fairly established notions of subject, object, language, knowledge, authority, learning, and so on. This is of course not true everywhere, but as you will read later when I briefly discuss the evolution of authorship, these distinctly Modern tendencies are entrenched institutionally and showing little sign of reprieve.

The work of developing a perform-able (if preliminary) *dirty ontology* relies heavily on carefully choosing and developing a working OOO of “my own,” simultaneously connecting various iterations across disciplinary boundaries. In particular, because I am attempting to revive (or perhaps prolong) the very old question of “what is an author?,” I must avoid the mistake of most who have asked and responded to this question: the epistemological fallacy. From Plato to Barthes to Foucault to Bakhtin (and everywhere in between), authorship has been approached—understandably—from an almost strictly anthropocentric, or epistemic perspective. As such, if I am to approach this

question from an ontological perspective, I had better be quite clear what I mean when I say “object-oriented” and begin applying a very young theory to a very old conversation.

Actors, Objects, Things, Units, ... Chimeras

A peculiar—at first sight, anyway—feature of book-length OOO work is a tendency of theorists to pick through the terminology of previous works, then choosing new and “better” alternatives. The most basic of these terms is what we call...*things*. By using this word to approach this topic, I have painted myself into a bit of a corner, using “things” to describe the irreducible unit (yet another term) to be examined ontologically. Latour employs “actors,” “actants,” emphasizing action and agential capacities of entities, as well as “objects;” Harman calls them “objects,” Bryant calls them “objects,” Bogost uses either “things,” “units,” or “objects.” The list goes on, of course, and it is noteworthy to point out that for all the semantic conflict that occurs, few are consistent in their choice of term. Yet this word is important; not only does it name some aspect of the theory (or provide the name itself, as in *object-oriented ontology*) but it also inevitably conjure a myriad connotative and denotative interpretations.

Bogost is particularly thoughtful in his selection of unit in *Alien Phenomenology*, by raising these very concerns of various terms’ “baggage.” “An *object* implies a *subject*...[and] implies materiality,” while *thing* also calls problematically on Kant and confusingly on Heidegger (who used both terms to denote a change of existence in use), and, according to Bogost, encourages a sense of “concreteness” (23-4). Extending Bogost’s consideration, though, we might consider these terms as they correspond to or perhaps even invite widespread skepticism and nervousness. Curt Cloninger, an art scholar and performance artist closely associated with the glitch community, often wages

critique based on such terminology. “No rock ever invented an ontology. Humans develop ontologies which include rocks. Humans may even philosophically speculate what ontologies rocks might invent. But rocks-themselves do not invent rock-centric ontologies. Nor do rocks-themselves philosophically speculate what ontologies dirt might invent” (“Manifesto for a Theory of the ‘New Aesthetic’”). Sure, Cloninger clearly misses the central theses of OOO, but countless critiques similar in nature arise frequently in both formal and informal academic conversations, mostly objecting to the idea of people as *objects* or *things*, or vice versa. Instead of relying on readers to ignore their impulsive reactions to language, we might begin to consider using a term that escapes the internal and external traps of connotative interpretations.

I might instead reach into posthumanist scholarship, where a more satisfactory term might be found. While *cyborg* is the term most often associated with posthumanists like N. Katherine Hayles and Donna Haraway, the language play of feminist scholarship apparent in Haraway’s work also contains terms like *hybrid*, *monster*, and *chimera*. These terms are at once more descriptive and less tethered to ontological inquiry. While “chimera-oriented ontology” may not be a term worth pursuing, I prefer the term *chimera* in place of object, unit, actant, thing, etc. Haraway’s *chimera* encompasses several aims of OOO, and can transport them into various conversations more usefully and accessibly. “We are all chimeras, theorized and fabricated hybrids of machine and organism” (4). In Haraway’s ontology, gaps between human and nonhuman, nature and culture, mind and body are bridged in an attempt to not only overthrow the Modernist machinery, but “for pleasure in the confusion of boundaries and for responsibility in their construction” (4). While Haraway’s model suffers an occasional fixation on joining the fundamentally

distinct entities of nature and culture and therefore falling into what Latour calls “seeing double,” an error of both moderns and postmoderns, her chimera offers an unique alternative to thing, object, etc., illuminating power structures and systems, embracing disorder, and utilizing language that carries less philosophical baggage.

The *chimera* shares many similarities with actants, things, objects, and units. It can be material, imaginary, organic, human, nonhuman, etc. It need not be confined to strict categorical definition, especially echoing Bogost’s concerns of “concreteness.” Yet the flexibility and inclusivity of this term should be wary of Harman’s anything-goes approach, in which even relations between objects are objects themselves. Chimeras are identifiable and relatively stable entities capable of interaction with others. By “stable,” I do not mean static, however. Instead, I call on Bryant’s notion of *virtual proper being*, which he describes as an object’s “self-othering substantiality, its being as a substance, or its being as a (more or less) enduring unity” (88). Yet this “endurance” need not—and indeed, must not—be permanent or even long lasting. Just as relations between chimeras are fluid and always changing, their distinct virtual proper being is likewise subject to constant change. Žižek’s “parallax object” bears some noteworthy resemblance to virtual proper being. Interrogating the question of appearance and reality, Žižek argues that there is only an *apparent* gap between appearance and reality; appearance *is* reality, and thus subject to shifting perspectives:

at its most radical the object is that which objects, that which disturbs the smooth running of things. Thus the paradox is that the roles are reversed (in terms of the standard notion of the active subject working on the passive object); the subject is defined by a fundamental passivity, and it is the object from which movement comes. (17-18)

While Zizek here mistakenly distinguishes the subject from object, he usefully gestures toward a flat ontology in which both stability and fluctuation are not only possible but necessary.

Karen Barad offers noteworthy counterpoint to the chimera I am describing, and indeed to *any* ontology that presumes distinct entities (objects, things, units, actants, etc.). Barad critiques the notion of “interaction” on the grounds that it “assumes that there are separate individual agencies that precede their interaction, the notion of intra-action recognizes that distinct agencies do not precede, but rather emerge through, their intra-action” (33). In other words, for Barad, objects or things or chimeras do not exist independently of their relations, but instead are a result of such relations. If we take Barad’s assertion seriously here, how is an object-oriented investigation to even begin in the absence of distinct entities? This split with agential realism is not fatal, however, for there is much to borrow from Barad, namely her close examinations of material-discursive formations and performativity.

Like Latour’s actants, chimeras are irreducible to other chimeras, and like Bryant’s objects, neither are they reducible their own qualities. Chimeras are messy, difficult to place within boundaries; they are *dirty*. While one may pursue reduction, as Latour notes, “work is required to do so.” As a kind of fail-safe against reductionism, we can again call on Bryant, who helpfully distinguishes between *possessing* qualities and *doing* qualities. “The blueness of the mug is not a quality that the mug *has* but something the mug *does*. It is an *activity* on the part of the mug...The mug does not have *blue* power, but rather coloring power. If this is the case, then it is because the mug always has the power to produce a broader range of colors than the shade it produces at any given

time” (90). While this may at first seem strange even to those familiar with OOO, we might remember Latour’s description of actors as highly specific *events*, and “everything happens only once, and at one place” (162). Likewise, while chimeras do maintain virtual proper being, that being tends toward rapid mutation and entropy based on their networked relations at a given moment. Their realities, perspectives, experiences, and sense of being are, to borrow again from Latour, not predetermined, but improvised and articulated after-the-fact: “How something holds together is determined on the field of battle...harmony is *postestablished* locally through tinkering” (164).

Next, while they do engage in relations with others, chimeras are never *fully* deployed into the world. Chimeras always reserve, or withdraw from complete communion with other chimeras. Harman holds a relatively radical position on withdrawal, and posits that objects are infinitely withdrawn from one another, “the objects in an event are somehow always elsewhere, in a site divorced from all relations” (76). He admits that objects do sometimes affect one another (he calls these “foreign relations”), but like reduction, it “requires work,” far less work than the relations among the elements *within* an object (“domestic relations,” or those relations that, if severed, would result in the non-being of the object). Harman’s distinctions seem contradictory, given his allegiance to Latour’s commandment of irreducibility. At best, Harman uses these terms as a result of how much “work” he is willing to exert in reducing objects to external relations versus internal elements.

The opposite argument is equally dangerous, however, and Barad becomes something of a polar opposite of Harman in this respect. Following quantum physicist James Cushing, Barad allows for an ontology, which she calls “agential realism,” in

which “‘distinct’ agencies are only distinct in a relational, not an absolute, sense, that is, *agencies are only distinct in relation to their mutual entanglement; they don’t exist as individual elements*” (33, Barad’s italics). While in her book, *Meeting the World Halfway*, Barad defensively deflects accusations (real or anticipated) of linguistic monism pointed at performativity, much of her theory depends precisely on a kind of monism. For instance, *interaction* does not fit in Barad’s ontology. Rather, she uses *intra-activity* because of her perceived lack of separate entities: “phenomena—the smallest material units (relational ‘atoms’)—come to matter through this process of ongoing intra-activity” (151). Further, by reducing all things to phenomena or matter, the principle of irreducibility no longer applies to ontological inquiry. While Barad’s work is useful in many ways, especially her term *entanglements* and her critique of the semiotic turn, monism pulls the proverbial rug from underneath ontological undertakings positioned within the humanities. That is, while a monist approach likely works in the so-called “hard” sciences, wherein quantum physics is at least popular, at most accepted equally, a jump from hard-line correlationism and modernism to “everything is made of the same thing” seems highly unlikely.

The middle ground I am claiming here is suggestive again of Bryant’s influence on dirty ontology. Bryant reworks Harman’s “domestic relations” and “foreign relations” as “endo-relations” and “exo-relations,” respectively, in order to emphasize the importance of both distinct entities in-themselves and relations between distinct entities. “Endo-relations constitute the internal structure of objects independent of all other objects, while exo-relations are relations that objects enter into with other objects. Were objects constituted by their exo-relations to other objects, the being would be frozen and

nothing would be capable of movement or change” (68). Drawing from Deluze’s conception of multiplicity, Bryant’s endo-relations allow us to “think the *internal structure* of a space without reference to a *global embedding space*” (107). Exo-relations are also important, of course; Bryant nods to Latour’s notion that actants are defined and realized through “trials of strength” with other actants, but again warns that the “being of a substance in its substantiality is something other than those exo-relations” (107).

Access and Opacity

To what extent, then, do chimeras have access to one another? The answer to this question likely depends upon one’s ontological framework. In *Reassembling the Social*, Latour makes use of “flatness” largely as a metaphor of a topographical landscape upon which “[the] full cost of every connection [between actants] is now entirely payable. If a site wants to influence another site, it has to levy the means...Actors have become *accountable*” (174). In other words, the flattening of landscapes on which actors exist and interact ensures that we can observe what he calls “translation,” or the work of tracing interactions between actants. His use of spatial metaphor continues predictably as he refers to mapping territories traversed by actants, holding them accountable to a kind of transparency in translation at both local and global levels.

In other words, for Latour, flattening is a kind of prerequisite for the study of objects and relations, a metaphorical shifting of space so that the method of tracing relations avoids granting unnecessary hierarchical status (or superpowers of time/space travel, if you will) to actants. That said, however, Latour is careful to mention, “this flattening does not mean that the world of the actors themselves has been flattened out. Quite the contrary, they have been given enough space to deploy their own contradictory

gerunds...the metaphor of a flatland was simply a way for the ANT observers to clearly distinguish their job from the labor of those they follow around...It is only by making flatness the default position of the observer that the activity necessary to generate some difference in size can be detected and registered” (220). Again, we see that flatness is merely a metaphor to be employed by the ANT/OOO practitioner.

As a way to transition to Bogost’s reading and objections to the “flat” metaphor, we can revisit another passage from *Reassembling the Social*, “But if something is allowed to be ‘inside’ something else, then the third dimension of society is added and the whole of Merlin’s castle pops up out of the lake. To stop this magic, we have to make sure that no extra dimension will be added. To do so we have to invent a series of *clamps* to hold the landscape firmly flat.” (174). While Bogost avoids adding a dimension to the ontological landscape, he does veer away from the flatness metaphor by performing the kind of magic Latour warns against. Specifically, Bogost departs from the “flat” metaphor (as well as Law’s “mess”) due to his objection with the two-dimensional map metaphor employed by Latour. Bogost first claims that Latour’s metaphor does not allow for interactions “within the being of a thing,” which might also be answered by Levi Bryant’s “endo-relations” or Harman’s “domestic relations” (another example of different OOO metaphors close in meaning), and second, accuses the “network” metaphor itself “an overly normalized structure, one driven by order and predefinition” (19).

Bogost’s “tiny” ontology attempts to account for these internal relations by imagining complex, inner lives of objects that are, like Dr. Who’s “Tardis,” are perhaps larger inside than out. Bogost also accuses flat ontology of ignoring “hierarchy of being”

in that “being itself is an object no different from any other” (22). Tiny ontology, according to Bogost, allows us to examine translation and withdrawal not only between objects, but within. While Bogost’s tiny ontology does hold promise by understanding the “insides” of objects as often larger than their “outsides,” a careful reading of Bryant yields very similar results, only better articulated by Bryant’s distinction between endo- and exo-relations. Even less satisfying, though, is Bogost’s dismissal of Law’s “messy” methodology based solely on the relativity of the concept of “mess.” Specifically, Bogost argues that the concept of “mess” as a kind of dis-order, is rooted in human conceptions of order. Yet evident in the work of Haraway as well as glitch theory scholars and artists, confusion, malfunction, and noise are not only useful as tools and ontological features, they are *necessary* and do extend beyond human definitions of functionality.

As such, I offer a new alternative to flat, tiny, and messy: dirty ontology. You will remember that a central feature of glitch studies as well as dirty new media art, is the observation that noise and malfunction are as important and present within networks as signal and function. A dirty ontology, then, incorporates the spheres of OOO and glitch/DNM into an ontological model. Like Latour, Bryant, Harman, Bogost, Law, and others, dirty ontology dismisses *a priori* ontological hierarchies while not ignoring power. In Bogost’s oft-quoted words, “all objects equally exist, yet they do not exist equally” (11). Whether one wishes to think of ontology as a point or a 2- or 3-dimensional plane is irrelevant to dirty ontology, however. The importance (and novelty) of dirty ontology is its attention not only to the activities, alliances, and translations between chimeras, but also to the malfunction, dissonance, and distortion present but often either obscured or dismissed as meaningless noise. Equally important to an object-

oriented, dirty ontology is the degree to which chimeras and their various relations are visible, obscured, or invisible altogether. Opacity of knowledges and technologies is a widespread concern, from glitch and DNM to the history of authorship, rhetoric, and composition.

I have already discussed the importance of opacity to DNM practitioners, but want to make more connections with this concept, especially to composition. Several composition scholars have noted the historical (and present) invisible dominance of print culture. Marlon Ross comments on the “false authority” achieved via accessibility and legibility when authors utilize print as a medium. Mark Rose echoes the longstanding observation that writing technologies, and the hidden legitimacy of print, had as significant impact on emergent permission culture as social or philosophical factors. Indeed, the almost immediate dominance of print’s emergent *materiality* paradoxically led to its own *amateriality*, or black-boxed-ness. Susan Adams Delaney similarly indicts print culture’s invisibility, but extends the critique to language itself: “language is always in use and therefore creates effects; language pinned to the entomologist’s specimen board—as it is in so many writing handbooks—is no longer language at all” (36). Anne Wysocki also stresses the importance of exposing materialities of production and interaction via her own definition of new media:

Because I believe we ought to strive to be alert to the varied materialities of our texts...I desire to define (finally) new media differently from how the term has been defined in other places. I think we should call “new media texts” those that have been made by composer who are aware of the range of materialities of texts and who then highlight the materiality...[helping] readers/consumers/viewers stay alert to how any text—like its composers and readers—doesn’t function independently of how it is made and in what contexts” (15).

Here, Wysocki helpfully broadens the scope of what a “text” can be while encouraging more thoughtful and critical production and consumption of them.

The relative openness of contemporary rhetoric and composition to art, music, and other fields in the pursuit of interdisciplinarity makes projects such as mine possible. No longer is calling on John Cage, for instance, deviating from acceptable practice. For this reason, my view of textual opacity and materiality extends far beyond the scope of rhetoric and composition. Cage’s work with the prepared piano, silence, and attention to the “activity of sounds” is highly influential, as is Alexei Kruchenykh’s transrational language *zaum*, as is Duchamp’s (and other Dadaists) work with found objects situated in traditional artspace. We may also call on George Maciunas and the Fluxus movement, the prepared guitar work of Keith Rowe, the early new media video work of Phil Morton, the cut-up method of Gysin and Burroughs, and countless others. These voices combine to ask very carefully what Wysocki values so highly: “what are the black boxes in our respective creative practices, and how might we open them, exploit them, and make them visible in our work?” (55).

(dirty) Composition and Non-Modern Authorship

As a composition scholar and artist, I am often drawn back to the very old question of authorship. How then, can I combine these terms, fields, ideas, and philosophies to contribute to the question of authorship? In the closing pages, I will provide a brief review of authorship theory, and suggest ways that dirty ontology fills the voids remaining in what Geoffrey Sirc calls “the dry modernist enterprise of college writing (formal, autonomous, univocal, meaning-driven)” (4).

Most accounts of (Western) authorship begin with Plato's metaphor of the loadstone and magnetic rings. In many ways, this model of authorship has retained its strength. For Plato, the loadstone is the source of power (in this case, magnetism) that is passed through rings, much like creative/artistic power of originates with the gods and is transmitted via *inspiration* (literally, "breathe into") to worthy human vessels. These inspiration-based ideas of composition continue throughout the ancient and medieval landscape, reinforced by cultural access to literacies and textual production. Yet as technology advanced, access and production became paradoxically more restrictive, first as a means to hold potentially subversive voices accountable for slanderous remarks against the powers-that-be, later as a means to protect the financial interests of those profiting from textual production and dispersal.

Andrew Bennett's account of perhaps the most commented upon and reviled movement in terms of authorship, Romanticism, reveals that "the Romantics...both inaugurated a certain sense of authorship and, at the same time, in the very same breath, announced the author's imminent demise...the idea of the author as originator and genius, as fully intentional, fully sentient source of the literary text, as authority for a limitation on the 'proliferating' meanings of the text..." (57). Indeed, most accounts of the birth of the author (namely Barthes, Foucault, and Eliot) point to the Romantics. Contemporary authorship theory scholars make similar moves, though increasingly, authorship may be rooted in the early modern period with the emergence of copyright. Rebecca Moore Howard locates the author's birth in relation to the printing press (and its accompanying powers/financial interests), while Lessig's account of permission culture likewise traces contemporary authorship and its legal ramifications to this technological

shift, a move McLuhan would certainly approve of. The crux of Romantic authorship was, of course, a sense of an individual, transcendental self, capable of original genius (Bennett). Hawk has recently done similar work, disconnecting Coleridge and vitalism from mainstream Romanticism and its notorious sense of genius authorship. Similar work could be done following Yeats, who remarked (in 1937—his “modernist years!”) that “[the poet] is never the bundle of accidents and incoherence that sits down to breakfast; he has been re-born as an idea, something intended, completed: the writer is ‘part of his own phantasmagoria’” (204). Likewise, in her examination of literary work vis-à-vis drugs, Sadie Plant discusses the creative philosophy of Robert Louis Stevenson. Stevenson, when referring to authorship, confessed of his “relationship with entities he (problematically) called the “Little People,” or “Brownies,” the characters who, he said, wrote his plots and dreamed his scenes for him. They have ‘more talent’ than the author” (70). Indeed, the deeper one delves into the supposed evidence of Romantic authorship so quickly blamed for what I suspect is actually Modernism’s issue, the more the Romantics resemble Hawk’s vitalism, new materialism, and object-oriented ontology.

The next phase(s) of authorship is surely familiar to my readers, so I will be brief. Eliot famously conceives of the author as a self-sacrificing extension of tradition, something of a proto-remix artist. Barthes announced the death of the author, granting powers of interpretation and meaning-making to audiences. Foucault expands on the death of the author, arguing that the author is in fact a discursive function. Most contemporary authorship theory, extending the “big three” of Eliot, Barthes, and Foucault, revolves around the concept of “remix culture,” especially including the work of Johndan Johnson-Eiola and Stuart Selber. Adam Banks interrogates the “culture that

gave us the remix,” using the griot as a metaphor for the culturally-situated composer/remixer (2). Jason Palmeri advocates for increased attention to the multimodal nature of composition and as such, advocates for explicit theoretical and pedagogical approaches rooted in remix. Geoffrey Sirc also finds value in the act of remix (especially as envisioned through early 20th century avant-garde practices such as montage/collage). This list could go on for a very long time, of course. In fact, it’s difficult to *avoid* the remix, either as a metaphor or pedagogical strategy in contemporary composition scholarship. Yet the construction of remix is in many ways a kind of pluralist modernism; that is, remix theory and practice hinge on the cultural exchange of media *objects* between human *subjects*. Therefore, a non-modern conception of authorship must be wary of remix’s admitted appeal, and instead engage rhetoric, composition, and authorship as events within complex and networked systems, consisting of multiple agential chimeras of both the human and nonhuman variety.

Of Carpenters and Composer/Artists

“[C]arpentry entails making things that explain how things make their world work.”
(Ian Bogost, 2012)

In the chapter of *Alien Phenomenology* titled “Carpentry,” Bogost undertakes an inspiring—if ambitious—critique of writing, or as he calls it, a “semiotic obsession” as the arbitrarily dominant means of legitimate production in academia (91). Bogost offers an alternative, however, and calls it “carpentry...the practice of constructing artifacts as a philosophical practice” (92). The meaningfulness of carpentry to Bogost seems to lie both in its ability to cope with materiality (rather than mere concepts, a pursuit steeped in correlationist tradition) and its ability to show the ways that materials shape one another in very direct ways. In this chapter, Bogost discusses his own practice of carpentry,

including video games and programs such as the *Latour Litanizer* that enact Bogost's own philosophical approaches.

Yet Bogost differentiates carpentry from tools and art by pointing out that “philosophical carpentry *is built with philosophy in mind*...it's first constructed as a theory, or an experiment, or a question—one that can be operated” (100). Here, Bogost reveals a significant shortcoming in either his understanding of art traditions and movements (see chapter two for extended examples of art that is both operated *and* driven by philosophy/theory) or his imagination in applying ontographic inquiry to creative pursuits other than his own. Darius Kazemi wrote of his own dissatisfaction with Bogost's dismissal of art as distinct from carpentry. Further, Kazemi points out the glaring irony of Bogost making such differentiations based on what is intended, or “in mind” on the part of human carpenters. I cannot agree with Kazemi more on these points, and I suspect he was as dissatisfied with Bogost's follow-up to this question in a later blog post. Bogost writes,

1. Anytime art comes up we have a problem, because the twentieth century made it such that anything can be art, whether you or I like it or not. So in that sense, I guess Darius is right.
2. Carpentry is a perspective on creative work that asks philosophical questions. Or differently put, carpentry is what you call it when matter (including art, why not) is used (at least) but especially fashioned for philosophical use.
3. Carpentry is the process of making things that help philosophers (which is just to say, lovers of wisdom) pursue arguments and questions, not just illustrations of ideas that "really" live in the discursive realm.
4. Carpentry it's not "just" art because it participates in the practice of philosophy, just like a surgeon's scalpel isn't art because it participates in the practice of medicine.
5. The above notwithstanding, carpentry surely also has other uses and interpretations beyond the ones I originally conceived. (Carpentry Vs. Art: What's the Difference)

Bogost adds little if anything to the conversation here (though he admits that he suspects few will be satisfied with these answers, and there was “more to come”), so I will end this chapter with an attempt to bridge OOO and art in a way Bogost seems either incapable or unwilling.

The following chapter will begin to define this bridge as *Object-Oriented ΔArt* (OOΔ), and draws from OOO, glitch, DNM, circuit-bending, dada, zaum, and others I have discussed here. I will begin with a kind of OOΔ manifesto, then illustrate with several projects I have undertaken as an artist that perform the theory and practices I have advocated for in this disquisition to this point. I will, in other words, attempt to explicitly perform the part of the chimera in a dirty ontology, resisting technoRhetorical opacity, enacting violence on the materials of other chimeras.

The dirty, nonModern composer is a chimera; she is a multiplicity of materials, experiences, subjectivities, relationships, technologies, tools, ecologies... *ad infinitum*. Her work involves much more than converting ideas into products via opaque methods of production. Though she has significant advantages when compared to her inscription technologies (high-level consciousness, for example) she is neither a master of methods and tools nor naively seated as the lone genius author like so many of her predecessors. She realizes her situatedness in chimeric networks, and approaches each of her would-be collaborators with both suspicion and respect, for they will constrain, enable, obscure, reveal, resist, object, and submit (sometimes all at once) to her creative desires.

Maybe calling our heroine a composer at all is both misleading and unfair. Perhaps instead we might think of her as carrying on avant-garde traditions mentioned in chapter two. Yes, perhaps we might reapproach our heroine, ourselves, and our students

not as master-composers, but as artists. Artists who must understand not only their rhetorical goals, citation styles, the finer points of research, and so on, but also their medium and the ways that their materials will impact their works. Like Caravaggio, she touches her materials and her materials touch back, and composing becomes a dialogic interplay, a noisy improvisation where all are invited to join the chorus.

CHAPTER FOUR: OBJECT-ORIENTED ART

“Perhaps an object-oriented art would explore the struggles and conflicts that emerge between these differently scaled objects, even when embedded within one another.”
(Levi Bryant, 2010)

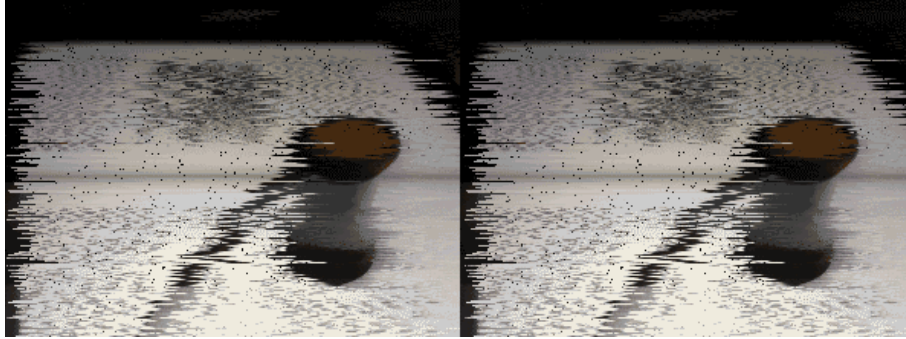


Figure 57. Steven Hammer, "Coilpup," Animated GIF, 2013.

Introduction

In this chapter, I present a collection of writings that perform, reflect upon, and/or continue to theorize dirty ontology/dirty composition. As you will remember from the last chapter, I advocate for a model of composition that frames [chimeras formerly known as] composers as artists, aware of their collaborators, material contexts, and so on. I call this model of approach-practice *OBJECT-ORIENTED ART (OOA)*. First, I will present an OOA manifesto, then I will revisit three recent projects I have undertaken in an attempt to perform OOA in both academic and artistic contexts.

OOA Manifesto

Object-Oriented Art [OOA], [first coined by Clay Shirky](#) in reference to object-oriented programming, draws from object-oriented ontology, glitch, and dirty new media, OOA seeks to create, articulate, and understand a variety of artworks from a nonhumanist, nonmodernist, post-remix perspective. The conceptualization, composition,

is an extension of the foot, the computer an extension of the central nervous system, and so on. Similarly, our ability to listen from afar and catalog sonic phenomena, minimizing limitations of space and time, respectively, has undoubtedly changed our relationship with our new, electronic “ears” as well as the phenomenon of sound itself. This project employs contact microphone field recordings of high-mast lighting poles to illustrate how sound is created and experienced by complex networks of (human and nonhuman) actants.

Sonic Phenomenologies

First, how can we conceptualize our relationship with technologies, if they are indeed metaphorical extensions of ourselves? This is one of the considerations of posthuman and glitch art, and certainly a question inherent in object-oriented ontology and speculative realism. Are humans and nonhumans, as Bruno Latour, Graham Harman, and others suggest, on equal ontological footing? Any serious examination of sonic phenomena would yield a resounding “yes!” Sound is the sensory phenomena which perhaps best illustrates object-oriented analysis, as it is precisely the result of objects (human and nonhuman alike) colliding, vibrating, and moving in relation to one another. In other words, exploration of sonic phenomena reinforces that sound transcends anthropocentric models of both ontology (being) and phenomenology (experiencing). Our relationships with objects, then, whether they are tools by which we gather and record data or the sources of data themselves, are more complex than the philosophies we have inherited from the Modernists. Indeed, if we take object-oriented listening seriously, we must disrupt the long-standing model of humanist composition; we must resign from our

position as colonial masters (however benevolent we might imagine ourselves) and understand composition and creation as a collaborative, if not postcolonial act.

This group of recordings is a gesture toward such an approach to sonic composition. Instead of gathering sonic phenomena using instruments that reproduces and extends the sonic epistemology of the human ear (i.e., via air vibrations), I used a contact microphone to hear from the perspective of a high-mast lighting pole near Interstate Highway 94 in Fargo, ND, USA. Contact microphones, unlike commonly used condenser or dynamic microphones, listen and relay sounds transmitted through vibrations in solid objects. In this way, sound can be understood from an alternate phenomenology, one experienced by an object in very real ways. It is important here to pause and caution readers of a common misreading of object-oriented philosophers and actor network theorists, namely that we somehow diminish the relative power and agency of the human being and either dehumanize humans or humanize nonhumans. The human, like the colonial force, is indeed powerful and influential, and in many cases the creator of the myriad other objects in question. The object-oriented task is concerned primarily with the “flattening” of *ontology*, not assumed equity in terms of agency or consciousness. Evoking the language of postcolonial theory here is not an attempt to draw attention to the likeness of nonhumans to humans, but to articulate the problematic aspects of current authorship models.

The Sounds of Hearing

Second, these recordings highlight the many ears through which contemporary listeners hear. While most recording technologies have sought to minimize their own presence as a way to present a somehow truer, more objective representation of

phenomena, I instead chose to present sound that calls attention to itself and its production. In other words, I have called attention to the layers of interpretation (human and nonhuman) embedded in a sonic experience. I argue that any sound recording/performance experience is heavily interpreted through a network of actors, despite attempts to mute those layers. When that muting fails, the result is typically called “noise,” a sonic feature that one must endure to hear the “true” recording, the real content. Yet instead of listening around the noise of these recordings, try to consider what glitch theory artists and scholars have suggested: think of the noise/glitch not as a flaw, but as an aesthetic feature.

This group of recordings contains several levels of what I’ll refer to as *interpretation*, which simply refers to the way in which objects/actants receive alien data and transmit the same data in a similar yet distinguishable way. (For instance, consider the way that applying a distortion effect to an incoming guitar signal receives then changes, or interprets that signal) First, we must consider the human actant. I chose equipment, time, and location (my collaborators, if you will). I manipulated physical materials to make the recordings possible. While I am not an audibly apparent layer of the recordings, we must not understate the relatively powerful position of humans in object-oriented approaches or inquiries. Second, consider the primary (or intended) sound source, which is actually a complex network of actants in itself, as sound necessarily results from the convergence of multiple actants. The sounds we experience in these recordings result from a) automobile tires making contact with the highway near the high-mast lighting pole, b) wind moving the high-mast lighting pole, c) the movement of the pole in relation to its concrete base, d) the (small) movement of the contact

microphone attached via putty to the pole, e) the notoriously noisy XLR input of the Marantz PMD-222 cassette field recorder, and f) the low-quality medium of recording: a Type I cassette tape.

The sounds of these recordings, therefore, are the result of a highly complex network of actants in motion and collision with and against one another. The sounds are heavily interpreted, processed, and filtered through these various alliances. These recordings are a documentation of sonic object-oriented events, happenings; it is the premeditated memoir of networked actants. Yet the memoir fails to call on the sonic memories and sensibilities of anthropocentric phenomenology. Instead, it calls on the *many* ears and alien phenomenologies through which sonic events occur.

Weird Ears: Exploring the Induction Coil Tap (2013)

From a human perspective, sound is the perceptible result of the compression and rarefaction of particles transmitted through a medium such as air, water, or solid objects. But like other technologies, the human ear has both capacities and limitations, including a rather limited range of perception, typically between 20 Hz and 20,000 Hz. While acoustic sounds below 20 Hz (infrasound) and above 20,000 Hz (hypersound) are not perceptible to our ears, they have very real effects on our bodies, including awe, fear, and even vibroacoustic disease. According to most definitions, then, sound is any vibratory phenomenon that can be sensed by humans and animals with typical hearing abilities. But we also know the world—or perhaps more fittingly, the *universe*—of sound is much larger and more significant than the vibratory phenomena received and interpreted by appropriately equipped organisms. That is, there are other ways of “hearing” otherwise silent vibrations. Ham radio operators—and more recently, NASA—are privy to some of

these sounds, in the form of electromagnetic waves. NASA released audio recordings from their twin Radiation Belt Storm Probes, revealing vibrant sonic activity emanating from Earth. The sounds, according to University of Iowa researcher Craig Kletzing, are what the radiation belt would sound like if humans had “radio antennas for ears” (Phillips).

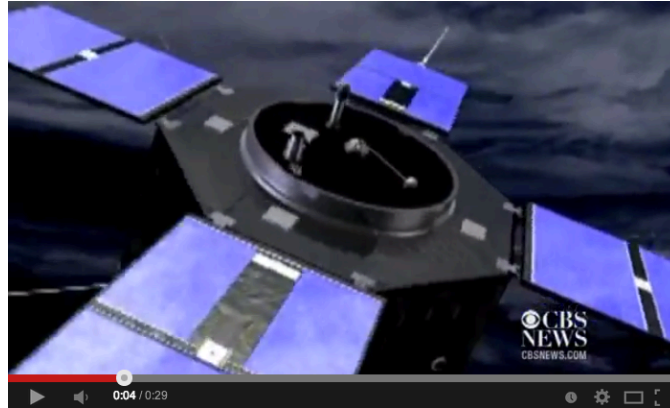


Figure 59. Screenshot of "Space Chorus." Click image for video.

As it happens, humans have been experimenting with what we might call *weird* ears for more than a century. Douglas Kahn’s new book, *Earth Sound Earth Signal*, recounts the first instance of weird hearing when Thomas Watson, the assistant of Alexander Graham Bell, began hearing environmental energies, or “natural radio” through early telephone lines in about 1876 (Kahn). Late at night, Watson heard the snaps, whistles, and hisses caused by electromagnetic energy, made possible by the newly developed telephone and telephone line, acting as a large induction system. The principles of induction have since taken many forms, of course, ranging from electric guitar pickups to automotive cruise control mechanisms. This article focuses on one such application, the induction coil tap.

Decades after Watson surveilled the natural soundscapes, telephone communication rapidly proliferated as the communication technology of choice in the United States, and people began to use principles of induction to conduct a different kind of surveillance. Induction coil pickups became widely available to both professional and amateur snoops alike as a means to noninvasively monitor and record telephone conversations. The induction coil pickup (a.k.a., telephone pickup, coil pickup microphone) is a relatively simple device, usually consisting of magnetic wire wrapped around an iron or ferrite core, connected to an audio plug. When connected to an audio recorder or headphones, the induction coil pickup becomes a kind of electromagnetic stethoscope, detecting the magnetic field produced by the telephone, and translating (or transducing) that energy into acoustic waves detectible by humans.

The induction coil pickup was produced and sold by various electronics companies such as General Electric, Panasonic, Olympus and more, and were sometimes sold with tape recorders. In the mid-1950's, the induction coil tap received heightened attention among U.S. media. Some articles, such as "How to Tap a Phone" featured in the March 1957 issue of *Mechanix Illustrated* (see figure below), were instructional in nature, despite their warnings that most means of wiretapping were, in fact, illegal.



Figure 60. Screenshot of Tony Karp's "How to Tap a Phone," in *Mechanix Illustrated*, March 1951.

Most articles, however, addressed the induction coil pickup and other means of surveillance in terms of caution and paranoia. A 1955 article in *Collier's* magazine asked in its title "Who *Else* is Listening?" and instructed the public in various counter surveillance techniques (figure 2, below) based on the firsthand experiences of author and former wiretapper Bernard B. Spindel.

Rep. Celler (right), shown with author Spindel, heads House group working on anti-wiretap laws.



Figure 61. Screenshot of "Who *Else* is Listening?" 1955.

Spindel describes the induction coil as “another nearly undetectable device,” and suggests that readers seek payphones next to neon signs, because the transformer from the neon sign “emits enough electronic noise to drown out any conversation...picked up by an induction coil.”

A decade later, the induction coil pickup was still receiving press as a reminder of the way “the Government’s nasty, nervous habit of spying on itself with telephone taps and hidden microphones has encouraged a nationwide invasion of privacy” (Bagdikian). This quotation, taken from the appropriately titled article “Big Brother is Listening” from the June 6 issue of the *Saturday Evening Post*, echoes the continuously recurring anxieties of privacy that remain relevant with the recent release of Apple’s new iOS7. Bagdikian reported that the U.S. military had been using induction coils as a means of internal telephone monitoring as early as 1938, and that by 1946, the Army and Navy had more than 5,700 taps in place. In fact, Bagdikian warns, if a citizen of the 1960’s were to

place a call to a Washington official “of more than middling importance – or if he calls you – the odds are disturbingly high that a third person is listening in.”



An expert holds a small microphone that can be hidden behind a telephone mouthpiece.

Figure 62. Screenshot of "Big Brother is Listening."

Numerous other popular articles from the 1950's-1970's feature the induction coil pickup as an illustration of mounting anxieties over governmental and private surveillance and communications privacy, including Popular Science's 1965 article "Are They Listening in on You?" and Time Magazine's March 1964 article "Bug Thy Neighbor." The induction coil pickup had taken on a new persona since Watson's listening sessions. No longer was induction a means of listening quietly to the hidden sounds of nature or to develop new communicative technologies; induction instead became a means of exploiting the vulnerabilities of such technologies via surveillance, recording, and archiving of telephone communications.

Yet like Watson, people discovered that the induction coil pickup did more than simply monitor telephone conversations. Because it doesn't discriminate between electromagnetic energy, the pickup was able to detect and sonify an increasingly wide

range of electromagnetic phenomena, and in this way, it became a peculiar instrument by which to listen in on the energies pulsing through our developing urban infrastructures. In an unlikely return to the curiosity of Watson, German sound artist Christina Kubisch discovered the incredible potential of induction coil pickups as exploratory devices in the late 1970's. Kubisch observed that electromagnetic fields “surround us in nearly every part of the world—places free of electromagnetic waves can nowadays only be found in very remote places” (Christina Kubisch). Though this statement is only partly true due to the abundance of “natural” radio especially evident in such remote places, evidenced by Watson's discovery, Kubisch saw an artistic opportunity in the artificial electromagnetic soundscapes hidden from unaided human perception.

In 2003, Kubisch began her “Electrical Walk” installations, in which listeners wear induction coil equipped headphones (figure 4) to discover these hidden sonic environments. Kubisch created electrical walk maps for listeners to follow in several cities, including Cologne, Berlin and New York. Listeners encounter their environments in very new, strange ways, and in many ways, appear to be experiencing very ordinary objects with alien ears (figures 5 and 6).



Figure 63. Christina Kubisch wears her specially designed Electrical Walk headphones. Courtesy Christina Kubisch.



Figure 64. Electrical Walk participant listens to LED sign. Courtesy Christina Kubisch.



Figure 65. Kubisch discusses and demonstrates Electrical Walk. Courtesy Christina Kubisch. (Click image to open video in browser.)

UK-based sound artist Jez Riley French also uses induction coil pickups in his work, which “seeks to capture an emotive impression of our surroundings, playfully seeking to restate elements that we filter out and overlook in our daily lives. Key to this process is a desire to retain the intimacy of detail and discovery” (French). French’s use of the induction coil pickup as a means to explore sounds hidden in plain sight (to borrow a visually-oriented expression) echoes Kubisch’s work, and also intersects peripherally with Chicago-based dirty new media art (DNM), with which I am affiliated as an artist and scholar. First coined by Jon Cates, DNM likewise seeks to reveal hidden technological environments: “Technology is a field typically associated with smooth screens, organized interfaces, and on a larger scale, with the pride and “progress” of Western civilization. Dirty New Media, a branch of New Media Art, seeks to subvert these unquestioned assumptions by problematizing, rather than idealizing, common technologies.” One goal, then, of DNM works, is to engage with technological

environments in a deeper, more critical way, one that actively seeks what is obscured by “progress.” I have used induction coil pickups in recent DNM works as a way to experience technologies beyond their polished interfaces, as seen in the video below.



Figure 66. Hammer discusses his work with induction coil pickups. Courtesy ARTSpulse. (Click image to view video in browser)

In the work of Kubisch, French, and others, the induction coil pickup becomes a new set of *weird ears*, offering listeners a chance at surveilling the previously inaudible world around them. And while sound waves and electromagnetic waves do indeed possess distinctly different properties, the induction coil pickup teaches us that *sound* is a term relative to the mechanism of translation and interpretation. The typical human ear is a specific technology with preferences and biases toward certain kinds of energy; when combined or replaced with alternate hearing technologies like the induction coil pickup, sound is no longer limited to a 20-20,000 Hz spectrum of vibratory phenomena. Sound can now be found in the spaces once thought silent, within the sleekest and most

“advanced” technologies. And perhaps most radically, sound is no longer limited to that which can be immediately accessed by humans; after all, nonhuman objects experience and are affected by sound imperceptible to the unaided human ear. In sum, the induction coil pickup asks us to rethink what *sound* can be, and to whom.

By many definitions, *sound* only occurs as perceived by an entity capable of auditory perception (animals with ears) and reflection (humans), and thus the proverbial tree does not, in fact, make a sound. This is not to say that neither nor the tree nor its falling do not exist; instead, it places human perception at the center of the discussion of sound. Yet with new, inductive “ears,” how might we rethink the term *sound*? Regardless of whether or not we can redefine sound in one fell swoop, the induction coil pickup has served as a translator of the alien, a revealer of the hidden electromagnetic energies constructed by technological environments, and an instrument capable of probing the perceptory experiences of objects. In many ways, the induction coil pickup is an answer to Marshall McLuhan’s “message to the fish” in 1968:

One thing about which fish know exactly nothing is water, since they have no anti-environment which would enable them to perceive the element they live in... What fish are able to see bears a close analogy to that degree of awareness which all people have in relation to any new environment created by a new technology—just about zero... We have simply got to create anti-environments in order to know what we are and what we are doing. (War and Peace in the Global Village, 174-7)

Ambient ~~Movie~~: Curating the Glitch

Perhaps my most fruitful undertaking of 00Δ, titled *Ambient ~~Movie~~* (I will explain the title in a moment), was included in the My Generation, Let’s Take It Over: Emerging Artists of Fargo-Moorhead exhibition at the Plains Art Museum in Fargo, North Dakota from January 9 until April 6, 2014. The final iteration of *Ambient ~~Movie~~* consisted of:

- two televisions, one fully operational (on the right, below) and one that had been dropped, physically damaging the screen so that no discernable image was displayed;
- two DVD players, one fully functional (with the exception of a faulty digital video output jack) and one that, while functional at the time of installation, failed to read DVDs after a few weeks;
- one 12-input audio mixer;
- seven induction coil pickups (see the previous section for a full explanation of these devices), attached to the televisions and DVD players at points where internal operations became sonified;
- one seven-minute long scene from Andrei Tarkovsky's 1974 film *Solaris* that I datamoshed, burned to DVD, and played on both televisions.



Figure 67. Steven Hammer, Photographs of *Ambient Movie*, 2014.



Figure 68. Steven Hammer, Photographs of *Ambient Movie*, 2014.



Figure 69. Steven Hammer, "solaris666," Digital Video, 2013. (Click image to view video in browser)

The concept of *Ambient Movie* is twofold, though only one concept is apparent to museum visitors. Briefly, in the words of novelist Chuck Palahniuk's narrator in *Fight Club*, "I wanted to destroy something beautiful" (123). Andrei Tarkovsky's *Solaris* is, to me, something beautiful and pristine. It has been hailed by critics not only as conceptually successful, but also as sensually experiential. Roger Ebert calls Tarkovsky's films "more like environments than entertainments... He uses length and depth to slow us

down, to edge us out of the velocity of our lives, to enter a zone of reverie and meditation” (Ebert). I wanted to incorporate 00Δ principles of noise, alien-ness, and networked error-as-meaning, allowing visitors to experience cinema in a very strange way. You can read my artist statement (edited by the curators) as well as an interview with me about the exhibition below.

Steven Hammer

Ambient Movie, 2013

Length: 7 minutes

Two flat screen monitors, digital file, monitor, headphones

Loaned by the artist

Taking a critical approach to personal technologies of smart phones, tablets, and e-readers that have a regular presence in our lives, Steven Hammer delves below the surface of the touch screen to reveal a world of noise, distortion, and glitches. Despite the short time these technologies have existed, we accept them as a fundamental part of life. Hammer's work illuminates the hidden aspects of the sleek, intuitive interface of these hand-held devices to reveal how they distort our perception of what is stable in the technologies upon which we rely.

In Hammer's installation, a physically damaged screen presents the 1972 science fiction film, *Solaris*, by Andrei Tarkovsky, considered by many to be a film masterpiece. The other screen displays a series of animations that document the corruption of images from the movie. Hammer has replaced the original film soundtrack with sounds obtained entirely from the electronic devices in the installation, captured through highly-sensitive listening devices called coil pickup microphones. Drawing a parallel between the beauty of images of the film and beauty of the design of the screen that displays it, Hammer emphasizes our positive attitudes toward the screen itself and how these devices function in our lives.

Steven Hammer is a new media artist and a Ph.D. candidate in English at North Dakota State University, where he teaches and researches the impacts of emerging technologies on written composition and rhetoric.

Figure 70. Photograph of *Ambient Movie* artist statement.

Writing a weekly art feature in The High Plains Reader is a rewarding experience. I meet a lot of creative people and I feel like a contributing member to our art community. I've been writing for the Reader for nearly four months now and one of the most interesting events that I covered was the My Generation exhibit at The Plains Art Museum. The original article was published in January, but the show is up through April 6.

This piece stuck out in my mind mainly because the artists are all around my age (20's-mid thirties) and we all seemed to experience the onset of digital technology first hand. We acknowledged analog, learned our Roman numerals (I only mention Roman numerals because apparently the next generation no longer learns how to read roman numerals, cursive writing, or learn how to read a clock in school anymore-if there isn't an app is it no longer applicable?) and we experienced mass digitization first hand.

It's interesting to think that I can relate better to the technology my parents grew up with rather than the constantly evolving technology that my fourteen year old sister surrounds herself with-aren't generation gaps supposed to work the opposite way?

Steve Hammer was one of the artists involved with the My Generation exhibit, and I had the privilege to pick his brain about his art and the future of art and beyond.

HPR: How does the piece you submitted apply to the theme of "My Generation"- what was the inspiration behind your pieces?

Steven Hammer: My piece is especially concerned with emerging technologies and the way we (our generation, other generations) interact with them and think about them. Because of the rapid proliferation of new entertainment and communicative technologies, most of us don't pause to critique the ways that these "new and improved" technologies hide the way they operate, the ways that they shape our experiences and perspectives. I think that "my" generation is aware of these aspects of technology to some extent, but my work seeks to dig beyond interfaces, beyond functionality, into the noise beneath. Further, "my" generation kind of grew up with glitches—something my work is always concerned with—from dusty Nintendo cartridges to dying batteries in toys. We know what glitches look like and in many ways, they're nostalgic.

HPR: Technology can have both positive and negative effects... What do you think the pros are of being an artist in this generation as opposed to the last generation and vice versa?

Steven Hammer: In many ways, my work with glitch and dirty new media art could only take place in fairly recent history, as technologies have become simultaneously everywhere and nowhere. That is, most of the technologies upon which we rely—and I'm generalizing here, not everyone relies on technologies equally—did not exist 30, 20, or even 10 years ago. And yet they are now so ubiquitous due to easier means of production and distribution. Yet paradoxically,

these technologies, under the guise of “user friendliness” and “intuitiveness,” are so reliant upon presets, limits, and forced “upgrade” culture, are much less visible to us. We don’t see underneath the interface. We don’t see how they are built not to empower us via technological advancement, but rather to keep us in loops of planned obsolescence and consumer culture.

HPR: What artists living or dead inspire you?

Steven Hammer: John Cage. Rosa Menkman. Nick Briz. Jon Satoru. Jon Cates. Alejandro Jodorowski. David Lynch.

HPR: Did you receive a formal art education if so where?

Steven Hammer: No, though I’ve been able to do a wide range of artistic work as a Ph.D. student in the English Department at NDSU. They really encourage and embrace research and teaching that incorporates artistic theory and practice. I’ve also been able to learn from and work with folks like Kris Groberg and Michael Strand, who have been really gracious and helpful.

HPR: What medium do you work with?

Steven Hammer: I work with electronic and digital media, from digital sound/image/movie files to modified hardware, like old toy keyboards. I work with anything that can (and should) be hacked, misused, and/or reused.

HPR: This is a super broad question-I apologize in advance) What are your expectations for the future-as an artist and beyond?

Steven Hammer: That is a tough question. Do you mean the future in general, or my future? I’m not sure I have an answer for either... I have hopes, of course... As an artist, I hope to thrive wherever I land—I’m finishing my PhD this year and am interviewing for a few tenure-track teaching jobs. I hope to continue my art/scholarship, and to keep combining those practices in interesting and accessible ways. I hope some of the conversations I’ve been talking about (critical approaches to technology, copy-left practices, etc.) keep going, and gain momentum. I hope we’re able, as artists, researchers, and teachers, think about the ways that people with disabilities experience technologies. I hope the F/M arts scene keeps growing, and includes works of folks that have something interesting and important to say about who we are as a community and society. I hope people enjoy the exhibition.

HPR: What concerns you most about our rapidly changing society-what do you look forward to?

Steven Hammer: I spend most of my time thinking about technology. And while my work is highly critical of technology and the cultural responses to it, I’m also

excited by new technologies and engage with them in all areas of my life. To be more specific, I'd say that I'm most excited about people increasingly thinking about open-source technologies—those that can be understood, hacked, modified, and shared. Similarly, I am deeply invested in the factions of digital culture that prioritize copy-left, or copy-it-right practices. Copyright and permission culture, while still the status quo, has met significant resistance in the wake of increasingly educated and empowered digital citizens. I am excited to see how those institutions continue to crumble and the ways that increased agency and access are afforded to the masses. (Hornung)

While the concept and execution of *Ambient Movie* was largely successful and satisfying to me, in many ways, *Ambient Movie* began to change rapidly from the time of its installation due to what Bryant calls “struggles and conflicts that emerge between... differently scaled objects” (Object Oriented Literature). The very first signs of *Ambient Movie*'s fluid and networked nature emerged in its naming. I received documentation from the museum, including information for insurance purposes. They had initially dubbed the piece “Clean Interfaces,” no doubt drawing from the artist statement I had already provided. After some further development of the piece, I emailed the interim curator, Christian Gion, with some minor revisions to my artist statement and to provide the piece with a name, *Ambient Cinema*. He replied:

On Jan 3, 2014, at 4:40 PM, Christian Gion wrote:

The minor revisions are doable at this point—labels won't be printed and installed until Wednesday Keep in mind that curatorial judgment has already resulted in rewording of the statement; the reality is that certain language has to be changed to make it more accessible and easily understood. You clarify certain aspects of the work and those changes I am happy to include. Plus, *Ambient Cinema* is a new title, correct?

We will determine the best way to display the screens when we install. My preference is to wall-mount them.

[See More](#) from Steve Hammer

Figure 71. Email correspondence with Interim Curator Christian Gion.

When the exhibition opened, there were in fact changes to both my artist statement and the title. I do not discuss this as a way to complain about curatorial control, however, but instead as a way to talk about the ways that, as chimeras collide and congeal, they change and adapt. Perhaps Gion’s transposition of “cinema” to “movie” (as well as other minor changes to the artist statement) was, as he put it, “changed to make it more accessible and easily understood.” Perhaps it was a result of misreading or misremembering. Whatever the case, the linguistic framing of *Ambient Movie*, and therefore the nature of the piece itself in terms of human reception and perceived intention changed immediately. Yet there were many more changes ahead.

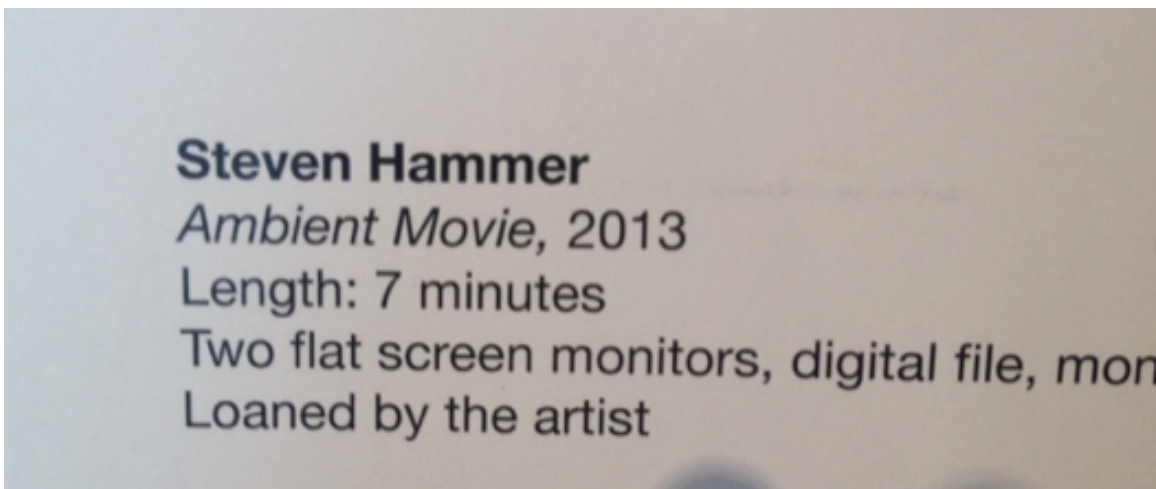


Figure 72. Photograph of *Ambient Movie* Placard.

Less than a week after the exhibition’s opening reception, I received another email from Gion, requesting that I visit the museum to fix my piece. Apparently, some visitors had been “fiddling about with the knobs” on the audio mixer.

On Jan 14, 2014, at 11:44 AM, Christian Gion wrote:

Hi Steven,

I got word yesterday that people were fiddling about with the knobs on the mix board and I want to make sure that everything is set back to where you wanted it. Can you stop by the museum to take a look. Sorry about this. I had asked Cody to put up a sign the day of the opening but it didn't get done. We talked this morning, so hopefully it should be taken care of today.

Christian


Figure 73. Email Correspondence with Interim Curator Christian Gion.

I stopped in and readjusted the levels of each channel, not necessarily because they were “wrong,” but because it gave me another chance to explore the sounds of the piece and situate them in a stereo field. When I arrived, I discovered that the museum staff did post a sign on the piece directing viewers to “please not touch.” I was intrigued by both the “fiddling” and the subsequent protection of *Ambient Movie*. First, what about the piece invited “fiddling?” Now I would like to believe myself when I say that the spatial, aural, and visual design of the piece somehow invited playfulness, even deviance. Such a statement, though, praising my own ingenuity, frames the entire enterprise in some kind of Modernist model of mastery, control, and intention. The devices that comprised *Ambient Movie* were not meticulously placed in a configuration to do anything other than operate. Most spatial decisions were quite practical: length of cables, size of tables, and so on. But perhaps the mess of it all, the disorganized cables, the electrical tape, the coffee cup stain on top of the DVD player, the mixer (not hidden) and all of its colorful knobs in plain sight, made *Ambient Movie* less of a work of *Art*, and more of a pile of technologies, similar to the piles visitors have in their homes. Perhaps they tinkered with *Ambient Movie* because of my active refusal to present new media art as sleek, shiny, new, and functional.



Figure 74. Photograph of *Ambient Movie*, "Please Do Not Touch."

About a month later, the new curator at the museum emailed me to request another visit to the exhibition to address another problem. This time, there were “some technical problems” with *Ambient Movie* that caused both televisions to turn themselves off during the course of the day.

From: Becky Dunham 
Subject: FW: tvs in starian galley
Date: February 27, 2014 1:12:20 PM CST
To: Steven Hammer <Steven.Hammer@my.ndsu.edu>

[Hide](#)

[Inbox - my.ndsu.edu](#) 1

1 Attachment, 18 KB

Save ▾

Quick Look

Hi Steven,

We're having some technical problems with your installation in the gallery. When you get a chance, can we make an appointment for you to stop by and check it out?

Thanks,
Becky

From: visitor services
Sent: Thursday, February 27, 2014 11:45 AM
To: Mark Ryan; Becky Dunham
Subject: tvs in starian galley

Hello, Just want to make sure you know that both the tv's in Steve Hammers peice are out. I did try restarting, unplugging, and dvd cleaning.

Thanks,
Chelsea

Figure 75. Email Correspondence with Curator Becky Dunham.

I visited the exhibition and discovered that the DVD player had apparently reached the end of its capacity to read DVDs. The front panel simply read “CANNOT” (see figure below). It was an old machine, after all. Again, in the context of a curated art exhibition, some elements and interactions objected to the original intent of the artwork. The endorelations of the DVD player reached a critical point of entropy, which led to strained exorelations between the DVD player and the television no longer receiving a valid signal. Even further, however, the entire system of *Ambient Movie* (as a curated rhetorical Art piece intended to, via glitch aesthetic, communicate something specific to visitors) broke down rhetorically. Ironically, the piece became perhaps the epitome of 00Δ: a pile of nonfunctional technoArtifacts that completely disrupt technoRhetorical opacity. Yet, reminiscent of my conversation with PoxParty (chapter two) and recent work by Daniel Temkin (“There’s Not Much Glitch in Glitch Art”), I learned firsthand the challenges of working with “glitch” as a concept in a context that works diligently to

curate experiences by retaining strict control over materials, aesthetics, and visitor experiences.


Despite the temptation to let *Ambient Movie* object to its own state and perpetually become something else entirely, I heeded the request of the curator. I returned the next day with another (old) DVD player that I had found in my garage. I installed the new DVD player, checked that the installation was again functioning *as designed and expected*, and again left *Ambient Movie* to its own devices.



Figure 76. Photographs of *Ambient Movie*.

A few weeks later, I received another email from Dunham noting “another tech issue” with the piece. When I visited the museum, I discovered that the digital video output of the new DVD player was no longer sending a signal to the physically damaged television. Therefore, the television automatically shut off after several minutes of inactivity. After some tinkering, I decided to load another DVD into the first DVD player (the one unable to read discs) and connect it to the physically damaged television. Though the first DVD player was unable to read discs, it did send an active (error) signal

to the television, therefore the television remained powered on as a result of continuous error.

From: **Becky Dunham**  Hide
Subject: FW: Hammer Piece in Starion Inbox - my.ndsu.edu
Date: March 12, 2014 4:48:05 PM CDT
To: Steven Hammer <Steven.Hammer@my.ndsu.edu>

1 Attachment, 18 KB Save ▾ Quick Look

Hi Steven,
Thanks for swapping out the DVD player, but we are having another tech issue with one of the TVs (see below). Do you know if the TV or remote has a button controlling turn-off features?
Thanks,
Becky

From: visitor services
Sent: Wednesday, March 12, 2014 4:33 PM
To: Becky Dunham
CC: Mark Ryan
Subject: Hammer Piece in Starion

Becky,

Just a heads up, Stephen Hammer came in last week to change out the DVD player for his piece. It is all up and running now. We do have a small issue with the TV to the left. It shuts off on its own. We are not sure if it goes into standby mode because it thinks it is not doing anything, but every time VS goes in the gallery, it is off. Not sure how we can fix it, but I just thought you should know.

Thanks,
Linnea

Visitor Services

Figure 77. Email Correspondence with Curator Becky Dunham.

I was again confronted with the *curation of glitch*. Here I was, making art about the invisible vulnerabilities of technologies, arguing that in order to engage critically and honestly with emerging (and obsolete) technologies, we must break them and corrupt them, yet at the request of the curator, I *again* returned to maintain the *right kind of glitch*. I began to worry that I would three times deny glitch, and forever be known as a “doubting Steven.” Yet this kind of activity, as I have discussed, is rampant in both glitch and DNM, for better or for worse, so I at least felt as though I was in good company. My only real recourse at this point, to remain faithful to an 00Δ performance, was to write this chapter and discuss the ways that *Ambient Movie*, in its final state at the close of the exhibition, resembled its first iteration only in broad strokes. Through a series of

struggles and entanglements within itself (endorelations such as the failure of the disc drive in the DVD player) and with other chimeras (exorelations such as human visitors “fiddling” with audio mixer knobs), the artwork remained in a noisy and liquid state, constantly changing.

I spent significantly more time with *Ambient Movie* after its initial installation than I did in preparing it for the exhibition, and perhaps this is something of an unintentional homage to tenets of glitch art as procedural rather than product-based. Perhaps due to my many visits to *curate the glitch*, I undercut the entire premise of my work, re-blackboxing and exploiting glitch’s own slick, shiny, finished aesthetic. Perhaps my real task was to document the project here. In any case, the process of conceptualizing, curating, and documenting *Ambient Movie* was certainly a work of not just masterfully building objects to undertake philosophy (à la Bogost’s “Carpentry”), but working *with* complex and dynamic chimeras in a constant state of composition and revision and negotiation. My only regret is that visitors to the exhibition were unable to experience all of the failures and negotiations, as that would have been much more illustrative of both the piece and of 00Δ as a concept and performance.

DIRECTIONS FWD: && CONCLUSIONS

Directions Forward: Glitch, OOO, and Questions of Disability

In this document's current iteration, my audience is those in, or interested in the "humanities," a field of inquiry concerned with humans. Surely, some of the ideas I have presented here question the focus of our field, but I would like to say that, at the end of the day, I realize that rocks, car keys, and cigarette lighters will not read this dissertation, nor will they benefit from the work of OOO. My allegiance to the humanities, and more specifically to create work that may lead to better conditions in the system in which humans reside, is sincere. And while at first glance the notions of glitch, dirty rhetorics and ontologies, and all things object-oriented most closely resemble thought exercises, there are many ways in which I hope this work will move toward improving peoples' lives. This statement is cliché and vague. Allow me to expand and illustrate.

My investment in disability studies stems from many life experiences and relationships, but it peaked during my Ph.D. studies and the birth of my son, Rowan, in 2010. Rowan developed typically for the first six months of his life, but his development began to lag and regress from 7-9 months of age. One day, he began to have persistent seizures. More seizures than we could count. After a few days at the hospital, we learned that Rowan's brain lacked the folds and striations of a typical brain; his was smooth. The word for this genetic condition is lissencephaly ("smooth brain").

As one would imagine, the already mysterious task of parenting became much more complex and mysterious. No longer was parenting reducible (well, almost) to drawing on the experiences of other parents; the milestones, activities, and interactions we experienced with our older child and our peers were irrelevant. As Rowan grew

physically, his cognitive impairments became more noticeable to the world, and we began to experience the ways that our society frankly does not know how to conceive of a severely disabled human. Most of the time, Rowan is treated like either an infant human or an intelligent animal. No matter how big or old Rowan grows, he will not reach actual personhood.

This is not just true in the eyes of institutions or awkward exchanges at the grocery store, however. This is true in the humanities, and in most strains of ontology and epistemology. What makes a human distinct from other animals, from plants, from inanimate objects? Is it self-awareness? A cognitive baseline? The ability to acquire and use language? Let me return to a quote I used in the last chapter from Curt Cloninger. He critiques OOO on the basis that “No rock ever invented an ontology. Humans develop ontologies which include rocks. Humans may even philosophically speculate what ontologies rocks might invent. But rocks-themselves do not invent rock-centric ontologies. Nor do rocks-themselves philosophically speculate what ontologies dirt might invent” (“Manifesto for a Theory of the ‘New Aesthetic’”). Though perhaps cruel, I could easily replace “rock” with “Rowan” in this passage. Rowan does not possess the abilities—at least not that I am aware—to construct or comprehend or self-reflect on his being-ness any more than a rock. I do not mean to be cruel or to diminish the value of Rowan, and my apology here is indicative of where I am going with this.

Why do I apologize for comparing my son to a rock? I apologize because Western thought has always understood human-ness—no, a *certain kind of human-ness*—at the pinnacle of existence. To de-humanize a human is cruel and criminal: slavery, genocide, etc. This is a common and understandable concern many have with OOO and its

philosophical relatives: that to be human *is* special and different! What happens when we, even for the sake of philosophical inquiry, suggest that humans are no more valuable than the objects, animals, etc. we treat with impunity? These are important and valuable concerns, without question.

Yet the appeal of OOO to me works in the reverse order: what happens if, instead of objectifying humans, we treat everything as though it matters? What happens when we discard the prerequisites for value (consciousness, self-awareness, etc.) and, dare I say, respect other things? The critique leveled against OOO here is often formed as a kind of joke: “So should I apologize to my desk if I kick it?” These attacks are both lazy and indicative of these critics’ superficial engagement with OOO texts and lack of imagination in applying a theoretical construct to a complex world. It is true that rampant anthropomorphization is unhelpful, but I am unaware of any OOO writer who does so. Moreover, approaching the world as though everything matters is not a new idea. In fact, the peoples indigenous to the land where I now sit and write, approached the world and its various human and nonhuman agents as though they belonged to a network. The bison mattered to the indigenous peoples of the northern plains, and not just insofar as they served the nutritional and material needs of humans. Objects held spiritual significance beyond the promotion of ideology. And so on and so on.

Getting to my point, though: what happens to Rowan, his value and worth in society, if we abandon the prerequisites of mattering as a human? What if, instead of conceding that “we’ll never know what he/it is thinking, so why spend the time...” we approach him (and other disenfranchised persons) as agents not by virtue of intentionality or minimum cognitive ability, but by virtue of Bennett’s efficacy: the power to make a

difference? I am arguing, of course, that OOO has the ability to not only encourage us to become more cognizant, dirty technoRhetoricians, but that it can also radically change the way we conceive of, and value, those among us who are *glitchy*.

Put simply, Rowan *is* glitchy, even by traditional definitions. Remember the origin of the term glitch: unexpected fluctuations in voltage. Schachter, Shafer, and Sirven of the Epilepsy Foundation define a as “a sudden surge of electrical activity in the brain.” If we follow glitch and dirty new media theorists like Rosa Menkman, the problem is not that Rowan is glitchy; the problem is that our culture has sold us the narrative that noise and glitch are not supposed to happen. That to malfunction is to be defective. Glitch teaches us, though, that *all* systems both function and malfunction, that if there is a signal, there is also noise. Glitch art shows us that malfunctions and errors need not be inconveniences or unwanted spots on the otherwise beautiful canvas of existence. Glitches are *normal* and *beautiful* and *helpful*. This is true not only when working with digital media, of course. This is true when working with “glitchy” humans, when we take them seriously, when we learn from them, when we set pity aside and acknowledge their ontological being-ness as more than atypical.

This, to me, is a tangible and meaningful future potential of OOO and glitch theory. The shape this scholarship or art or activism will take is unclear for me at this point, but after many hours reading and writing and thinking and living in relation to this research, this appears as the road ahead for my research.

Conclusion

In some ways, this disquisition has mirrored Dorothy’s dream-adventure in the Land of Oz, especially as she and her traveling companions encounter the great and

powerful wizard. “Pay no attention to the man behind the curtain!” exclaims the great wizard, attempting to hide his own presence as an ordinary human at the helm of an awe-inspiring technoPersona. If, in the first chapter, I accomplished the task of the small but resilient Toto in pulling back the curtain to reveal the subjectivities, limitations, and active rhetorical strategies of opacity, this has been a moderate (if unoriginal in my field) success. If I have also begun to provide tools and practices and illuminated traditions with which to engage with the wizard more consciously, critically, and actively, perhaps we have a few more gestures by which to escape Oz, whether they consist of clicking heels, disrupting linguistic and technological systems, performing Object-Oriented, glitch, or DNM Art, or some other practice/approach I’ve discussed or pointed toward.

The dominant values of technoCulture, including functionality, noiselessness, and user-friendliness, undergirded by consumer and upgrade culture, have resulted in a very different set of skills from those we sometimes imagine for ourselves and our students. Often, when one (particularly one of our students) is referred to as “tech-savvy,” we mean to say they are aware of and have used a variety of new or emerging technologies. In other words, they are up-to-date techConsumers. They have knowledge and (illusory) control over digital technologies and media. This is analogous to praising an artist who read a manual about canvasses or pianos or literary techniques. Of course, one should understand her practice. However, few artists in history are remembered for their obedience to tradition or careful adherence to institutional standards. Even those artists within the canons of their respective fields are typically praised precisely *because* of their innovative tendencies to break open black boxes.

The black boxes of rhetoric and composition studies are alive and well, though some scholars and students find surprising ways of breaking them via methods of irregularity. These ~~composers-writers~~ artists not only create works that catch the attention of audiences and extend beyond mere information transmission, but they occur as a result of awareness of rules and breaking them. Yet these methods of irregularity seem to be the exception rather than the rule, and while it is tempting to point to the Microsofts and Apples of the world as the core of the problem (though such accusations are certainly well founded), academia writ large has been complicit in the production and maintenance of *technoRhetorical opacity*. As a result, contemporary scholarly and pedagogical approaches often adopt the techno-utopic visions evident in the widespread rhetoric of technology as first problematized by Selfe, Selfe, and Hawisher more than twenty years ago.

Yet reaching outside the boundaries of our own field—though many *in* our field have also done important critical work—yields practices and performances that helpfully break current intellectual flows of uncritical technological engagement. I have invited some disruptive voices to our ongoing conversations about technology in the humanities, illuminating our sometimes uncritical technoComposition methods and pedagogies, our compliance in *technoRhetorical opacity*, and offered some approaches from which to articulate new composition practices that emphasize the imperfect, complex, ambient, and hybrid nature of composition. From Zaum to Glitch, Dada to Dirty New Media, we have explored some of the ways avant-garde artists have been breaking technological opacity, demanding that we approach technologies critically rather than as passive consumers. Further, while systems theory, object-oriented philosophy, actor network

theory, and speculative realism all approach analyses from systemic or ecological frameworks, none focus solely on the presence and importance of *malfunction* and failure within systems and networks. Therefore, dirty ontology fills a void for scholars to understand and express networks, objects, and systems in terms of various interruptions and malfunctions.

The dirty composer is a chimera; she is a multiplicity of materials, experiences, subjectivities, relationships, technologies, tools, ecologies... *ad infinitum*. Her work involves much more than converting ideas into products via opaque methods of production. Though she has significant advantages when compared to her inscription technologies (high-level consciousness, for example) she is neither a master of methods and tools nor naively seated as the lone genius author like so many of her predecessors. She realizes her situatedness in chimeric networks, and approaches each of her would-be collaborators with both suspicion and respect, for they will constrain, enable, obscure, reveal, resist, object, and submit (sometimes all at once) to her creative desires. She is an object-oriented artist. She creates, articulates, and understands a variety of work from an anti-humanist, anti-modernist, post-remix perspective.

If we are to continue incorporating emerging media into scholarly production and pedagogy, as well as value critical thinking, new models of technoCritical engagement must be at the heart of those undertakings. Further, we must move beyond mere critique and theory, and build practices that actively resist technoRhetorical opacity, lest our work become unknowingly imprisoned within the limits of our oft-invisible collaborators. Whether one approaches this by breaking into the hard- or softwares of production, learning to read and write and alter computer coding languages, glitching or hacking the

clean interfaces and devices to reveal their vulnerabilities, bending data to reveal the subjectivities of file formats and compression, bending linguistic structures to highlight the nature of language and ways it can be altered to better express experiences, making art that is aware of and communicates a deep level of engagement with materiality, developing interfaces and devices that engage “authors” and “audiences” alike in a kind of technoAwareness, or something else entirely, our ethos is dependent upon our ability to remain aware of our ever-changing technological environments, and to disrupt those environments in order to illuminate not just the ways we *use* technologies, but the ways that we *make, communicate, and identify* as beings among others.

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