

Continuities and Difference in the Reading Habits of Digital Natives

by

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Abstract

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The 2010s has seen an explosion of scholarship eulogizing the novel, as if the medium has been freshly murdered by the Internet and a generation of digital natives who refuse to read. The final pages of Maryanne Wolf's *Proust and the Squid: Science and the Reading Brain* turn to panic as she wonders whether the vast benefits of reading will be extinguished, and the tone of Michael Schmidt's *The Novel: A Biography* is nostalgic and mournful, capping sections on the evolution of the novel decades before the present day. In an increasingly complex media ecology, how can the novel survive as a leisure activity for a new generation, and a theoretical concept flexible enough to bridge old and new media?

This thesis aims to illuminate the continuities between the disparate outgrowths of the traditional print book and study the media consumption of young readers. The sum of this research shows that digital marauders have not, in fact, snuffed out novel reading. Reframing the novel through research and prototype iteration not as a static medium defined by form, content, or an imagined common origin point, but instead as a site of experience that engenders a unique co-creative relationship between reader and text, demonstrates how novel reading can endure.

INTRODUCTION

Keywords: novel, reading, digital natives, literary theory, reader-response theory, platform agnostic, user-centered design, reader agency, immersive mediums, print versus digital, active reading

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Dedication Evelyn Williams and John Meyer, for teaching and tirelessly encouraging me to love books and learning.

INTRODUCTION

Most of the big shore places were closed now and there were hardly any lights except the shadowy, moving glow of a ferryboat across the Sound. And as the moon rose higher the inessential houses began to melt away until gradually I became aware of the old island here that flowered once for Dutch sailors' eyes — a fresh, green breast of the new world. Its vanished trees, the trees that had made way for Gatsby's house, had once pandered in whispers to the last and greatest of all human dreams; for a transitory enchanted moment man must have held his breath in the presence of this continent, compelled into an aesthetic contemplation he neither understood nor desired, face to face for the last time in history with something commensurate to his capacity for wonder.

He did not know that it was

already behind him,

*somewhere back in that vast
obscurity beyond the city, where the
dark fields of the republic rolled on
under the night.*

—F. Scott Fitzgerald

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Introduction

Who cares about the book?

In this thesis, I attempt to conceptualize how the future of the book manifests in the new, digital world we have. The novel is ancient; it has acted as a recorder of history and culture, or forum for ideas and discussion, and with an almost infinite array of effects on the individual—inspiration, self-reflection, entertainment, escape. For millennia—papyrus scrolls to bound codexes to mobile scrolling—the fiction book, the novel, has been one of the most enduring media across continents. The novel can open channels of communication between generations; as James Gleick (2011) observes in *The Information* on “the persistence of the word”, through writing “the dead speak to the living, the living to the unborn” (31). But language is not a stable storage system: what begins as an author’s record becomes a plane of interaction, of connection across time and space. Expounding on the novel he penned in 1789, which charts the floundering of a settlement in the new world¹, author Unca Eliza Winkfield imagines “some future bold adventurer’s imagination, lighted up by my torch” (Moore 907). The past and future of the book are inextricably tied to how we express human consciousness; the proliferation of reading technologies and new types of fiction has implications beyond the bookstore or shelf. Tracing reading habits of over the novel’s history is difficult, as is imagining them for the future; there has been little evidence of how readers read, save what is implied in the writing itself—who were their adventures designed to thrill?

The perceived functions of the novel for the individual have shifted over the centuries; an early example, Herodotus (440 BC) wrote his *Historiai* as a sweeping historical record, petrifying events in vivid prose for subsequent generations—though he

¹ The author wrote in direct response to *Robinson Crusoe*, a wildly popular novel at the time. “We have no right to invade the country of another, and I fear invaders will always meet a curse” (Moore 908).

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invented much of the detail. Herodotus aimed to reinforce Greek imperialism through his novelistic history, which would have been most often read aloud and in public. In the 19th and 20th century, Marxist and feminist literary theorists note that literature “can express the legitimate utopian longings of subordinate groups”, providing a forum for contemplation of ideas that cannot be spoken aloud, but silently read (Warner 1996, 282). The novel also offers an escape from the world of the reader; by confessing its own artifice, it enters the realm of make-believe—hollowing out a private refuge for both author and reader. More recently, neuroscience has intersected with pedagogy and literary theory to reframe the novel as a miraculous salve that can heal almost anything inflicted on young learners; the novel, for example, can inspire impoverished students to imagine an alternative life. In *Proust and the Reading Brain*, neuroscientist Maryanne Wolf (2008) finds regular novel reading in childhood and adolescence essential to cognitive and emotional development: humans need the novel to in order to thrive, Wolf suggests, or at least are very deprived without it (102). The innumerable purposes of the novel in society reflect the ways in which the written word is animated differently each time it is read; in the form of the novel, it can also animate the reader. The immersion and empathy engendered by long-form fiction forges a co-creative feedback loop or assemblage reader and text—a type of agency unique to the novel.

The novel’s uses by and effects on culture and individuals are impossible to catalogue totally; data on literacy in the West, often a privilege reserved for the elite, is hazy before the spread of public education. Until very recently, in many countries the most disenfranchised citizens were excluded from the world of books—according to UNESCO, 17% of Canadians were illiterate in 1900, and Literacy Canada (2005) estimates that currently, 42% of adults 16 to 45 have low literacy skills (para. 1). Though much has been written on the relationship between author and reader, the source of the silent reading of long-form fiction’s persistence is more opaque, unknowable. Without

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understanding the medium's history, purpose, and effects, however, the novel's trajectory is impossible to envision.

The recent glut of literary histories defining the novel and emphasizing the continued importance of the medium betray deep anxiety about the novel's future. Tumult in the publishing industry is now a phenomenon in mainstream Western media—the battle between old media publishers and Amazon splashed across front pages. People walk by material evidence of the death of print on every metropolitan street corner, where newspaper boxes are becoming pigeon roosts. Anxiety about the future of print has infected discourse around the future of the book with alarmism. This has engendered a caustic reaction to new, digital reading modalities, which in turn has created a false division between new and old reading experiences, painting a future in which the book ceases to exist. Through this project, I have tried to reimagine that future—not only because I myself ardently love novel reading, but because the participants in my study do as well. 91% of student participants in my study said they wanted to read more novels.

The imaginary break

Since the inception of pixelated literature—reading on screens—literary theorists have struggled to adapt as the foundation of their discipline, reading on paper, has shifted beneath their pens. The debate begins with two definitions: print, literature printed on paper and bound, and digital, an umbrella term for everything else: PDF novels viewed on eReaders, hyperlinked books found online, and applications that integrate literature and multimedia—even e-literature without words. In postmodern literary theory, these disparate digital reading modalities are often anthropomorphized into one homogeneous, pixelated Goliath. Measuring print and digital as diametrically opposed, some scholars have reduced discourse around emerging reading habits to a game of *Clue*: the book is already dead, a patient etherized upon a table. Anxious print-

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advocates, including culture critics like Nicholas Carr, *The Book is Dead* author Sherman Young, and others, crowd around the deceased medium, asking: who killed the book? Was it the Internet, in the stairway, with a revolver?

The perceived newness of digital emerges from the larger ontological assumption that digital and print are fundamentally antithetical mediums. The print/digital debate has unfolded in object-oriented binaries focused on material presentation that often exclude the reader; this false dichotomy has made print and digital novels appear incommensurable. The digital age, the polarized debate implies, is one vastly different than what might be called the paper age preceding it; daily life has been so changed that it requires a new label. Focusing on authors and the publishing industry, it's easy to make broad claims of a totalizing change from print to digital. Is the chasm between the media ecologies in these two ages so wide that new forms of novel reading are vastly different than those before? Is the break real?

One vantage point from which to witness and understand changing reading habits, and how the novel itself is branching as a medium, is the reading habits of Canada's youth. Those born between 1989 and 1996, 18 to 24 at the time of this study, grew up in households where the clash between old and new media was materialized. By focusing on readers, rather than market forces and emerging technologies, I hope to achieve deeper insight into how readers might navigate the rich and diverse media ecologies in which they are immersed and select reading experiences going forward. The future of the novel lies in how young people read.

Research Methodology

This project attempts to answer the following:

1. How and why do digital natives read books?
2. How can the unique benefits of novel reading be preserved for digital natives?

This thesis seeks to understand how and why young people read, in order to ascertain the features of the novel reading experience most valuable to them—ones that cannot be replicated in emerging media. I will argue that the novel owes its tenacious perseverance, and potentially its future, to its unique formation of reader agency: the balance of detail added by the author and negative space left for imagination. This thesis does not aim to worship what is new and exciting in the world of publishing, or dwell on the past, but rather look through the layered changes to the novel to find continuities that can be seized on and preserved. Finally, I developed a prototype that preserves these continuities and addresses changes in reading experiences to boost the medium's relevance and readership. By protecting and enhancing the parts of novel reading that the newest generation of readers values most, the prototype gives them reason to continue to read in an increasingly decentralized and varied media ecology.

Reading about reading

I attempted to address the questions above by reading, observing, and experimenting. In my literature review, I honed in on an object-oriented focus in recent scholarship—in which both print and digital novels are defined by their material accompaniments, human elements excluded. Object-oriented ontologies are becoming

increasingly popular within the humanities as more theorists, literary and otherwise, contemplate downpours of new technology through the lens of post-humanism, calling into question literary theory's anthropocentrism. As demonstrated below, the novel has been defined without the reader long before the advent of post-humanism; the field has remained stubbornly object-oriented, as have studies of digital natives. Throughout the project, I use anthropocentric theoretical paradigms, including semiotics, reader-response theory, and network theory, to arrive at an understanding of the novel and digital natives with the human reader at its center.

First, I undertook a genealogical survey of literary theory and history, focused on the evolution of the novel and reading practices—a literature review designed to interrogate the Hegelian arc of evolution that the book has supposedly undertaken. Through this survey, I found that the history of the novel is not a series of evolutions in form or content—links in a chain of a singular medium—but rather a topology of layered pluralities. Applying the lenses of reader-response theory and semiotics, I analyze how the novel has been defined over time in ways that exclude the reader—and how those static, more formalist conceptions of the medium may make it less able to thrive amidst rising competition from other media. Applying Wolfgang Iser's (2000) reader-response theory, “instead of asking what the text means, I asked what it does to its potential reader” as well as “what happens to the text in reading” (311).

I also survey the current battle in literary theory between techno-utopianism, in which digital reading platforms will improve or save the novel, and Luddite paranoia about the death of the novel; both sides of the dialectic debate sensationalize the speed and scale of change in reading habits. Applying Foucault's archaeological method, I realized that the debate's long history suggests this sharp breaking point between old and

new media is illusory; the debate is not new, and neither are the tectonic shifts in the ways in which people immerse themselves in narratives and information. As many authors who have recently eulogized the novel noted in their introductions, Socrates railed against the dumbing-down of culture, decay of memory, and deadening of debate that the written word would unleash during the transition from oral to written culture in the Golden Age of Ancient Greece. Adorno Horkheimer in 1944 saw an equally fearsome and total change in literary culture with the dawn of fascism: the “decline of civilization into illiteracy” in which we forget “reading a text from Jean Paul as it must have been read in his time” (27). These views are shared by digital skeptics like Nicholas Carr, author of *The Shallows*, a thorough investigation of the evils of the Internet. Carr, along with other contemporary hand-wringers, echo Socrates and Adorno in their perception of an immense change: Socrates believed oral culture would be wiped away entirely, when much of what he hoped to preserve—including epic poetry and scholarly debate—continued on in new forms (Wolf 2008, 70). The sharp breaks, changes and evolutions seen in written culture imply a progressionist approach, a simple line graph, one in which new forms eradicate the old. Those on the clearly demarcated print side of the debate in literary theory, in particular, betray a sense of McLuhan-inspired claustrophobia and panic, scattering in the mustard gas attack of digital. McLuhan (1964) saw written culture going to war: “The ultimate conflict between sight and sound, between written and oral kinds of perception and organization of existence is upon us” (7). Culture critics like Carr characterize the emergence of digital reading—such as the hypertext social book project of Bob Stein, or the digital movie books of BookTrack—as sudden, debilitating, and definitely of the enemy. As McLuhan (1964) argues, each medium carries with it its own meanings, uses, “messages”—when a new medium

eclipses an old medium, it is not only the form that is replaced, but also everything it contained (5). This approach therefore forecasts a future of the book in which new digital reading modalities destroy print, along with the reading experiences it contained—that of long contemplation, deep immersion, and self-reflection. Hence: extreme anxiety around the future of the novel.

My literature review circumvents the practical impossibility of a total break in culture to forge a new phenomenological definition of the novel with the reader's cognitive and emotional experience at its center. Focusing on the reader limits the scope of the study by excluding the author and the publisher; Rowland Lorimer (2012), Canadian founder of Lorimer Publishing, argues that the publisher and author must be included in the definition of a book together, because they both create meaning and shape a novel's relationship to a reader (3). In my analysis, participants in the creation of the novel are only valued inasmuch as they are present in the words on the page; author, publisher, and editor are integral to the writing and sharing of literature, but their influence on the characters and settings, though felt by the reader, is largely invisible to him or her. As written by Italo Calvino (1979) in *If on a winter's night a traveler*, a self-reflexive novel about the act of reading, it is in the reader that the text comes alive:

If we assume that writing manages to go beyond the limitations of the author, it will continue to have a meaning only when it is read by a single person and passes through his mental circuits. Only the ability to be read by a given individual proves that what is written shares in the power of writing, a power based on something that goes beyond the individual. The universe will express itself as long as somebody will be able to say, "I read, therefore it writes." This is the special bliss that I see appear in the reader's face. (79)

In my analysis of how and why digital natives read, I try to pinpoint those "mental circuits," the processes that draw digital natives to reading—the "I read, therefore it writes." Much of the change taking place in the publishing industry, and in the ways

novels are written, evaporate when a novel is placed in the hands of the reader; the changes are not manifested in the words on the page in ways most readers, save N. Katherine Hayles, can detect. The material presentation of the novel and how it is published may be changing, but the medium's relationship to the reader—the cultural and individual impacts each novel potentializes—are not being swept away.

Grounded research

Basing the definition of the novel in a generalized reader risks a totalizing effect: the erasure of difference in individual reading experiences in favour of a simplistic cause/effect logic, in which an invented, general reader is affected by an imagined, general novel. The “totalitarian unison” of a constructed user or general reader makes its own problematic claims, positing a set of phenomenological effects true for an imaginary one as true for all, or a prototype ideal for an imaginary user as ideal for an entire generation (Adorno 1951, 18). The consolidating and smoothing power of user-centric design thus hazards the configuration of a theory or a prototype applicable to no one, as rigid as the formalist theories of the novel I have tried to dismantle. By focusing on the ways in which the reader and the text affect one another and acknowledging difference, I hope to avoid disempowering the reader.

To draw out nuances in reading experiences, and incorporate them into my conception of the reader, I completed a study of 30 students 18 to 24 with interviews, daily reading diaries, and user testing. Barney Glaser's (1967) approach to grounded theory, in which data is analyzed as it is collected, was an excellent fit for my research process—though I refer to the interview phase of my research as qualitative, whereas Glaser emphasizes the data collection aspect of his methodology. I conducted interviews

sequentially, sometimes weeks apart; after transcribing the interviews, I would compare each to the previous one, highlighting continuities and differences, creating categories and tagging or coding quotes. Finally, after all 30 interviews had been conducted, I had unearthed a set of commonalities in reading that ran from the first participant to the last. Commonalities in the pragmatic details of the reading experiences are captured in the chapter, *A Reader-Based Definition of the Digital Native*, and larger veins—why digital natives read—in *A Reader-Based Definition of the Novel*. I take up the thread of abductive reasoning, the basis of grounded theory, in the latter chapter when I conceptualize the text-reader relationship that draws digital natives to the novel. My estimations of how reader agency functions when reading the novel and my prototype design thus grew out of the data unearthed through grounded research, and other methodologies explained in the study section.

Through these approaches, I detail the role of the book in the lives of digital natives, deconstructing the term and questioning the assumptions embedded therein. I draw out the contours of reader agency in the co-creation of meaning when reading to escape a simplistic, universalizing cause/effect approach to novels and readers. Through the study, I aim to acknowledge and limn differences between participants, providing a basis for the imagined reader with more nuance and detail.

Design as research

Based on a rich understanding of reading habits now, I endeavored to imagine a future of reading through design. I developed prototypes in an iterative and user-centric process that addressed the needs of the participants. These designs are based in the definition of the novel and its unique value I delineate through the two phases outlined

above, reading about reading and phenomenological reconceptualizing, as well as the study. In treating design as research, I experimented with software and hardware; I explored, not trying to reach a complete solution or perfect answer to modern reading habits, but rather a new reading modality that protects the novel as I define it.

The relevancy of this thesis is determined by the perceived relevance of the medium it analyzes. Why do *I* care about the book? Why should you? Imagination, immersion, escape... I think I have an app for that. Why would I want to live in a world written for me when I could build my own? By focusing on the reader and their unique relationship with the novel in the following pages, I intend to arrive at a flexible definition of the novel that allows for evolution, and even growth, in the centuries to come. In focusing on these core features, doom and gloom diagnoses of the novel's current state seem pointless; the medium is not being attacked by the malignant cancer that is the Internet. Rather, new media can provide channels for the defining experiences of novel reading, even when they alter or shed its typical presentation in material, style, or content. The secrets of written fiction that have allowed the medium to survive on every continent for thousands of years, until this moment—the precarious tipping point when readers could, according to some, put down the novel forever—might give the medium as long a future as it has a past.

Object-Oriented Definitions of the Novel



Fig. 1. Alexis Arnold, *All's Well That Ends Well*. Book, Borax Crystals, 8.5" x 7.25" x 5".
The Crystallized Book Series.

What is a novel?

In order to advocate the persistence of novel reading in the digital age, I must first define the medium: what is a novel? What are we endeavoring to preserve? If the novel is to survive as a leisure activity for a new generation as more texts become digital, and are published on increasingly dispersed and diverse platforms, static and inflexible definitions of the medium should be cast aside. As demonstrated below, the novel's history has been largely written without the reader, the novel and the reader siloed separately in the fields of literary history and anthropology. Writing the reader out of the novel's history excludes her from its future; as the form itself calcifies, like Alexis Arnold's sculptures, form-based definitions of the novel seem to ensure its demise. If the future of the novel is theorized separately from the future of reading, the death of the medium seems inevitable as its "defining" features fall away.

Most theorists writing before the advent of digital texts, no matter their prefix (Marxist, feminist, structuralist, postmodernist, or otherwise) assume certain parameters that have become foundational to the study of literature: that the novel is words, written in prose, to create fiction, on a number of pages, bound together, to form a continuous text of a certain length. These ontological assumptions define the novel in terms of material and content, both of which are shifting radically on the diaspora of new publishing platforms, from eBook to Twine game; in short, object-oriented ontologies that dominate literary theory focus on what is within the novel, not the exchange between the novel and the reader.

In tracing the book's history, several literary historians in the 20th and 21st centuries have attempted to define the nebulous medium—choosing divergent criterion for form, content, origin, and evolution. American book historian Ian Watt is the locus of

the debate; in his 1957 *The Rise of the Novel: Studies in Defoe, Richardson and Fielding*, Watt places the origin of the novel in Daniel Defoe's *The Life and Adventures of Robinson Crusoe*, in 18th century England—launching an evolutionary approach to the definition of the novel. Watt avers that the rise of empiricism, individualism, and a new bourgeoisie converged in a new writing style different enough to constitute a new medium. Deidre Lynch and William Warner (1996) echo Watt in *Cultural Institutions of the Novel*, writing that the novel “institutionalize[s] subjectivity”, the selfhood that had materialized and could be reinforced through private writing and reading during the Enlightenment in the early 1700s (20). Watt (1957) argues Defoe's new style of “formal realism”, with its “air of complete authenticity”, crystallized the medium of the novel—the defining feature cleaves the more serious form from the frivolous romance genre, which had been written long beforehand primarily for women (27). Watt's focus on realism as a feature that defines the medium echoes in Jay David Bolter and Richard Grusin's (2000) analysis of new media, which they navigate using the measure of immediacy: an “appeal to authenticity of experience” in a medium in order to make “viewers feel as if they were ‘really’ there” (3, 70). All media can be defined by the ways in which they remediate the real, Baudrillard's referent in tangible reality, Bolter and Grusin argue; the noise between the real and the receiver is the medium. The novel, Watt argues, closes the distance between reality and prose, through less florid diction and less dramatic dialogue, separating it from earlier instances of poetry and long prose works bound together as books. Prose in novels is thus defined by its proximity to truth, “a set of narrative procedures [...] Rarely in other literary genres, that they may be regarded as typical of the form itself” (Watt 1957, 32). Watt's imprint on literary theory and the historiography of the novel is enduring, though many have rebuked his anglocentric

claims. Watt's static definition of the novel, centering on content and style, reverberates even in scholars that rebuke his chosen white, male, and English origin point for the medium. In *Loving Literature: A Cultural History*, Deidre Lynch inverts Watt's timeline but adheres to his separation of serious novels characterized by the style of formal realism read for intellectual development and unserious reading read for entertainment. Lynch argues that until Watt's turning point—the explosion of novel popularity in the era of Richardson, Fielding, and Defoe—reading was a deeply serious cultural activity that belonged to the realm of rhetoric. Ignoring centuries of romance and adventure novel reading in Europe, and the flood of erotic writing on every continent from Ancient Greece to medieval Tibet, Lynch argues that it was only after Watt's turning point that the novel became a form of entertainment; from the 1750's onward, people read for pleasure. The false dichotomy between the opposing purposes of serious and unserious reading is foundational to Watt and Lynch's definition of the novel, creating siloes within the medium that prohibit the conception of a general novel reader.

In bursts, first in the late 1980s and now, since 2012, scholars hoping to rewrite the history of the novel have thrown aside Watt's criterion and narrative of the novel's inception, defining the novel via a variety of strategies that similarly spotlight form, content, and origin point—leaving the reader out. In *The Novel: A Biography*, Michael Schmidt's (2014) assertion that “texts became stable in transition” applies to much of the novel's history in England, but the explosion of new digital platforms for the book has made the inverse true. A moment inverse to that of the invention of the printing press is occurring now: the “Cambrian explosion” of the novel through digital publishing. The invocation of the rapid multiplication of life on Earth, from simple organisms to millions of species of complex crustaceans and fauna, was fitting at the 2014 Pages Conference,

when Greg van Alstyne used it to introduce a panel on the future of the book that included a novelist, as well as representatives from Wattpad, a popular fan-fiction platform, and Penguin (*Pages Conference*). The novel is now destabilizing rapidly. Insurgent new media iterations have undone the ontological assumptions that define this field of research, begging for a new criterion to define and analyze the book. All of the methods detailed below are valid and useful ways of defining the novel—training the eye on the author’s style, or the material presentation of the book, or its economic context can yield fresh insight into each of those areas. They are not, however, useful for the purpose of this thesis: to arrive at a reader-focused definition that will survive the rapid diversification of reading platforms, styles, authors, and readers.

The novel as print

Print, participants in the study said during the interview phase, felt more authentic than digital text. A kind of tactile nostalgia inspired by printed texts was mentioned frequently, but material presentation did not affect participants’ relationship to the text.

Interviewer: How did you do most of your reading in high school?

Participant 23: All real books.

Interviewer: Paper books?

Participant 23: Yeah.

The printed text offered aesthetic qualities that the participants appreciated; I could hypothesize that this is partially nostalgic, recalling the “ideal lap” in which they learned to read—Maryanne Wolf’s (2008) term for the connection that forms between parental attention and reading in young minds (83). Schmidt suggests the innovation of moveable type was a key moment in the evolution of the English novel—the mechanization of the novel standardized the form (Schmidt 2014, 23). The seminal

moment made publishing lengthy books exponentially faster and cheaper, but also stabilized and standardized the form—underpaid scribes no longer copied and recopied the author’s original text. With the invention of the printing press, the original, so essential to Walter Benjamin’s conception of the effects of mechanical reproduction on art, was lost forever, taking with it the “flexibility of the scribe, who could add modern fact to out-of-date history, correct mistakes, elaborate style, doodle in the margins” (Schmidt 2014, 23). For the novel reader, printed copies and the author’s original version are no different, as the author’s original version is unseen; the original Word document or handwritten manuscript is not pictured in the repeated stamping of uniform type on uniform substrates. The novel’s “aura” was lost with the literal and figurative flattening, standardizing effect of the Gutenberg press. Even in a web interface, the distance between the “original” text and digital reproduction is invisible, because the “original” text does not exist for the reader and the digital is therefore not a reproduction; *Harry Potter* is not J. K. Rowling’s handwritten notes. For the reader, any iteration that they read is the real thing—if they are able to have the relationship with the iteration that they expect (they are immersed in the world of the book or identify with the characters). Thus, fan fiction read online might be as “original” as J. K. Rowling’s books; primacy of one version over another, validity as a “real book” is decided by each reader, not by the form it takes, or its distance from an “original” that does not exist. Some participants in the study mentioned digital books and print books interchangeably, gliding between platforms depending on their stage of reading the text.

The distance from print, where “each technological transformation acts as a mediation of the original”, cannot therefore be used to define the novel; the level of mediation is not vital, as Paul Gooding, Melissa Terras, and Claire Warwick (2013)

suggest, in “defining its relationship to the audience” (631). This view privileges print; print is deemed closer to the original, and digital as a copy—less real, less valid.

Gooding, Terras, and Warwick (2013) write, “rather than providing us with an authentic cultural experience, each technological transformation acts as a mediation of the original” (636). However, without an original that creates the “authentic cultural experience” and no sense of distance from it, for the reader, novel reading is not modified by mediation—digital novels are not more removed from a print original. Focusing on the level of mediation thus adds to a false sense of separation, or of a giant leap, from print to digital reading experiences, conferring on print the dignity of authenticity and on digital the perils of distance from the real, the imagined “original.”

The novel as prose, fiction, and words

The most brittle object-oriented definitions of the novel focus on form or style and content; these definitions are often yoked to conceptions of the novel as agentic, creating meaning, and the reader as passive, receiving meaning. Lewis Leary, a contemporary of Ian Watt, writes: “power over another’s mind [...] that is literature” (Lynch and Warner 1996, 29). At the opening of *The True Story of the Novel*, a reaction to Watt’s history, Margaret Doody (1996) declares “a work is a novel if it is fiction, if it is in prose, and if it is of a certain length” (16). Her definition is less anglocentric and more inclusive than that of Watt; using allusions as a key criteria, Doody (1996) finds the earliest antecedent of the contemporary novel in the first golden age of Ancient Greece, in Herodotus’ *Historiai (Inquiries)*, which fictionalizes the Greco-Persian Wars (28). This first novel is fiction, prose, and long—with characters that read in order to reflect, and allusions to other texts. By excluding the reader and pinpointing prose—most often

defined as continuous, unmetered sentences without line breaks—Doody also excludes epic poetry, a long tradition that grew out of oral stories and flourished in Ancient Greece. Homer’s *The Odyssey*, written 400 years before *Historiai*, also bursts with allusions to other texts and reflective characters who read; it too is long, and fiction. Drawing a line between the styles of prose and poetry seems tenuous at this early origin point; as observed by Guglielmo Cavallo (1999) in *A History of Reading in the West*, many ancient texts were written with ink on papyrus in continuous lines called *scripto continua* (75). This fluid scrawling omitted line breaks and punctuation from all texts, and it is the way most Ancient Greeks who were wealthy enough to be literate accessed written stories. Though the meter remained in the syllables of the words, the other elisions activated the reader as co-creator by allowing them to inject their own punctuation and spacing—and all the different tones and consequences therein. In *scripto continua*, written texts derived from oral stories, like *The Odyssey*, draw close in style and content to those derived from other written records, such as the epic “novel” *Historiai*. Furthermore, their effects on reader agency when both written and read in *scripto continua* would have been nearly indiscernible—a focus on the reader bridges the breaks in style or silos of genre between them, illuminating continuities in affect. Steven Moore, in contrast, includes poetry in his definition of the novel as a hybrid form, referencing the German text *Solitudes* (1612) as an example of “verse fiction” (Moore 2013, 37). Both Moore and Doody twist themselves into knots to define the novel in a flexible way, trying to find an earlier origin point than Watt, while focusing on static underpinnings of prose and fiction. The material presentation of text changes over time and can unseat those formal aspects, rendering definitions of the novel based therein

redundant—and making it easier to miscategorize or miss entirely instances of novel reading in different forms, ancient or new.

In 1797, Erasmus Darwin, in “a plan for the conduct of female education, in boarding schools”, writes, “What are epic poems but novels in verse? — It is difficult to draw the line of limit between novels and other works of the imagination” (Nixon 2009, 246). William Godwin, writing on the benefits of reading prose and poetry in *The Enquirer* the same year, references John Milton’s *Comus*, a masque or play written in metered rhyme, to defend the book. *Comus*, Godwin asserts, is powerful, worthwhile reading because Milton breathes life into its printed word even when it is read, not performed (Nixon 2009, 248). The words “create a soul under the ribs of death”, conferring onto the author of the written word—prose, poetry, or drama—the same power that God held over Adam (Nixon 2009, 249). Following his marriage to novelist Mary Wollstonecraft in 1797, Godwin’s reputation as one of the most radical, leftist cynosures of his time flourished; he is now recognized as a forefather of anarchism. In contemporary literary theory, the commonalities in authorial agency Goodwin found across poetry, drama, and prose seem equally anarchist and revolutionary. Moore and Doody’s efforts to demarcate prose and poetry underline the nebulous, borrowing nature of literary texts, and the difficulty of creating a global history or theory of the novel that centers on the style of the words on the page.

The division between fiction and nonfiction can also be problematized, and has been substantially in literary theory as well as in popular culture (see: James Frey’s *A Million Little Pieces*, the memoir that became a “semi-fictional novel”). Many literary historians cite Aphra Behn’s *Oroonoko* as a turning point in the history of the novel—the earliest antecedent to the novel in its current form. Brean Hammond and Shaun Regan

(2006), editors of *Making the Novel*, insist *Oroonoko* is “not a novel” because it may be nonfiction (37). Schmidt (2014) finds the origin of the European novel earlier, in the popular *The Travels of Sir John Mandeville*, translated into English between 1357 and 1371; it is a fictionalized account of a pilgrimage to Rome, embellished characters and phantasmagorical settings (17). The coalescence of make-believe and historical fact in the history of the novel make the realms of fiction and nonfiction difficult to delineate; the line between the two is as problematic as Ian Watt’s line between the serious novel and the romance non-novel.

Finally, the definition of text itself, the foundation of all definitions of the novel, is becoming problematic as word and visual culture intertwine—when considered without the reader. Here, at the most foundational level of a formalist definition of the book, we must ask: What is the written word? Is a novel only that which is based in text, a sequence of assembled signs that denote forms not pictorially represented on the page? Is the collection of signs below text? If so, is it a novel?

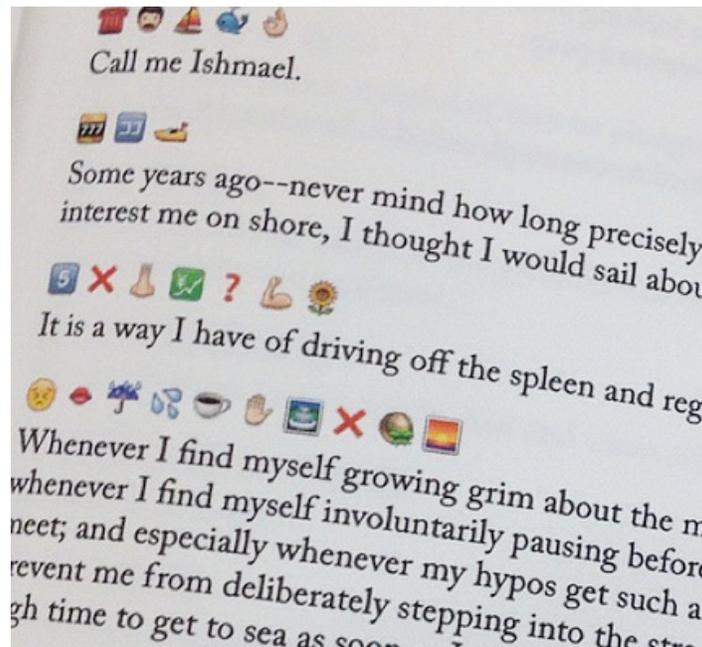


Fig. 2. *Emoji Dick*. Source: Fred Benenson, *Emoji Dick*. 2013. Source: Translator's Café. Available from: *Emoji Dick*, <http://www.emojidick.com> (accessed December 2014).

The above is an excerpt from *Emoji Dick*, a 2013 adaptation of Herman Melville's *Moby Dick* recently accepted into the Library of Congress as an "emoji novel" (Hoffberger 2014, para. 1). The book was translated into emojis by an array of freelancers hired through Amazon's Mechanical Turk platform, funded by 83 Kickstarter backers; it was produced, in short, without an author—Fred Benenson is listed as an editor and compiler (Hoffberger 2014, para. 3). Similarly, a website with chapters of eerie animated GIFs, no words, is titled: "Zac's Haunted House (A Novel)." Written, or curated, or designed by Dennis Cooper, each chapter is titled with a larger animated gif followed by a smaller line of GIFs, through which the user can scroll in a linear fashion. The first chapter begins with a hand turning over in black and white, followed by GIFs of blood pouring, showers running, and a teenager writhing on the floor, to invoke a dark and stormy night. The novel ends with frantic hands dancing under a strobe light, pills dancing, and a humorous collection of animal and video game GIFs. After some contemplation, I ultimately declined to include a Spoiler Alert, as I was not sure how detailing the last animated GIFs could spoil a plot that does not exist beyond each reader or viewer's mind.

Definitions of the novel focused on formalist features—categories of prose and poetry, fiction and non-fiction, and the underlying basis of written words—are confounded by such permutations. If this is a novel, is this iteration part of the future of the novel? Again, omitting the reader sends the novel's definition careening down the rabbit holes opened up by struggles to stake out parameters based on static features, as those static features are endlessly, impossibly debatable.

The novel as situated narrative

Post-colonial literary theory is the antithesis of Margaret Doody and Ian Watt's structuralist focus on form and content; Michael Schmidt's situated approach to the novel, defining it differently in each region and epoch, aims at inclusivity. These definitions seek to give equal privilege to Western and non-Western writers, rejecting totally Watt's insistence that the book is a white invention. Before thoroughly dismantling static criterion of length and prose, Schmidt (2014) provides a warning shot to Watt on the first page of *The Novel: A Biography*: "by the year 1600, the novel was an old, old genre" (1). He sketches the evolution of literary styles across the world, setting few parameters other than that of fiction to define the medium. Schmidt's theories on postmodernist literature are postmodernist, for example, finding the intertextuality of Flann O'Brien's *At Swim-Two-Birds* a defining motif in his work; O'Brien's archetypal characters have "pre-existence" in legend, Schmidt (2014) writes (632). As with Doody, however, the reader is excluded from Schmidt's analysis—he considers the effects allusions to archetypes on the meaning of the text, not the reader. Schmidt (2014) writes that "the book has several beginnings and open ends", and compares it to a "complex verbal labyrinth" but does indicate for whom the entrances, exits, and labyrinth were constructed (632). Moore, too, stretches his theoretical approach to match the region of the texts he examines, but places a refreshing emphasis on the reader; in considering the eroticism of early Tibetan fiction, he endeavors to approximate the readers that would have read it. Tibetan poet *mDo mkharZhabsdrung Tshe ring dbang rgyal* populates a rich, imaginary land with "bliss-inducing lotus" and "well-shaped thighs" to create a smutty fusion of verse and prose (Moore 2013, 523). German fiction, Moore writes, can also be considered part of the same medium's history, despite its divergent form in serial

chapters published separately. This example of early German fiction, in turn, is just as much a novel for Moore as early English chapbooks—joke books published in serial, and united by one narrative frame for the first time in 1608 as *A Jest of Ninnies* (Moore 2013, 545). Where Hammond and Regan omitted *Oroonoko*, because it might be considered non-fiction, Moore includes it, because it involves a single narrator (Moore 2013, 607). Moore’s flexible, post-colonial approach uses narrative unity as defining criteria, if it can be said to have any; post-modernist literature like *Finnegan’s Wake* by James Joyce, which lack the cohesion of a single protagonist or narrator, also falls into his history of the novel.

In this post-colonial paradigm, agency or activity in the relationship between text, author, and reader is diluted and dispersed; the creation of meaning is less important than a formalist analysis of the evolution of literary features. Where does this approach leave the future of the novel, if it does not include the reader, author, or materiality of the text? The elastic, situated approach of Schmidt and Moore is the inverse of the more static definitions of Watt and Doody. In both, the novel ceases to exist. The level of flexibility permitted begs the question: is everything a novel? When the formal aspects are stripped out of the situated approach, little is left behind. Moore’s focus on the first-person narrator could envelope first-person video games, mobile application and web adaptations of the novel that replace words with images and characters with avatars. Each of those iterations has a very different effect on and relationship with the reader (or viewer, or user), but in this extremely flexible approach, they too might be defined as novels. Reviewer Blake Butler (2015) writes that “Zac’s Haunted House”, the “novel” made of animated gifs, is the answer to the question of how the novel “can remain relevant in an increasingly multimedia-driven landscape” (para. 1). Endless stretching of the definition

of the novel can produce interesting innovations like the GIF novel, but it could be dangerous to the future of the book, as other media are substituted without retaining the unique benefits of the reader-novel relationship. If anything is a novel, the medium disappears.

Novel as network

Network theory offers an equally flexible definition of the novel, drawing the borders of the medium only at the outer-limits of the conversation between texts. The referentiality of the novel has been used to define the medium since the inception of hermeneutics, but was reinvigorated by the founding of the Constance School of Reception Aesthetics by Wolfgang Iser and Hans Robert Jauss in the 1970s. Links between texts, such as allusions and archetypes, draw a universe of connections with no center. The novel, in this approach, becomes any text that fits into that network. Foucault (1972) explains, “the book is trapped in a system of references to other books, other texts, other phrases: it is a node within a network” (23). Each novel is a container or intersection point of constellations of references—the meanings lie within the connections that form, not within the contained texts themselves.

In “Formulating Fiction,” William Warner (1996) writes that the novel is “an infrastructure for the diverse ideologies and class personalities contending in culture” (285). This definition is flexible in its exclusion of the materiality of the text and static features in its content, imagining the novel as a site of discourse. Warner drains agency from the writer and reader, injecting the ideas at play themselves with the agency to collide and interact; ideologies, characters, and novels form a virtual, instantaneous dialogue that does not involve humans. Paul Gooding places this intertextual approach

within contemporary network theory. Gooding (2013) envisions novels' words as moving data in networks online and off:

The intertext reduces the author to a cipher for cultural ideas and focuses attention on the text, but the corpus as entity shifts meaning away from the text and towards the network. Meaning resides in the words, which then become both literally and figuratively a form of computer data. (637)

Words travel across this network of cultural ideas and pool in the containers of each novel; according to Gooding, connecting movements are automatic or instantaneous. If no one reads the books in this network, Warner and Gooding contend, the connections still exist; intertextuality requires no reader.

The labyrinth is a common metaphor for the novel in literary theory and histories of the book that focus on intertextuality; Schmidt (2014) calls James Joyce's postmodernist writing a "complex verbal labyrinth" (632) and it is the defining metaphor in Umberto Eco's *On Literature*. Eco's analysis of semiotics in literature revises the network approach to the novel by replacing the network with the labyrinth—one readers, rather than words and ideas, navigate. To illustrate his conception of a networked universe of novels, Eco (2005) invokes the unlimited library written in "The Library of Babel" by Jorge Luis Borges to critique an increasingly heavy deluge of information. "Borges," Eco (2005) suggests, "had designed the World Wide Web ahead of its time" (116). Eco stresses the referentiality of books and the discourse between them in the realm of contemporary network theory, modifying Gooding's approach with the reintroduction of the human. The limitless archive Borges conjured in his short story serves as a model for the totalizing universe of the larger library of books, which, by the virtue of intertextuality, includes all novels. "One cannot escape from the Library," Eco (2005) posits; all novels are connected to one another in their use of unavoidably intertextual language (116). This labyrinthine library is endless—the beauty of literature,

Eco writes, is in the endless reconfigurations of language that can enable readers to produce infinite number of meanings. This methodology allows Eco (2005) to define a general Reader, capital R:

Its Reader, a new Don Quixote, on the more, adventurous, restlessly inventive, alchemically combinatory, capable of overcoming the windmills he makes rotate ad infinitum. (117)

The reader actively walks between the hedges of this labyrinth, each word an opportunity to move forwards and backwards, to wander the larger labyrinth to which the novel they are reading is inextricably connected. The Reader can control the windmills and machinery of the plot, and can furthermore avoid them altogether if he or she chooses. In network theory, the reader can be totally disempowered, but in Eco's modification—labyrinth theory—the reader is a co-creator of meaning.

The problem of the Reader

The author and text form the axis on which all of these literary histories turn; excluding Eco, the reader is a shadowy specter—present, but never close or concrete, with the same effect on books as the moon on the Earth's rotation. The generalized reader has been confined to reception, or reader-response theory; it also appears in theory centering on the relationship between author and reader, often as a disempowered reader on whom the author works his or her effects (Coen 1994). The "implied reader", created by Wayne Booth in 1961, is a projection of the author's ego, and in Norman Holland's "transactive reader", reading is compared to daydreaming. The novel, however, has been and is still defined in absence of the reader; scholarship defining the novel with the reader, in whom the text comes alive, is often considered a separate field. In the Toronto Reference Library, Michael Schmidt's *The Novel: A Biography* is kept on the fourth floor, leaning against Margaret A. Doody's *The True Story of the Novel* and Hammond

and Regan's *Making the Novel*. Four long staircases away, Cavallo and Chartier's *A History of Reading in the West* sits on the second floor, where texts on new media's form, content, and consumers share a shelf. In analyzing newer forms of media, mediums and their audiences are theorized together; auteur theory in film exploded alongside reader-response theory in the literary world, and borrowed from the latter its focus on how a director affects his or her audience through artistic choices. Adorno and Horkheimer (2000) were quick to dismiss formalist analysis of specific styles, content, and meanings of Hollywood movies, for example, instead targeting their larger effects on "the generality" or the audience; stars were nearly identical keys in the Yale lock formula plots of feature films (1). The movies, Adorno and Horkheimer argue, have a general ideological effect of reinforcing the cult of individuality on a generalized viewer; through their analysis of film, they universalize the relationship between medium and receiver. Standing in the ruins of WWII, Adorno and his contemporary, Wolfgang Iser, universalized the movie watcher and the novel reader across an ideological divide: Iser saw a method of contemplation and reflection in the reader that could return a shred of humanity, and Adorno saw another cog in a tyrannical machine.

On an infinitely more granular level, semiotics analyzes the effects of language on a generalized receiver; it does not detail the relationship between readers and novels holistically. Roland Barthes' (1975) *The Pleasure of the Text*, describing the relationship between reader and text, like much postwar theory on the relationship between author and reader, is rooted in Freud, rather than semiotics; one might assume that Barthes borrowed from psychoanalysis because fields much closer to his own, literary theory, were bereft of information on the act of reading. Umberto Eco, content to draw out the relationship between transmitter and destination in his semiotic sender-receiver circuit, focuses on his

own reactions to texts in *On Literature*—he does not explain how the model might be applied to the novel-reader relationship. Structuralists began to formalize the method of close reading in the early 20th century, often referencing personal interpretations of a text, analyzing the effects of literary devices on the scale of individual words; literary theorists as a whole seem far less inclined to universalize what is viewed as a private, self-reflective activity. In the 1960s and 1970s, reader response theory fused semiotics' focus on the transmission of language and structuralism's dismantling of the machinery of language to consider the role of the reader in the creating meaning. Wolfgang Iser used case studies to theorize the cliffs and valleys the reader traverses within a fiction novel. The effects of the novel on the reader are not his focus; instead, Iser conceives a reader with a complicated agency, contributing to the creation of meaning alongside the text.

The reluctance to include the reader in the definition of the novel likely stems from two historical trends with young readers at their center: a long-standing refusal to lump romance novels and serious novels together, as reflected in Ian Watt's work, and the use of "the reader" to slander novel reading. First, the reader's relationship to the medium as a whole could not be theorized because the medium was never whole. This division predates Ian Watt: Machiavelli divided his library into two types, "books for the Reader and for the Battlefield" (Cavallo 1999, 179). In the 18th century, the novel was split by "hierarchies of taste" in which young or female readers read frivolous romances, and male readers read more serious books as delineated by Watt's "formal realism" (Hammond and Regan 2006, 235). Robbie Burns wrote that reading romance novels could provide a needed escape, allowing readers to "soar above this little scene of things", but this generalized benefit was not applied to novels written in the higher style of formal realism—the form of knowledge production revered in Enlightenment Britain

(Hammond and Regan 2006, 237). The definitions of the novel have thus been siloed by genre, splitting scholarship on reading. Mashing all genres and readerships together in order to theorize the relationship between novel and reader was heresy until very recently; such an endeavor might damage the novel's high culture standing, its comfortably aloof position in our own "hierarchies of taste"—a dangerous proposition now, when the book seems so threatened by mediums perceived as below it (Hammond and Regan 2006, 235). This is an old hazard; when the novel gained popularity and became a mainstream cultural activity in the 18th century, any scholarship on the relationship between reader and text was often used as a weapon against publishing houses and authors.

While Robbie Burns ventured to valorize the novel with the broader experience of escapism to valorize the novel, earlier critics found the same effect condemnable, one which undermined the "solid and exalted kind" of intellectualism demanded by the rise of rationalism and empiricism (Parker 1798, 253). A 1780 letter from English tutor William Jones (1780) to his young pupil cautions against novels because "through a desire of captivating the imagination, they fly above nature and reality" (241). Jones' vituperations are a drop in the sea of writing in 18th and 19th century England on the evils of fiction, turning Burns' progressive view of the escape and new vantage point offered by novel reading on its ear. Those most involved in the media habits of young people, when the novel exploded in popularity in Britain, were conservative educators like Jones. They held that romance novels—"trifling works of the imagination"—corrupted young people by making entertainment out of loose morals, overblown dramas, and erotic similes: the "supernatural and violent" (Jones 1780, 240, 241). At this early point in literary criticism, young people—unmarried women in particular—formed the site where societal anxieties

about novel reading converged (an early antecedent to the anxiety around the reading habits of today's digital natives). The relationship between reader and text was generalized in their criticism in order explain the medium's dangers: the reader was passive and often female, an impressionable victim of a plague on good society. To detail this relationship in 1767 Samuel Pegge wrote to *Gentlemen's Magazine* that novels, "the whole together are an horrible mass of hurtful insignificance" (238). Pegge (1767) continues: "many a young person being entirely corrupted by the giddy and fantastical notions of love and gallantry", which make reading "a most unprofitable way of spending time" (239). Two participants in my study echoed these sentiments, saying that reading novels was "pointless" and a "waste of time"—though both expressed that they wanted to read more.

The shifting media consumption habits of youth, from the study of the Bible and schoolbooks—mediums with a built-in moral chaperone—to privately read fiction caused concern in England. Elizabeth Parker, a 14 year-old from Bungary, Suffolk, won first prize in an 1798 essay contest on novel reading for insights like these:

The reading of novels has a natural tendency to create a partiality for them, in the youthful mind, which is totally uninfluenced by the directions or precepts of others; and that this partiality excludes all taste for knowledge of a more solid and exalted kind. (252)

Second prize winner in the same contest, Eleanor Moore Smith, also 14, was less kind. Smith writes that young people who read books "become brutalized and immersed in ignorance; and their faculties unimproved by reflection, degenerate into imbecility" (254). For Parker and Smith, the novel has incredible corruptive powers on a passive reader. The novel seizes on the reader's mind like a virus, degenerating moral and intellectual capacities until total ignorance—the goal of fiction authors everywhere,

apparently—is achieved. If the passive female reader strayed into the masculine genre of formal realism, more egregious outcomes could be expected. Writing on “practical education”, Maria and Richard Edgeworth (1798) caution against women straying out of their genres—domestic romances and morality tales—and reading more serious novels (249). These boundary crossings might lead to more dangerous ones in real life, in which women might be inspired to wander beyond their sex and station. According to the Edgeworths, when reading *Robinson Crusoe*:

Girls must very soon perceive the impossibility of their rambling around the world in quest of adventures ... [and the] obvious impossibility in gratifying any wish. (251)

Even when the generalized reader was conceptualized for all of literature—feminine romance and masculine realism alike—she was used as a weapon against the novel. The narrative of the passive reader and corrupting novel persisted in Britain until the early 20th century, as evidenced by Henry James’ 1884 protestation against the persistent conservative belief that “a novel is a novel, as a pudding is a pudding, and our only business with it could be to swallow it” (Hammond and Regan 2006, 62).

In the 20th century, the passive, mindless reader resurfaced to further bludgeon the medium from its high culture pedestal. Marxist literary theorists seized on the concept of the general reader as consuming automaton and the novel as commodity, comparable in effect to mainstream movies, popular music, and television. Formula fiction, like that found in the romance genre, William Warner (1996) suggests, deploys devices—plot and suspense—that exercise “mechanical effects on the reader” (292). He lowers the novel reader to the level of other “media addicted-consumers (of film, TV)”, conceptualizing the book as a machinic commodity through which the reader is processed (Warner 1996, 302). Warner’s reader is a theme park goer and the novel is a rollercoaster; the reader is

strapped into the ride, dragged forward on a track through pre-painted scenes with no control over speed or direction. The other rides on offer—video games, television shows, or movies—render the rider equally powerless. From a Marxist perspective, the specific content or styles of individual novels are overwritten by “proven formulas intended to stimulate new purchases” and the larger process of commodification within the capitalist market where books are sold and consumed (Warner 1996, 303). The passive reader and the machinic book transfer agency to the publishing industry and forces of capitalism; they are machines within machines, continually imprinted with ideologies that will keep the parts in motion.

Literary theory—that which finds novels worthy of analysis, rather than contempt—was thus divided and traumatized early on. In an attempt to elevate or insulate the medium from attack, novel historians and theorists cut the reader out of their realm of analysis, emphasizing instead static features. As detailed above, these purportedly defining features are likely to be rendered unrecognizable in the transition from print to digital. Conceiving of a general readership drags books from high culture into the mud of mass media studies, alongside movies, television, and video games. This effort, however, will also isolate the unique relationship between novel and reader in order to theorize how it can be preserved across platforms for the newest iteration of the reader: the digital native.

Section summary

In this section, I have sketched out an overview of the more inelastic ways the novel has been defined—brittle definitions that break in emerging reading environments and technologies. I also reviewed an inverse approach, the endlessly flexible post-

colonial or situated methodology in which the definition of the novel stretches to accommodate, and validate, the literary histories of non-Western writers. Both theoretical approaches, for the purposes of this project, create twin, opposing futures in which nothing will be a novel, and everything will be a novel, excluding the reader from both. In network theory and its early applications in formalist analysis of literature, I found the beginnings of a useful definition in Umberto Eco and Michel Foucault's emphasis on the pathways that run through and between books—ones which a reader could become active in traversing. Finally, I offered two hypotheses on the cause of the reader's exclusion from the definition of the novel. First, the novel was never perceived as a united medium with a united audience or singular reader, it has been consistently divided between feminine readers of romance and masculine readers of formal realism. Second, the reader has most often been used to attack the novel or conceptualize it as a commodity, undermining the medium's cultural cache—a frequented port in the current storm of competition from new media.

Defining the novel seems lacking when its author and content are considered, but its readers are not; the lines in Claude Shannon's (1948) semiotic model—from transmitter to receiver, where the meaning of language is coded—fade away before they reach the receiver. Schmidt suggests that the “gathering protestant spirit of individual witness and salvation” gave rise to the long and written first person narrative in early modern England, but he does not explore the ways in which novel, built out of the “individual witness and salvation”, might affect the reader or even act as a written version of those activities. Wolfgang Iser (2000) closes the feedback loop, arguing that reading is symbiotic:

Aesthetic response, as the hallmark of reception theory, is to be conceived in terms of interaction between text and reader. I call it

aesthetic response because it stimulates the reader's imagination, which in turn gives life to the intended effects. (311)

The interaction between effects written by the author and the reader's imagination propels the reader through the novel, and in Iser's reception theory, provides the apparatus through which the reader can search for meaning. It is this feedback loop that can be preserved across print and digital reading environments. Conversely, Watt's strictures of formal realism—and other theorists' insistence on static forms—relegate the novel to the catacombs of dead media, as novels continue to be written by an increasingly diverse body of authors, in an increasingly diverse array of styles, disseminated on scattered and vastly different platforms.

Object-Oriented Definitions of the Digital Native



Fig. 3. Douglas Coupland, *Pop Head*. Acrylic and epoxy over top pigment print, 36" x 43.5".
Art Gallery of Ontario.

Interviewer: How many novels have you read in the last 6 months?

Participant 17: Like, start to finish?

The digital native as lazy, oblivious, twitch-brain brat

A new genre has emerged online and in major print publications since the Great Recession. A subset of the horror genre, it brings to light a truly hideous new species bent on the total destruction of old media, the novel, and perhaps even Western society—the candy-coloured monsters among us that Douglas Coupland captured in his 2015 exhibit at the AGO. The monsters among us, as described in Jeffrey Kluger’s (2014) *The Narcissist Next Door: Understanding the Monster in Your Family, in Your Office, in Your Bed—In Your World*.

Maybe it’s better to call them the Idiot Generation. [...] The ancient Greeks considered someone an idiot who concerned himself almost exclusively with private over public affairs. (Boychuck 2014, para. 9-10)

Plenty of people are narcissistic in our society, but Millennials are doing these things on a pandemic level. (Kluger 2014)

In 2001, Mark Prensky coined the term digital native to differentiate the topologies of childhood for those born after 1980. Digital natives overlap with the millennial bracket, which includes those born in 1982 or later, according to the Pew Research Center. Digital natives are often treated as an even more terrifying strain of the venereal disease that is the Millennial Generation. Non-digital natives write about natives/millennials the same way that old media fanatics castigate new, digital forms of the novel, with a mordant mixture of moral superiority, condescension, and fear. Like the print book and the eBook, the alarmism that imagines a sharp break between the reading habits of digital natives and those of their antediluvian predecessors makes the two appear incommensurable. The acerbic treatment of digital natives does not match the most recent research on youth reading habits, and is likely a manifestation of anxiety around new technology; concern around the rise of millennials that refuse to read and the rise of new media run in parallel.

The digital native is a useful point of access to analyze the future of reading for the generation most often characterized as flighty, inattentive, superficial, and incapable of deep thought—the characteristics believed to be embedded in digital reading technologies, the ones most seemingly antithetical to novel reading. In this object-oriented definition of the digital native, selfie = selfish; adoption of new technologies means adopting all traits associated with them.

What is a digital native?

Digital natives are difficult to define; the generalized identity of an entire generation is a question that explodes, much like the question of the novel's definition. "Native" implies an entirely new environment—that the one in which previous generations grew up has been overgrown with wires and screens, rewiring millennial brains and alienating their parents. Prensky (2001) calls the generations preceding millennials—Gen X, Gen Y, and beyond—digital immigrants, whose interaction with technology would always be "accented" due to a lack of exposure in childhood (2). Digital technology has fundamentally shifted the way children grow up, Prensky (2001) writes, providing an entirely new language for understanding and approaching the world (3). He invokes the language of colonialism, positioning those over 30 as uneasy settlers. By using the word "native", Prensky drags the word's colonialist baggage with it; digital natives, as he characterizes them, struggle to learn in conventional classrooms due to their short attention spans and poor memories. Sometimes, reporters—digital settlers—turn vicious in their plans to "wake up" the generation, to "straighten it out". Columnist Bret Stevens (2014) made such an effort in an opinion piece in the *Wall Street Journal*. "Dear Class of 2012," he writes, "Your prospective employers can smell BS from miles away. And most of you don't even know how badly you stink" (Stevens 2014, para. 1)

Underlying the most vengeful mudslinging is the assumption that dilettante and desultory digital natives are unaware of how different they are from past generations. When choosing to read a BuzzFeed article rather than a book, the attackers imply, they cannot see the difference in value, or do not know what they are missing.

These ontological assumptions seem so ingrained in discourse that they are seldom interrogated. They are often rooted in conceptions of what a digital native's childhood looks like, stereotypes I disassemble in my study. Mark Prensky (2001) opens his seminal work on digital natives by emphasizing the connection between shallow mediums and shallow minds. He paints a picture of a frenzied growing up in front of multiple screens:

The people sitting in their classes grew up on the 'twitch speed' of video games and MTV. They are used to the instantaneity of hypertext, downloaded music, phones in their pockets, a library on their laptops, beamed messages and instant messaging. They've been networked most or all of their lives. They have little patience for lectures, step-by-step logic, and "tell-test" instruction. (3)

Instant, instantaneity, twitch speed, little patience: this diction dominates scholarship around digital natives. Chris Seymour (2012) echoes Prensky, writing, "from the time you could work a mouse, you were instant messaging your friends and asking Google questions about your homework" (para. 1). Not only do digital natives have short attention spans, they are also addicted to the technologies that conferred that trait. Elizabeth Edmondson (2012), a high school English teacher, addresses peers struggling to bend their pedagogies to fit digital natives: "like it or not, our students are Facebook addicts" (43). This generation's short attention span and addiction to technology have chipped away and their ability to form deep relationships, as much of communication is now mediated by a screen, according to Howard Gardner and Katie Davis. They suggest

that “an important quality of deep relationships is the vulnerability of those involved” and wonder relationships might “change with this reduction of vulnerability and risk” (Davis and Gardner 2013, 14). How can digital natives connect with characters in novels, if they cannot be vulnerable? How can they read novels, or how will the novel continue to exist, if these barriers—short attention spans, constant connectedness online and a distancing from close personal relationships—are real? Perhaps these perceived obstacles to reading can help explain the novel’s presence in so many of the participants lives: novels offer a private refuge, and an opportunity to be vulnerable.

An aversion to depth, coupled with “twitch” attention spans and an addiction to short-form social media platforms, drive digital natives away from reading, not toward it, scholars suggest. Prensky (2001) initiated this line of thinking in his founding work on digital natives, alleging: “today’s average college grads have spent less than 5,000 hours of their lives reading, but over 10,000 playing video games” (1). Edmondson (2012) also defines digital natives with characteristics antithetical to reading, observing:

I've noticed that fewer students linger in the smell of a new novel or get excited about a freshly cracked book spine. Nowadays they are content to text the person sitting next to them and get excited when someone brings a new Kindle to class. My students are digital natives, fluent in the language of technology, computers, Internet, and video games. (44)

Sometimes, millennials join the chorus suggesting that they hate to read, participating in the gleeful smearing of their generation. This could be viewed as a sort of internalized ageism, in which a generation has come to believe the stereotypes that they are confronted with daily. Madeline Hill (2014), a self-proclaimed digital native, recommends novel reading in *The Huffington Post*, reaching out to her fellow twitch brains by opening with: “But, I’m too busy to read a confusing old book, you say” (para. 1). Hill (2014) continues: “Quite frankly, I’m embarrassed by our laziness” (para. 4). In a

similar piece for *Slate*, another millennial, Julia Long, wrote in 2014 that young people did like to read—if only books were tailored to their shallower brains. Long (2014) writes, “we aren’t looking to waste our time on fluff and filler. A book that feels like an endless road to nowhere or takes too much time to get to the action won’t be a big hit with us.” The unspoken implication of Mark Prensky and Maryanne Wolf’s writing on digital natives is that this new generation is stupid and lazy, and digital natives do not shy away from writing about those traits complicity. Digital natives, they imply, have an intelligence level suited to superficial social media and Internet browsing; their use of dumb technologies has, in turn, made them dumb. This is an extrapolation of McLuhan; here, the medium is not only the message, but also the person interacting with it. In the realm of old media, digital natives are too stupid to read novels and stupid *because* they do not read novels. Many—including millennials themselves—base definitions of digital natives in an illusory relationship between technology and the personality traits and intelligence of its users, mostly relying on new research on neuroplasticity and old stereotypes about the new generation—any new generation—being worse than the one that came before. I could have easily focused this project on the minority of participants who seem to validate Prensky and Wolf’s conception of digital natives. In the daily questionnaires portion of my study, most participants revealed that they visited at least 100 web pages—in just one browser, on one of many devices—in an average 24-hour period, switching pages as Prensky might expect someone with a short-attention span. For a few participants, reading novels meant nothing; the benefits derived from the reader-text relationship were not sought out, or if felt, had no meaning.

Interviewer: What was the last book you really enjoyed? Where did you find it?

Participant 18: I guess I would have to say it was the one with the tiger.

Interviewer: *Life of Pi*?

Participant 18: Yeah, that one.

Treating the above interview excerpt at face value, in the context of Prensky's writing on digital natives, one could assume a total lack of attention or care for novels on the part of the participant. Is the newest generation the most different? Prensky and his followers suggest that technology has widened the gap between digital natives and everyone else, creating fundamental divergences in character and cognition.

What is a digital book?

For some, digital technologies are the source of the dumbing-down of digital natives. Maryanne Wolf (2008), for instance, wonders if “the range of intentional, inferential, and reflective capacities in the present reading brain will become less developed” in digital reading environs (214). Applying neuroscience to the discourse around print versus eBooks, and millennials versus preceding generations, creates schisms. The differences unearthed resemble the binaries inherent to the human brain, such as deep thinking and engagement of the “reflective capacities,” versus less-taxing skimming or browsing modes (Wolf 2008, 214). Much of the dialogue in academia around the emergence of digital reading modes emerges from the presupposition that digital and print are fundamentally different mediums: one shallow and broad, the other, deep and narrow. The perceived chasm has sparked panic around the digital book's consequences for literary theory and human culture as a whole. Elizabeth Clark (2010), echoing teacher Elizabeth Edmondson, speaks to the perceived enormity of the change in “The digital imperative: making the case for a 21st-century pedagogy”, positing that “with the pervasiveness of web 2.0 comes a shift in our cultural norms” (27). N. Katherine Hayles

(2006) writes that new technologies “reconfigure the relations between authors and readers, humans and intelligent machines, code and language” (112). The distinction between “shallow” and “deep” thinking underpins this polarized approach; rather than merely accounting for difference, reliance on the binary seems to lead scholars to monomaniacally hone in on difference, making the gap between print and digital novels the locus of their work.

Dolores Lopez, Joanne Diaz and Carr of the University of Complutense in Madrid, dig an ontological canyon between the human eye skating across words printed on paper and words pixelated on screens; the former, penetrable, drawing the mind in, the latter, a hard surface that rebuffs the brain, sending it skittering in all directions across the surface. In the scholarship of Lopez, Diaz, and Carr, phenomenology intersects with literary theory: in an ever further reaching extrapolation from McLuhan, they believe the medium is not only the message, but that the medium is the brain. Structures of conscience shift depending on the medium used, from deep thinking to superficial skimming. Diaz (2012) defines a shallow “finding” mode intrinsic to digital reading in opposition to the “making” mode of knowledge creation inspired by reading words printed on paper (440). This “making” mode involves deeper thinking, requiring heavy participation from the high cognitive and deep memory spheres of the brain (Diaz 2012, 441). For Carr (2008), this difference makes reading literature online dangerous: reading on the web, he argues, “flattens” the richness of three-dimensional human intelligence into a two-dimensional “artificial intelligence” (para. 38). In *The Shallows*, Carr (2010) compares the distraction inherent to digital interfaces—ads, social media notifications, calendar reminders—to the locomotive whistle that interrupted novelist Nathaniel Hawthorne during an afternoon of deep, contemplative thought (167). His cognitive load

theory (CLT) posits that print reading minimizes digital distractions, thereby freeing our long-term memory for deep thought, enabling readers to make patterns and reflect deeply (James and De Kock 2013, 120). Distraction via Internet was mentioned by 11 of 30 participants as a barrier to reading—the reason why they read less now than they did in high school—bearing out Carr’s hypothesis. Participant 26 recalled that her favourites “were paper books. If I’m using a tablet or a computer I’m going to go to another website, I’m going to get distracted.” Peter Jones (2014), a professor at OCAD University, in a panel on the future of educational at the Pages Conference gave credence to Wolf and Carr’s anxiety around digital reading as a channel to shallower thinking. At the conference, Jones postulated that “print is the highest resolution engagement resource,” while newer, shallower digital mediums “prevent us from developing our own deep memory networks” (*Pages Conference* 2014). Digital reading modalities, Carr and Jones assert, can only offer a thin, pixelated intimacy from which the reader can very easily recover—and forget. Moreover, in the view the postmodern literary theorists cited above, humans who interact with these mediums are imprinted with their characteristics: minds who read print are seen as more complex and deep, while those who read screens—digital natives—are becoming shallower and more scattered. In “You Don’t Hate Millennials: You Hate 21st-century Technology,” Laura Bradley (2014) notes that “it’s hard to separate millennials from the technology of the day—and its virtues and faults—because they grew up with it. They came of age with it” (para. 2).

Amelia Sanz and Maria Goicoechea, colleagues of Lopez and Diaz, used three modes of reading on a small sample of university students—digital natives and millennials—to test Carr’s hypothesis on the polarized cognitive outcomes of print and digital reading. Pitting the reading experiences of a print and PDF version of the same

novel against one another, Goicoechea and Sanz (2012) catalogued the cognitive outcomes of each. The researchers found that the majority of students felt distracted by reading online, 43.1% reporting that they found the web PDF less helpful to their studies than print reading (Goicoechea and Sanz 2012, 338). Moreover, the students reported that they were less able to remember what they had read, and had been less deeply engaged (Goicoechea and Sanz 2012, 338). This bears out Carr's (2008) postulations:

When the Net absorbs a medium, that medium is re-created in the Net's image. It injects the medium's content with hyperlinks, blinking ads, and other digital gewgaws, and it surrounds the content with the content of all the other media it has absorbed. A new e-mail message, for instance, may announce its arrival as we're glancing over the latest headlines at a newspaper's site. The result is to scatter our attention and diffuse our concentration. (para. 21)

Carr, Goicoechea, and Sanz's neurologically focused analysis appears to confirm the rigid binary of shallow digital and deep print. They position the two as incommensurable adversaries, seemingly as simple as the difference between 2D and 3D film—one the "true form" of the medium, the other pointlessly distracting and ornate. Similar studies have reached similar conclusions. A 2014 study by Anne Mangen on the effectiveness of Kindles versus paper for Grade 10 readers shows that the printed page leaves a deeper impression on the mind; more information is taken in when reading print than when reading screen (Mangen, Walgermo, et al, 2014, 67). Put simply, a binary approach that emphasizes the divergent cognitive outcomes of print and digital, older generations and digital natives, imprisons literary theory in a polarizing discourse.

Counter Narratives

A simple inversion of the approach outlined above can reveal the potential depth to be found in reading literature electronically: rather than scattering human concentration across a flat web of hyperlinks, these links could be repositioned vertically—perusing them an act of contemplation rather than distraction. In “Print is Shallow, Code is Deep” Hayles (2004) posits that “computer-mediated text is layered” in multiple coding languages, providing different levels of experience with which the reader can interact (97). Print, Hayles (2004) asserts, has an inherently shallow materiality—paper—that leads to equally shallow cognitive engagement (78). The printed page is “flat” and “inaccessible to readers,” according to Hayles (Hayles 2004, 79). Similarly, James and De Kock (2013) deflect hostility toward digital as a superficial medium by citing the example of a PDF novel read in a web browser, noting that the text contains “dictionary, novel, and the internet” (“Deepening the ‘Shallows’”, 18). The two predicate their enthusiasm for digital reading on their conception of an empowered subject fully in control when navigating the distracting “online paraphernalia” that Carr finds so disruptive to Hawthornian contemplation (“Deepening the ‘Shallows’”, 11). In “Deepening the ‘Shallows’” James and De Kock (2013) relay a personal anecdote in which they read a text on a tablet, alternating between reading and web interfaces (17). By switching between the text and secondary information, the two found a cornucopia of interpretations online—akin to Hayles’ vertical hierarchy of codes. This navigation of a network of links inspires deeper exploration of meaning than print reading alone, James and De Kock argue (“Deepening the ‘Shallows’” 2013, 16). This anecdotal evidence is somewhat supported by the second and third phases of Sanz and Goicoechea’s 2012 study (337). Rather than a steep slope downward in deeper contemplation as texts were

embedded with more digital elements, their research shows a pendulum swing with high engagement at each end of the spectrum: print literature and electronic reading heavily marked up with links. Their study, therefore, inverts many stereotypes about the shallowness and “twitch” speed of the minds of digital natives—and the types of reading they supposedly gravitate toward. Though engagement was low for the step between the two—a PDF of a text read online—a version of T. S. Eliot’s *The Waste Land* digitally annotated with links to reader discussions led to higher levels of comprehension, which can be defined along the lines of Carr and Wolf’s conception of deep thinking (Sanz and Goicoechea 2012, 341). Sanz and Goicoechea found that only 21.9% of digital natives characterized hypertext as distracting (338). Evidence that young readers can find equal access to deep thinking, and freedom from distraction, in digital and print reading environments destabilizes the binary understanding of the two mediums as divergent popularized by postmodern literary theorists. The fact that the binary can be so easily inverted—the traits of breadth and depth reassigned in a discursive chiasmus, for digital natives and older generations, digital and print books—underlines its lack of utility and inadequacy as a foundation for analysis.

The counter-narrative in the discourse around digital natives acknowledges the connection between digital natives and older forms of technology, between disdain for digital natives and fear of technology. Rather than taking for granted that new media engenders shallow, distracted brains and old media are the conduit to deeper contemplation, the binary can be easily inverted—exposing the futility of focusing on oppositional traits when discussing the “newness” of digital natives or digital books. Some participants said during the interview phase that digital distraction was a barrier to reading, a finding which was born out in the daily reading questionnaires; most

participants found time to read online articles and chapters, while also answering that they wish they had read novels more. As discussed in the Reader-Based Definition of the Digital Native section, there is a wide and problematic gap between what participants said they wanted to read (novels) and what they actually read (digital articles). However, this gap is useful in disrupting the link drawn between the new technologies that digital natives have adopted and the new behaviours by many scholars and journalists, as shown above. For my participants, technology usage is not related to content preference. New mediums did not replace the content of old mediums; participants roundly preferred novel reading to the content they found more frequently online.

Interviewer: Do you read more or less now than when you were in high school?

Participant 9: I think it's the equivalent.

Interviewer: What about compared to elementary school?

Participant 9: Way less.

Interviewer: Why do you think that is?

Participant 9: Time. I'm so, like, I barely get the time to do anything besides school work, like, university is crazy, so it's like... and I'm so exhausted all the time from doing schoolwork, even if I open a book to read, after one page I'm like, asleep, so.

Interviewer: Do you miss reading, or are you okay not reading?

Participant 9: I miss reading. I have a very vivid imagination.

In interview, the majority of participants claimed increasing responsibility, at work and school, as the main compressor of their previously ample time to read longer and more mentally and emotionally taxing texts (novels).

Interviewer: Are you happy with the amount that you read, or do you wish that you read more or less?

Participant 14: I definitely wish that I had more time to do it, because most of the time it's very spaced out over the months, like the 3 or 4 I read are spaced out. Now, I don't get as much time to sit down and like actually read something, but I do try to. It's just that it's harder to do when you have like 6,000 assignments to the right of you waiting to be done. I'd just rather be sitting down and reading. It's mainly my schoolwork. I don't really go out with friends that much, so that's not a barrier. This time of year in particular is very busy for me, like, I did 6 assignments yesterday, and I have an essay due today, and that pretty much stops me from reading.

This is far from the portrait often painted of digital natives as readers too lazy to pick up a book; in fact, Participant 14's reason for not reading, a busy schedule, is one that could extend beyond her digitally-saturated generation—a continuity buried by articles monomaniacally focused on difference between digital natives and everyone else.

Barriers to reading aside, the needs that drive digital natives upset stereotypes about what attracts them to social media and the Internet; in my study, I found digital natives read for many reasons, including their desire for a quiet, private space for reflection, and an open world where they can experiment safely. Participant 26 said *A Streetcar Named Desire* was his favourite book in high school due to the “subject matter.” He said, “It was topical, really edgy topics, and I was just coming out. I think I can relate to a lot of it, and Blanche is just such an interesting character. She just felt like kind of this creepy kind of woman.”

Brown and Czerniewicz (2010) go so far as to call the campaign to portray digital natives as vastly different “digital apartheid”, charging that Mark Prensky's approach is fundamentally undemocratic (para. 1). Jathan Sadowski (2014), in “The Digital Native, a Profitable Myth”, posits that anxieties emerging from the quick bleed of new technologies into every area of daily life are manifested in hatred for the new generation that uses it; traits associated with eBooks, for example, are transferred onto the people who read them. The equation of digital natives with traits tethered to the technologies they use obscures counter narratives emerging in scholarship. A 2013 Pew study released found that those 16 to 29, millennials, were more likely to read a book or take a book out of a library than anyone older. Those that read, read a median of 10 novels per year (Pew Research Center 2013). In my study, participants—who read and did not read—had

imbibed an average of 4 novels in the past 6 months, since from September or October 2014 to February or March 2015. This is close to the Pew median, a minimum of 8 novels per year, as many participants mentioned that they read more during summer. The study was reported widely in the media, but its findings did not—as demonstrated by the references above—unseat the dominant narrative about digital native flightiness.

Section summary

Digital natives have been defined by strong cynicism towards emerging technologies and a desperation to preserve older cultural modes and ways of being, producing stereotypes that mischaracterize the reading habits of digital natives. Though some digital natives demonstrably do not read, evinced by the articles linked above and a portion of un-bookish participants in my study, new evidence is emerging that the severe break in between literary culture and Internet culture is largely illusory. As the novel has been defined without the reader, digital natives have been defined without themselves—anti-millennial alarmists instead focusing on their technological habits, vernacular, and presentation. Assumptions around digital natives and their reluctance to read persist due to these object-oriented definitions, which I challenge in my study by illuminating the ways in which digital natives' reading habits are, and are not, different.

A Reader-Based Definition of the Digital Native



Fig. 4. David Altmejd, *The Index*. Steel, foam, wood, glass, mirror, Plexiglas, lighting system, silicone, resin, taxidermy birds and animals, synthetic plants, synthetic tree branches, bronze, fiberglass, paint, burlap, leather, pinecones, horse hair, synthetic hair, chains, wire, feather. 131" x 510.5" x 363.25". Art Gallery of Ontario.

Pixelated Literature Study

To better understand the reading habits of digital natives now, I completed a study of 30 OCAD U students 18 to 24. All participants were currently enrolled in university at the time of the study or had graduated within the past four years: 27 at or from OCAD U, two at Queens University, and one at Ryerson University. I endeavored to choose a variety of research methodologies that would produce rounded portraits of my participants, as I hoped to tease out information often missed in broad surveys.

First, each participant sat down with me for an interview over coffee or Skype for 10 to 35 minutes. All 30 participants completed the interview phase. I used elements of narrative inquiry, a tool often used in sociology, to capture specific data points and anecdotal material through 49 questions. Narrative inquiry was flexible enough for me to adapt or skip questions based on participant responses, to pursue improvised lines of questions during interviews, chasing down specifics or root causes; it is a theoretical approach that allows for surprises. I interviewed the first 12 participants between September and January 2014. I added questions for the second set, interviewed between February and March. The interviews centered on a set of pre-written questions, available in Appendix A, but conversations were more spontaneous; this is why not all data adds up to 30 answers—not all participants were asked an identical set of questions.

The interview questions were intended to help me unearth a variety of information about youth reading habits. I wanted to understand why they read, and how they read, where, what they read, and when—aspects often opaque in industry data and mischaracterized in sensationalist journalism. I needed to know what lead to their reading experiences, both broadly—in terms of mentors who had encouraged them to read, for instance—and on a much more granular level, in how they found and began to read

books. What encourages them to read, and what gets in the way? As my prototype became more concrete, I also needed to ask how many novels they had read in the past 6 months, their satisfaction with their level of reading, and whether or not they discussed novel reading with anyone—for digital natives, is reading a private or public activity?

Patterns that emerged over the course of the interviews surprised me. I found answers to questions I had not intended to pose, forming new hypotheses that could lead to entirely new theses; parental leisure activities and adolescent reading habits were linked, for example, and the role of mom throughout participants' reading lives was much larger than I anticipated. After the interviews were completed, I transcribed the audio files and entered the information I coded using Barney's grounded methodologies in an Excel sheet. From this data, I was able to further isolate outliers while finding patterns, through diachronic organization, to draw narratives of reading from childhood through to adolescence and adulthood. These patterns, along with basic demographic data, were then visualized using Excel and Density Design's Raw generative platform. The balance of trend visualization and individual quotations, I hope, draws a very concrete general reader, while allowing for nuance and difference.

In the second phase, participants were asked to complete a short survey about their reading habits in the past 24 hours, every day for seven days. Less than 50% of participants completed daily reading questionnaires—some for as little as 1 day, and others for the full 7 days requested. The data captured for the first 12 of 30 participants was stored on a private WordPress, but users found the platform cumbersome to navigate. These questionnaires, available in the appendices, took about 10 minutes to complete; they aimed to elucidate the specific rhythms of daily reading for digital natives. The data included in this thesis is that captured on Google Forms, the platform I used for the questionnaires for the second half of participants; in all, 23 questionnaires were

completed, capturing 23 days in the lives of the participants. I discovered the hardware ecologies for each participant during the interview, and in this phase I caught a glimpse of the content they read on each device. In multiple-choice questions, I asked participants to chart the life of a story from discovery, to reading, to sharing: what were they reading? Where did they find it? What did they do with it when they were done? As with the narrative inquiry portion, I sometimes doubled questions in order to verify answers (in the interviews, I asked what book they read last, and how many books they had read in the past 6 months—sometimes, the answers did not align). The ethnographic facet of this second of the study asked participant to submit their Internet histories for the 24-hour period they catalogued in the questionnaires, with the aim of providing more detail around the content ecology of their browsing habits. I settled on browsing data to capture rich data painting in the background of participants' reading, online and off. What websites lead them to books? Is there a correlation between faster, more scattered browsing habits and less novel reading, as the acidic writing around digital natives suggests?

In the final phase of the study, 11 of 30 participants tested my second prototype. The simple survey included more quantifiable, multiple-choice questions, and text fields where users could leave more open-ended feedback. The outcomes of user testing are included in the Prototype section.

By generating key insights about the reading habits of digital natives, study acts as a bridge from my literature review to my prototype, adding nuance to my definition of reader agency, and contextualizing the reading experience within real day-to-day life, amid a jumble of gadgets and an almost infinite array of novels to choose from. These methodologies blend a variety of paradigms, and are functionalist in some aspects—I attempt to concretize reading modalities and the source of favourite books—and radically

humanist in others. The social science methodologies I employ, including narrative inquiry, and the ethnographical aspects of the reading diaries, introduce observational, qualified insights into contemporary reading habits. As with the novel, I define digital natives not by the technology they use, but by their relationships to content over time.

When pitching students from my table in the front hall of 100 McCaul, I said the study focused on media consumption habits, hoping to draw in a wide variety of participants and demographics; in order for the study to be successful, I needed to involve those who read and those who did not. I recruited students in person at OCAD U, on Facebook groups for first and second year students, and through a website, torontoreadingstudy.wordpress.com. Participants received a \$15 gift card for the 60 to 90 minutes participation in all three phases entailed; I hoped the incentive would attract students from a variety of income levels. A major limitation to a truly random group is the erudition of the participants: all were enrolled in or had completed an undergraduate degree. Given that in 2006 less than 30% of Canadians 18 to 24 were enrolled in university education, this study is not a complete portrait of Canadian readers (Employment and Social Development Canada). Additionally, the participants skewed female. Only 13% or 4 of 30 participants are male; the gap in this study is much wider than the 7% difference between male and female enrollment in university in Canada (Employment and Social Development Canada 2006).

What is it about the study that attracted women? As I discuss later, reading novels is often the provenance of the family matriarch and is still often perceived as a feminine activity; when framed as a study of reading habits, women seemed more eager to sign up. Though the gender politics of novel reading is beyond the scope of the study, two participants mentioned that their brothers did not read, because, as one participant said, “he’s a boy, obviously, so he’s interested in other things, like sports and video

games.” Many who said they had brothers, however, agreed that their siblings did read “a lot.” I stumbled on a second major limitation with Participant 26, who brought to my attention the fact that the survey facets of the study were inaccessible to those with reading disabilities; Google Forms and WordPress, the platforms I used for the surveys, were not easily read by screen readers. The diversity of my participants is particularly constrained in that area; only one self-identified as learning disabled.

The female and ableist sample is not ideal, but the number of participants who mentioned that they had immigrated to Canada introduced some level of diversity. Toronto is a diverse city and OCAD U has a high proportion of international students, making it an ideal location to find participants. Though I did not ask for immigration status or country of origin during the interview, some participants volunteered their nationality when discussing their education: 10 of 30 participants said they immigrated to Canada. Those who had moved to Canada, when asked what role reading had played in their lives, mentioned its ability to boost vocabulary and language comprehension. Reading books played an important role in language acquisition in unfamiliar territory; this aside, few other differences emerged from their moves to Canada from abroad.

How are readers made?

The origin of current reading habits in daily family life and early education is not something I had initially intended to capture; I asked about education, initially, to draw connections between positive and negative experiences and reading. I discovered, for example, that only children were more likely to read now than those with siblings—with the exception of two outliers, participants who read 18 to 20 books within the past 6 months. In the scatter plot below, I compare the number of siblings participants said shared their home while growing up with the number of books they said they read over

the past 6 months. Most participants gave an approximation, usually two numbers when asked, “three or four”, “one or two”; in this study, for all charts and statistics included, I chose the lower number given, purposefully underestimating how much digital natives read—in order to emphasize that their reading numbers disrupt assumptions about digital natives as anti-reading, even when they are rounded down.

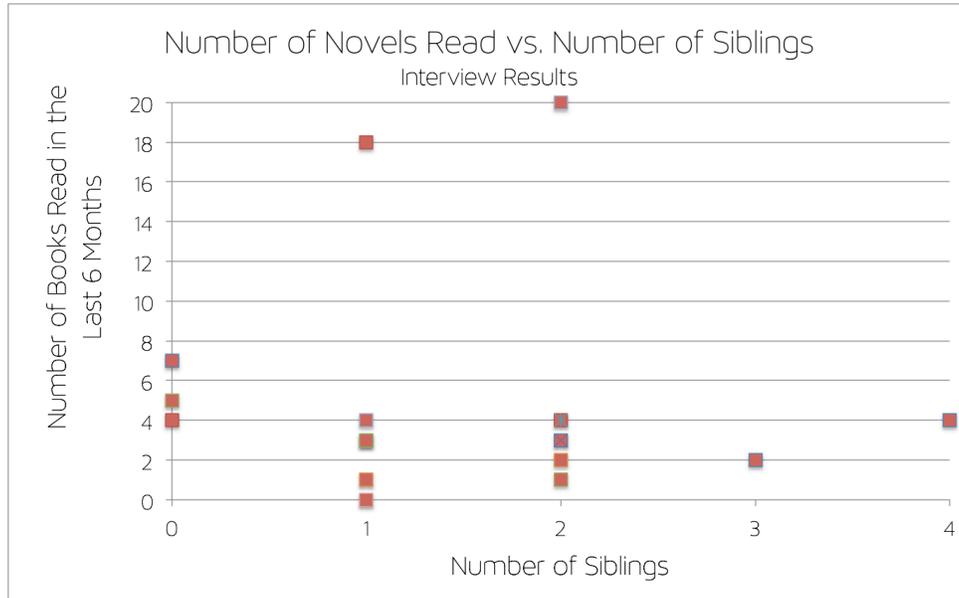


Fig. 5. Katie Meyer, *Number of Novels Read vs. Number of Siblings*.

Similarly, there was no little correlation between whether or not participants said their parents read for pleasure and the number of books participants read recently; participants who mentioned that their parents read after work were not more likely to have read more novels. Clearer correlations emerged between childhood family reading practices and current reading practices in analyzing the interviews when I focused on the role of participants’ parents. Mom’s position as the matriarch of reading appears to begin early in the lives of digital natives. Below, who taught the participants how to read:

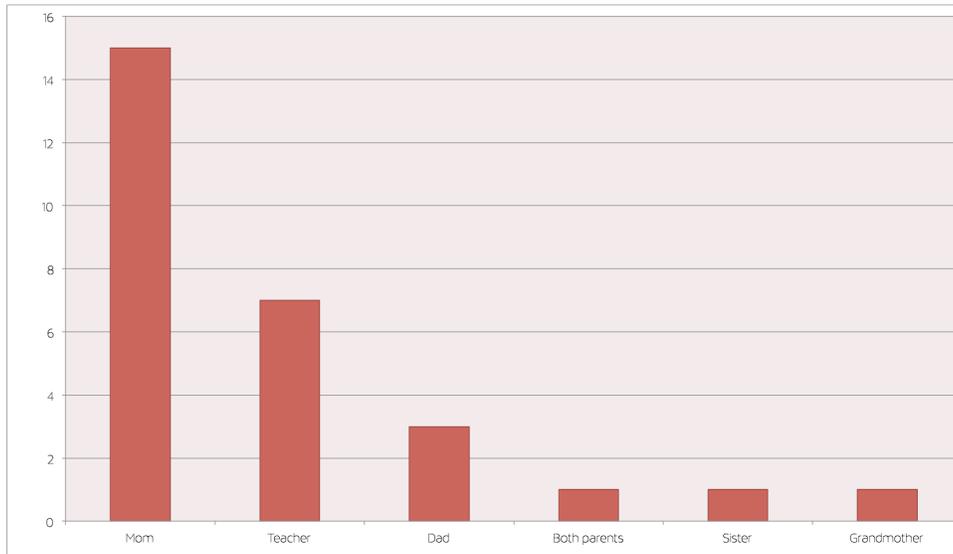


Fig. 6. Katie Meyer, *Do you remember who taught you how to read?*

According to my findings, it is more likely for a digital native to learn to read from a teacher than their father. Three of 30 participants said their grandmothers helped them learn to read, but only one (represented in the chart) said their grandmother was the exclusive teacher. Many participants mentioned a mother or grandmother as a continued source of favourite books. Even after 18, mom's recommendations, bookshelves and gifts are still a major driver of reading for participants. The following figure charts the sources of participants' favourite books at different life stages:

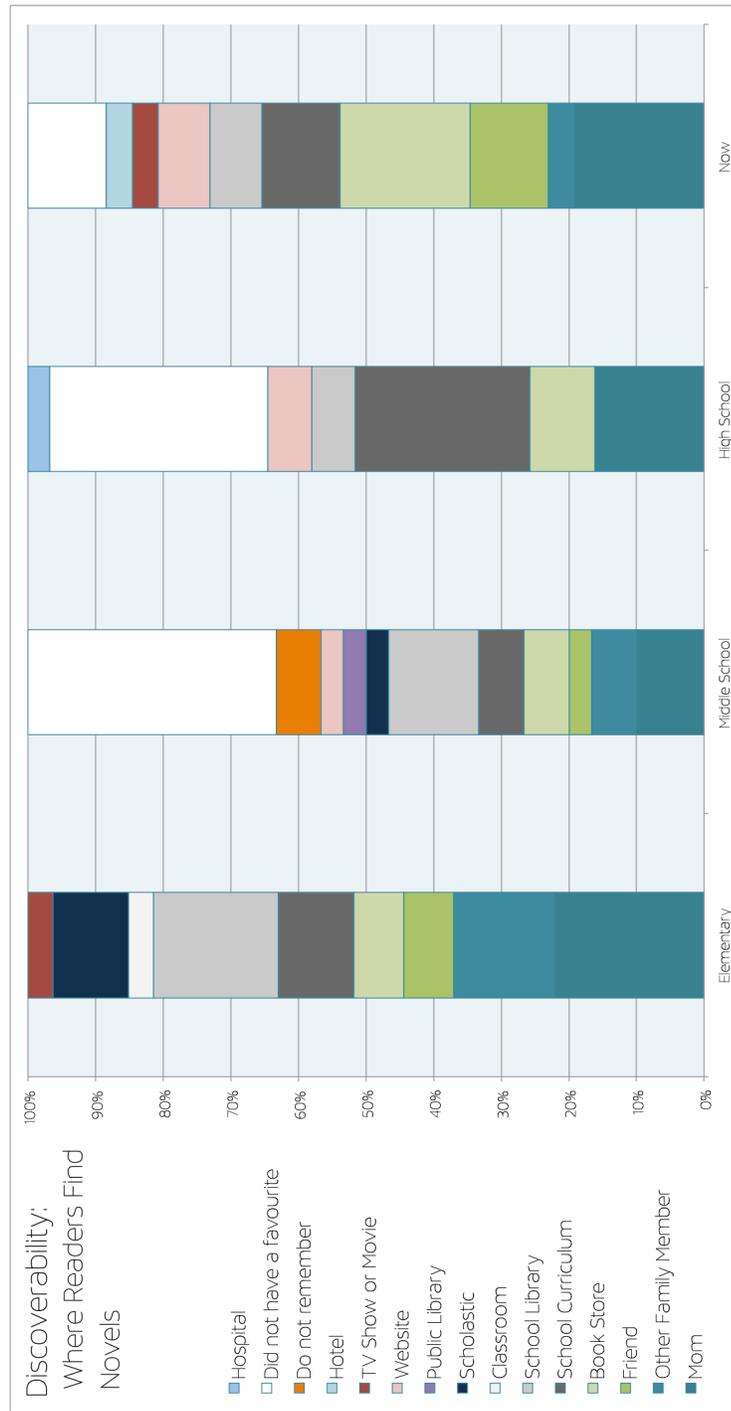


Fig. 7. Katie Meyer, Discoverability: Where Readers Find Novels.

Outliers include Participant 8, who found her high school favourite, *Siddhartha*, at a hospital where she was a patient (“I was nihilistic in that moment, and this character discovers meaning”). Bookstores make up a large portion of discoverability, as many participants mentioned browsing shelves and looking at covers; the shuttering of bookstores across Canada could thereby pose a tangible threat to the discoverability of novels for digital natives, one which my prototype hopes to remedy. For 16% of digital natives, mom replaces all other novel sources from elementary school favourite through to the last book they enjoyed; mom was the largest consistent source of favourite books over time found in the study. Two of 23 participants said they found the last book they read on a website or app, but no participants mentioned buying books online. Below, the four largest sources of favourite novels isolated:

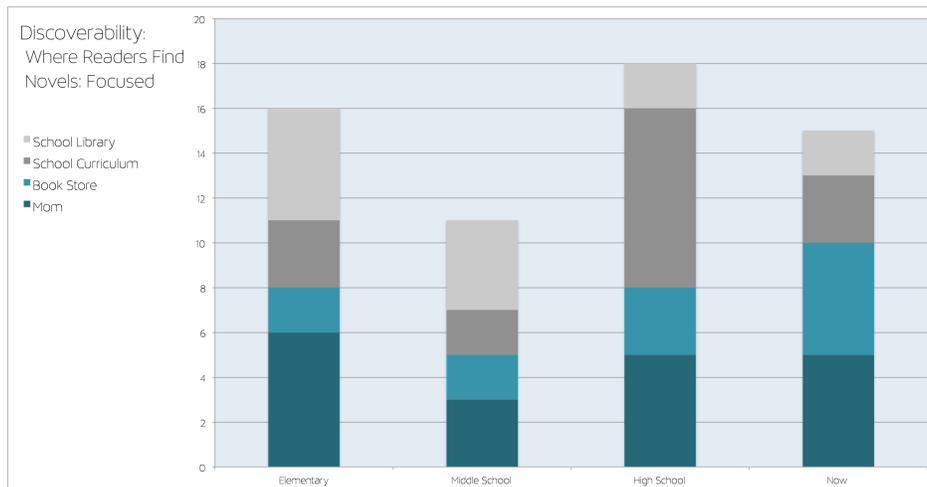


Fig. 8. Katie Meyer, *Discoverability: Where Readers Find Novels: Focused*.

Fathers were not mentioned when participants were asked where they found their favourite books in elementary school, middle school, high school, or now. One participant mentioned a grandfather, which is included in Figure 7 as “Other Family Member.” The ties between family and reading for my participants disrupt

characterization of digital natives’ content sources as key difference between them and

CONTINUITIES & DIFFERENCE IN THE READING HABITS OF DIGITAL NATIVES
Katie Meyer | 11 May 2015

digital immigrants: in “Consulting the Digital Natives,” Adam Stapleton argues, “information and communication technologies, subject to a range of intense developments in the past fifteen years, risk alienating parents from their children” (393). The novel, however, appears to be an important channel between generations. 26% of participants said a family member, including their mothers, recommended the last novel they had enjoyed; 10% said their friends recommended it. Digital natives, even when they learn to use other technologies independently of their parents, learn to read from their parents, and continue to invest hours reading novels recommended by parents well into adulthood.

Reading ecologies

In 2009, Portigal Consulting, based in California, undertook an ethnographic study of reading habits in order to design a new reading modality. For the “Reading Ahead” project, Portigal installed cameras in reading areas of real homes to capture how participants read: their skimming, looking up, as well as reading speed and duration. Such an invasive form of ethnography was impossible for my study—difficult to anonymize sufficiently, and overly intrusive for 30 busy students. However, during the interviews, I tried to detail where and how digital natives read with the following questions:

- How did you do most of your reading in elementary school? High school? Now?
- Where did you do most of your reading in elementary school? High school? Now?
- Do you do anything else while reading?
- Are there any devices near you while reading?

My findings in this area underline how private reading is for digital natives; since early childhood, it as almost always been done alone and in the bedroom. Only after high

school did participants mentions of reading in public spaces—libraries, cafes, parks, porches—increase.

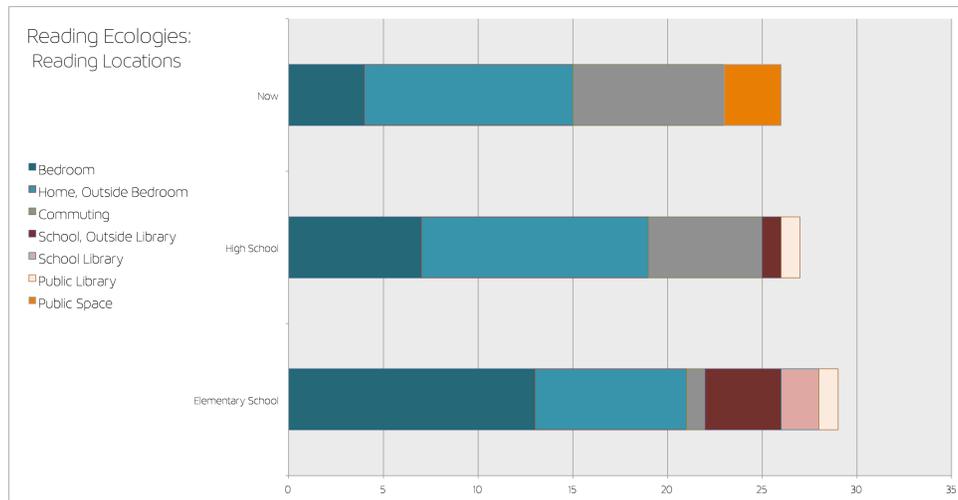


Fig. 9. Katie Meyer, *Reading Ecologies: Reading Locations*.

For digital natives, reading seems to be an insular and solitary activity, done largely at home, with a growing tendency in adulthood to read in more public spaces—on the subway, the front porch, or in a café. The rise in participants who said they read at home rather than in the bedroom after high school is likely related to the fact that their private space has grown; many mentioned reading in their own apartments, not in the family home. Though all participants said they had their devices near them when they read, reading largely appears to be a single-channel activity—the only stream of information comes from the novel, with no visual or auditory accompaniments.

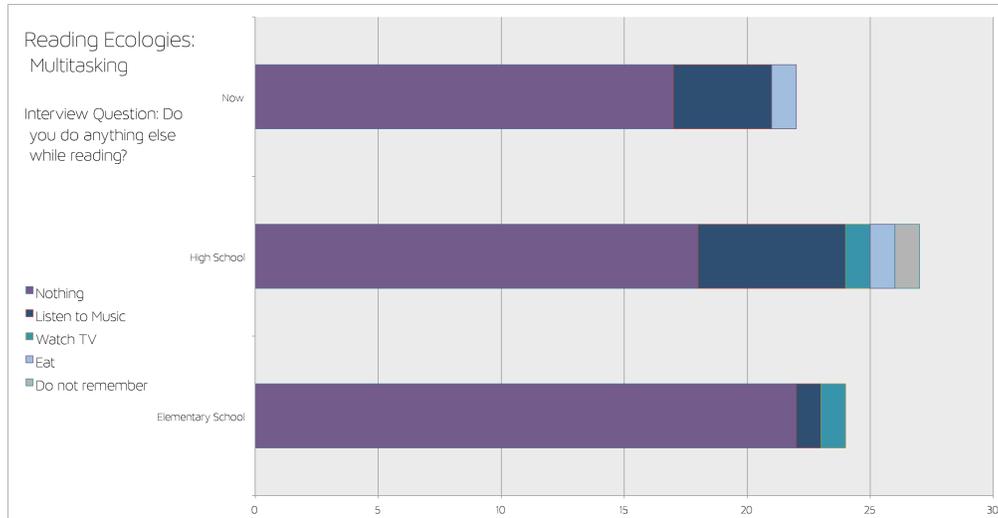


Fig. 10. Katie Meyer, *Reading Ecologies: Multitasking*.

77% of participants now do nothing else while reading; only in high school did more participants listen to music or watch TV. The single-tasking nature of novel reading for digital natives, and the privacy of the environs they deem suitable for the activity, underpins my hypothesis that for my participants, reading is private, rather than public. Novel reading is acutely insular and done almost in secret: alone, in the bedroom, in silence.

The single-channel preference for novel reading may be related to the participants' choice of reading devices. Digital natives strongly prefer print books; all but two said they do not use or enjoy using eReaders. Even if this attachment to print is rooted in nostalgia—though Diaz and Lopez's findings underline a broad neurological preference for print—it is a strong driver of book choices and where digital natives buy books. Below, the medium of participants' favourite books from childhood through to high school:

Mediums of Favourite Novels: Elementary, Middle, and High School

Interview Results

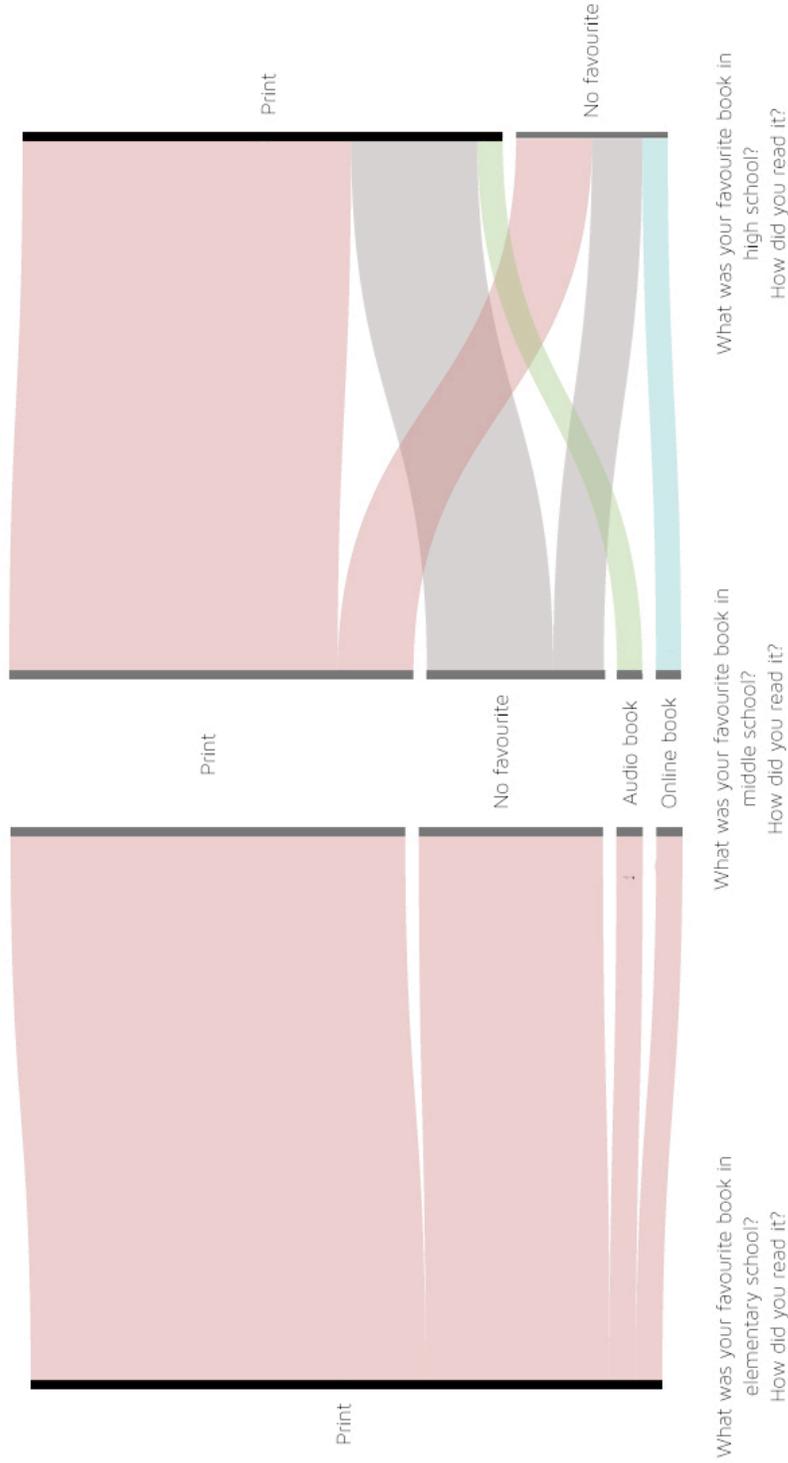


Fig. 11. Katie Meyer, *Mediums of Favourite Novels: Elementary, Middle, and High School*.

All participants who had a favourite book in elementary and high school read both in print, with a small deviation to other sources in middle school. No participants mentioned reading novels online before university unless specifically asked about online fan fiction, which three said they read.

Barriers to reading

Though Barthes' looking up and skimming while reading the novel is key to his formulation of reader agency, some participants supported Nicholas Carr's claim that digital technology derailed reading.

Interviewer: Do you read more or less now than when you were in high school?

Participant 2: I definitely read less.

Interviewer: What about compared to elementary school?

Participant 2: Also less.

Interviewer: Why do you think that is?

Participant 2: I'm going to blame the Internet and smart phones and also having a real job and having responsibilities, had a lot of free time when I was a kid that I just don't have anymore.

Interviewer: How do the Internet and smart phones infringe on your reading?

Participant 2: I don't know, instead of reading a novel I just watch a YouTube video, maybe read a few blog posts, call it a day. Like, I mean now I also cycle to commute which has cut down on a lot of time that I used to spend reading as well, which is probably good because the TTC is frustrating, but, um, yeah. I just have less idle time and idle time is often spent these days checking notifications, reading tweets, which, I mean... it is what it is. I try to carry books around with me, and I'll be reading and then a notification always goes off, and I'm like, "I wonder who that was?"

Participant 2 also said that she wished she read more than she does now. 36% of participants mentioned distraction via technology when asked why they read less now than they did in high school—this barrier, however, was the least mentioned. An equal number mentioned a heavier burden of work and school responsibilities, while 46% mentioned general busyness. As Participant 15 said, "I'm pretty busy with school so I

kind of read whenever I have a second to myself.” Reading is a private respite difficult to carve from the public chaos of social media, work, socializing, and university.

The digital natives’ ability to turn off their tech seemed elastic; all participants said their phones were near them when they were reading, and largely indicated they were not a prohibitive distraction. If the readers had yet to picked up a novel, though, digital technology acted as a barrier to reading; once the reader had passed perhaps the first step in the reading process, investing in a fictional world, they were much less vulnerable to distraction. The reader-text relationship was itself a barrier, requiring much more dedication and investment than media they did not have to co-create to experience, which they could scroll through, for example.

Reading choices

How do digital natives choose what to read, and how do they share their choices? Understanding events before and after reading can help explain why reading materials were chosen; mom aside, where do digital natives source written content? In the daily reading questionnaires, I asked digital natives what they read, where they found it, and who they shared it with, hoping to tease out detail about the sources they parsed and what they considered public or private. Below, a slopegraph showing, at left, which content participants found “interesting” or “memorable” over the course of the day, and at right, how many people they shared it with.

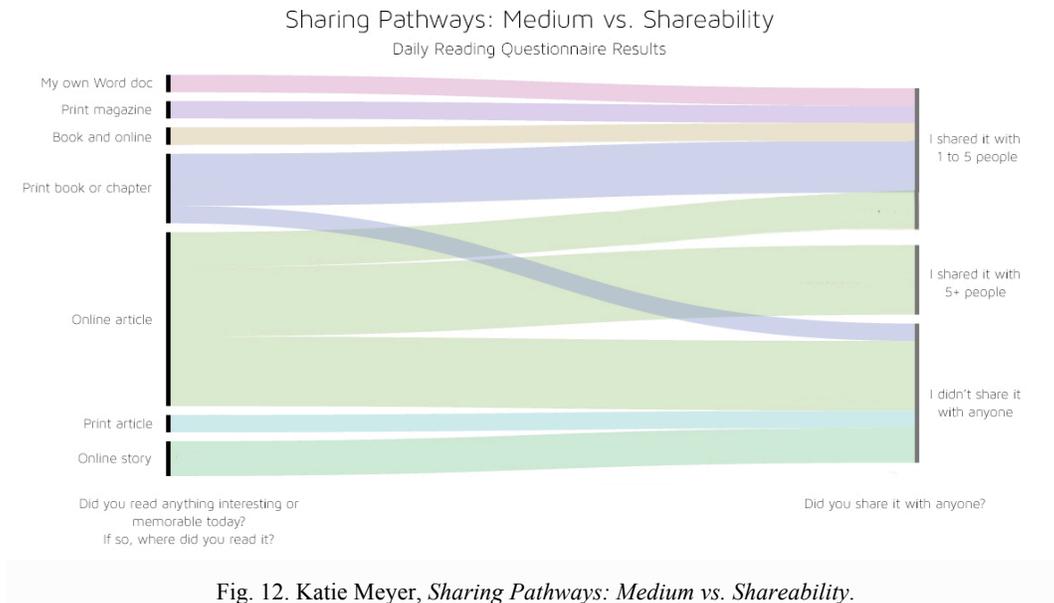


Fig. 12. Katie Meyer, *Sharing Pathways: Medium vs. Shareability*.

Online articles, in light green, were the most likely to be shared with everyone or no one; print books, in contrast, were shared with a more intimate group. The number of participants who said they shared a novel, in whole or in part, with someone after reading contradicts findings from the interviews, in which 50% participants mentioned discussing literature with others—mostly before they read a book, and only in passing. Deeper analysis and coding of the interviews might reconcile the conflicting data sets; overall, digital natives seemed to share articles and keep novel reading more private. Below, the pathways between where participants found the “interesting” or “memorable” (at left), what the reading material was (middle), and who they shared it with (right).

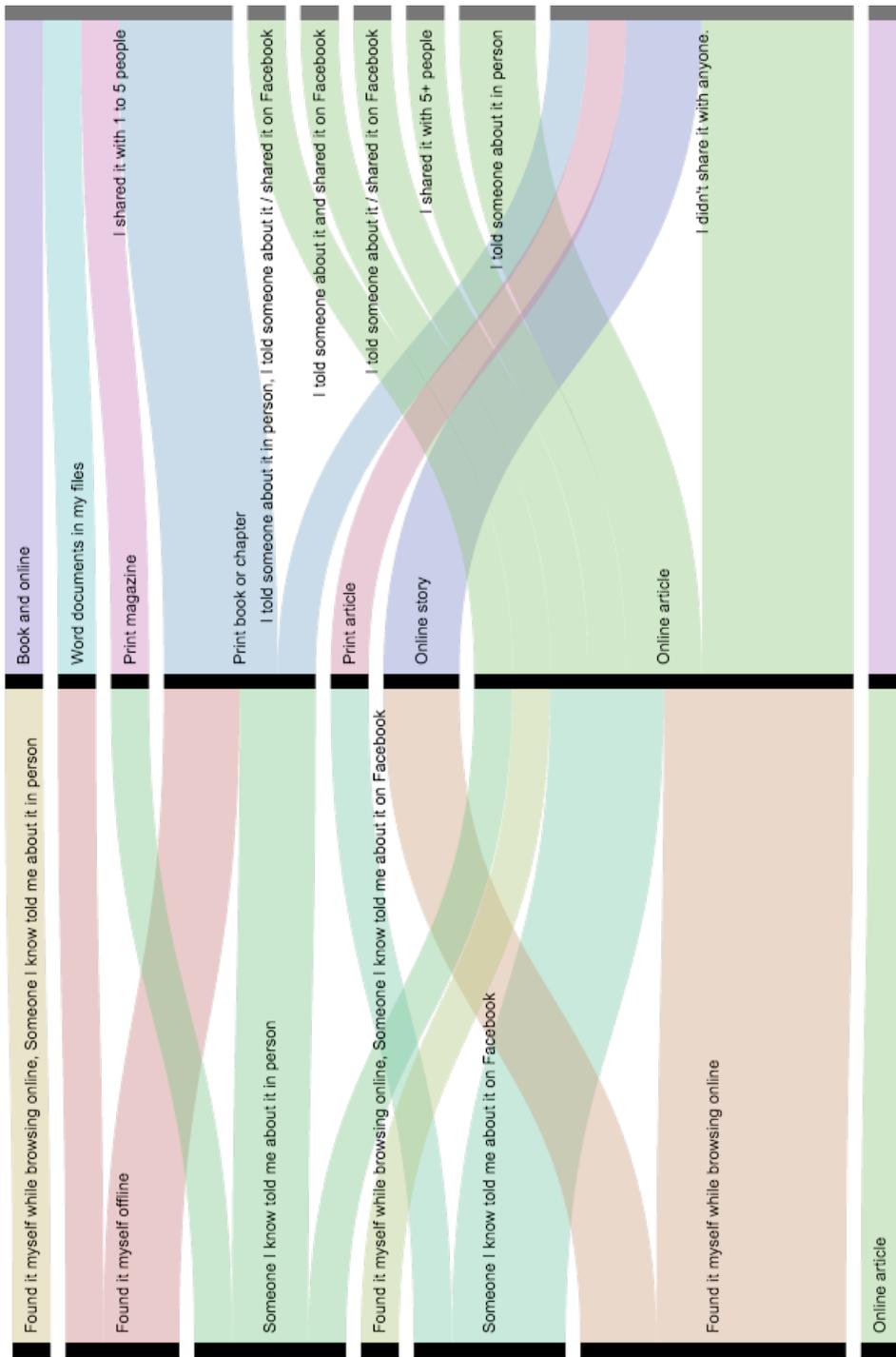


Fig. 13. Katie Meyer, *Sharing Pathways: Source vs. Medium vs. Shareability*.

The pathways digital natives wear between media found, media read, and media shared seem labyrinthine. No participants found a novel on Facebook or online; all participants said they either found fiction themselves offline, or someone recommended it to them in person. The source of participants' content seemed linked to who they would share it with; those who found texts themselves most often did not share them with anyone.

Those who sling the most pernicious vituperations at digital natives, some quoted in the “What is a digital native?” section above, often appear to do so from a charitable (patronizing) stance: they hope to educate, by way of castigating, a generation woefully unaware of its difference (degeneration). Reading much of the literature around digital natives, one might assume young people cannot differentiate the novel from the Internet—that millennials seem to value time spent online more. My participants largely value the Internet and communicating digitally more than other activities: all participants said they used their technology, phones and laptops in particular, “constantly” or “all the time”—not just for the utilitarian purposes of communication and schoolwork, but also for entertainment and escape. In contrast, only two participants said they had read more than 18 books in the past six months, a number high enough to indicate that they could have called her reading constant. However, digital natives hierarchies of taste—the cultural cache they place on the technologies they use—often place novels on top. In the interviews, I found that digital natives often referenced “loving” reading and being “addicted” to social media; they spoke far more positively about novels than Facebook. This finding disrupts the narrative around digital natives as oblivious addicts who prefer social media to reading.

Interviewer: What role has reading played for you, so far?

Participant 17: [...] Just like, reading, being able to imagine the storyline, it's more captivating than being on your phone the whole time.

Interviewer: Why do you think it's more captivating than being on your phone?

Participant 17: Because you can read and at the same time, if it's a good descriptive book, you can visualize what's going on, whereas social media is very one sided. You just like, scroll scroll scroll or you, like, tweet 160 characters or whatever, there's nothing stimulating about that. Yeah, word gets around really fast and yeah, there's news too, but ... I don't know. I think you can learn a lot more through journals or reading, fiction, non-fiction, whatever.

As the participant implies, social media is “hostile to all mystery” that can be found in books; William Godwin wrote that the withholding of books destroyed mystery, and for digital natives, it might be that the mediums they choose over books are easier, but do not stimulate the imagination or open doors to the unknown in the same way (Godwin 247). Digital natives seem acutely aware of these differences between media, defining novel reading in opposition to web browsing (“scroll, scroll, scroll”) and television watching, which are more visually dense and therefore more passive (as detailed below in my definition of the novel).

In the daily reading questionnaires, there was a large and problematic gap between channels where participants found interesting stories and what they said they wanted to read more. In 21 of 23 completed daily reading questionnaires, participants indicated that they had read something interesting and memorable, including “a chapter of brilliant fanfiction”, “a new book called ‘Graceling’”, and an article “about how Tim Cook offered his liver to Steve Jobs.” When asked whether they read anything interesting or memorable that day, 34% of participants answered with novel chapters, read in print or online. As shown in the slopegraph below, a much larger portion said they wished they read more.

As shown in the slopegraph below, though most found something “interesting” or “memorable” in an online article, more than half said they wished they had read more print novels on that day.

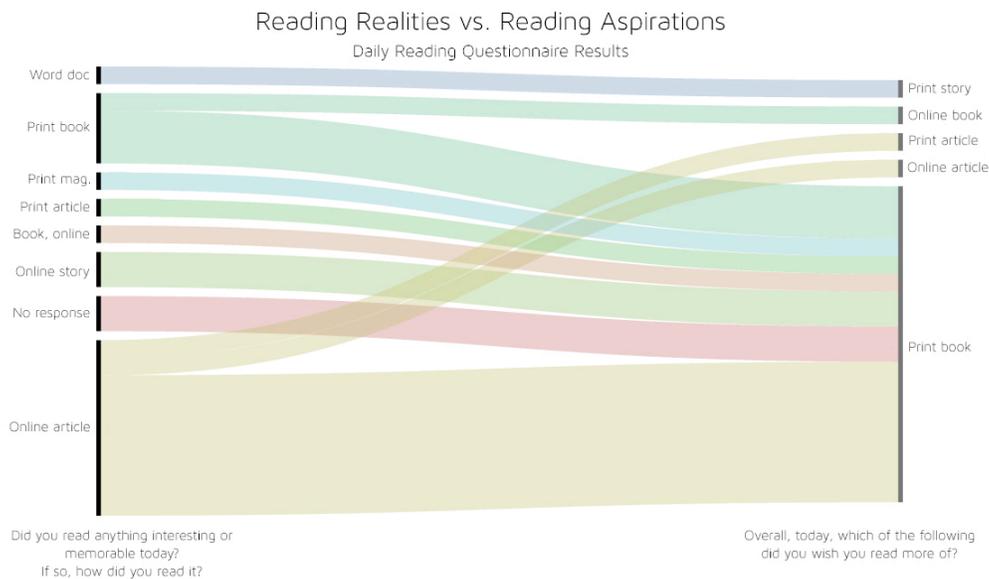


Fig. 14. Katie Meyer, *Reading Realities vs. Reading Aspirations*.

It's difficult to unearth the roots of the participants' distinct hierarchies of taste. For most participants, pressure to read was applied in childhood by parents and then in high school by demanding courses. Only one participant, the son of two university professors, said he was able to rebuff his parents' fiction-pushing, prioritizing nonfiction biographies and online articles instead. Regardless of its origin, affection for reading novels seemed genuine in interviews; many participants mentioned a strong affinity for print and the way books feel in their hands. In the final chapter of this project, *A Reader-Based Definition of the Novel*, I conceptualize why reading novels draws digital natives inundated with other interesting and memorable content, and in the Prototype and Final Design section, I discuss the role of constant connectedness through technology as a driver of novel reading.

Why read?

In ascertaining how, where, and with whom digital natives read, I began to etch out the reasons why they read. Reading novels seemed private and disconnected—not shared on the Internet, and often done with print in the bedroom. I also discovered that it is a long habit—29 of 30 of participants in the interview phase said that yes, they did read a lot in childhood—with different functions, but a similar core purpose, in the lives of digital natives over time. Parsing through the data I collected, these reasons for reading emerged abductively; in interviews, I tried to concretize by asking digital natives directly: why do you read novels? What role has reading played for you so far? These reasons are included in the section below, where they form the basis of a reader-centric definition of the novel; the participants' need for privacy satisfied by novel reading is detailed further in the Annotations in Conversation section. As discussed above, with participants reading at minimum 4 novels within the last 6 months, it's clear that digital natives read—and love to read. 90% of digital natives said they wished they read more.

Section summary

My research process in this phase of the project was much more chaotic than I intended; the Pixelated Literature study is my first foray into research with human subjects and my most strenuous attempt, to date, at quantitative data analysis. Interviewing participants over the course of 6 months gave me time to meditate on my findings and code them accordingly, but also forced gaps into my questions—creating data sets difficult to quantify. After completing the initial set of 12 interviews, I settled on abductive reasoning as a guiding principle for data organization—I could not reverse engineer my findings to fit any my preconceived notions of the reading habits of digital natives, which I had gleaned from my own experiences and from the media.

Working from the material, I relied on methodologies that prioritized it—the data that frequently subverted my expectations for participant behavior and preferences. I was surprised both by the patterns that emerged and the diversity of reading habits within a sample drawn from only three academic communities. Though the number of questions generated a challenging amount of data, I am glad I asked participants about their reading habits throughout their lives, from their earliest reading memories to the present. I relied on Eco’s labyrinth theory, honing in on the reading pathways taken over time by participants, some rarely walked and others well worn. As my reader-based definition of the novel dismantles siloes in scholarship around the novel and the reader, the continuities I found in my study bridge the great leap supposedly taken by digital natives to entirely new platforms and modes of knowledge creation; the trends found in the participant data helped to build the boundary crossing, and blurring, system of logic in my thesis. By focusing on the human, changes in behavior over time shrink from terrifyingly break to noted differences and wide continuities.

Finding these flows, for me, was like stumbling on underground rivers; hidden by proclamations of a total break in content consumption—in culture—I hope describing them here will help to disrupt those narratives, the object-oriented depictions of digital natives that dominate media around them.

A Reader-Based Definition of the Novel

“At every rereading I seem to be reading a new book, for the first time. Is it I who keep changing and seeing new things of which I was not previously aware? Or is reading a construction that assumes form, assembling a great number of variables, and therefore something that cannot be repeated twice according to the same pattern? Every time I seek to relive the emotion of a previous reading, I experience different and unexpected impressions, and do not find again those of before. At certain moments it seems to me that between one reading and the next there is a progression: in the sense, for example, of penetrating further into the spirit of the text, or of increasing my critical detachment. At other moments, on the contrary, I seem to retain the memory of the readings of a single book one next to another, enthusiastic or cold or hostile, scattered in time without a perspective, without a thread that ties them together. The conclusion I have reached is that reading is an operation without object; or that its true object is itself. The book is an accessory aid, or even a pretext.” (Italo Calvino 1979).

Dismantling static paradigms

William Godwin introduced an element of anarchy into the novel's definition that has not been picked up since. In 1797, surveying fiction books, plays, and epic poems, he wrote:

So authors confer upon me benefits thus inestimable and divine, I will never contend with them about the choice of their vehicle, or the incidental accompaniments of their gift (249)

The novel reading experience is defined by the symbiotic relationship between writer and text: the “inestimable and divine” benefits are platform, style, and content-agnostic, ignoring completely the parameters often set out to demarcate the novel (Godwin 1797, 249). How should I define the benefits conferred by the unique relationship between reader and novel? Borrowing from the fields of reader-response theory, semiotics, and the participant results of the study, the reader-text relationship can be isolated from the “vehicles” and “accompaniments” to novel reading that are increasingly difficult to pin down. Why do digital natives read? Why read, at all, in general? In my study, I isolated how, where, when, and what digital natives read. Here, I hope to theorize what drives digital natives to read novels, arriving at a more universal definition of the novel and the reader applicable beyond my participant group's age limits or geography: the generalized reader so despised in literary theory

Why is make-believe important to the reader?

Wolfgang Iser's reader-focused definition of fiction provides an excellent example of the reader's utility in clarifying the boundaries of the medium. What is fiction? Iser's reception theory stretches far beyond the scope of this project; for Iser, fiction offers an escape not only from the self, but is defined by its ability to offer humanity an escape

from mortality, a temporary reprieve. The definition of fiction is wide and slippery, and any efforts to pin it down turn a relational aspect of the novel into a static feature. If a text is fiction to the reader, Iser (1997) writes, then it has the effects of fiction on the reader, and it is therefore a novel (para. 4). Opening up a much broader field of scholarship to consider all genres and styles of novel together with the reader at the center, rather than separating feminine romance from more serious realism, allows commonalities in reader-text relationships to be drawn out.

First, by opening a book—cracking the spine, clicking the tab, opening the app—the reader enters the realm of fiction. For Maryanne Wolfe, fiction is an important vessel for the cognitive benefits of reading. The pretend worlds of “Middle Earth, Narnia, and Hogwarts provide fertile ground for developing skills of metaphor, inference, and analogy” (Wolf 2008, 138). These “alternative worlds”, as participants called them, are according to Wolf a “conceptually perfect holding environment” and a “powerful moment in the reading life, potentially as transformative as Socrates’ dialogues” (Wolf 2008, 138). Acknowledging the transformative power of fiction thus levels it with the prestige of more serious, nonfiction works; but such a distinction might not be important in the reading experience for every reader. Nonfiction could therefore fall into the definition of the novel: if the reader feels a text to be sufficiently unreal—encountering a world they must help to construct—then he or she will experience it as a fiction. Iser’s (1997) assertion can be expanded to include fiction and nonfiction; when a book is make-believe to the reader, the “unforeseeable refashioning” of the words on the page can begin (para. 4).

The foundational semiotic model for the understanding of signs by Charles Sanders Peirce envisions the sign within a triad between interpreter (it’s effect on the receiver),

sign, and the object the sign refers to in the real world or in discourse (Peirce 528).

Roland Barthes' model, in contrast, omits the referent, instead emphasizing two layers of signification that occur to yoke culturally encoded meanings or myths to signs. To underline the creative power the reader has when building the fictional world of the novel, as explained by my participants, I will experiment with Peirce and Barthes' models for signification—narrowing them to the written word and reframing them for fiction.

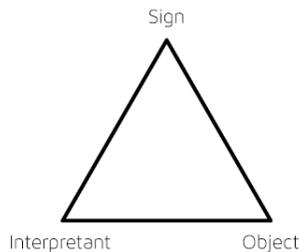


Fig. 15. Charles Sanders Peirce, *Thirdness*. Source: University of British Columbia. Accessed August 2014.



Fig. 16. Roland Barthes, *Semiology Model*. Source: Kenyon Review. From: <http://www.kenyonreview.org/2012/11/reading-a-legible-reality-barthes-and-the-infinite-text/> (accessed August 2014).

Entering the realm of fiction, however, changes the function of language for the reader; the reader cannot access the sign's referent or object as indicated in Peirce's model—referents exist in an unseen fictional realm. The reader must concoct his own referent, repositioning it firmly in the imagination. Peirce's model of the sign is thus unhinged; there is no connection between symbol and referent that is independent of the reader in the novel.

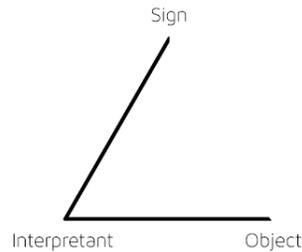


Fig. 17. Katie Meyer, *First Modification*.

The object being referenced does not exist without the interpretant or reader; the sign can only *stand for* objects in the reader’s memory or imagination. Here, I modify Iser slightly based on participants’ emphasis on escape through the novel and the “alternative world[s]” therein; Iser insists on fiction’s relationship to reality because it mirrors reality: fiction is certainly a “parasite” on reality for the author, the line between sign and object, between signified and real, is intact during writing. Fictions are always independent of reality on the side of the reader—the line between real referent and sign broken. Here, nonrepresentationalism of the signs is important—the information scarcity within the written word pushes words closer to make-believe; the signs are liminal, sitting at the threshold of the reader’s imagination and memories. The signs request, as a web search might ping a server for data, all material related to the sign, “getting to all that we know about a word,” as Maryanne Wolf says (2008, 152). The reading process is a constant play between visual, phonological, and executive areas of the brain as readers see signs, sound the letters out in their minds, and then conceptualize the words—all in the space of 500 milliseconds, according to Wolf. In the retrieval phase of reading when words are conceptualized, the brain delivers “the varied meanings and associates” of each word, the interpretant calling up an array of objects in the memory related to the sign (Wolf 2008, 153). Below, I attempt to merge Barthes’ semiotic model with Peirce’s, to illustrate how

language functions when it unfolds as make-believe, as untethered from the referent, for the reader:

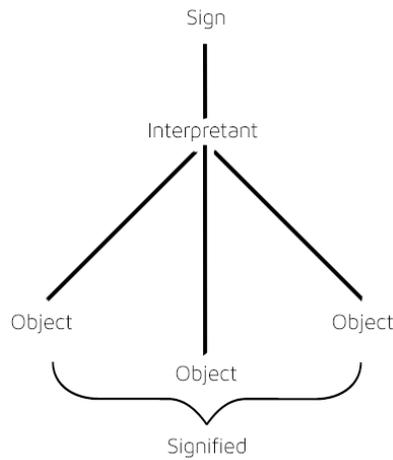


Fig. 18. Katie Meyer, *Second Modification*.

As Wolf (2008) observes, “we bring our life experiences to the text,” and as I will detail below, this enables the text to change “our experience of life” (160). Rather than trace the sign from its appearance on the page back to its referent or object in the real world, the reader selects objects from their memory or combines them, forming the imagined signified, the building blocks of the fictional world of the novel. This word-by-word process is a microcosm of the larger interpretative process in which the expert reader—the level of all but one university-aged participant—generates inferences from the text, contemplating broader meaning and implications, Wolf argues. The sign’s separation from reality is therefore an important aspect of the co-creation embedded in the novel, in which the author’s chosen signs connect to the reader’s chosen signifieds. No fiction is so phantasmagoric that falls out of the process I outline here; no participants said any text was unbelievable—all seemed able to reach into their memory networks for arrays of objects to construct a world believable to them, from the signs provided. I was

unsurprised when Participant 15 said her favourite series, *Game of Thrones*, did not help her understand the world better, until she stated the reason:

Interviewer: What role has reading played for you, so far?

Participant 15: I feel like the more I read, depending on what I'm reading, the more I understand about the world around me. And it's entertainment, a lot of it, which is nice, kind of an escape, a little bit.

Interviewer: Does *Game of Thrones* help you understand the world better?

Participant 15: I don't think it helps me understand the world, because it's a very cynical view of the world. So, more of an escape.

George R. R. Martin's dragon armies and blood baths—the great distance between the reader's reality and the world of the book—did not make *Game of Thrones* too fictional to be useful; rather, the reader found the world of the series too cynical.

Here, the length of the story is important in engagement and suspension of disbelief, but cannot be finitely stated; every word or sign is a brick in the reader's road away from their real world and selves toward the imaginary.

Interviewer: What was your favourite book in elementary school?

Participant 6: *Nancy Drew*. The whole series.

Interviewer: And your mom introduced it to you?

Participant 6: Yes.

Interviewer: What did you get out of it, or why was it your favourite?

Participant 6: I think because personally I like long series. With a constant character you can form almost like an attachment with them, and you can live through all the experiences with them.

The more detailed the world, and the longer the reader spends in it, the more immersed in the world and connected to the characters they become. By constructing an alternative universe untethered to the referents in his reality, the reader becomes, as many participants said, “committed” and “invested” in a way they are not in other media.

How does the reader create the novel?

The novel asks the reader to conjure their own objects or referents, so they can cook, make, grow, build—to see, hear, feel, and taste what is signified. As Proust wrote,

the “author’s conclusions are our incitements”, the gateway to emotional experiences unavailable in the reader’s present (Mendelsund 2014, 200). No matter how specific the author, textual description is nonrepresentational, and can thus only suggest a myriad of images, sounds, and feelings chosen and configured by each individual reader. Participant 9 said, “I have a very vivid imagination so whenever I read books, I sort of see... it’s like watching TV for me, because I sort of see it happening in my head.” Herein lies the agency of the reader. This passive “sort of” seeing belies the considerable mental legwork in image and sound creation, which in turn help the reader generate imagined sensorial reactions or affects denoted by the words on the page. As Mendelsund (2014) writes, “we make choices... we have agency”—the choices afforded by the lack of visual and auditory information in the written word produce the reader’s agency (60). He is what might be called a print purist, viewing filmic or audio adaptations of novel “a form of robbery” that steals the evocative power of the sign: the “nucleus of a complex atom around which orbit various sounds, fleeting images, and an entire spectrum of personal associations” (Mendelsund 2014, 207). One participant preferred manga, anime comic books, to novel reading because they required her to be less active: “since it has images,” she said, “it’s less taxing and it’s more visual because you can see the action, instead of imagining.” Manga, or graphic novels, therefore have a very different relationship with the reader; for the purposes of this thesis, they do not fall within the novel’s definition. Participants drew a clean line between novel reading and visual mediums, including social media; where more media was provided, less commitment and effort was required—the media lend them less agency in exchange for pre-built universes. Dennis Cooper forged a new hybrid medium with his “GIF novel”, admitting key differences in

its relationship to the reader: “unlike text sentences, they do all the imaginative work for you,” Cooper says, “they render you really passive” (Butler 2015, para. 7).

The co-creation inherent in novelistic world building produces feelings of commitment and investment in the reader, a motif throughout the participant interviews. Below, an excerpt from a participant interview with a *Harry Potter* fan who grew up to read Terry Pratchett voraciously:

Interviewer: What did you get out of it, or why was it your favourite?

Participant 16: It looked really impressive, it was about four inches thick, with the fuzzy pages, so it was really thick paper and it was bound into this giant thing. And I think what I got out of it was a like a really strong portal into another world, I guess, as clichéd as that sounds. A universe you could invest in, it wasn't like, a lot of the books that I had up until that point weren't fantasy, they were like... [sic] those, what are they, *Ramona and Beezus* or whatever, right, which is sort of that ... [sic] those kind of books lead eventually to CanLit about stuff that happens in real life, whereas *Harry Potter* leads to things like *Dune* and Terry Pratchett and incredible fantasy books and stuff, both are good. But yeah, I liked it because it was an alternative world that I could really invest in.

In defining the reader's role in the formulation of meaning of a text, one might envision a stage director putting on a play, as Peter Mendulsund (2014) does in *What We See When We Read*; the reader must block scenes, must conjure representations from nonrepresentational instructions, sewing costumes from an infinite library of fabrics, and breeding actors from scratch. Even when an author has aimed at “univocal, unambiguous communication”, Eco (1989) writes, pleasure for the reader lies in the text's intrinsic openness (41). The reader is asked to build a world and characters on the foundation laid in the descriptive words on the page. These are Iser's fixed stars, which the reader is then given the freedom to connect and navigate, to combine and recombine; in the hands of the reader, the novel can spark of infinite possibilities.

Here, the reader injects his own world into the world of the text—enmeshing the words on the page with the reader's senses and memories. This interpenetrative

relationship is a form of symbiosis, a feedback loop in which the reader and the text impact each other. It is not the one-way semiotic model laid out by Claude Elwood Shannon (1948), predating Eco and Barthes, in which a message is only concretized upon reception. In the novel, meaning coalesces in the meeting place between text and reader. The lines in the semiotic model below (Fig. 7) are the novel: the iterative looping between text and reader, each of which acts as a sender and receiver simultaneously.

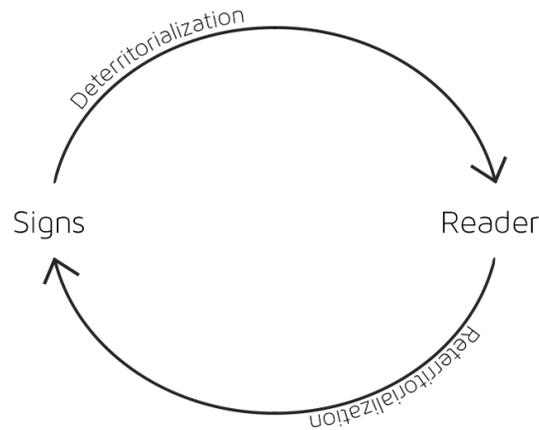


Fig. 19. Katie Meyer, *Rough Conceptualization of Reader-Text Feedback Loop in Novel Reading*.

A Deleuzian analysis would conceptualize the feedback loop of the novel as an experience of deterritorialization and reterritorialization for the reader. The reader is continually deterritorialized as they grow more entangled in scenes in the world of the book, but in conjuring this world themselves, they also reterritorialize constantly. This process of simultaneous escape and return is configured in fiction to pull the reader into a benthic immersion. The process forms a unique relationship between author and text, or what a Deleuzian might call an assemblage. The exchange or circling between reader and text “continually dismantl[es] the organism, causing asignifying particles or pure intensities or circulate, and attributing to itself subjects what it leaves with nothing more

than a name as the trace of an intensity... Literature is an assemblage” (Deleuze and Guattari 1987, 3-4). For Deleuze and Guattari, the formulation of reader-text agency unites the two in a singular context, but produces multiplicities, phenomena of acceleration and deceleration—unforeseeable effects similar to Iser’s “unforeseeable refashioning” of the words on the page. In this looping process, the reader and the novel enter and attach to one another, becoming the novel. This connection is also forged, mimicked in micro, in the relationship between plot and reader, and character and reader, inspiring empathy and self-reflection. How is this process different from that of avatar design or world building in a videogame? Can this type of agency be unique to the novel?

Is this type of co-creation unique to print?

Key to the print/digital dichotomy is the perceived newness of linking to external distractions within the text—viewed as a feature unique to hypertext, novels read in a web browser or app that includes external links. The capacities to enter and exit the text, to set the speed at which the story unfolds, are features often assumed to be intrinsic digital iterations of the novel. However, as illustrated above, the referentiality of the novel in any form, hypertext or print, makes it labyrinthine and linked. Here, N. Katherine Hayles’ (2004) assertion that the print book is a “passive device for external memory storage” seems indefensible; reader-response theory, and indeed, most of formalist analysis, supports the conception of the print book as alive with links—to the reader’s imagination, to other books read and past experiences (83). The navigation of these links is part of the reader’s agency, and her relationship to the text. For Iser (1972), links in or interruptions to the linear progression of the narrative by an active reader are the defining feature of literature (54). In defining the novel, Iser appropriates the fluidity and dynamism now often reserved for digitally presented texts; print literature also

shares digital's post-modern alinearity: it has always been "set in motion" (Iser 1972, 53). Derrida (1998), a deconstructivist, has similarly focused much of his scholarship on the "bottomless thickness of inscription" inherent in the signifying power of language, regardless of the print or digital modalities the reader uses to interact with it (38). This aspect of reader agency may therefore seem acutely digital, but it is a continuity runs from papyrus to iPad and beyond. If a text or iteration of a text does not allow the reader to navigate its network of references, to form linking constellations of objects that crystallize an alternative universe, it is not a novel. For Eco (1989), this incompleteness can extend beyond literature to any other form—music, dance, visual art—all of which offer "a work to be completed" by the interpreter, or the reader (19).

Can the reader control the narrative?

The reader is also given a measure of control over how the novel unfolds—the plot—copiloting the story with the author. In *The Pleasure of the Text*, Roland Barthes (1975) recounts his own reading process of looking up and skipping: "I read on, I skip, I look up, I dip in again" (11). Interruption and distraction in reading is not exclusive to hypertext or digital books, as many print-aligned theorists charge; key to the reader's agency is the ability to skim, stop, and reverse when reading. While Sanz and Goichecha (2012) associate this type of mercurial, superficial "finding" knowledge mode with online reading, the novel—the co-creative relationship between text and reader—on any platform fuses finding and making (339). Echoing Eco's approach to the novel as network, Barthes (1975) emphasizes the reader's agency as a navigator of a "galaxy of signifiers, not a structure of signifieds," as he defines the novel, which "has no beginning, it is reversible, we gain access to it by several entrances, none of which can be

authoritatively declared to be the main one” (5). The reader, he argues, prances through the pages of the novel at will—he is not trapped in the author’s labyrinth as Eco imagines, or strapped to a theme park ride as Warner posits. The reader generates his own iteration of the text with his own rhythm and pace, reading some sections deeply, skimming others, and skipping some entirely; she is an erratic, self-setting metronome. For Barthes (1975), this is why reading is enjoyable: “It is the very rhythm of what is read and what is not read that creates the pleasure of the great narratives” (11). Wolfgang Iser (1997) echoes this when he writes about the difference between what is said and what is unsaid, noting the “dynamic oscillation resulting in a constant interpenetration of things which are set off from one another” (para. 18). Like Barthes, for Iser, the shifting between what is read and what is skipped pushes the reader through the text. The reader turns away signs that are unappealing or deemed unnecessary in their reading experience: certain adjectives describing a character’s appearance are ignored to paint a different mental portrait, for example. This ability to pause, skim, and skip are integral to reader agency and are unique to the silent reading experience; listening to a story told orally would not afford the same freedoms, and visual mediums do not permit the same pacing flexibility. In a leveled video game, the player must plod through mazes of a set plot; achieving different speeds is a matter of skill. In a movie or video game, pausing and looking up is less frequent as it creates a harsher break in the viewer’s environment—a flood of visual and auditory information is dammed suddenly, whereas a reader might pause still fully immersed in the world of the book they have created in their minds. In the novel, reader dips in and out, races forward and backwards, as they please. They are not passive commodities being molded by the machinery of the text as Warner suggests; even though they did not make the machine, they can set its speed, and stop and start it

at any time. If a text or iteration of a text does not allow the reader to set the rhythm of reading, it is not a novel.

How does the reader encounter characters?

In “The Looping Effects of Human Kinds”, Ian Hacking (1995) investigates the phenomenology of human feedback loops, distinguishing between human categories such as race and human kinds, which are behavioural patterns that people aspire to be or endeavour to avoid. Participating in a kind opens “possibilities for future action” by allowing us to “redescribe our past” (368). Novel reading inspires the trying on of characters that allows the reader to recast his past, and therefore, his futures. Many participants mentioned practical uses of the novel—improving vocabulary, boosting grades—but some mentioned more holistic impacts on their futures: “I liked that reading helped me figure out where I want to be.” Readers embody different kinds, or behavioural subsets that they cannot experience in the nonfiction world; as Hacking (1995) writes, kinds provide “more possible ways to see oneself, more roles to adopt” (368). The reader interacts with the character in a reciprocal loop; in first-person narratives in particular, the reader takes on the perspective of the character, *becomes* them, and acts out their behavioural patterns or kinds. As Participant 12 said in her interview, “when I was in elementary school I was not really a social kid—like I liked spending time by myself—so reading was a time to get into another, to get into someone else’s life, if that makes sense.” Participant 23, along with many others, also referenced trying on different kinds when reading novels: “you can pretend to be that person or imagine yourself in that role, even though it would never happen. It’s just a completely different reality.”

In reading, Iser (1997) avers, we transcend reality; the reader is suspended in fiction and in a deep connection with the characters on the page (para. 2). It is through this losing ourselves in the “I” of the protagonist’s voice or looking through the eyes of others, even when presented in third person, that the reader can reach new apogees of self-observation and scrutiny. Iser writes:

We are driven beyond ourselves; and as we can never be both ourselves and the transcendental stance to and of ourselves necessary to predicate what it means to be, we resort to fictionalizing. (Iser 1997, para. 25)

We cannot know ourselves because we are always immersed in ourselves; we cannot be ourselves and understand ourselves at the same time. The novel is portal out of ourselves. In novel reading, our “inability to be present to ourselves” is met with opportunities for deep identification, the exit from our subjectivity and trying on of others, that provides necessary distance (Iser 1997, para. 25). This inability to be outside ourselves, to see ourselves clearly, through other people or from a distance, might explain the novel’s endurance across every continent for centuries. The reader’s co-creation of this reality is key to the novel’s matchless benefits—the constant reterritorialization or return, the colonization of the text with features from the reader’s life and imagination, opens a direct channel between the characters and the reader. The world and characters are distinctly other, but never alien; they are much more closely connected to the reader than those pre-built, as they are in mediums that offer less user agency—film, for example, when the viewer cannot try on different kinds, as the costumes are already filled with other people. New media versions of the written word with substantial auditory and visual elements, such as the Faber and Faber mobile application adaptation of *The Thirty Nine Steps*—blurred faces and foggy backdrops—may modify the reader’s agency to the extent that they are not novels to the reader. The novel thus includes and excludes based

on parameters that delineate the reader-text relationship. The singular coalescence of effects that construct the unique agency of novel reading can be delivered in a print or a digital context, and my prototype helps to re-channel these continuities and ensure their preservation in an increasingly complex digital media ecosystem.

How does the novel create the reader?

As the reader rapidly constructs and modifies the characters and settings based on the wooly blueprints written in the pages, their ability to project themselves entirely into the novel is reigned in. The novel is not Minecraft; the reader is given freedom to insert their own memories and sensations into the text, but they cannot bring into being an alternate realm, or character, or set of events as a mirror image of themselves or their own lives. Though Barthes (1975) argues that the reader can control the rhythm of reading and the navigation of networks of references, he emphasizes that ultimately, the reader is disarmed by the novel: “the text establishes a sort of islet within the human ... relation” (15). The participants’ interest in reading novels confounds stereotypes about the narcissism of digital natives; culture critics like Kluger and Carr might guess that millennials would prefer playing God in an open world video game, or any other medium that allows their egos unlimited control. As the reader penetrates the novel, bringing it to life with his or her own planes of reference and reading rhythms, the novel in turn penetrates the reader.² In Italo Calvino’s *If on a winter’s night a traveler* is a post-modernist, meta novel was written one year after Wolfgang Iser’s most popular work, *The Act of Reading*. As I am endeavoring to do here, Calvino (1979) describes the phenomenological process of reading. As Calvino’s narrator, a second-person reader,

² Barthes’ semiotic theory in *The Pleasure of the Text* is grounded in Freud.

begin to read a novel, Calvino (1979) specifies how the reader's expectations intersect with the text from the first page:

Perhaps at first you feel a bit lost, as when a person appears who, from the name, you identified with a certain face, and you try to make the features you are seeing tally with those you had in mind, and it won't work. But then you go on and you realize that the book is readable nevertheless, independently of what you expected of the author, it's the book in itself that arouses your curiosity; in fact, on sober reflection, you prefer it this way, confronting something and not quite knowing yet what it is. (6)

In addition to the constrictive force of the words on the page—the immovable signs from which the reader can create signifieds—once the reader is immersed in a novel, they agree to experience its plot. So begins a complex exchange or “tally” between reader expectations and the text. Even in postmodernist novels that aim to avoid something so crass as plot, the reader must travel with the characters through a set of actions or thoughts beyond their control. As Calvino's (1979) reader, the “you” in the text, aligns himself with the “I” of the first book he reads, he finds himself subjected to that “I”'s actions, losing control: “I am caught in a trap, in that nontemporal trap which all stations unfailingly set” (7). The novel's characters are not the reader's marionettes; co-creation leads the reader to deeply identify with characters, but the reader must endure their decisions and thoughts, their behavioural patterns and kinds. F. Scott Fitzgerald's (1923) *The Great Gatsby* chains the reader to an equally constrained narrator. When Nick Carraway and the reader watch James Gatz struggles to walk back down a branch in his life to the root, in hopes of taking an alternative that can only grow further away from him, the two can only grit their teeth. The reader does not watch, the reader *is*; the reader has become part of the world of the story, but he cannot change the way it unfolds.

He wanted nothing less of Daisy than that she should go to Tom and say: “I never loved you.” After she had obliterated four years with that

sentence they could decide upon the more practical measures to be taken. One of them was that, after she was free, they were to go back to Louisville and be married from her house — just as if it were five years ago.

“And she doesn’t understand,” he said. “She used to be able to understand. We’d sit for hours ——”

He broke off and began to walk up and down a desolate path of fruit rinds and discarded favors and crushed flowers.

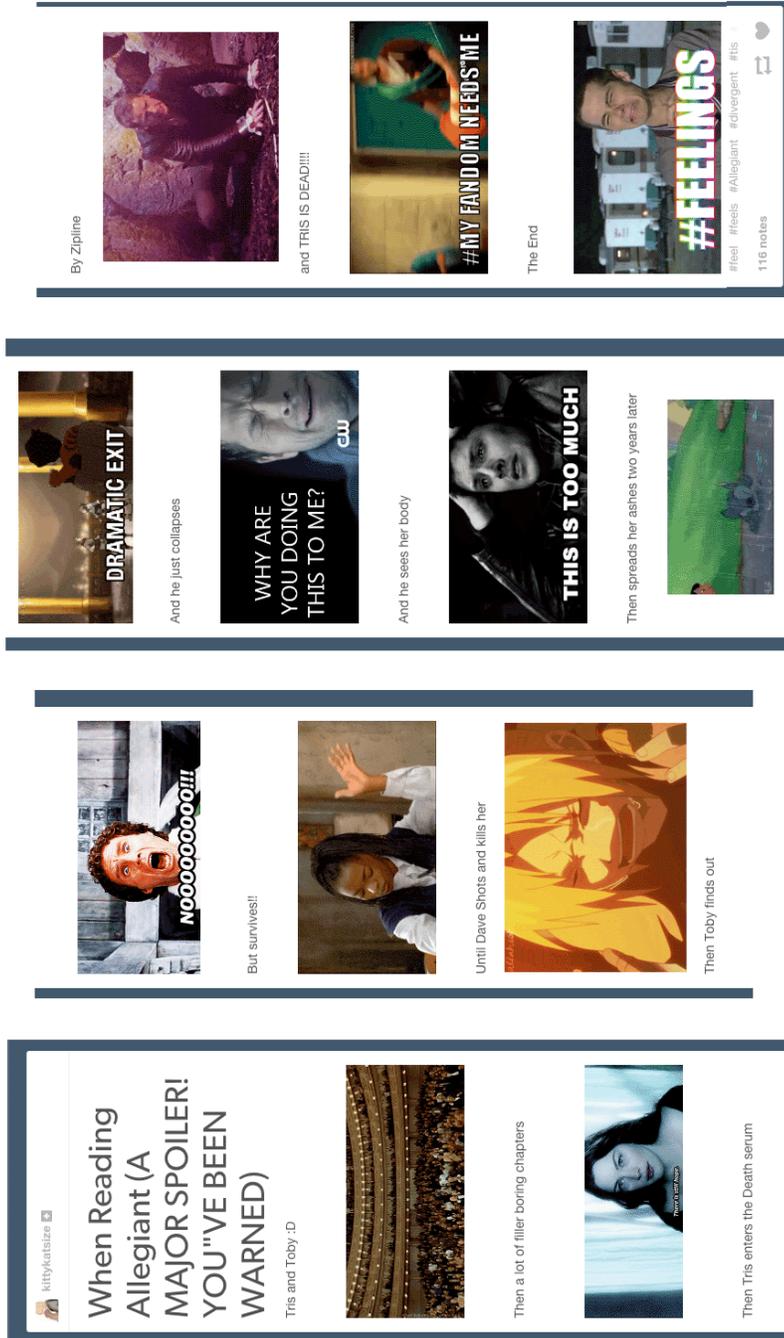
“I wouldn’t ask too much of her,” I ventured. “You can’t repeat the past.”

“Can’t repeat the past?” he cried incredulously. “Why of course you can!” (Fitzgerald 1923, 109-10).

Like Nick Carraway, the reader can only try to understand James Gatz/Jay Gatsby’s motivations and express frustration at him; neither Nick nor the reader can alter Gatsby’s course. Thus, through narrative the reader is subject to the author’s “intended effects” (Iser 1990, 311). If the reader identifies with Gatsby, she experiences decisions that she would not have written, given the choice; she is asked to understand why those decisions were made, why those feelings felt. Characters often explode the reader’s expectations, writers gleefully wreak havoc with surprising or tragic twists. Study participants and readers online both express earnest frustration or surprise at a protagonist’s choices—as if they themselves had made the mistakes. One participant said deep connection with characters, across print and fan fiction platforms, fuelled her reading; she said she enjoyed “feeling their emotions as if I was there.” Depending on their level of entanglement with the story, characters often felt real—even if participants did not lose themselves in a character, becoming them, they could empathize with them as friends. Participant 19 said that when reading Jack Kerouac’s work, she “felt like I’ve been there, or like I can talk to him, or like we’re talking, being friends.” Perhaps these points seem obvious: empathizing with characters is a phenomenological process well-known to anyone who has ever been engrossed by a novel. I include these participant snippets to demonstrate that these processes, relationship between text and reader I am defining has

not been lost, as many who view digital natives as halfwits with “twitch-speed” brains seem to believe.

The growing reading communities on Tumblr, one of the most popular blogging platforms for young adults, often express deep empathy with characters (Talreja 2013). This empathy often turns to collective rage and grief when protagonists surprise the reader—evincing how intertwined the reader and characters become, unable to detach even when the characters detonate the reader’s expectations. The blog post of animated GIFs below expresses its author’s experience reading the final chapter of *Allegiant*, the last installment of the massively popular *Divergent* trilogy by Veronica Roth. In this final chapter, the protagonist’s romantic relationship (#ship) and future are destroyed. As indicated by the long blog post below, broken into four panels, the hero’s choices at the end of the trilogy were a massive, shocking tragedy for the reader.



1 2 3 4

Fig. 20. KittyKatsize, *When Reading Allegiant (A MAJOR SPOILER! YOU''VE BEEN WARNED)*. May 2014. Blog post, 500 pixels x 2612 pixels. KittyKatSize, Tumblr. Adapted From: <http://kittykatsize.tumblr.com/post/83357946593/when-reading-allegiant-a-major-spoiler-you-ve> (Accessed January 2015).

The emotional reactions pictured above illuminate the frustration (“NOOOOOOOOOO!”) that can arise from the intersection of reader and textual agency—when the text pushes back against the reader through plot, making the reader more passive (“Why are you doing this to me?”). The outrage over the ending of *Allegiant* provoked series author Roth (2013) to respond on her own blog, writing, “Trying to meet the expectations of so many readers would be paralyzing [...] That mythical book with the ending that every single person wants can’t exist—you want different things, each one of you” (para. 11). The novel always frustrates the reader; the subversion of reader expectations is one of the medium’s defining features. It is always impossible for the author to write a character, a world, or interaction between the two that represents that of the reader exactly. If a text were to do so successfully—a new brain wave reading technology might make this possible—it would not be a novel. In some Twine games, a web innovation of the Choose Your Own Adventure print books, reader options dance across the boundaries of the novel. In constructing simple plot labyrinths using HTML commands, the author can choose to give the reader many paths that diverge or a smaller selection that leads to one ending, control given and rescinded. An excerpt from *The Lighthouse’s Tale* by Twine author Rine Karr (Fig. 9):

I released my hands from the railing and stood up straight. Slowly, I walked in reverse until my back was once again up against the smooth storm panes. I pressed my fingertips against the glass and presumably left behind a silhouette of my fingerprints.

Resolute, I ran at full speed **toward the balcony’s edge.**

OR

I took a small step forward and **immediately felt weak.**

Fig. 21. Rine Karr, *The Lighthouse’s Tale*. Twine Game, screencap. From: Twinery. Available From: Philomela, http://philome.la/keitii_chan/the-lighthouses-tale/play#9.n.d.f.12.a (accessed February 2015).

Here, Karr confers on the reader beyond world building and picturing, giving her the ability to make decisions for the character—these options allow the reader to choose a narrative that conforms to their worldview, perhaps endangering the reader’s ability to

transcend it. When characters and worlds that the reader has assembled do not play out as she expected, the reader meets the limit of his or her agency and is forced to try to understand the different logic of the novel's world or characters (“#feelings”). To summarize, through the deep identification built by the assemblage between reader and character, or reader and text, the reader's expectations can be frustrated. Consequently, the reader must struggle to understand the logic of another world or character. And so, profoundly invested in that which is beyond her reality, self-reflection is potentialized.

Finally, why read?

By becoming another person and entering another world through the co-creative process of novel reading, as Robbie Burns said, the reader “soar[s] above this little scene of things” and can see their world and themselves with fresh eyes, from a fresh world (Hammond and Regan 2006, 237). After entering and building the universe of the novel and those within it symbiotically with the text, the reader begins to lose himself in identification with and empathy for the characters: this stretches his own identity. The interpenetration of the boundary between the reader's world and the world of the book, and between the reader's identity and that of the characters, temporarily blurs selfhood and thereby potentializes introspection unavailable in less co-creative mediums. The novel is therefore a trapdoor out of, and back into, the subject/object division, the conception of self and other, that defines Western society. If, in reading, a reader is immersed and works with the author to imbue characters with the detail and breath of life, then out of that co-creation comes a truly unique obliteration, and restoration, of the self.

How is this introspection actualized in narrative? As evident in the effusive Tumblr post below, “the text that imposes a state of loss, the text that discomforts and unsettles

the reader's historical, cultural, psychological assumptions, the consistency of his tastes, values, memories" is a source of bliss for the reader that materializes in introspection (Barthes 1975, 43). Through immersion and identification, the reader becomes vulnerable to this state of loss: the temporary surrender of selfhood that occurs when the reader takes on the burden of the choices and feelings of another, the imagined other—as Nick Carraway shoulders the weight and feels the pain of Jay Gatsby's choices, the reader experiences those that Nick makes. When we are immersed in the book, we exit ourselves and our world—and thus "this very world" can be "perceived from a vantage point that has never been part of it" (Iser 2007, para. 15). Participants largely agreed with Iser, circumstantiating that through the interplay of reader and textual agency, novels provide the opportunity to find a new perspective.

Interviewer: What role has reading played for you, so far?

Participant 15: I feel like the more I read, depending on what I'm reading, the more I understand about the world around me.

Participant 18: You learn more about yourself and the capacity that other people have to feel.

Participant 4: I really enjoy just like leaving my own life and just being in someone else's, they're kind of like friends, if you know what I mean.

Participant 8: I think that in reading of the words and acquiring knowledge that way, we're able to experience other people's minds and perspectives in a way – like other people that we haven't met, and haven't talked to, which is much more sophisticated than actually. It's like storytelling like an oral tradition except unspoken, spoken to yourself in your own mind, because you read to yourself in your own voice, so it's kind of like... Like I don't know, I don't know if I'm answering the question properly, but, like, it's kind of like this way of creating knowledge for yourself, a world for yourself that you wouldn't have known ever if you hadn't taken it in.

Digital natives concurred with even Iser's most extreme estimations of the profundity of the relationship between text and reader, its level of differentiation from other relationships, other mediums. By merging Barthes' theory of the pleasure of loss and Iser's theories on how fictions can "produce" realities, a new

phenomenological process between reader and text is revealed—and born out by participant commentary (Iser 1997, para. 8). For Iser, the process of reading fiction does not end when the book is closed. Self-reflection intrudes on daily life, bleeding Iser’s literary theory into anthropology. The process Iser proposes transforms Peirce’s triangle from a static triad to one in which the interpretant and the sign, and the meaning created therein, move out of the realm of fiction to penetrate the real, to “rip apart” and “destroy” the reader’s world view and certainties. Below, a participant made apostate by the novel speaks to the obliteration of self, the escape from one’s own subjectivity, which can travel from the phenomenological process of reading into others:

Participant 16: A terribly, terribly distracting role, and awful role. Reading, especially reading stuff... [...] books like that rip apart your world view and destroy the foundations that you hold or once have held to be certainties and make you dissatisfied with the world but don’t necessarily give you the tools for dealing with it, and so you have to spend the next five or ten years figuring out what to do with that new perspective, so reading has generally been a process of destroying all of the things that make life easy to live.

Interviewer: Do you mean fiction or non-fiction?

Participant 16: Both. Definitely both. I say that sort of humorously because obviously that’s a good thing. Good fiction and good non-fiction do that. They sort of give you access to perspectives that would otherwise be hard or impossible to experience and therefore ...yeah. Turn your brain into goo.

Any text that delivers this benefit, inestimable and divine, is a novel, regardless of its vehicles or accompaniments. Therefore, the novel is not an object: the novel is a relationship.

Section summary

Like the digital native, recent scholarship around the novel has defined it in terms of its material presentation or technology, or other static features that do not speak to its

past endurance or future potential. Defining the novel using static, object-oriented terms suspends the novel in empty space, perceived by no one, in ontological oblivion. By locating the novel in the reader's hands, concentrating on what the reader draws from it, which beams of meaning land and are materialized in a real mind, the definitions that may make the novel redundant as it evolves materially and in content fall away, become valueless. If a text has the effect of a novel on the reader, what does it matter that it does not look like a novel, or sound like a novel, or came from the same tradition as the novel?

Herein lies the flexibility in this phenomenological approach: if a text has this relationship with the reader, it is a novel. If a work does not have this relationship with the reader, it is not a novel. The book cast aside after one chapter because the reader "couldn't get into it" is not a novel; it is an uninteresting chapter followed by unseen pages, a world stillborn in the imagination. The novel that the reader cannot suspend in a different plane than her present reality is not a novel, the agency required to actualize self-reflection cannot be formed, Peirce's semiotic model, sign tethered to reality, still intact. These books or films or apps may be novels to other people, but to the individual reader in that instance, the novelistic relationship with the reader is not formed, and thus, it is not a novel.

Defining mediums without those that use them allows artists, writers, and theorists to imagine that redefining those mediums in material, or any other static feature, is revolutionary; that when those features change, the medium itself changes. But these changes are illusory if they have no real effect on the user, if the user cannot draw anything new out of the medium. I believe the message can only be conceptualized as the message received or the message co-written; it is not inscribed in the "defining" features of any medium itself. A medium or combination of mediums that is new and

revolutionary in form but not in effect is not revolutionary or new. Different materials do not materialize difference in experience, difference is not written in them; it is not automatically enacted, transforming the assemblage between reader and narrative, or user and concept, viewer and art. The newness of eBooks, hypertext, and other digital iterations of the novel—emblematic of the sharp breaking point often referenced in alarmist literature—should be interrogated. The fresh, green breast of the new world Gatsby saw gazing into the future from his wharf was not new; it was an imagined future already past, calcified in time, no longer in existence because it is not realized in the present. The land after the leap, the break in culture, in which digital natives are a new species and digital books are a different medium, is too an imagined future already past. If a text's relationship with the reader is similar to that of a print novel, they could be conceptualized as a reframing of the medium, banks further down the same river, rather than a new one entirely. When viewed as a relationship, rather than an object, the novel becomes infinitely more elastic while still delivering its most crucial functions; its origin and end points dissolve, and one can imagine its benefits carried across whatever vehicles may come.

Annotations in Conversation

Interviewer: What role has reading played for you, so far?

Participant 15: In life? Holy crap. That's funny, I was just thinking about this the other day. Right now I'm reading this book, it's this nonfiction book about laughter, about why we laugh. I'm going to show you my book [pulls book out of bag, *Laughter: A Scientific Investigation*]. It's by this guy, Robert R. Provine. So it's about why humans laugh as a behavioral thing. So, while I'm reading this book, it's about in the middle when he's talking about tickling [...] and then, like, monkeys and then how they tickle each other, and then he pauses and he's like, "we can't talk about what the monkey might be thinking, because we can't know what the monkey might be thinking, we can't enter the monkey's brain to know, like." And I was thinking to myself, humans, what we do is we enter each other's thoughts. We have these thoughts and we can write them down and we can put them in these books. He was talking about how this sound that people make is a human song...

Design process

Based on the generalized reader-text relationship built through my literature review, and the nuanced reading habits of the individual participants uncovered in my research study, I designed several experiments aimed at preserving the novel. Treating design as research allowed me to establish a feedback loop between the findings of my archaeological dig through the history of literary theory, the study, material experimentation, and user testing. Toggling between the generalized reader laid out in the previous section and the real participant readers in an iterative process, I would modify my designs to suit different potential users, developing different versions simultaneously. Like my reader-centric conceptualizations of the novel and the digital native, I applied reader-centric design practices in developing my prototype, drawing user needs out of my data and testing the prototype with participants.

First, I designed an illuminated book jacket that blinked in time with the reader's heartbeat (see Appendix D). The experiment was ultimately discarded due to its limited ability to convey the reader experience, and conform to different reading modalities. The prototype I focused on, *Annotations in Conversation*, is not the “next” step for the novel in an imaginary Hegelian progress; instead, I aimed at a solution that would help remove barriers to reading, while enhancing the reader's experience—immersion, empathy, self-reflection. *Annotations in Conversation* is material proof of continuities across print and digital media, blending written, oral, and digital culture.

Technological Overview

- **Code:** HTML5, CSS3, JavaScript, PHP, MySQL, Ajax

- **Libraries and APIs:** Google Web to Speech API, Recorder.js, libmp3lame.js

Introduction

Developing a prototype that protects the novel is challenging; my prototypes seemed to always veer toward one side of the reader-text relationship, warping the experience. My second prototype, Annotations in Conversation, aims to maintain a private, immersive reading experience, while enhancing the obliteration of the reader's assumptions by providing new networks of perspectives. The website merges novel reading, annotation, and discussion in a web interface, attempting to recreate the interpenetrative reader-text relationship. What is an annotation? In *Marginalia*, Heather Jackson (2001) charts the evolution of notes in the margins; she writes that annotations are a reader's "literary device", emblematic of the larger "process of customizing" within his or her agency (21). *Marginalia* can capture reader reflections and inferences, materializing the exchange between reader and text—notes in the margins originated in print, but are now available on digital platforms.

When using the prototype, readers first find the novel they are currently reading. Annotations are organized by passage; once the user has identified the line they are reading, they are directed to the section of a page that correlates to its passage, where they can read or listen to annotations specific to their own place in the novel. Then, readers can record their own annotations for their specific line or chapter, using HTML5's capacity to record and transcribe sound files in browser. The user journey is as follows:

1. The user, before, during, or after reading part of a novel, navigates to the landing page on Chrome

2. The user gives the browser access to their computer, phone, or tablet's microphone when prompted, and reads a line from the novel they are reading aloud
3. The words appear in a text box on the landing page. The reader then selects "Identify", arriving at:
4. A page with the line they have just read and others from the same section of the same novel. The user can then:
 - a. Record an annotation for the line they are interested in
 - b. Listen to annotations recorded by others
 - c. Reply to another's annotation, starting a conversation

The intention is not for users to read novels within the prototype, but to discuss novels they are reading using other modalities; it would be a central and anonymous discussion hub for novels read via print, eReader, mobile phone, and other platforms with built-in but proprietary and siloed annotation storage models.

The interface minimizes visual noise, adhering to the nonrepresentationalism of the novel. Below, screenshots from the first and second iterations of the prototype design. The second was designed to be even more streamlined, stripping out an information-dense background photo that could overburden the reader's working memory, according to Carr's cognitive load theory.

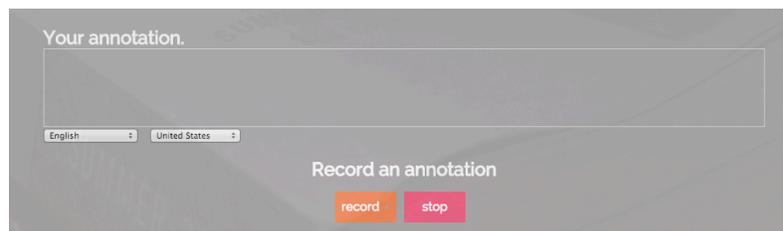


Fig. 22. Katie Meyer, *Annotations in Conversation Prototype 1, Annotation Prompt*. Screenshot.

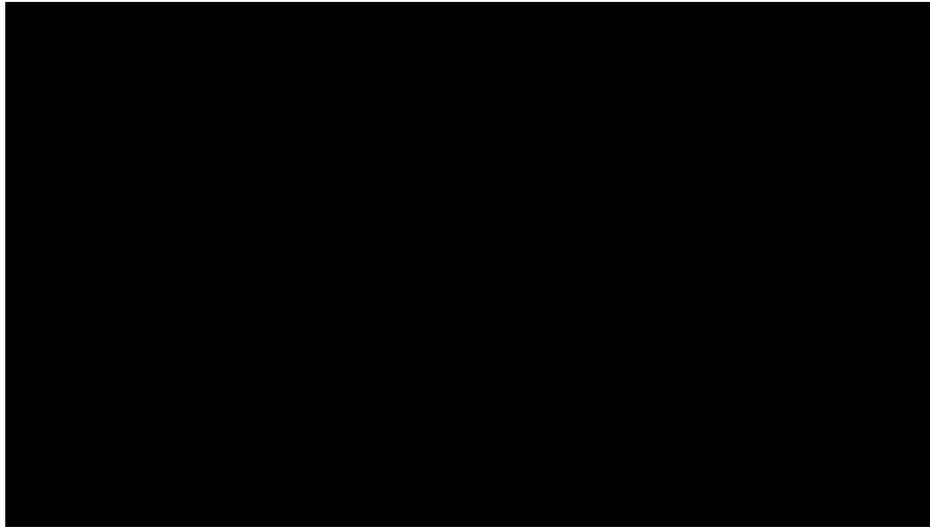


Fig. 23. Katie Meyer, *Annotations in Conversation Prototype 2, Annotation Prompt*. Screenshot.

The website is responsive and can be used on any web-ready device with Chrome; it could be used on a phone while reading a print book, or on an iPad while reading an eBook, meshing with the diverse reading devices and environments of digital natives. The introduction of sounds adds the dimension of oral literacy to the reading and discussion experience, with the intention of fostering the personal interaction and intimacy of a book club on a much larger scale.

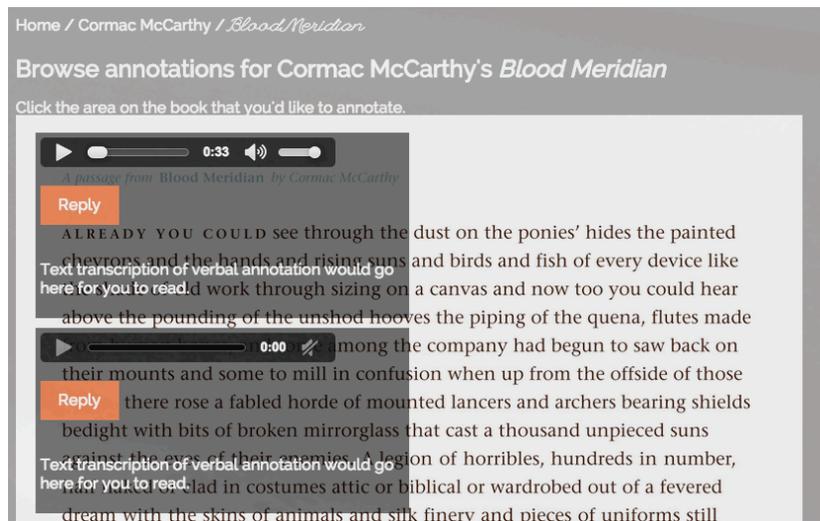


Fig. 24. Katie Meyer, *Annotations in Conversation Prototype 1, Annotations Display*. Screenshot.

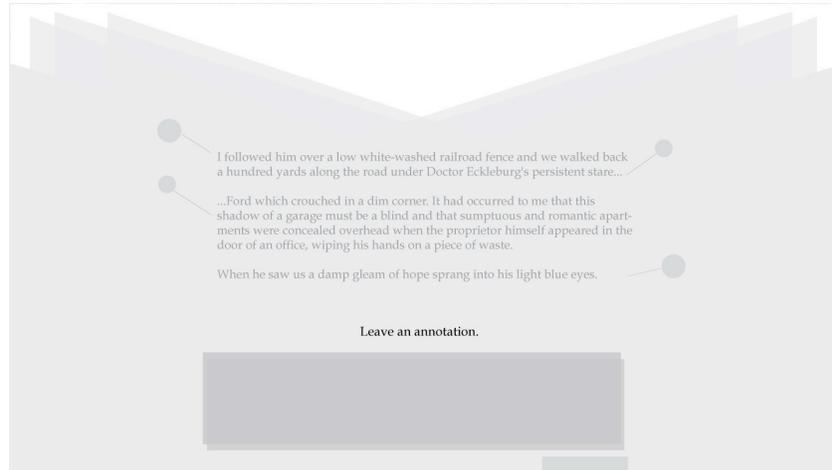


Fig. 25. Katie Meyer, *Annotations in Conversation Prototype 2, Annotations Display*. Screenshot.

The concept of communal annotations harkens back to the late Middle Ages and early Renaissance in Europe, before the invention of the printing press, when books were expensive and often shared in scholarly circles. Bob Stein explains how early codexes became communal, often treated as a shared learning resource and note-taking device (*Pages Conference*). Copernicus's first editions included notes from multiple readers that turned into spirited debates that readers could participate in at their own pace, skipping, looking up, choosing which annotations to react to. Comments or marginalia in literature is not a new digital phenomenon, but began in print (*Pages Conference*). S by J. J. Abrams and Doug Dorst (2013) dramatizes the potential for meaningful conversation within annotation as two readers—through notes visible in the margins of the novel—solve a mystery, and surprise each other with their divergent worldviews. The inclusion of oral annotations in the prototype is designed to encourage meaningful conversation, the flexibility of notes in the margins. As Heather Jackson (2001) notes, early annotations were systems of symbols—exclamation points for surprise, underline for significance—designed to convey a range of reader responses (28).

The decline of communal reading, from childhood to adulthood

The appeal of communal notes arose during participant interviews, when one student noted that her favourite book was one passed down from her mother. The first book she remembered reading, she said, was *Cue for Treason* by Geoffrey Trease. During the interview she pulled an older copy of her bag, showing off the date inscribed on the inside cover. “I have it, I’m reading it again, I’ve read it a million times,” she said. “All the times that we’ve read it. My mom stole it from her school when she was in Grade 8, the date’s there, 1970.” The material impression of her mother’s reading on the novel seemed very important and exciting to her, evidence of the shared experience of reading the same book at a similar age.

No other participants mentioned annotations as an important part of their reading experiences, but the vast majority said that most of their friends in childhood and in high school read. Many participants mentioned popular new series as being a source of reading, or the Scholastic catalogues and book fairs; in childhood, they and their peers used the same sources for new reading, and therefore often read the same books. Communal participation in mass phenomenon series like *Harry Potter* and *A Series of Unfortunate Events* ensured that reading was communal, even when done in private—it was easy to discuss novels in social groups, as it’s likely that a bookworm and her friends would read the same novels at the same time. Participant 2, a fan of chapter book series like *Animorphs* in childhood and gritty novels such as *Fight Club* and the *Virgin Suicides*, said: “interestingly, I think the kind of lasting friendships that I forged in high school were with people where we bonded over, like, books we liked.” Like most participants, she did not mention discussing books with friends after high school, citing less time to read: “I just have less idle time and idle time is often spent these days checking

notifications, reading tweets, which, I mean... it is what it is. I try to carry books around with me, and I'll be reading and then a notification always goes off, and I'm like, 'I wonder who that was?'" Participant 17 said she never discussed novels with her friends, saying, "Maybe if they see me with it, and then you know they'll ask and I'll tell them, but otherwise, I won't be like, 'oh, I read a new book today.'" Participant 17 acknowledged that she spent a lot of time on social media scrolling through news; novels, for her, did not appear to be shareable or news. The problem of shareability has been called, in the make-believe *Dictionary of Obscure Sorrows* on Tumblr, exulansis:

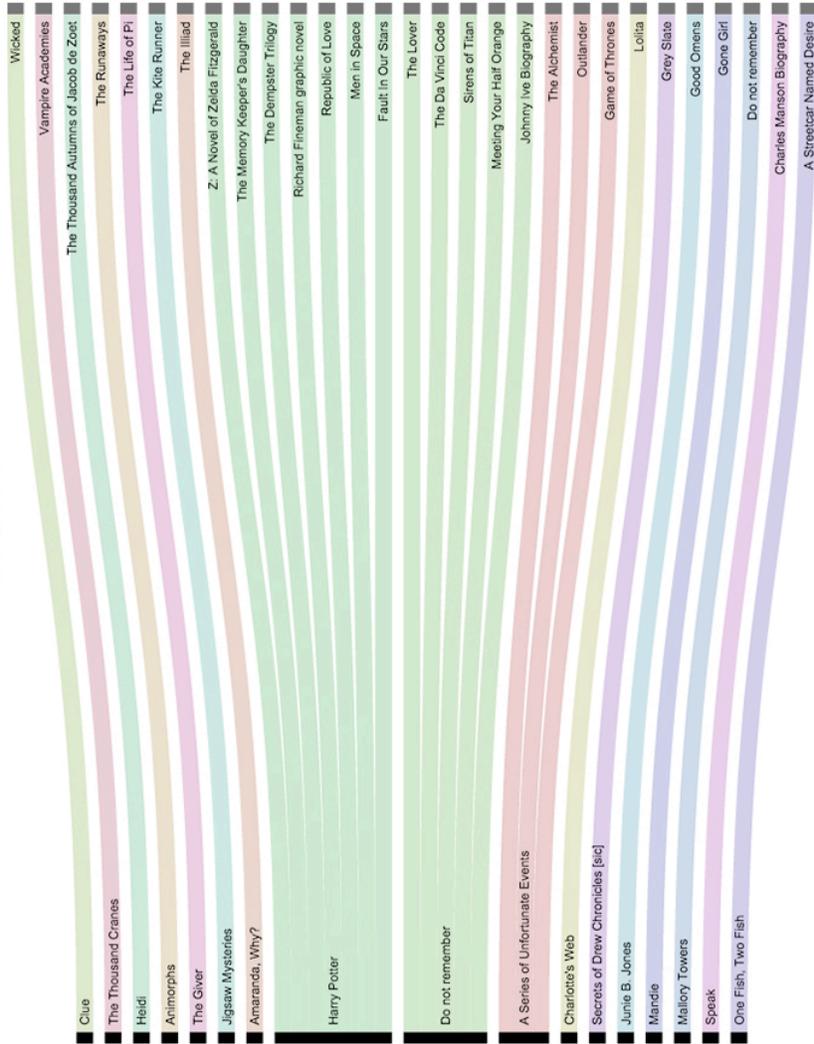
The tendency to give up trying to talk about an experience because people are unable to relate to it—whether through envy or pity or simple foreignness—which allows it to drift away from the rest of your life story, until the memory itself feels out of place, almost mythical, wandering restlessly in the fog, no longer even looking for a place to land. (para. 1)

Exulansis, the conundrum of the seeming specificity of the human experience, is a threat to the novel's popularity among digital natives, shortening the time they spend immersed in the world of the book to the time between two covers—with little discussion before or after. Novels now seem almost secret, anathema to the social for digital natives: the novel is a channel out of real-life social experiences, not a way into them.

As participants grew up, reading preferences morphed in unexpected and sometimes fascinating ways, diversifying and switching genres. Participant 24, who loved *Heidi* as a child for its "organized" and "methodical" structure, was drawn to *The Thousand Autumns of Jacob de Zoet*, a post-modernist hurricane of a novel, as an adult. The slopegraph below shows participants' favourite novels in elementary school and the last book they read and enjoyed—showing a clear branching from childhood clusters to complete diversity in adulthood.

Favourite Novels: Elementary School vs. Now

Interview Results



What was your favourite book in elementary school?

What was the most recent book that you read that you really enjoyed?

Fig. 26. Katie Meyer, *Favourite Novels: Elementary School Vs. Now*.

As shown above, in childhood, 30% of participants said their favourite novel one in either J. K. Rowling’s *Harry Potter* series or in Lemoney Snicket’s (Daniel Handler’s) *A Series of Unfortunate Events*. After 18, 0 participants shared a favourite; the closest matches were Participants 3 and 14, who both mentioned *Gone Girl*—one as the novel she had

Favourite Novels: Middle vs. High School Interview Results

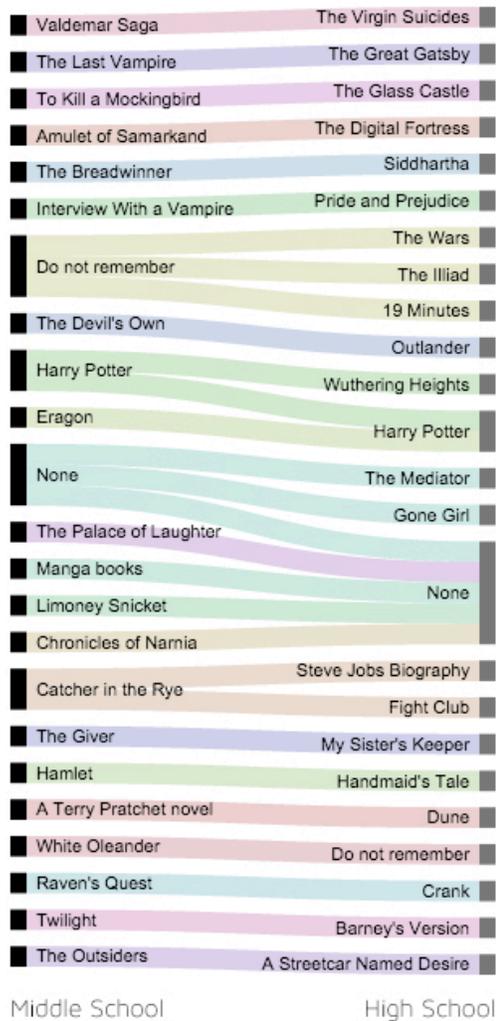


Fig. 27. Katie Meyer, *Favourite Novels: Middle School vs. High School*.

read most recently and enjoyed, and the other, as the novel she had read most recently and not enjoyed.

Another participant noted that when books were yoked to other media, she and her friends would read them and they became a common experience between them, saying, “If there are books with a movie coming out, they most likely tend to read those books more than the ones they pick out on their own, but yeah, not as much as they were before.” Reading experiences branched considerably as early as Grades 7 and 8, when only 4 participants shared favourites. Above at left, a slopegraph of participant favourites in middle school and high school; only 8% of participants shared a favourite.

Books, more than ever, seem to be

a solitary experience for the participants, with the exception of clustering around mass phenomena such as *Harry Potter* in childhood or *Gone Girl* in adolescence. Books cannot compete in conversation with other forms of mass media that are, well, more “mass”:

Interviewer: Do you ever talk about books with your friends?

Participant 29: Yeah. Mainly I’ll just ask them for recommendations.

Interviewer: But after you read, you don’t tend to talk about it?

Participant 29: We’ll just say if we enjoyed it or not, but we won’t go into depth.

Interviewer: Why do you think that is?

Participant 29: Well, a) because like you haven’t read the same books, sometimes it’s just like you should read this book, and whatever. And also... I don’t know. We won’t go into depth, we’ll more go into depth about a TV show or movie where everyone has kind of seen it.

TV shows and movies are media that everyone has seen, but books are not media that everyone has read. As illustrated in earlier sections, the nonrepresentationalism—the negative space that opens infinite possibilities for interpretation—of the novel engenders an even broader diversity of experiences, which can foster rich debate but may initially stymie sharing—even if two friends read the same novel, they may not have experienced the same world or characters.

Many participants referenced social media websites and their phones as barriers to reading, not a platform on which they might discuss books or discover new ones. Only two of 30 participants said they wrote blog posts about novels they read. Whereas new media published online—YouTube videos, music videos, TV shows—are considered meeting places, the participants largely viewed reading as a private refuge, one they very purposefully chose not to discuss widely. One participant recounts the gap in sharing between print novels and digital articles:

One of my friends likes reading. If she, like, finds something, she’ll be like, “Hey! Check this book out if you have time, I know you don’t have time, but.” I guess also most of the reading I do now is digital and, like, online so if I find articles—interesting articles—I’ll link them to my friends or if my

friends find them they'll link them to me, so I guess if there's something really controversial I'll talk about the subject with my friends, but...

The conversation-starting controversy over issues occurring now seem to elude long-form fiction, which is necessarily confined to events that have occurred at least 24 hours ago (the minimum time it might take to write an immersive piece of writing on a subject).

Long-form fiction, which might take more than 24 hours to read, also removes the reader from conversation around what is occurring now. If a reader takes the time to read a novel on an issue after a story has broken, or an article has been published, the conversation online will have simmered out by the time they reach the final page, and the crowd willing and able to discuss the content of the book will have thinned to none.

Contrary to Ben Boychuck's (2014) accusation of digital native narcissism in "The Idiot Generation," the participants seemed inundated with content from the public real. The private act of novel reading (which, as discussed above, engenders empathy and introspection, challenging one's perspectives rather than inflating one's ego) balanced their larger concern for all things public. The collective experience of current events in the always-on news cycle encourages constant sharing over social media; participants shared only what they expected their friends to have a stake in, and the novel, popular series communally read aside, was far less popular in that regard than digitally published articles. As Participant 13 observed, breaking news stories might be more relevant to large friend lists than individual novels:

I think that on, like, Facebook, people are sharing things that are sort of important to them and to the general public. [... I would share articles on] Facebook because it's just open ended and you're just pushing it to everyone, like your whole friend list, then, you know, people can read it if they want to and comment if they want to and it's not as specific, you know?

How can reading remain a popular activity if it is done in secret, without the help of digital word of mouth? Will the novel's exclusion from social discourse, the chatter of everyday life, help it survive somehow, or drown it in a sea of more discussable media?

Novel reading as a private, rather than public, activity

Participants often had their phones beside them when reading, but they tried not to check them—the novel was a break in what participants called “constant” use of their laptops and phones. One might hypothesize that the novel offers a freeing anonymity, the opportunity to have a truly private and separating experience from the very public, tracked, connected, digital selves that are difficult to shrug off. Participants did not encounter other people on social media in the same way that they encountered characters in novels. Scrolling through social media—consuming, rather than communicating—led to feelings of alienation and jealousy for participants, which might be called the opposite of novelistic empathy. Participant 24 said:

You go on the Internet and you see what other people are doing, and you're like, oh man, like, I'm not doing that, or I should be here in my life. When reading, it's just like, you're just doing it, you're just doing your own thing in your own world.

The lives of characters become “your own thing”, but the lives of acquaintances and friends online are distinctly other and even threatening. When constantly sharing and connecting, one might assume the novel's appeal lies in its ability to offer a new world of unshareable, untrackable experiences—in which the participants can lead new lives and, as Ian Hacking argues, try on new kinds, prompting self-reflection from a distance that is increasingly impossible to reach for digital natives constantly connected.

This reason for reading novels—escaping the connectedness and surveillance of daily life—may be rooted in childhood habits. Some participants mentioned not being

allowed to play outside unsupervised; only two of 30, when asked what they did in their free time in elementary school, explicitly stated that they were allowed to play outside alone. The novel could offer the freedom and privacy unavailable elsewhere; these potentialities could be the drivers behind some of the participants' heavy reading. My initial assumption before completing the study was that even under a deluge of technology and constant connectedness, digital natives still read books. I have since discovered that it is likely *because* of a deluge of technology and constant connectedness that digital natives still read books.

The privacy and freedom offered by novel reading, however, could also contribute to a lack of discussion—the free publicity of word of mouth—around books; formerly a site of social discourse for women in book clubs in the United States and reading societies in the United Kingdom, for participants, the novel often seems unshareable. The refreshing privacy that forms the appeal of silent reading could, paradoxically, be contributing to a decline in reading, to the novel's failure to compete with shareable content. There seemed to be a strong correlation between a decline in shared, discussed reading experiences clustered around popular books and a decline in reading in general, from elementary school to university. With this correlation in mind, *Annotations in Conversation* aims to encourage discussion and recreate communal reading experiences with a wider network of readers who are reading the same book at the same time, when friends “in real life” may not be.

The primary social function in *Annotations in Conversation* is the response function, in which users can listen to others' annotations and reply to them, sparking or joining conversations around passages. The inclusion of the recorded voice adds depth and warmth to these discussions; it imbues readers' literary reflections with the human

detail of their voices, reducing the anonymity of written discussions. The reader can play back annotations in the order that they were recorded, allowing them to listen to back-and-forth conversations about books. He can interrupt, replying to one person's annotations in a line of discussion with another person—as if they were part of a book club, with a much broader selection of members. The prototype is a platform on which participants could share reactions with novels they said they had not shared with their friends, or online, previously. Participant 22 and Participant 14 could connect over the platform to discuss their passionate, but different views on *The Kite Runner*:

Participant 22: *The Kite Runner*. That was a really good book, yeah. In our school, we have to do... Actually, no, I watched the movie first, and then I was like I should probably read the book, because movies and books are not the same thing. So, to get my own information I read *The Kite Runner* myself, and I think I found it in the school library to get started. Public library.

Participant 14: In high school, shoot... I don't think I had favourite then either, because it was mostly just like what we read that I didn't like, like *The Kite Runner*. Everyone was like, "oh, it's such a good book," and I was like, "um, no. It's so sad." I was like, "I can't read this anymore." Then we had to watch the movie to go with it and I was like, "okay, I'm so done."

I conducted the interviews in person, rather than via survey or over email, to access the information density not only in participant responses, but also in their voices, vernaculars, and ways of speaking—crystallized in the quotes above. One can imagine Participants 22 and 14 having a spirited verbal debate, one that might be more flat in written form. The inclusion of oral annotations recalls the tradition of oral storytelling, when—in Ancient Greece, for example—the characters of epic poems would be infused with the different voices and accents of the speaker, transferring agency in character formation from listener to speaker (Ong 2012, 36). Annotations in Conversation mashes together oral and written culture—echoing an earlier moment of transition, when Socrates feared a total break in culture—forming a similar bridge between the two mediums that

emphasizes the continuities between them, at a time when many fear the novel is at a similar precipice. The prototype also takes advantage of common reading environments, such as the privacy of the bedroom; it could be adapted for use in public spaces as well, where readers would be able to listen to others' annotations with headphones, or read the text versions. After high school, 95% of participants said they kept a device near them while reading: though they often said they kept their phones face down or on mute, participants also mentioned picking up their devices to reply to messages and answer calls. 77% of participants said they had their phone near them while reading novels, 14% had laptops and 4% kept iPads close by. 5% of participants said they had no technology nearby when reading long-form fiction.

With smart phones, iPads, or laptops always within reach, the prototype would be easily accessible during or after reading. The immediate shareability offered could help participants stay immersed in reading while connecting online, without adding any distraction beyond technologies already within the reading environment. The prototype should fit into the sort of skimming and looking up, the shallow ruptures Barthes views as intrinsic to the pleasure of the novel, while still enveloping the reader within the book. Though the prototype can only be visited in browser, tempting users to exit the reading experience and visit other websites—as Carr would postulate—a future iteration could see it bundled as a web-ready application not viewed in browser. I excluded social media links or any other connections to other websites in hopes of limiting the potential to disrupt the reading experience and exit the text completely.

The reader-prototype relationship

The Social Book (2012), a reading and discussion platform developed by the Institute for the Future of the Book, was a large point of inspiration for the project. The Social Book places Thomas More's *Utopia* within a web interface, and allows users to read the text and highlight it to add annotations to specific areas—almost as they would with the Track Changes functionality of Microsoft Word (Duncombe 2012, para. 2). Initially launched with only one book available, users are encouraged to dive into a communal reading experience, sharing their thoughts on the same text with other readers beyond their local social networks. Users can also respond to the annotations of others, sparking discussions around very specific areas of the text. The interface is white and minimalist, the book suspended in a largely empty frame, minimizing distraction and the burden on the reader's working memory. Comments appear to the left of the text, newest appearing first by default, each beside the avatar of its creator. As of February 2015, the platform hosts discussion on a variety of media; users can annotate videos, borrowing the timeline annotation model from music streaming platform SoundCloud.

Annotations in Conversation is similarly uncluttered, but has no pictorial elements. Lawrence Sterne emphasizes the importance of negative space in his analysis of *Tristram Shandy*, arguing “the truest respect which you can pay to the reader's understanding, is to halve the matter amicably, and leave him something to imagine” (Iser 1972, 51). Iser echoes Sterne, writing “It is the virtuality of the work”—the dearth of visual and auditory detail—“that gives rise to its dynamic nature” or interactivity, conferring agency onto the reader (Iser 1972, 51). The interface makes no images concrete, preserving the openness and “virtuality” of the written text. Fonts are uniform and annotations are all signified with the same symbols; the flatness of design and the space in its margins creates a more flexible user experience, where there is little direction

as to which annotations a user should listen to first, or whether they should record their own to begin. In a more typical interface design, there is a clear branching hierarchy of available content:

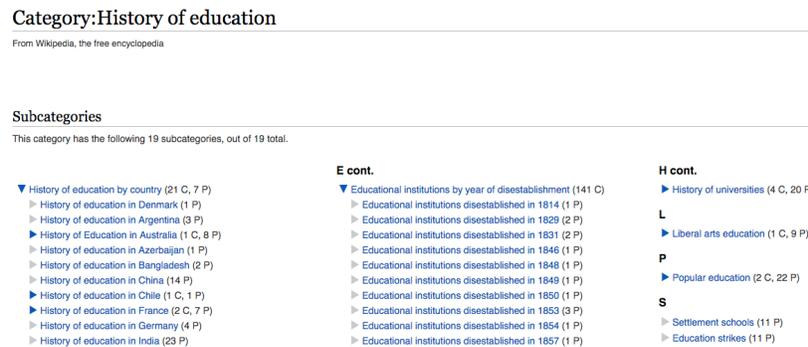


Fig. 28. *Category: History of Education*. 2015. From: Wikipedia, http://en.wikipedia.org/wiki/Category:History_of_education (accessed November 2014).

The lack of direction and set hierarchy in the presentation of annotations in the prototype reflects Sterne and Iser’s views on the importance of textual openness and reader co-creation. Data visualization expert Edward Tufte embodies the same ethos in his web interface designs. Edward Tufte’s content organization rebukes hierarchical models, aiming to give the user as much agency as possible. He does not present a hierarchy of links—categories and subcategories—but rather gives them all equal weight in his designs.

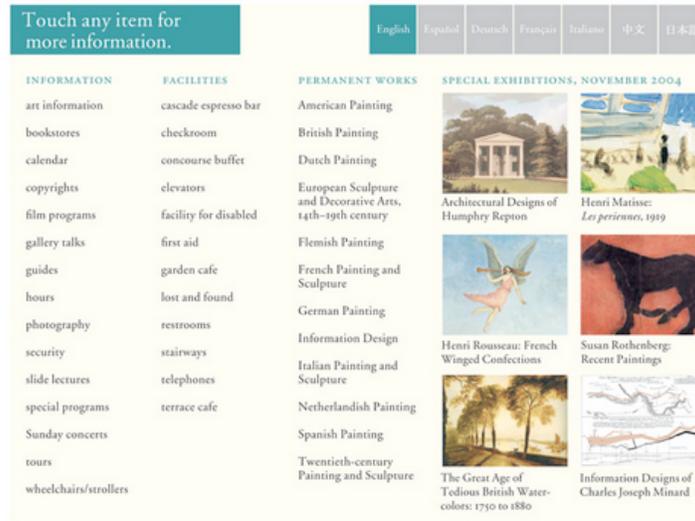


Fig. 29. Edward Tufte, *Visual Explanations*, 146. From: *Visual Explanations*.

Annotations in Conversation, by not ranking the annotations or emphasizing some over others through a more typical tree-like forum design, empowers the reader to navigate the database more freely. This more horizontal structure, coupled with the minimalist, uncluttered aesthetic, aims to preserve the open mental space created by reading the novel, providing agency and room for imagination.

The democratic aesthetic of the prototype is matched by its database structure, which places all novels at the same level and, in a future iteration, will allow users to add new novels. On the landing page, users are asked to find the novel they are reading; they speak a quotation from a novel into their laptop or phone’s microphone, and it is then searched in the Google Books database. Once the books’ title has been returned, it’s searched within the *Annotations in Conversation* database—if a page exists, the user is taken there, but if one does not exist, a new page is created. By giving users the power to add novels to the database, the prototype avoids what Derrida (1998) called “the notorious filterings” of supposedly universal and inclusive libraries, such as the Library of Congress (50). It also makes each reader an *archon* of the database, Derrida’s term for

the hegemonic librarian or archivist who classifies and ranks substrates as they're added to a body of knowledge, or a physical manifestation of one, like a library. Reader agency is thus augmented; each reader is given the "archonic power" to add novels and annotations, reducing the danger of narrowness and unity in what is intended to be a horizontal, diverse catalogue of reading experiences (Derrida 1998, 18). The platform is also positioned as a medium for self-expression, rather than finding the "correct" interpretations of passages—the archive is not positioned as objective, but rather as subjective and flexible. There is no voting or ranking system for annotations, and the open terminology used for the web elements ("add annotation", "view annotations") place no additional value on one type of reaction to a novel over another. The horizontal multiplicity mirrors Umberto Eco's textual openness; the annotations provide the same opportunity as well-written texts, as Eco (1989) suggests, to "at each new reading ... disclose something new, something previously unnoticed" (60). Annotations in Conversation seeks to avoid creating a stiff hierarchy of tastes: the excluding function of literary canon—Watt's ranking of formal realism over romance novels so entrenched in literary theory and in the ways books are valued and discussed.

The limiting factor of this open and democratic approach is the use of the Google search engine and Google Books archive, which is largely Western and English. Of the 20 available "corpuses" of books to search, Keio University in Japan is the only digitized library outside the United States and Europe to be included. Just 3% of the thousands of books added to the Google Books archive each year are translated from foreign languages. Hopefully, as the Google Books archive becomes more diverse, so too will the Annotations in Conversation database; alternatively, I will test a new way to identify and title books without referencing a larger archive, in order to circumvent those limitations.

Annotators, active and engaged in their capacities to wander and add to the network of annotations, are presented in the prototype to mimic the process of meeting characters in a novel, in order to recreate the same benefits: self-reflection, brought on by the temporary obliteration of the self through becoming the other. The scarcity of visual detail leaves the world of the book imagined by the reader intact; the prototype may offer more possible interpretations, as included in other readers' annotations. The inclusion of auditory detail balances visual blankness. The richness of the sound files limits the reader's freedom to imagine fellow annotators, giving fellow annotators a more concrete and human materiality than novel characters; the working memory is more burdened, and the negative space of reading, prized by Iser, is reduced. Nevertheless, the prototype's ability to inspire meaningful introspection may still be intact—the concreteness of the recorded human voice aside, no other information is provided about users; they are anonymous, allowing the reader to empathize and try on their perspectives, to stretch their own worldviews and perceptions to identify with the ideas of these other annotators in order to fully reflect on their own. Further user testing on this point is required, to tease out how users perceive the annotations left by others; if they are as able to empathize with them and listen to them as they with are characters drawn in novels.

Participant 26, who identified as learning disabled, said that he had difficulty reading but could benefit from the prototype. He completed user testing before the interview, and in the interview, said he was excited about a program that could deliver insights using audio rather than the written word. He habitually uses screen readers, and said he often tested different applications to find a voice he liked, recently discovering one with a warm British accent that could read text with emotion. Hopefully, the prototype's audio recordings by real people will act as a rich resource for fluent readers

and those who struggle with the written word alike. Participant 26 said he was hopeful about the prototype because he was intrigued by “idea that my disability wouldn’t matter in an older culture, so if we have one that starts using more abstractions or oral traditions [...] people like me can be more respected.” I hope to modify the site to ensure that it is fully accessible to those with screen readers, including instruction buttons and introductory text.

Section summary

The features outlined above—democratic aesthetic, horizontal database, and potentialities for new perspectives—place each novel and annotation within a distributed network of ideas. Users are free to wander constellations of novels and annotations, but can also dive more deeply, listening or reading to many annotations for one novel or passage. This experience aims to recreate the balance between the text’s fixed stars and the reader’s ability to connect them freely—the balance that defines the novel, between reader agency and textual agency, the constraints required to engender empathy and inspire self-reflection. More broadly, the distributed network of annotations is a version of Eco’s “universe of books”, including both novels and fellow readers. Annotations in Conversation aims to modify Borges’ limitless library, the endless labyrinth—of annotations, novels, and readers, in this instance, rather than intertextual references—that users can immerse themselves in and travel through, regardless of the number of texts that have been added to the database.

User testing

When the participants tested the prototype in January 2015, the archive was far from limitless—only a few annotations had been added, and two novels were available for their perusal. Participants were sent a link to the prototype and to an anonymous Google survey, included in the appendix. Of 30 participants, 11 tested Prototype 1, the first iteration. The readers began with two options to choose from: mock-ups of the record and identify functions on the landing page.



Fig. 30. Katie Meyer, *Annotations in Conversation Prototype 1, User Testing Landing Page*. Screenshot. Users could then navigate to Options A or B, where verbal annotations were presented either alone without the text, or superimposed on a page from the novel:

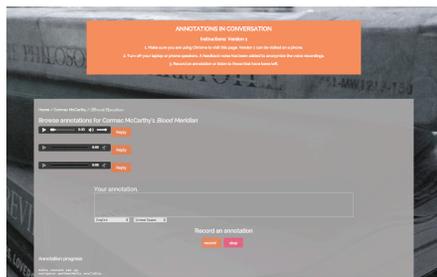


Fig. 31. Katie Meyer, *Option A, User Testing*. Screenshot.



Fig. 32. Katie Meyer, *Option B, User Testing*. Screenshot.

Initially, participants were confused by the prototype. Tested in its early stages of development, participants believed they were required to use all of its functions (record,

reply)—most of which were not yet working. Moreover, the two test pages only had test annotations, obscured in part by a glitch feedback noise added in error (but which anonymized the users' recordings). Further testing is needed to ascertain reader interaction with the prototype and how it can be improved, with fewer glitches in the user interface, better usability, and actual annotations added.

The testing was designed with minimal instruction: I did not tell users what the prototype aimed to do, and questions that detailed the function of the prototype were placed toward the end of the survey. One of 11 readers said that the prototype's purpose was "obvious right away," while the majority "had to read the instructions to figure it out." 4 of 11 users said, "I still don't know what it does." Though befuddled, participants preferred Option B, citing the connection between annotations and the text as helpful in understanding how the prototype operated. Additionally, when asked the readers rated the synchronicity between the prototype's form and function a 5 out of 10. This feedback was incorporated into the more streamlined design, which now functions, but provides less distracting introductory text.

Overall, users believed Annotations in Conversation would have no effect on how hard or easy reading was. 36% of participants who tested the prototype said it would make reading more fun and the majority, 63%, said it would have no effect.

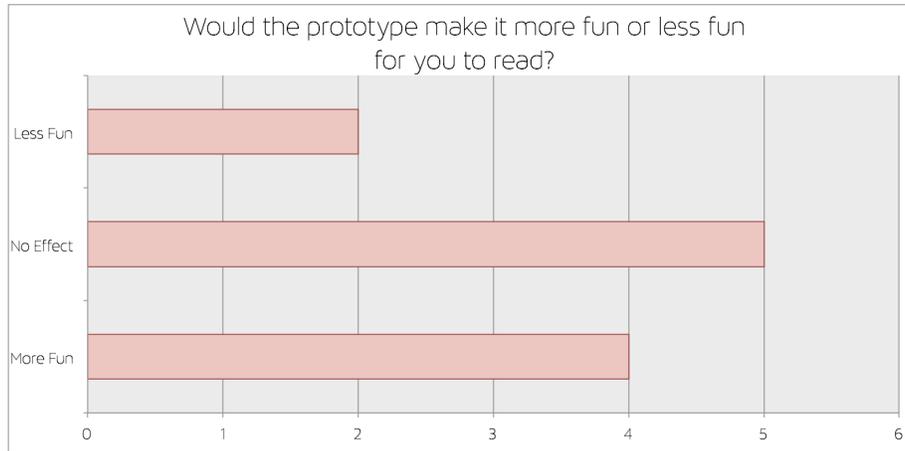


Fig. 33. Katie Meyer, *User Testing Results: Enjoyment*.

That the prototype, even in its broken testing state, could make reading more fun inspires cautious confidence. Perhaps the feeling that reading is more fun could help break the barrier to reading novels that lies within the “investment” and “commitment” that entangling oneself with the text requires, which caused some participants to pause before picking up a book.

Most importantly, at the end of the survey, when the purpose of the prototype became clear, 10 of 11 participants said they would use the prototype. Most said that they would listen to and record annotations, while others—likely as a result of their view of novel reading as a deeply private, rather than public, experience—would listen.

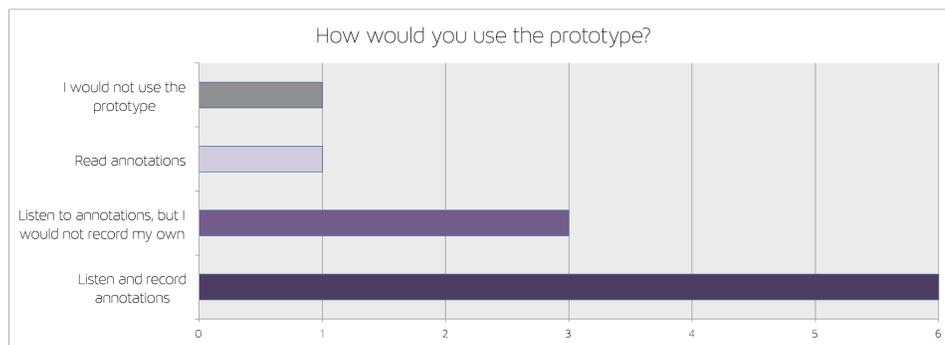


Fig. 34. Katie Meyer, *User Testing Results: Possible Uses*.

Based on my research and these results, I am optimistic about Annotations in Conversation’s effectiveness in eliminating barriers to reading as detailed above, while

preserving the special agency of the novel reader. 63% of users said they would use the prototype after completing a novel. In contrast, very few participants said in interview that they discussed novels after completing them; my hypothesis that the anonymity of the prototype would encourage digital natives to discuss their private reading experiences might be supported by my findings. Furthermore, 3 of 11 readers said they would listen to annotations before they read a text or ones left on novels they had not planned to read. This indicates that the prototype could aid in propping up the discoverability of the novel, diversifying sources from mom, the bookstore, and the library, to a network of anonymous readers with similar tastes. Thus, user testing provided evidence that the prototype could improve the novel's discoverability and shareability—which, in turn, could help the novel compete with media, such as TV shows and memes, more successful in those areas for digital natives.

The prototype does not solve the problem of digital natives not reading; this is an imagined problem, and Annotations in Conversation is not a singular solution. Instead, the prototype offers ways around barriers to reading mentioned by participants—increasing responsibilities of work and school aside. Its ability to help digital natives navigate obstacles to novel reading will depend on the individual readers. Whether readers record or only listen to annotations, my hope is that time spent contemplating novels in a community of invested readers—in a way that mimics the reader-text relationship, encouraging immersion, empathizing with the viewpoints of others, and self-reflection—will inspire digital natives to do what they love: read novels.

Conclusion

Reading did not come easily to me. I tortured my father with endless, repeating requests for *Berenstain Bears* and Richard Scarry, which he gladly obliged, but in Grade 1 I could not read a sentence. I could spell, but I could not read, putting me behind most participants, who could read at that age. Nevertheless, I loved reading—being read to. I certainly had Maryanne Wolf’s “ideal lap”: my mother and I spent sometimes hours every night laughing through *Comet in Moominland*, *Amelia Bedelia*, all of Roald Dahl, and *Amber Brown is Not a Crayon*. Midway through Grade 2, I could read in starts and stops; by the end of Grade 3, I read sentences without stuttering. Once I could read, I read everything.

Like many participants, my birthdays aligned with those of the characters in *Harry Potter*; I lost myself in long series and went through an embarrassing Harlequin phase in middle school. Books were a simple, and a complicated, escape. I was not allowed to romp around my neighborhood alone, but I could do so when reading *Harriet the Spy*. I tried on different lives and looked back at myself through the eyes of other people, ventured into other worlds and returned to my own, made alien by my time abroad. Yes, I was obsessed with The Sims and spent countless hours compiling neopoints—the bored child’s Bitcoin—but nothing stayed with me like novels. I read myself through high school and university, burning through more than 60 books one summer as a slush pile reader at a publishing house, through long summers, storms, and dark winters. In the past six months I have read three novels, one under the average of my participants. One I had read many times before; each time I cracked the spine of *The Great Gatsby* I felt myself slipping out of the universe and away to a new, old hiding place. My initial motivations for this project were selfish and simple: I want to keep reading. I want to read more. I want everyone to read. I had assumed my friends and I didn’t often discuss reading because we did not read novels much anymore; after conducting the study and asking my friends about their books, I uncovered that we had all been leading rich and secret reading lives.

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When I set out my three-pronged methodology—broad literature review, a study of young readers, and research through design—I did not expect my simple purposes to explode into a seeming infinity of hypotheses and data. I had to throw away my premises: that digital natives encounter massive barriers to reading that could be obliterated with a single solution. Completely unmoored, I spent months drowning in the material I collected—histories of reading, book clubs, women readers, semiotics, and finally, the rich data that the 30 participants so helpfully volunteered. This pool of information is something that I could delve into again and again, surfacing with new projects and ideas, as detailed in the Next Steps section. Canadian sculptor David Altmejd visited OCAD U in advance of his opening at the Art Gallery of Ontario, where a room-filling piece made of mirrors, glass, thread, chains, birds—a cacophony of sources—would be installed permanently. In his lecture, he said he “works from the material” with no expectations; he allows the material to surprise him, frustrating his expectations. He transferred much of his artistic agency to the physical substrates he worked with (not on); he had ideas for pieces, but his materials might modify them, or disagree completely. Altmejd’s sculptures involve a riot of materials and seem to be the result of a process of co-creation, of negotiation; they appear to have grown out of the things they were made of. After struggling to navigate the material I collected, I tried Altmejd’s approach—using the methodologies of grounded theory and narrative inquiry—to construct a feedback loop between myself and my data. Through the fall and winter of 2014, my advisors helped me circle through my research in this iterative fashion until from the data this document emerged. The research phase did not end; I consistently collected and incorporated new data, modifying my approach to the novel and digital natives accordingly. It was a chaotic, messy, and at times frustrating process, as participants subverted my expectations and gave me new ones. I continually encountered new writing that I just needed to incorporate, flitting through the Toronto Reference Library picking up any shiny book with the word “reading” or “digital native” on the cover like a crazed magpie. Finally, a paradigm that turns on the axis of the reader emerged; my definition of the novel as a relationship rather than an

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object is one that would have felt alien and frankly wrong at the project's outset, but it feels natural and comfortable now, having grown out of my research. I could keep circling through my data to push my conclusions even further, and I plan to; the project has spun to a stop temporarily, long enough to be captured in this document. The core of this thesis—the definitions of the novel and the digital native, and the rejection of false dichotomies, pernicious assumptions, and object-oriented approaches in those areas—has become solid enough to capture here. I have endeavored to do so in as precise and comprehensible language possible, doing most of my writing through editing with my supervisors.

In my looping research process, a gap emerged early on and only grew as I read about the novel and digital natives, and collected data from participants. I initially tried to bridge this gaping chasm—between the definitions of digital natives and the novel, and the real reading experiences of my participants—reconciling my research with other writing on the two subjects. By the end of the project, I saw that the paradigm of assumptions and my research could not be reconciled, and that my writing would have to deconstruct the other side rather than bringing the two together. Novels offer a private refuge to digital natives who said they were often caught in an endless web of connections—to news, friends, everything public. The digital natives in my study read at minimum 8 novels per year and wish they read more. The novel allows them freedom and secrecy, a contemplative escape from the endless electric roar of the Internet that reverberates in every other area of their lives; the novel, the dance between text and reader, is a ritual through which they can detach their online shadows, the curated selves, to fly unencumbered into other lives and worlds. Digital natives love to read novels, to lose themselves in books, to read as entertainment and as a form of reflection, against all assumptions of their generation's superficiality, stupidity, and overall unsuitability for the mental and emotional rigour of novel reading.

Perhaps what is key in engaging digital natives in reading is not a new novel app or video game, but the simple removal of the condescension so often dropped on them from a pedestal

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built on a fear of technology. Discourse around digital books and digital natives has become a tautology, with scrambling to reverse engineer findings to match it, generating stereotypes: that digital natives, for example, are shallower and more self-centered than their predecessors. The system of assumptions about digital natives is used by many scholars and journalists, ones which cast the newest generation as twitch-brain Twitter addicts too busy snapping selfies to read—assumptions I hope this project will help disabuse (*#generationrage #DigitalNativePride #ageism*). Through this thesis, I have endeavored to undo the false dichotomy that this fear of technology, and the generation that uses it, emerges from: that new mediums come with new messages that will replace old mediums and the messages and experiences therein—that digital native usage of new technology indicated preference for the new culture supposedly inscribed within it.

The novel is not a singular chain of evolutions, but a topology of layered pluralities. My participants were helpful in unearthing the continuities that run between these layers, the specific relationship between novel and reader that confers Godwin’s “inestimate and divine” benefits—like a vein of quartz that runs through layers of granite, or a river that winds through different forests and fields, this relationship is the medium. New technologies are new layers in the rock, or banks on the river; they can distract digital natives from novel reading, but they can drive them towards it or offer new points of access as well. The prototype that I built, *Annotations in Conversation*, does not aim to adapt the novel to a new digital environment, destroying the relationship between text and reader, and thus the novel, in the process. Instead, it offers another point of access to the novel, a site of introspection and discussion, which might mute digital distractions to reading and help digital natives stay immersed in the universe of books, in Eco’s endless library. In choosing an online format for my prototype, I hoped to create a material rebuttal to the fear of technology as antithetical to reading—which, in turn, might disrupt the equation of new, supposedly pernicious technologies with a new, also seemingly dangerous generation. With those parallelisms interrupted, I hope that *Annotations in Conversation* will help

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disintegrate the larger false dichotomies that rest on them—those between print and digital reading, novels and digital natives—to uncover commensurabilities across presumably divided generations and iterations of the novel.

In my reading, research, and design process, I thus circled through a system of assumptions down to and built a prototype around the relationship between reader and text, digital natives and the novel. I intended *Annotations in Conversations*, and the process that led to it, to shake the object-oriented paradigm of assumptions burying digital natives and how they read—from the deeply rooted binary between old and new (media and generations), all the way up to the resultant patronizing and often caustic treatment of digital natives—until it fell apart. Underneath the rubble lie the continuities and unexpected differences in how digital natives love to read.

With alarmism around the new technologies attached to novel reading and digital natives shattered, I attempt to redefine the two as distinctly human. I hope this understanding—my efforts in arriving at a new definition of the novel and the digital native—will be as useful in removing barriers to reading as my prototype.

Next Steps

Research

Through my study, I captured more than 400 pages in interview transcripts and 72 daily reading questionnaires (53 on WordPress, 19 on Google Forms). Further analysis can be carried out in many directions and I hope the dissemination of results will help dismantle static definitions of digital natives and the novel, which underpin the imagined break in culture.

First, I hope to employ more exhaustive narrative inquiry methodologies. I intend to run transcripts through William Labov's synchronic organization technique—pinpointing specific episodes in participant's reading lives, and rooting out the causes and effects. Many participants relayed specific narratives or anecdotes about novel reading that seemed to inform how they prioritize reading in their daily lives; I hope to extract unique case studies to better understand how early reading episodes shape reading habits for life.

Later, I plan on conducting a meta analysis of how the participants told their stories of reading, teasing out the identities and narratives they construct and present first, through books, and second, through the interviews themselves. This is a form of narrative ethnography, championed by Jaber F. Gubrium, which acknowledges the importance of narrative in public and social life; the method meshes nicely with my optimistic view of the future of the book.

Prototype

With key insights generated by a deeper analysis of data collected, I hope to continue to iterate Annotations in Conversation. In future, I aim to develop a user system in which readers are able to use the site as it is now, and save annotations to a private repository—carving out a secret library of contemplations, mimicking the asocial aspects of novel reading that digital natives seem to gravitate towards. To resolve remaining technical issues, I will refine my combination of

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the Web Speech API and Recorder JavaScript libraries, which sometimes use the same commands, generating glitches.

Eventually, I hope to make the platform public to all readers. First, I'll reach out to the active and largely digital native novel reviewing community on Tumblr, soliciting a new group of readers to both test the prototype and populate the archive with insightful annotations. Then, I will connect with participants and allow them to be the first to enter the networked library. I aim to create a universe of annotations that draws users in, providing a forum for discussion that will enhance introspection when novel reading, as well as aid in the discoverability and shareability of the medium.

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Appendix A: Pixelated Literature Study, Sample Interviews

PARTICIPANT A, Sample Interview

1. On the whole, did you find the academic part of high school a positive or a negative experience?

It was a positive experience. I liked high school, just not maybe the atmosphere of high school, but I liked the academic aspect of high school.

2. Did you have a favourite teacher? Yes or no, don't give me their name. If so, what class did he or she teach?

Yes.

Art.

3. How did you spend most of your free time when you were in high school?

There was actually not a lot of extra curricular activities in high school so I spent the time looking for volunteering places to volunteer at.

4. On the whole, did you find the academic part of elementary school a positive or negative experience?

Negative? I'm kind of half and half, but more to a negative side.

5. What subjects did you enjoy the most?

Art, yeah.

6. What subjects did you struggle the most with?

I didn't struggle in elementary school as much as I could have been, but I didn't like science. I know I didn't like science, but I didn't struggle with it.

7. Did you have a favourite teacher in elementary school? Yes or no, don't give me their name. If so, what made him or her your favourite?

Not as much as I did in high school, but yeah, a couple.

The way they interact with the students and they show how much they care about our learning experience and our marks.

8. Do you have any siblings? How many siblings shared your home when you were growing up?

Yes.

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One, my brother.

9. Did your siblings read a lot when you were a kid?

Uh, I did, he didn't.

10. What activities, in general terms, did your family do together?

We travelled quite a bit.

11. What did your parents do for fun or leisure when you were under 12? Or what did they do after work?

We watched TV together a lot.

12. Were your friends when you were a kid into reading?

Yes.

13. How did you spend most of your free time when you were in elementary school?

I went out and I played a lot of sports outside, but not like competitive sports, just like sports with friends: running, biking, going around, exploring.

14. Did you participate in any learning activities outside of school when you were a kid?

I had a tutor for, like, a year but it was like once a week, so I stopped after Grade 7.

15. What entertainment, learning, or communication technology did you have at home when you were under 5? That could be anything from a desktop computer, to a tablet, to a phone. How often did you use them?

I didn't have a computer, but my brother had a computer when he was younger. He had one in Grade 3, and I had mine in Grade 8, so a lot of people, a lot of my friends were already starting to catch up with their technologies when they were young, and I didn't have that, so I read, and I shared books with them. I had a phone in Grade 4, but at that time not many of my friends had a phone, so at that time it was kind of like a gap between us.

16. What kind of phone was that?

It was a Nokia slide-y one.

There was a TV, yes. We watched TV a lot and I watched TV when I was working, and my mom would always yell at me for multitasking, so now I'm very bad at concentrating, yeah.

17. What entertainment, learning, or communication technology did you have did you have at home when you were 5 to 12? How often did you use them?

The phone. We had a desktop computer at home for my brother.

18. Do you remember who taught you to read?

My ... mom. I have no memory of it, but I think my mom, because my dad would always be at work.

19. When did you learn to read?

I remember when I learned the multiplication tables, and that was when I was two, but I'm not sure when I began to read.

20. When you think about reading or books when you were very little, before you started school, what do you remember?

Pictures, colours, big letters I think.

21. Did you read a lot in elementary school?

Yes, before I came here, not as much as I did before I came here.

22. Came where?

Canada. So, I immigrated here in Grade 5, so I read a lot from Grade 1 to Grade 5, but then Grade 5 to Grade 8, it was a little different because the language is different, so I didn't read as much as I did back then.

23. So, you read in one language and then you switched to English?

Yes, but then I mostly watched TV to learn the language first, before I started reading.

24. How did you do most of your reading in elementary school?

We just read the paper version of it.

25. Where did you do your reading in elementary school? Did you do anything else while reading?

In the library. I remember me and my friends used to go to the library once a week, and we'd just sit down and find books, and then borrow books, and then we'd return it the next week.

26. What was your favourite book in elementary school?

I remember there was this mystery, I don't remember the name of it, but she had, like, red hair and she had, like, a cat. It was a mystery kind of series and there was eleven of them or something, and there was another one with the mouse and cheese... I don't remember.

27. Do you remember where you found it, or who gave it to you?

We had those Scholastic catalogues, that we could order books, those ones.

28. How did you read it?

Paper version.

29. What did you get out of it, or why was it your favourite?

I liked the mystery aspect of it, I liked finding clues to finding the answer at the end, and I think that's something that we fantasize about doing in reality, but we don't actually have that much excitement, so that was fun.

30. When you think about reading or books when you were in high school, what do you remember?

English class and analyzing every single sentence that there is, and what it symbolizes, and what it contributes to the entire story line and the theme and all that stuff.

31. Did you read a lot in high school? Why or why not?

Yes, because I had to commute to school, so I'd read in the subway, I'd read on the bus, I'd read when I went home.

32. Were your friends when you were in high school into reading?

Not as much as they were in elementary school I would say, because they were busy with schoolwork.

33. How did you do most of your reading in high school?

When I was commuting. Paper.

34. Where did you do your reading in high school? Did you do anything else while reading?

No.

35. What was your favourite book in middle school?

No, not exactly. I didn't have a specific.

36. What was your favourite book in in high school?

I recently read *Gone Girl*, and that was amazing, I read it on my vacation. I read it when I was on the plane, I read it when I was in the airport, and it was amazing. I could not stop reading it, and every time my cousin asked me for the book I was like, No, I'm reading it!

37. Do you remember where you found it, or who gave it to you?

It was in a book fair in Hong Kong, and they had everything on sale because it was the last day, and I just picked it up. I didn't know what it was, but I just picked it up, because the book I originally wanted wasn't there, so it was an accident.

38. What did you get out of it, or why was it your favourite?

HS It's very interesting. Like, there are a lot of plot twists in there that you wouldn't anticipate until you get to the end, and then you string everything together. Everything makes sense at the end.

39. Are your friends now reading?

If there are books with a movie coming out, they most likely tend to read those books more than the ones they pick out on their own, but yeah, not as much as they were before.

40. Do you read more or less now than when you were in high school? What about compared to elementary school? Why do you think that is?

Less. We find excuses for ourselves to not have the time to find a book we like, and we kind of get more picky nowadays.

41. What about compared to elementary school? Why do you think that is?

Less. There's less platforms to kind of reach out and find those books that we would to read in elementary school, because we were kind of forced to go to the library every week.

42. What was the last book you really enjoyed?

Gone Girl.

43. What was the last book you read?

Gone Girl.

44. Where do you do your reading now? Do you do anything else while reading?

On the bus, in the subway, mostly. At home, I usually do my schoolwork, so I leave all my reading to the subway, because I don't want to waste time during that commuting time.

45. What role has reading played for you, so far?

I think it's a time to myself, kind of like a relaxing time, where I just don't have to think, I just have to follow the story line and the character development. It's enjoyable.

46. Do you have anything you'd like to add?

Supplemental questions, asked after the interview:

47. How many novels have you read in the last 6 months (since mid-October)?

Three.

48. Are you happy with the amount that you read, or do you wish that you read more or less?

And I wish I read more than I do RN [right now] but its getting harder cause school, but having a ereader [sic] helps.

PARTICIPANT B, Sample Questions Added and Improvised

47. Are you happy with the amount that you read?

I wish I read more.

48. Why?

I like to read and I want to get back into it, but it's just finding the time to do so, and you don't always get the time for yourself.

49. What was the last book you really enjoyed? Where did you find it?

I liked *Men in Space*, I don't remember by who, but yeah that was a good book.

Chapters. It was on their like sale table for two dollars, five dollars, and I read the little flap, and I was like, "oh, this is nice," and then I got it, and read it.

50. What was the last book you read? Where did you find it?

Probably something in high school.

51. Where do you do your reading now? Do you do anything else while reading?

If I do it at home it'll be on my couch, and if I can, on my commute to school or at home.

Not usually.

52. Is your phone near you when you read?

Yep.

53. Do you ever go online to look up books or comments about books?

No. I'll look at the cover, and what it's about, and if I don't like it I don't get it.

54. Do you ever talk to people in real life about novels?

No. Maybe if they see me with it, and then you know they'll ask and I'll tell them, but otherwise, I won't be like, "oh, I read a new book today."

55. How many novels have you read in the last 6 months?

Like, start to finish? Probably 1, maybe 2.

56. What role has reading played for you, so far?

Since I started reading since I was a kid it developed my English, reading, writing, all that, and it made me more of like, a grammar Nazi, if you want to call it that. I hate it when people mess up the you're your or the their there they're. So, that really made me pay attention to that.

Just like, reading, being able to imagine the storyline, it's more captivating than being on your phone the whole time.

57. Why do you think it's more captivating than being on your phone?

Because you can read and at the same time, if it's a good descriptive book, you can visualize what's going on, whereas social media is very one sided, you just like, scroll scroll scroll, or you

like tweet 160 characters or whatever, there's nothing stimulating about that. Yeah, word gets around really fast, and yeah, there's news too, but .. I don't know I think you can learn a lot more through journals or reading, fiction, non-fiction, whatever.

58. Do you have anything you'd like to add?

Appendix B: Pixelated Literature Study, Daily Reading

Questionnaire

1. What did you do today?
1. What technology did you use during those activities?
2. Overall, how would you describe your day?
3. Did you read anything interesting or memorable today?
4. If so, where did you read it?
5. How much of the item did you read?
6. How did you find it?
7. Did you share it with anyone?
8. Did you read anything from start to finish today, aside from personal messages or emails?
10. If yes, what made you read the whole thing?
11. Did you find anything today that you did not read, but you intend to read in the future?
12. If yes, what was it?
13. Overall, today, which of the following did you wish you read more of?
14. Please enter the username given to you.
15. Please paste the Internet history text data from the past 24 hours into the area below.

Check your email for instructions on how to do this.

Appendix C: Pixelated Literature Study, User Testing

Questions

How did you access the prototype?

Select all that apply.

- Mobile phone
- Tablet
- Laptop
- Desktop

What does the prototype do? [Text box]

How quickly could you figure out what the prototype does?

- It was obvious right away
- I had to read the instructions to figure it out
- I still don't know what it does

What features of the prototype did you find confusing? [Text box]

On the first page of the site, which option would you use (if both worked) to access annotations?

- Option A
- Option B
- Other:

Why would you choose that option? [Text box]

Which version of the Cormac McCarthy annotation page did you prefer?

- Version 1
- Version 2

Why did you prefer that version? [Text box]

How would you use the prototype?

- I would not use the prototype
- I would read other peoples' annotations
- I would listen to other peoples' annotations
- I would listen to other peoples' annotations, but I would never record my own
- I would listen to other peoples' annotations, and I would eventually record my own
- I would listen to other peoples' annotations, and record my own right away

If you would use the prototype (when it is functional), when would you use it?

- Before reading a text
- While I'm reading the text
- When I've completed a text
- I would read or listen to annotations not related to books I have read, am reading, or ever plan to read

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On a scale from 1 to 10, how much did the way the prototype look match its purpose or function?

[1: Seemed totally unrelated, 2: Look and concept tied together well]

Would the prototype make it easier or harder for you to read?

- Easier
- Harder
- No effect

Would the prototype make it more fun or less fun for you to read?

- More fun
- Less fun
- No effect

If you had access to the prototype all the time, would you read more or read less than you do now?

- Read more
- Read less
- Read the same amount

Any other feedback? [Text box]

In the space below, please enter the randomly generated username given to you [by the principal investigator].

Appendix D: Earlier Prototype

Illuminated book jacket

Technological Overview

- **Hardware:** Transparent fabric, conductive thread, LEDs, heart rate monitor, LilyPad, coin cell battery
- **Code:** Arduino, Processing

Description

The first iteration is a book jacket illuminated by the reader's heartbeat as they read. LEDs and a LilyPad were sewn into a black fabric book jacket that can accommodate a standard paperback or hardcover, with plans for a version that could accommodate a tablet or eReader. A heart rate monitor was attached to the LilyPad, and extends just beyond the bottom left corner, to be attached to the user's left hand while their right hand turns the pages. In an ideal user journey, the user would choose their novel, attach the book jacket, wear the heart rate monitor, and the constellations of LEDs on the front of the jacket would light up in time with the user's heartbeat—sharing the reader's experience with the novel with those around them. The LEDs flashing in time with the reader's heartbeat would indicate when he or she encountered a particularly suspenseful or wrenching passage in the text; this enables sharing while keeping the details of the reading experience private.

The illuminated book jacket inverts MIT Media Lab's Sensory Fiction project, developed by students Felix Heibeck, Alexis Hope, and Julie Legault in 2013. In order to enhance immersion and the effects of an adaptation of *The Girl Who Was Plugged In* on the reader, a harness that clips to the torso and a wooden jacket with LEDs deliver shaking, vibrations, and different lighting environments in time with the reader's place in the novel. The powerful colour LEDs in the jacket imbue the reader's surroundings to extend the atmosphere created in the book into the reader's world, picturing it for them through a kaleidoscope of colours. The level of suspense and impact of passages are not decided by individual readers; rather, suspense is signaled through the harness by literal vibrations and constriction of the chest designed to speed up breathing.

With the illuminated book jacket, the reader is not a passive recipient of a pre-designed sensations, but an active imaginer. This more balanced relationship is visualized with the constellation pattern of LEDs and conductive thread visible on the jacket, a reference to Wolfgang Iser's constellations metaphor to explain reader agency. Iser explains, "the 'stars' in a literary text are fixed; the lines that join them are variable"; the stars, the author's words, are connected to form an infinite variety of constellations, of meanings, by the reader (Iser 1972, 57). The stars on the illuminated book jacket are similarly fixed, but the currents running through the lines that join them are created by the calm or thundering of the reader's heart as he reads.

The sharing capacity of the LEDs, however, is limited to the people physically sharing space with the reader; it's ideal for the participants who indicated that they often read in public, while commuting, at libraries, or at cafes, for example. By involving those within visual proximity in the reader's experience, the prototype recalls earlier modes of social reading. In Victorian England, Canada and America, for instance, reading aloud to the family was a common leisure activity; in its blend of sharing and generalizing, the illuminated book jacket blends the

effects of this early form of shared reading, where the text became public but individual reader reactions were still private (cite). The illuminated book jacket is also intended to serve as playful, ongoing advertisement of the novel as an exciting leisure activity; the pulsing lights would remind those nearby that novels can be heart-wrenching and -racing.

This prototype falls short in accounting for more specific participant needs and in actively protecting their relationship to the novel. First, the inflexibility of the hardware is not suitable for platform agnostic readers—the typical digital native as uncovered in the study. The fabric book jacket, with adjustable Velcro flaps, can accommodate eReaders, tablets, and print books, but it cannot comfortably envelope a laptop or phone. The prototype’s materiality is its main flaw; by taking the form of a physical object, it takes on the problems of the divided material representations of the novel, in which reading experiences are siloed in different devices. The illuminated book jacket privileges print.

The second, more obvious limitation is that of bio-feedback as a reliable indicator of human experience. Doubt in the ideology of the quantified-self movement was raised at the 2014 winter colloquium, a preliminary form of user testing. After the book jacket was presented, users asked whether heart rate could accurately represent a reader’s reaction to the text; the book jacket, it was pointed out, would light up when the reader read a suspenseful passage, but also when they heard a loud noise, or remembered an appointment. The decision to use sensors that collect biofeedback, and further, the choice of only one sensor, reduces the legitimacy of the data collected and the experience it signifies through the pulsing illuminations.

Finally, the illuminated book jacket prototype’s primary failure in preserving the reader-text relationship in the transition from print to digital is its framing of the reader as passive. The illuminated book jacket emphasizes the reader’s bodily reactions to the text—as if he or she were a cog in the machinery of the plot, recalling Marxist criticism of popular novels as mass

entertainment. While the jacket preserves reader immersion and gives them the freedom to visualize and score the novel, without any other nudges from outside the text, it reduces their participation to that of body *being effected by*, rather than an agentic reader *in relation to* the text.

Appendix E: Experiments in Understanding the Novel's

Long Past

As I compiled information on the novel's present and history, I wanted to conceptualize how the written word has been read silently, and for pleasure, for centuries. After reading Deidre Lynch's *Loving Literature, A Cultural History* and sections of Herodotus' *Historiai*, I found interesting contrasts in the ways that people supposedly read and what authors implied about their readers with phantasmagoric and humorous passages. Throughout the paper, I cite the long history of the novel—the co-creative relationship between text and reader—and due to an “almost complete lack” of information on early readers (consumers who leave few accounts of reading or artifacts), I wrote a fictive version of how an early reading session for a young person might have unfolded (Harris 1991, 8). I did not include this in the thesis, as it falls out of the scope of my research questions, but it provided the underpinnings for the continuities I saw in the novel from its earliest forms to the present day.

A Brief and Fictive History of Fiction

Alexander waited until the house was silent before getting out of bed. He stepped across his sandals, whose scraping sounds would betray his mission, and crept barefoot through his doorway, past his parents' room, snuck across the atrium, past the fountain—a long trek, one of the curses of living in such a fine house—and into his favourite room: the tablinum, where the scrolls were kept. Once inside, he listened, but the house was still silent, all the slaves asleep.

*Alexander unfurled a scroll and sat under the skylight, squinting to make out the script—written with no punctuation or grammar, but readily visible, even at night. His father, like his father before him, when he wanted to read, would call a slave to his room and have him read aloud, but Alexander, like his friends, preferred reading silently and alone. Not that there was anything in the scroll in his hands particularly private, of course; it was a long and important history, Herodotus' *Historiai*, which he had dedicated himself to read, now that his education was complete, to sharpen his grasp on history and rhetoric. The opening scene of the text came highly recommended by a friend as excellent entertainment—probably made-up entirely, it had been thought at school. His father, who had not read it, dictated that his son should, as it was such a necessary history. That Alexander was reading it silently, to himself, in secret, was a mere preference. Before he jumped to the scrolls with the most important battles, he had to familiarize himself with the context, so he started reading at the beginning, with the scandal of the changing hands of an empire, involving a king and his servant Gyges. Gyges, who Alexander imagined was a slight sort of fellow who probably looked much like himself, and was about his age, was an important figure in history, one he should—no, must—study to improve himself. Alone, he read:*

“The old king Candaules of Lydia was deeply in love with his wife and believed her the most beautiful woman in the world. He even talked about it openly with his servant, a man named Gyges in whom he confided all his secrets, especially about how pretty he thought his wife was. While it took some time to happen, that was the beginning of his troubles.

One day, he said to Gyges, ‘Gyges, I don't think you believe me when I say how beautiful my wife is. Men don't trust their ears as much as their eyes. What you need is to see her naked!’

Gyges gasped out loud and said, ‘O Master, what do you mean by saying something perverted like that? Telling me to see my mistress naked? You know, you take a woman's clothes off and you take off her decency, too!’”

Alexander scrolled down rapidly, turning the text in his hands, skipping the parts of dialogue so clearly useless to his study—he wanted to know how Gyges responded to his master’s indecent request. Alexander skimmed through Gyges stealing into the queen’s room against his will, and being forced to choose between his own death as punishment for the crime, or killing the king for planning it.

“After night had fallen—now you understand Gyges had no way out of this but someone had to die, he or Candaules, one of them!—he followed the woman to the bed-chamber. And she gave him a dagger and hid him behind the very same door.”

Alexander looked up at the darkened doorway in front of him, catching a shadow in the corner of his eye. He heard nothing, and so returned to reading.

“And later when Candaules had retired, he sneaked up and killed him, taking both his woman and the kingdom, that's what Gyges did—in fact, it's mentioned by Archilochus of Paros, who lived at the same time, in a poem he wrote—Gyges took the kingdom of Lydia and ruled, and the reason is the Delphic Oracle confirmed him.”

Gyges was instantly appealing—the awesome responsibility of a new, beautiful wife and kingdom forced upon him without him having done anything wrong. A terrible injustice, Alexander

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thought. He rolled the scroll back up and grabbed the next one to read about the true and important events that Gyges had set into motion when he crept into the queen's bedroom, about Megacles and the Mydian race and all of the adventures therein.

Appendix F: Accompanying Material

The following accompanying material is available upon request from the Ontario College of Art and Design Library:

1. Electronic copy of thesis in PDF form
2. Index page of Annotations in Conversation prototype, including:
 - a. HTML
 - b. CSS
 - c. JavaScript for speech recognition