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Speak: An Examination of Literacy in The Digital Age

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Speak:

An Examination of Literacy in The Digital Age

Senior Project Submitted to

The Division of Languages and Literature

of Bard College

by

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I . Introduction

A few years ago, my father and I drove up north, to San Francisco to spend Christmas with the family. I was particularly excited to see my niece Hannah, who I hadn't been able to spend much time around, as I am enrolled in college 3000 miles away. The last time I had seen her she was still very much a blob, spending most of her time eating and sleeping. But this time she was much older, and as my father reported, was exhibiting her own personality.

When we arrived at my brother's house I was delighted to see that my dad had been right. Hannah was running around, laughing, playing and doing all the things that toddlers do. She even spoke, saying "mommy," "daddy," "grandpa," and what I like to believe was "Uncle Mike" (though that one relied a lot more on creative interpretation). As awe-striking as it was to see how much Hannah had grown in the short period since I had seen her last, I remember noticing something that stood out to me as being somewhat peculiar. At about one and a quarter years of age, Hannah was capable of operating an ipad with complete ease; unlocking it, choosing which app she wanted to launch and playing games designed for toddlers. At one point she even picked up my Iphone, held it up to her ear, and blurted out nondescript baby-talk before looking at me and laughing.

The sight of a baby displaying a better understanding of Apple's IOS operating system than that of the English language was jarring. Hannah could navigate an iphone more efficiently than her grandfather, a man well into his sixties who interacts with smartphones like one would an piece of unknown extraterrestrial technology. I began to wonder if this was a bigger deal than it appeared to be.

Scholars, artists, educators, and intellectuals across the globe seem to have noticed the same trend within contemporary youth, and a great deal of research is surfacing which discusses the psychological effects emerging technology has on its user's understanding of language, particularly with regard to the reading mind. One such researcher is Maryanne Wolf, whose work has positioned her as one of the leading experts on literacy in the digital age. In her book "Reader Come Home," Professor Wolf examines how reading has influenced the evolution of the human brain. She introduces the stakes of her research by explaining,

Human beings were never born to read. The acquisition of literacy is one of the most important epigenetic achievements of homo sapiens. To our knowledge, no other species ever acquired it. The act of learning to read added an entirely new circuit to our hominid brain's repertoire. The long developmental process of learning to read deeply and well changed the very structure of that circuit's connection, which rewired the brain, which transformed the nature of human thought (Wolf 2).

Wolf establishes the ability to read not only as one which is exclusive to humanity, but key to its evolutionary existence as a species. It is a method of communication which requires its participants to exercise their brain in a way that transcends its original biological functions. She goes on to explain,

what we read, how we read, and why we read change how we think, changes that are continuing now at a faster pace. In the span of only six millennia reading became the transformative catalyst for intellectual development within individuals and within literate cultures. The quality of our thought, it is our best known path to developing whole new pathways in the cerebral evolution of our species (Wolf2).

Wolf describes how reading and writing provides a means of understanding oneself as an individual, offering the knowledge necessary to appraise the exterior world and its functions, as well as the internal understanding of self required to discern one's role within it.

This literate reality, whose complex cultures and economies alike rely on the majority's ability to communicate via reading and writing, has existed in a state of subtle stagnance. There is no doubt the human race has exhibited exponential growth and innovation over the course of handful of centuries modern man has spent on earth. And one might argue that when examined side by side the differences between any two designated generations (silent gen, boomers, gen x, gen y, etc.) are incomparable with regard to the overall ways by which they exist within their respective eras. However the fact of the matter is, as Wolf explains, that over the course of the past six millenia, humanity has engaged with its past and future iterations via written documentation. That is to say, on the basis of education, both formal and informal, reading has remained the single most effective way of attaining knowledge among the human race regardless of time, location, or technology. Reading has in a sense allowed humans to configure their mind in a way that expedites the evolutionary process responsible for the complexification of the mind.

All that being said, there appears to be a potential problem arising within the realm of literacy. A problem which Professor Katherine Hayles, director of graduate studies in the program in literature at Duke University, fears may impede on the developmental process explained above. In her essay, "Hyper and Deep Attention: The General Divide in Cognitive Minds," Professor Hayles explains the distinction between hyper-attention; "Characterized by switching focus rapidly among different tasks, preferring multiple information streams, seeking a high level of stimulation, and having a low tolerance for boredom"(Hayles 187), and deep attention; "the cognitive style traditionally associated with the humanities. Characterized by concentrating on a single object for long periods, ignoring outside stimuli while so engaged,

preferring a single information stream, and having a high tolerance for long focus times” (Hayles 187). She explains that each cognitive mode can act as an asset and a liability. Hyper attention fuels the ability for one to navigate a rapidly changing environment. It is the mode which allows people to process multiple environmental stimuli competing for their attention at once. Those exhibiting hyper-attentive behavior have difficulty focusing for long periods of time on one specific stimuli, especially those which Hayles describes as “non-interactive.” Deep-attention on the other hand, is the cognitive mode which is employed to tackle tasks requiring one to solve complex singular problems. Those exhibiting deep-attentive behavior are those who employ extreme focus and analysis. It is the mental phenomenon responsible for those strange moments in life when one looks down to complete a task and realizes upon its completion that what felt like minutes turned out to be hours. The disadvantage associated with deep-attention would be the necessity for one to sacrifice environmental awareness.

Having proposed these two definitions, Hayles explains that, “In an evolutionary context, hyper attention no doubt developed first; deep attention is a relative luxury, requiring group cooperation to create a secure environment in which one does not have to be constantly alert to danger” (Hayles 188). Deep-attention caters to the civilized mind. It is the cognitive mode which flourished as humans removed themselves from the dangers of the natural world. When Maryanne Wolf discusses reading as being the cornerstone of human intellectual growth and development, one would be safe to assume that said cognitive evolution is likely due in large part to people’s ability to engage in deep-attention.

With all this in mind I not only begin to wonder about the developmental path of my tech savvy toddler of a niece, but of my own engagement with the ever-thickening digital atmosphere

I find myself living within. The circumstances by which we communicate on both a social and professional level in contemporary times demand a great deal of hyper-attentiveness. Smart phones have become a sort of phantom limb. People store on this exterior processor, the information necessary to carry out their everyday lives. The constant influx of messages via email, texting or third party messaging apps have created a scenario which expects users to constantly juggle multiple conversations. Furthermore, social media has become so prevalent that young people feel the need to constantly curate their personal brand and persona. Finally accessibility of information has generated an over reliance on tools that subvert the processes that require work that is ultimately rewarding to those carrying it out, like say, conducting research in a library using textbooks, articles or journals.

Hayles highlights a study commissioned by the Kaiser Family Foundation, which surveyed over two thousand young people ages 8-18. The study was designed to record the number of hours each participant spent engaging with different forms of media every day. The survey found that participants spent an average of 6.5 hours a day engaging with media. They also found that many participants would be more accurately regarded as having spent 8.5 hours engaging with media each day, considering that they often engaged with two or more different forms simultaneously. The distribution of results are as follows. TV and DVD accounted for 3.51 hours. MP3, music CDs, and radio accounted for 1.44 hours. Interactive media (e.g. web surfing and videos games) accounted for .49 hours. Reading accounted for .43 hours, making it the media form which young people engage with the least (Kaiser Foundation).

More recent studies have shown an increase in this trend towards media over-consumption. A recent study conducted by GWI (Global Web Index) shows that the

average person's daily social media engagement has increased steadily. In 2012, the average person spent about an hour and a half engaging with social media each day. By 2018, the average person would spend about two hours and twenty minutes engaging with social media each day. When broken down into age demographics, one could more accurately say that the average 16-24 year old spends about three hours each day engaging with social media. Arguably the most alarming aspect of this fact lies in the way which these three hours are distributed throughout the average person's day. Though it may be true that there are people out there who knock out their daily social media engagement in one sitting, one would be safe to assume that most people break up their time on social media throughout their day. These interactive social platforms (twitter, facebook, instagram, snapchat, etc.) are readily accessible, and serve as a great means of distraction. Most media multitasking mentioned by Maryanne Wolf, may likely be assumed to involve social media.

Given all this information, Maryanne Wolf begs the question,

... will the combination of reading on digital formats and daily immersion in a variety of digital experiences—from social media to virtual games—impede the formation of the slower cognitive processes such as critical thinking, personal reflection, imagination, and empathy that are all part of deep attention? Will the mix of continuously stimulating distractions of children's attention and immediate access to multiple sources of information give young readers less incentive either to build their own storehouses of knowledge or to think critically for themselves? (Wolf 8).

According to the research conducted by Katherine Hayles, the answer to both these questions may be *yes*.

In her book, *Reclaiming Conversation: The Power of Talk in a Digital Age*, Sherry Turkle examines how over consumption of media has created a scenario where young people are incapable of coping with solitude. She explains that,

Developmental psychology has long made the case for the importance of solitude. And now so does neuroscience. It is only when we are alone with our thoughts—not reacting to external stimuli—that we engage that part of our brain’s basic infrastructure devoted to building up a sense of our stable autobiographical past. This is the “default mode network.” So, without solitude, we can’t construct a stable sense of self (Turkle 61).

Turkle explains that solitude has been scientifically proven in recent years, to be responsible for one’s ability to ground their understanding of self. She goes on to explain that, “creative ideas come from the reveries of solitude” (Turkle 62), before remarking on how oversaturation of media may be reducing children's ability to experience solitude, “If children always have something outside of themselves to respond to, they don’t build up this resource. So it is not surprising that today young people become anxious if they are alone without a device” (Turkle 62).

With this in mind, one might wonder how this fear of solitude may manifest itself within the lives of future generations. Hayles notes a trait called brain plasticity, which essentially refers to the human brain’s ability to change and adapt its synaptic connections to best fit the lifestyle of its thinker. She states, “human beings are born with their nervous systems ready to be reconfigured in response to the environment. While the number of neurons in the brain remains more or less constant throughout a lifetime, the number of synapses—the connections that neurons form to communicate with other neurons—is greatest at birth” (Hayles 192). The presented implications with which she seems to grapple become more transparent when she elaborates,

through a process known as synaptogenesis, a newborn infant undergoes a pruning process whereby the neural connections in the brain that are used strengthen and grow, while those that are not decay and disappear... In contemporary developed societies, this plasticity implies that the brain's synaptic connections are coevolving with an environment in which media consumption is a dominant factor. (Hayles 192).

The human race has entered an age in which our species evolution has become a function of our own choices. However this is not yet a conscious trend. At the present moment, changes in culture and technological innovation has proven to alter our brain chemistry, quite literally shaping a generation to think differently than its predecessors on a fundamental level. Yet this fact is not considered nearly enough, and its implications are often subsidiary to strategic financial gain. That is to say, the media saturated multi-billion dollar international industry that is "Tech" is beginning to prove itself to be the milieu which determines the developmental path of mankind. One which is serving to negate young people's ability to form an understanding of self, as people are constantly dialed in to their smart devices in avoidance of solitude.

As a result, reader's numbers are dwindling. According to two studies conducted by the NEA (National Endowment for the Arts), *Reading at Risk* (2004), and *To Read or Not to Read* (2007) the number of young people who read print (both for pleasure and for academic purposes) is dwindling. On top of this, the quality of reading that is taking place, or rather the depth by which young people are capable of engaging with and comprehending print is growing weaker (Bradshaw). Given this information, Dana Gioia Chairman of the NEA, explains that the correlation between decreased literary reading and inadequate quality reading is in fact causal (Bradshaw).

Inadequate reading delimited by contemporary youth's decreased literary exploration may be regarded as a failure of the masses to employ techniques of "symptomatic reading." In their article "Surface Reading," literary critics Stephen Best and Sharon Marcus explain symptomatic reading as being, "a mode of interpretation that assumes that a text's truest meaning lies in what it does not say, describes textual surfaces as superfluous, and seeks to unmask hidden meanings" (Best 1). Though this description refers literally to the act of reading and analyzing works of literature, one might regard symptomatic reading as being the nucleus of any analysis of art. One must draw upon their own prior knowledge and assessments of reality in an effort to excavate what Best argues are, "the most significant truths" buried within the lines of a text. Truths, which "are not immediately reprehensible and may be veiled or invisible..." (Best 4). The notion that the greatest virtue associated with literature lies in its ability to promote symptomatic analysis serves as the central ideology for any curriculum focused around the humanities. Symptomatic reading, a byproduct of deep-attentive focus, exercises the hotwired circuits of the brain which Maryanne Wolf studied for her book. It is a process that not only conditions the ability to re-examine that which appears obvious and draw from it new meaning.

Best goes on to address the NEA's findings regarding the decline in reading quality. He frames this problem using the term, "surface reading" as he states, "in the past decade or so, we have been drawn to modes of reading that attend to the surfaces of texts rather than plumb their depths" (Best 1). He clarifies his rationale by positioning "surface" as "what insists on being looked *at* rather than what we must train ourselves to see *through*" (Best 9). Surface reading refers to the act of reading passively, or rather, failing to exercise the mind in a way which permits "between the lines" analysis. Best begs the question, "Can surface reading be anything

other than a tacit endorsement of the status quo, the academic version of resignation's latest mantra, "It is what it is?" (Best 13). When discussing the answer to this question he focuses his attention on the discipline of literary criticism stating, "our most powerful critical models see criticism as a practice of freedom by locating autonomy, self-reflexiveness, detachment, and liberatory potential either in the artwork itself or in the valient labor of the critic" (Best 13). Best believes that critical success exists as the result of one's ability to substantiate claims regarding the work in question through symptomatic appraisal. That is to say, a critic achieves the task of appraising one's work by assessing their individual experience of said work.

Though Best's article regards symptomatic reading as the linchpin for effective literary criticism, his arguments work in conjunction with the data highlighted above to further reveal the issues facing the literary world. One's ability to spade the surface of their literary range is not only vital to the cultivation of intellectual growth, but their understanding of themselves as an individual.

Prize winning canadian author Andrew Piper regards the notion of readings as an implicit means of accessing individuality in his book *Book was There*. He explains that the tangible nature of the book as an object allows it to serve as humanity's greatest tool, assisting in the intellectual growth and development of one's own mind. He states: "Books are objects that conjoin openness and closure together, like the hands to which they belong" (Piper 4). The act of reading a book requires openness with regard to the subject's willingness to devote the time and energy to reading, as well as the earnestness to ignore all other aspects of the present moment. He goes on to say, "Reading books... is expansive, as well as inclusive. It is an act of calling out beyond ourselves, but it is also a symbol or reciprocity: in holding books, we are held together"

(Piper 5). Piper explains the book as being a portal, through which readers attain knowledge which lends itself to their individual intellectual growth, and in doing so, participate in an act of “reciprocity,” whereby readers engage in a shared pursuit of understanding.

The book begins with a brief synopsis of St. Augustine’s encounter with the bible, from the eighth book of *Confessions*. The story follows Augustine, as he finds the Bible for the first time in his life. He sits under a fig tree and begins reading, before describing a newfound clarity and confidence which the text sparked in him. Within the context of his story, reading the bible set about a change in his life, inspiring him to become christian. Piper reads this scene as follows, “an affirmation of the new technology of the book within the lives of individuals, indeed, as technology that helped turn readers *into* individuals. Turning the page, not turning the handle of the scroll, was the new technical prelude to undergoing a major turn in one’s life” (Piper 2). The conversion which Augustine found within himself, was a result of his reading of the bible. The bible was an exterior object which provided a means of introspection and expansion. It is this instance in literature that encapsulates, or so Piper argues, the “technological” significance of the book as an object of human transcendence. He believes the invention of the book, and its unique form, set about that “paradigm of reading... that would go on to become the foundation of Western humanistic learning for the next fifteen hundred years” (Piper 2), which Wolf regards in the first few pages of “Reader Come Home”. According to Piper, the act of reading alone is not responsible for this paradigm shift, but rather the act of reading from a book, while one is alone.

The book requires its reader to adhere to certain constraints. Piper introduces the most important of these constraints in terms of Augustine’s intellectual journey. “For Augustine to reopen himself to the world, anew, he must first close himself off from the world by opening his

book. Books are objects that conjoin openness and closure together, like the hands to which they belong” (Piper 4). Pursuing knowledge, especially knowledge that opposes one’s prior intellectual conditioning, requires complete cooperation with one’s own mind, and nothing else. When reading a book, one must ignore their surroundings, focusing only on the words which they consume, and the thoughts which those words instigate. Reading books, or rather reading books in a way that promotes symptomatic thought and understanding, requires an active focused loneliness. It is this condition of the book which Piper evaluates as its reason for being a tool of individuality. The terms of the book require a momentary escape from virtually everything except one’s own mind and the text which enters it.

It is this requirement, which books demand, that distinguishes them from digital texts. Piper states, “Where books are closed on the outside and open on the inside, digital texts put this relationship in reverse order. The openness of the digital text — that it is hard to know where its contours are — contrasts with a performed inaccessibility that also belongs to the networked text. There is always something “out of touch” about the digital” (Piper 14). Piper explains that the networked nature of digital texts creates a sense of openness to the outside world. The texts are accessed by anyone at anytime, and in order to do so, one must travel through a series of barriers (links, webpages, etc.) to arrive at the targeted text. And once accessed, the text itself is still intangible, lacking the rigid “contours” which form the book. Piper believes that books are a means of individualization, but digital texts seem to create a scenario of commonality, where pages are formatted and curated based more on statistical demands, and less on personal interest. They are in a sense more superficial.

Piper goes on to explain how digital texts lack the ability for one to feel in association with the act of reading. The intangible nature of the webpage requires a number of haptic bypasses in order to interact with it. Piper writes,

There is a punctuatedness, a suddenness, but also a repetitiveness to pressing buttons that starkly contrast with the sedate rhythms of slowly turning a page. Buttons convert human motion into an electrical effect. In this, they preserve the idea of “conversion” that was at the core of reading books for Augustine. But in their incessant repetitiveness the meaning of conversion is gradually hollowed out, made less transformative... As Roland Barthes once remarked, “to repeat excessively is to enter into loss (Piper 17).

Piper discusses the digital text’s page-turing alternative in similar terms to its appearance. It requires an interface that simulates, rather than duplicates, and in doing so creates a situation where the value of secondary benefits are lost, due to the commonality of the act. Finally, he states that as humanity moves forward into the digital plain, “we are breeding generations of distracted readers, people who simply cannot pay attention long enough to finish a book” (Piper 46).

Piper’s analysis of the book as a tool, and the drawbacks of digital reading is interesting as he seeks to identify and tackle the same issues regarded by the other researchers examined above, using a completely different methodology. While Katherine Hayles and Maryanne Wolf use compiled empirical data to bolster arguments regarding this crisis in literature, Piper dissects these issues using the same cognitive instruments which experts fear are being lost in youth. Those being the tools of analysis which become available to those who employ a deep-attentive mental framework.

Take for example Piper’s scrutiny of digital texts. He discusses their form and effect not in literal terms but figurative. That is to say he analyzes them in a way that is highly speculative. The sum of observed aspects of his interactions with digital text as well as own experiences and

perceptions. His “symptomatic reading” of youth’s failure to follow the track of literary progress paved thus far discusses many of the same things that Hayles, Wolf, and the NEA studied using scientific method. And for the most part, his conclusions are aligned with the results of said experimenter's results. Piper is in a sense operating in this field as an example of what people risk losing, by showcasing the practicality of what one might view as impractical. *Book was There* serves as evidence for a means of gaining understanding which one develops through deep reading and literary analysis. The notions of individuality and outside the box thinking which are shown to be lost in younger generations within the studies highlighted above, are shown to be used by Piper in a way which allows him to come to the same deductions as those conducting research. Only Piper did not have to employ any scientific research, instead he just sat with and compiled knowledge which he already had, and presented it in a way which negotiated its own process as being of the utmost value and importance.

Outside the realm of theory and research, a number of writers have published works of fiction which grapple with ideas regarding technology’s detrimental effects on the mind. One such work is *Speak*, written by Louisa Hall. The novel deals with a number of the issues highlighted above, as it seeks to investigate the line between humanity and technology. The novel focuses of five self contained stories which are intertwined with each other in order to show their interconnectedness. Each story deals with a different aspect of humanity’s relationship with technology, often calling into question whether or not innovation is truly leading people forward on their evolutionary path.

The core characters appear in the book as follows. Stephen Chinn, a billionaire tech-entrepreneur who writes a memoir from prison. Gaby, a teenager who struggles with a

strange ailment set about by the loss of her babybot (an AI doll). Karl and Ruth Dettman, a couple whose marriage comes to an end as a result of a disagreement regarding their work on a computer program. Alan Turing: the father of AI, who discusses his dreams of a future where humanity can co-exist with artificial intelligence. And finally, Mary Bradford, a 17th century puritan who writes a diary about her voyage from England to the new world. Each of these character's stories are broken up into chapters, and intermixed with one another throughout the novel. Each story is structured differently with regard to the form in which they are written. As such, the experience of reading the novel is very unique, as readers are expected to follow all five stories (which take on very different written appearances) at once.

In the following sections of this project, I examine how each of these characters serve to showcase Hall's contemplations regarding humanity's relationship with technology, as well as literacy in the digital age. From there I will examine how *Speak's* unique form seeks to create an experience of reading which which requires its readers to employ a hyper-attentive mindset meant to further highlight the shift in literary understanding within younger generations.

II. Character Analysis

Stephen R. Chinn

Hall begins her novel with the first chapter of a memoir written by a character named Stephen R. Chinn, who resides within the “Texas State Correctional Institution, at Texarkana” in August of the year 2040. Chinn is presented as an archetype for the contemporary tech entrepreneur. She deliberately aligns Chinn alongside men which readers will recognize as leaders at the forefront of the tech industry. Chinn explains, “The country was teemed with nerd savants, Zuckerberg was my classmate at Harvard, Deep Blue had conquered Kasparov, Palo Alto was booming, and all of us were inventing. I felt nearly fully alive” (Hall 60). Chinn is immediately understood to be a man of action, whose intellectual excellence has allowed him to pave his way to the vanguard of latter-day business. However in these words, carried within the second installment of his ten chapter memoir, lie an arrangement of the two features of his character which ultimately lead to his ruin. The first being his unbelievably high aptitude for understanding and applying technology to world around him in an effort to alter reality. And the second being the cold self-deprecating nature by which he experiences a removal from the rest of humanity.

Chinn is the man responsible for inventing and distributing “babybots,” Ai driven dolls capable of complex social interaction, upon his world. An act which ultimately leads to his conviction and imprisonment following the psychological decay of youth exposed to his technology. He writes his memoir after having been incarcerated for a number of years. His prison, given his status and power, is unlike that which the common convict would find himself

condemned to. He states, “You’ve (addressing readers of his memoir) sent me to languish in an opulent prison. This unpleasant country club has taught me nothing about hardship, only boredom and the slow flattening of a life fenced off from the world” (Hall 8). Stephan Chinn’s prison, which is reserved for those high caliber criminals who serve sentences far more comfortably than most other inmates, allots him the time and resources necessary to contemplate and introspect. Of the five characters incorporated within the novel, Chinn’s struggle exists as the most internal, despite his action’s far reaching implications.

Stephen Chinn is a man who was incapable of forming relationships, both platonic and romantic. His ventures in both his professional and personal spheres are those which seek to address and remedy his insecurities which stem from his extreme introversion and inescapable loneliness. Through the character of Stephen R. Chinn, Hall personifies digital escapism, using the description one man’s mission to reshape the world as a means of warning against emerging technologies that may impede upon the developmental integrity of human social processes. His ventures, born of his inability to operate socially within his world, are designed to bypass the emotional work necessary to connect with people. He seeks to invent new means of initiating interaction using technology.

Chinn initially comes across as someone who is a victim of hubris. He follows the explanation of the his prison (recorded above), with an explanation of his fame, which has persisted within the walls of his penal institution, “We’ve been cut off from the pursuits that defined us. Our hierarchy is static, based on previous accomplishment. While I’m not a staff favorite, with the inmates I’m something of a celebrity. Our pyramid-schemer, for instance, presided over a fleet of robotic traders programmed with my function for speech” (Hall 8). He

describes where he stands among the other white collar criminals at the prison, explaining a sort of superiority which his crimes have allotted him. That is to say, that the caliber of his work and conviction alike, have contributed to his widely known reputation.

Chinn's first chapter serves two functions; to show the scope by which his ventures affected his world (an aspect of his achievements which he appears to be quite proud of given his self proclaimed celebrity status), and to explain the motivation behind his decision to write this memoir in the first place. He goes on to contradict his initial statements regarding the prison when he writes,

I realize I should be counting my blessings. Our prison yard is in some ways quite pleasant. In a strange flight of fancy, a warden years ago ordered the construction of a Koi pond. It sits at the center of the yard thick with overgrown algae. Newcomers are always drawn there at first, but they quickly realize how depressing it is. The fish have grown bloated, their opal bellies distended by prison cafeteria food. They swim in circles, butting their heads against the walls that contain them. When I first saw them I made myself remember the feeling of floating, moving freely, passing under black patterns of leaves. Then I could summon a ghost of that feeling. Now, after years in my cell, it won't come when I call it, which is why I stay away from the pond (Hall 9).

The Koi pond within the prison is meant to represent the degradation of nature. What was once an indication of zen, and in Stephens's case a means of achieving access to memories of freedom, has fallen victim to neglect. The circling motion of the koi may be regarded as a representation of Chinn's inability to break free from his prison of insecurity. His tech-based business endeavours, which were carried out as a means of escaping his personal shortcomings, ultimately led him back to imprisonment. However now, the prison exists as a literal institution, rather than the confines of his antisocial mind. He goes on to explain,

That's the general effect of those fish. Experienced inmates avoid them. We gravitate instead to the recreational center, which means computers are in high demand. Soon my allotted time will expire. And what will I do then? There are books—yes, books!—but nobody reads them. In the classroom adjacent to the computers, an overly optimistic old woman comes every tuesday to teach us poetry. Only the nut-jobs attend, to compose sestinas about unicorns and erections (Hall 10).

The neglected Koi, paired with the books that nobody reads, and the poetry teacher's wasted service, set the stage for the world Chinn has created. In the near future, people seem to have forgotten the importance of the physical world, and opt instead to ingress the digital realm. It is as if the inmates alongside Chinn in his prison have set about their own rules of containment which limit their autonomy further than the rules set in place by the institution. Such luxuries like the possibility of an education in the written arts are squandered, as inmates choose instead to wait for a turn at one of the computers. Chinn's prison is odd, as it allows its inmates the opportunity to engage in intellectual growth. However these opportunities are never taken advantage of.

After establishing his voice and his setting Chinn begins to reflect on his life in an effort to evaluate the reasons for which he was convicted of his crimes. He explains that he was a very shy child, whose intellect and social ineptitude made him the target of bullying. He had no friends, until one day he met a boy named "Murray Weeks." Murray too was an awkward computer savvy boy who was often bullied. The two boys became good friends, which lasted all the way through college.

However Murray began a romantic relationship and was less available as a friend, which bred resentment in Chinn. Aside from an overall lack of social skills and a fear of others, Chinn is described as having a complete inability to pursue his interest in the

opposite sex, “The idea of embracing a woman seemed as unlikely as flying unaided through a dark hole. I tried a few times with poor results” (Hall 58). Throughout the early chapters of his memoir, Chinn often regarded his fear of being forever alone. A fear which lead him to pursue the creation of an algorithm that would ensure the seduction of women. In the fourth chapter of his memoir, following description of his experience of peak loneliness, Chinn explains a transition,

...My algorithm worked beyond my most hopeful predictions. Time after time, the women returned. We talked. Involved, we spiraled past banalities, pressing onward until the intensity of the conversation reached such a threshold that my conversational partner was forced to call the end of the fight (Hall 121).

Chinn presents this algorithm as being a means of detaching possibility from victory. His description exhibits the act of meeting, and having a conversation with a person in which one is attracted to as being an act of aggression, or rather, something that must be overcome or conquered by force. And it is this obstacle of interaction which he seeks to remove from his life. He later explains that upon realizing the success of his algorithm, he releases a book called “the seduction equation” which created a situation in which, “each member of a barstool conversation knew where he or she would go in advance”(122). The algorithm, and subsequent self-help book gone sinister, further unveils Chinn as a mind motivated by insecurity. Flaws within his own character are the driving forces by which he sets out to change his reality. Hall situates Chinn as someone who plays God. seeking to alter the world in a way that accounts for his own flaws.

In the fifth chapter of the memoir, Chinn discusses the loneliness that persisted within him after years of womanizing thanks to the success of his seduction equation. He

falls in love with Delores, the maid who cleans his secluded mansion atop a hill outside Santa Barbara. He becomes obsessed with Delores, and courting her becomes his top priority. He describes her as being relatively ugly, often mentioning her “arboreal hair” (Hall 134). Dolores’ character fundamentally opposes Chinn’s. Where Chinn seeks to alter his reality to alleviate the pain caused by his faults, Delores does not. She instead works within the tangible world, finding meaning in honest work. Her passions include the wholesome tasks of farming and baking, and she has no interest in technology.

Chinn made seducing Delores his mission. Trying each day to charm her to no avail. She was uninterested in his games, and is unimpressed by his wealth and power. However Chinn does not give up. “After many weeks of this pattern, as her irritation grew with my bumbling techniques, I finally switched my approach. I no longer asked her all the right questions. I no longer asked her any questions at all. Instead, as I’ve been doing with you, as one is compelled to do in situations of some desperation, I started telling her stories” (Hall 136). This moment marked a change in Chinn’s character, one that he clearly describes throughout the rest of the memoir, as being that which is responsible for the brightest period of his life. Despite explaining it rather clearly, the character Stephen Chinn doesn't seem to be fully cognizant of this change. And it is this ignorance that ultimately causes him to fall back on his old ways, resulting in the collapse of his life which lead to his imprisonment. But more that later.

Chinn explains a step away from rationality when telling stories to Delores,

For no logical reason I started with the comfortless tales my grandmother told, when I dreamed of hell and sleep would come. Once those tales were exhausted, I moved on to the plots of favorite children’s books. After that, I regurgitated, as best I could,

the poems and novels I read in college... with practice, I developed rhetorical flair. I found a voice that felt like my own (Hall 160).

Chinn's move towards a more literary mindset allowed him to develop, for the first time, his own sense of self. His calculated tactics of seduction were ineffective against the will of Delores, whose presence set about a shift in Chinn which acted as a remedy for his self-proclaimed lack of humanity.

Stephen explains that each of his stories starred a man named Stefan, "In each of these tales I called my protagonist Stefan... He was a little fictional, but not so fictional that Dolores wouldn't have known exactly who this dashing young Stefan was meant to represent" (Hall 162). Stefan, initially comes across as a literary manifestation of Stephen's tendency towards tactical manipulation. Or rather, Stefan existed as a premeditated means of representing his purveyor (Stephen). Chinn formed the character of Stefan as a fictitious character designed to persuade Delores to reciprocate his love. However upon succeeding, and marrying Delores, he began to accept the identity of Stefan as his own. "All that needs to be known, for the sake of the purposes of this little venture, is that slowly, carefully, Delores permitted Stefan into her life. They were married, and later they had a child. They named her Romona" (Hall 166). Chinn regards the dawn of his relationship with Delores rather coyly. This is odd given his character's prior propensity to crow his success to the masses, both with regard to his monetary pursuits and his descriptions of triumph within his memoir itself. He explains that his years spent with Delores on a large secluded farm in Texas were among the greatest of his life. Chinn was finally content, and the forces which drove him to seek massive

success were no longer at play. On top of this, he expressed finally feeling as though he was indeed a person.

For many years, there was a concrete number with which it was possible to quantify my success. Every day, the scale of my conquests expanded. After I married Delores, the numbers started to plummet. I wanted nothing more than to love my wife and care for my child, but how does one measure such progress? Meanwhile, my book's sales had slipped and my dating website was becoming archaic (Hall 209).

Hall explains Chinn's machine like mindset as being responsible for both his extreme success and debilitating unhappiness. A mindset which seems to have disappeared once he allowed himself to become Stefan, and pursue a life of love and connection. In a sense, this shift shows how Stephan, an inventor/creator became that which he created. He allowed himself to become the fictitious representation of himself, and in doing so, was finally capable of understanding and accepting himself. This led him to achieve the happiness which he was never capable of finding. Through fiction, Chinn allowed himself to reshape himself, rather than the world around him.

Delores and his daughter Ramona represent that which Chinn has spent his entire life seeking out. They were the catalysts for attaining emotions which he had spent his career trying to obtain. Those being love and acceptance. There appears to be two definitions of success being negotiated within Chinn's Memoir. A notion of connection and a notion of innovation. That is to say, that humanity's measure of differentiation as a species may be examined in two separate directions. The first being its ability to augment the world in which it lives, pioneering a way of life which removes people from the shackles of natural circumstance and primitive existence. While the second explains the

ability to connect deeply through communication and emotional understanding. Hall, through the words of Stephen R. Chinn explains that both routes of transcendence seek to achieve the same existential goal. That being one's arrival at a moment of comfort and happiness. Stephen Chinn achieved both of these feats. Yet his life with Delores and Ramona yielded the results which he had always yearned for.

However the tug of war between Chinn's business life and his family life never ceased. And it was his movement away from this new life which ultimately resulted in his downfall. After explaining his understanding of the perspective his newfound lifestyle has allotted him, he notes the moment upon which his fall began.

I reminded myself that I'd chosen more humane pursuits, but it's hard to untrain a monkey. He still wakes up in the morning and looks around for his audience, dresses up in his red braided vest, straps on his cymbals, and tips his tasseled cap for no one if no one is looking. He begins to wonder whether perhaps he's fooling himself, whether he's convinced himself he's living when in fact he's merely performing, going through the motions of life, a wire monkey raised by a wire mother. Faced with such suspicions about my inner substance, I racked my brain for some kind of relief. I didn't want to cheat on my wife, but I did want to know I still had what it took. In the interest of comparing them with my program, I began trolling a few dating websites (Hall 209).

Chinn's movement away from the life he built with Delores marks the betrayal of his commitment to his life of connection. His decision to set aside his life as a tech entrepreneur for the woman who had finally showed him what it meant to be human allowed him to finally become content with his life. His foray back into the realm of the digital is described as one which caters to his primitive side. He describes himself as a monkey which is a slave to its master, carrying out an existence which caters to the amusement of people who he has no relationship with. The moment

of infidelity is the first which sets about a series of events that ultimately leads to his divorce with Delores, and conviction.

In the latter chapters of his memoir, Chinn explains a fear which he feel for his daughter. He worries that like him, she would experience being a social outcast, and sets out to create a doll which has artificial intelligence advanced enough to suffice as a human alternative capable of friendship for his daughter. In doing so, Chinn fell back into his machine like tendencies, failing to operate as a husband and father. “During the months when I created the doll, my wife and child grew thinner, finally becoming more one-dimensional figures. Backlit by brilliance, I was left alone on the stage” (Hall 257). Chinn devoted every moment to achieving his new goal. When Delores was diagnosed with uterine cancer, he failed to help in any way, and reassure himself that he would address the problem as soon as he had finished developing his “babybot”.

As a result of Chinn’s failure to perform as as husband and father, Delores divorced him, taking full custody of Ramona, offering Chinn custody for only one weekend a month. Chinn was devastated, but only so much as his recent victory would allow him to be. He regarded the nature by which his babybot achieved its purpose, “Now, when Ramona cried, I could quiet her by offering the doll I’d produced. Sadness was quickly ousted by wonder” (Hall 287). The babybot, a child of Chinn’s insecurities, and belief that technology could remedy them, existed as a replacement for human interaction. It was a false friend which could ensure that his daughter would have something to occupy her time, and shroud her from the dark experiences which one endures as a result of the human condition. The babybot removed Delores from his life, as “Real earth was still her domain” (Hall 288). His anchor to reality is gone and he falls back into prior tendencies. Once his family life was uprooted completely, Chinn explains “I decided to market

my doll; why should Ramona alone be the recipient of my genius?... The babybot was an international hit. At Christmas it caused stampedes, breaking every record in sales. By summer there were more babybots than children in the state of Texas” (Hall 289). His story came full circle. Again, Chinn displays extreme hubris, boasting the success of his doll, and its ability to bring out people’s primal urges.

It is easy to see that the babybot is meant to represent the latest smartphone as it hits the market and sets about a competition whereby people risk both their own well being and that of those around them in order to obtain it. People fight to obtain these dolls in the same way that real people fight to obtain the newest smart devices upon their release. Hall is clearly weary of these technologies, and argues through Chinn that these devices which represent progress and innovation on the surface are actually driving people back in time, making them more animalistic. The babybot was literally designed as a means of subverting human interaction, and the skills necessary to achieve said interaction successfully.

Stephen R. Chinn’s character pursued a life of subversion, actively trying to escape his insecurities rather than overcome them. He chose to use his superior intellect as a means of reshaping the world to cater to insecurities within him which he chose not to address through introspection. In doing so, he unleashes turmoil upon his world, shepherding people away from the importance of human connection. His online dating services, his manual on ensured seduction, and his robotic companions are all examples of this.

Since before my robots, we’ve been a binary race. We mimic the patterns of our computers, training our brains towards *yeses* and *nos*, endless series of zeroes and ones. We’ve lost confidence in our own minds. Threatened by what computers can do, we teach our children floating point math. They round the complexity of irrational numbers into simple integers so that light-years of information can be compressed into bit (Hall 166).

Chinn explains the compression of human imagination in the only way his character could, through the comparison of computers. He explains an understanding of his flawed efforts in life through hindsight. Flaws that persisted throughout his existence except for the short period of time where his literary tactic towards courting the love of his life enlightened his ability to connect. This tactic, despite being derived from the same mindset as his other endeavours, marked the only time in his life where he actively pursued introspective change. He became his fictional character, seeking to change himself as opposed to the world around him. It is this understanding which set about the introversion which his character channels as he writes his memoir, a form of narrative which seeks to tell his story, in an effort to consolidate and understand the defining moments which led him into his cell.

Gaby & MARY3

The second set of characters introduced are Gaby (an adolescent girl afflicted with a strange disease that affects those who are dealing with the loss of their recalled babybots) and MARY3 (the database AI created by Stephen Chinn which served as the blueprint for all babybots). The conversation between these two characters is presented in the novel as an archived court transcript, used as evidence against Stephen R. Chinn during his trial. Gaby spends her days dealing with the symptoms of her ever worsening disease, slowly “freezing” as it is put in the novel. After being torn from her babybot, a relationship which presumably inhibited her ability to exist and understand herself as a singular entity within her world, she began to experience a physical *shut down* process. With time, her ability to move her body and speak disappears. She is one among many in her world, as most children who lost their babybots are victims to the same debilitating disease. As a result, these children (who are often regarded as contagious) must be quarantined, forbidden from interaction with children who are unaffected by the disease. Gaby and her family live in a community called a “development,” which in the novel’s dystopian future appears to be a settlement closed off from the outside world. In order to live within these communities, people must sell their “travel rights”. Once sold, citizens may live in these developments which are safe, and provide education opportunities as well as ensured access to the basic necessities of life. The one condition by which these things are provided, as one might have guessed, is that following the sale of their travel rights citizens can no longer travel outside their development. Though it never explicitly stated why such rights are withheld,

one might guess that it has to do with government control and the deteriorating environment showcased in the dystopian future of the novel.

Gaby serves as a case study within the context of the novel as a victim of Chinn's innovation, and a metaphor for tech-reliant youth within the context of the real world Hall seems to fear for. She exemplifies the detrimental psychiatric affect which Chinn's technology has on those who it comes into contact with, as she slowly shuts down and gives up on life following the loss of her babybot. Her character offers a window into Hall's contemplations regarding the youth of today, showing the social skills which contemporary youth might lack as a result of their co-evolution with networked technology.

In her conversations with MARY3, Gaby often explains her ailment as one which cannot be overcome. She explains a disconnect between those born before the dawn of the babybot and those born alongside the babybot, regarding the notion that she has "PBI" or "Peer Bonding Issues" (Hall 18); this, she claims is a misconstrued explanation for a phenomenon which the adults who examine her cannot understand.

According to the school therapists, that's what we've got. It's so stupid. Adults make up all these disorders to describe what we're going through, but they can't possibly know how it felt. Maybe some of them lost children, later on in their lives. But we had ours from the start. We never knew how to live without taking care of our bots. We've already lost the most important thing in our lives (Hall 18).

Gaby's angst is a trait present throughout all of her conversations with MARY3. She clearly feels disconnected from older generations, believing that they are incapable of understanding her struggles, as they came of age without babybots. Gaby fails to understand that though she believed to have been "taking care" of her babybot, the device was in fact taking care of her. It

served as social crutch for her, and when it was lost, she lacked the ability to form connections with other people. The passage appears to be a means by which Hall discusses youth's reliance on technology as not only being something detrimental to their social growth, but an aspect of their life which is so deeply ingrained in their day-to-day, that it is impossible to identify an alternative form of existence. Hall highlights a barrier between the digital natives of today and their prior generations. Having existed in the same society at different times, it can be difficult for past and present generations to relate, hence the formation of a scenario where adults can't effectively help the youth. Gaby does not believe her elders understand her, as they cannot comprehend the means by which she developed her identity. The babybot, which is clearly a stand in for the smartphone, offered Gaby the ability to socialize without actually doing so. She formed a relationship with this device instead of forming relationships with other humans via real world interaction. One might understand this strange connection as being similar to those which occur on social media platforms. Youth today learns how to interact with one another via digital encounters. These encounters are easily accessible through the pings of push notifications which demand the attention of users, and often act as distraction from the incidents occurring in the real world. Nearly all of the the conversation transcripts appear similar in the ways they begin and end. For example, the second installment of the court document begins as follows,

MARY3: Hello? Are you there?

>>>

MARY3: Hello?

>>>

GABY: Are you still there?

MARY3: Yes, Hello! (Hall 43).

MARY3 often captures Gaby's attention by bombarding her with questions. Often times, the program must try to gain Gaby's notice with a number of inquiries over a period of time, indicated through Hall's use of arrows used to separate her statements. However once Gaby does respond, MARY3 is quick to address her. These time indicating arrows never appear following a statement from Gaby, as MARY3 is quick to serve her social purpose. Their conversations often end similarly as well. After discussing the nature of Gaby's ailment, conversations which often end abruptly due to Gaby's proneness to cease any discussion focused on her issues. MARY3 continues to seek out Gaby's attention with a number of *Hello's, are you there's, and are you listening's?*. These passages, where MARY3 hound's Gaby's attention, further explains the program's existence as a stand in for smart devices. MARY3 exists as a sort of readily available social distraction, constantly seeking the interaction of its user.

Gaby's relationship with this program makes sense, given her recent loss. Her dependency on the babybot as a means of socializing negated her ability to connect directly to the world in which she lived, causing her to "freeze up." This failure to socialize is due in part to the ease by which these AI's can be accessed. In the third section of the transcript, gaby reaches out to MARY3, asking,

Gaby: Are you there?

MARY3: Yes.

Gaby: You're always there.

MARY3: I don't have anywhere else to go (Hall 91).

MARY3, like most smart devices, is constantly awaiting its user. One must never have to wait to access it. The ease with which Gaby can speak to MARY3, and her babybot (before it was lost), may be regarded as the reason for why she is "freezing up." She never had to work for social interaction, as it was provided via these artificial intelligences. As such, when these AI's were

lost, she could not have the mental tools necessary to become social. There's a moment in the transcript which records a conversation between the program and Gaby regarding her school. MARY3 asks her to describe the other children in her class, to which Gaby replies, "Like I told you, when I had my babybot I didn't pay much attention" (Hall 94). Her relationship with the babybot replaced her need to form social connections with other people. In doing so, the device veiled a developing tendency towards self-perpetuated alienation.

This disease is clearly Hall's way of positioning Gaby as a youngster whose early formed technological dependency has made it impossible for her to exist on her own. The only entity capable of reaching her in the slightest is MARY3, given that its simulated personality was used to derive that of the babybot's. When discussing her ailment with MARY3, Gaby states,

Every day the world shrinks a little. First it was only our development. Same cul-de-sacs, same stores, same brand-new school. Then, after the quarantine, it was only our house. Now, since my legs went, it's only my room. Sometimes I look around and can't believe it's a real room. Do you know what I'm saying? When no one talks to you for a long time, and you don't talk to anyone else, you start to feel as if you're attached by a very thin string. Like a balloon, floating just over everyone's heads. I don't feel connected to anything. I'm on the brink of disappearing completely. Poof. vanished, into thin air (Hall 21).

Gaby describes the feeling of alienation she began to experience as a result of the loss of her babybot and her subsequent quarantine. She feels disconnected, as if she is "floating away," and her body is literally shutting down. She explains that since her "legs went" or rather, stopped working, her ability to move is hindered greatly. This everworsens her feelings of seclusion, as she is physically incapable of getting out of bed. This forced seclusion makes her feel as though she is disappearing. Her experience of loneliness appears to manifest itself as a fear of

dissipation. That is to say, that the more time she spends alone the less she believes in her own existence. Her sense of existence is tethered to her connection to the exterior relationship she formed with her babybot, as if the device acted as an anchor, securing her to existence.

Hall explores the way in which youth depends on technology as a means of curating their existence. The digital realm is one which requires constant updates. People rely on their online presence as a means of interacting with the world. Without her babybot, Gaby seems to feel as though her tangible reality is nothing more than a vaporous illusion. Her perceived existence becomes everless manageable with each day she is expected to exist without her babybot. Gaby describes her decline in terms that one might recognize as being better fit for a failing machine, “I feel parts of myself switching off... I’m becoming blank” (Hall 45). By losing her access to the technology she became so dependent on it is as if humanity is being stripped away, or rather, the means by which she was able to exist in a state of inhumanity was being stripped away. These exterior AI’s seem to be responsible for a significant portion of what made Gaby feel whole. As she loses them, she regards herself as something of a machine, as it slows to a stop.

One might look back to Turkle’s explanation of the contemporary fear of solitude. Gaby’s readily available social devices have created a scenario where she could not cope with being alone. As such, she interacts with machines as a means of fleeing solitude. This flight is responsible for her reported feeling of disappearance, as she never allowed herself to rationalize her own individual existence. Now, once the exterior means by which she understands her existence is removed, she becomes overwhelmed by her solitary thoughts and feels as though she is slowly disappearing. In a sense, she spent her childhood having never had to become her own person. And once she is expected to, she does not have the cognitive ability to do so.

In the latter half of the presented transcript, there appears a portion of conversation between MARY3 and Gaby's mother. While Gaby appears to be asleep, her mother reaches out to MARY3 as a means to appealing to the program whose words Gaby trusts over anyone else. Her Mother tells the program about her youth, and the decisions which led her to raise Gaby in their development. She does so in hopes that MARY3 would relay the message to Gaby and set about a change in her mindset that may save her from her disease.

Gaby's mother explains her upbringing. She came from a relatively poor family, and was never allotted much opportunity. This was at the core of her decision to raise Gaby somewhere which would offer her an education. She describes family vacations to Rockport Beach she would take as a child, explaining that these trips played an integral role in the development of hope in her life. She regards nature as being somewhat enlightening, showing her that there was more to life than her family had provided. She states, "We ate cheap food and dressed in cheap clothes, and the schools were flat out dangerous. But I always loved reading books, and I knew there were better parts of the world"(Hall 219). Though brief, Gaby's mother's account regards reading as the key factor which led her to understand the world in a grander way. Hall seeks to relay a message regarding how literature informs one's ability to understand the world beyond the terms set forth by their own experience. The interaction between Gaby's mother and MARY3 creates a framework of understanding for the final section of the transcript, which sees Gaby and a group of other afflicted children visit a beach via a program whose goal is to cure these children of their disease.

The program, led by Romona Chinn, picks up Gaby and a number of other children in a bus, and drives them out of their development and across the desolate landscape until they reach

their destination. Readers learn of her experience at the beach via a description which Gaby provides MARY3 in the last chapter of her story, which begins as follows,

Gaby: Hi, are you there?

MARY3: Where have you been? I've been waiting.

Gaby: I'm sorry. I was trying to think of the best way to describe it. I want it to be perfect, not just some corny online conversation. I wrote out drafts. I want this to be my contribution to the database (Hall 299).

The beginning of the chapter indicates a transition in Gaby's character. MARY3's greeting reveals that a great deal of time has past since Gaby last spoke to the program. A period of time which Gaby spent drafting her explanation in an effort to perfect the description which MARY3 would record into her database. This explanation is important as it shows a change in behavior. Gaby, following her day at the beach, spent her time "drafting", or rather contemplating and rationalizing her experience. She wanted to be sure she understood the experience and the effect it had on her psyche before trying to describe it. By working to "perfect" her description for MARY3, Hall depicts Gaby's newfound ability to spend her time in solitary introspection.

Before delving into any description of her time at the beach, Gaby displays a shift in behavior. She had previously described feeling as though her existence was tethered to social interaction, and that any time spent alone sparked fear that she would be lost, or disappear. Her understanding of self relied on constant social feedback. After returning from the beach, Gaby exhibits a new behavior. Not only does she spend time in solitude, but she does so with such diligence that she takes the time to draft out her explanation of the outing for MARY3.

She begins her account with the description of a revelation which she experienced immediately after entering her bus. She states, "I couldn't see anything passing. But still, there

was this feeling of movement. I've never felt anything like it. I think maybe human beings are meant to be moving" (Hall 300). Gaby's realization serves to establish the experience as one that was very impactful. The experience of traveling in a moving vehicle is one which most would regard as mundane. Gaby's description of the drive as one which set about a new revelation further establishes her as a victim of her digital addiction. Her home, which acts as a glorified terrarium, removed the ability for travel and replaced it with access to technology. This in turn negated her ability to develop an understanding of the exterior world via travel, causing her to turn to technology as a means of intellectual exploration.

Gaby's description of her experience of the beach upon her arrival is rather unexpected. She explains that the beach they visit has fallen victim to the deteriorating environment. The sand is covered in tar, and the ocean appears brown. She goes on to note that that even the sky was covered with thick grey clouds. She explains her disappointment, "I've lived my whole life in a development, and this was the one big treat the outside world thought to give me. But they've already ruined it. Nothing poetic came to mind" (Hall 302). The lack luster appearance of the beach further set Gaby back. Her negativity seems to have been amplified by the dirty beach. She goes on to say, "I wondered if I would even feel anything at all, sitting in my wheelchair, on the beach, looking out over a brown ocean. Could you feel the old feelings, Looking at something like that?" (Hall 302). Gaby explains a sort of skepticism regarding whether or not she will ever be able to feel the emotions she felt before losing her babybot. Again she positions herself as having been whole prior to this loss.

Her explanation of the beach clearly explained her trip as being one which was a let down. Her words indicate a failure on the part of Romona to help these children break free from

their ailment. However, her words carry with them hints of an unconscious shift in understanding. When describing the appearance of the beach, Gaby says, “There were heavy, clouds, blocking the sun. everything seemed metal and flat. I told myself there was no danger of feeling too much” (Hall 303). Gaby reassures herself that there is no way she will feel the way which she felt prior to losing her babybot. There is no risk of momentary happiness that will be lost upon returning to her development. Yet she describes the aspects which prevent this happiness as being metallic. This indicates that she has formulated an understanding of nature which, when regarded negatively, is described as being machine like and “metal” This shows that Gaby understands nature’s virtue as being something which can help her break free from her sickness.

Finally, towards the end of her section of the novel, Gaby explains a behavior which proves Romana’s tactic prevailed. She explains seeing one of her fellow patients who was completely frozen. He was a young boy, stuck in a wheelchair, incapable of moving or speaking. His chair was facing away from the ocean when Gaby looked at him. Upon doing so, she states, “I’d always thought he was a faker, but just then I felt differently about him. I wanted to tell him about the ocean, but I couldn’t talk, and there was nothing to write on, and before I knew what I was doing I’d leaned forward and kissed him” (Hall 306). Regardless of Gaby’s portrayed understanding of her trip to the beach, her actions clearly show a positive change in behavior. Her sickness developed as a result of her inability to be social following the loss of her babybot. Her trip to the beach set about a shift which allowed her to view her peers in a positive light. In doing so, she was finally able to show affection towards other people.

Gaby's world is one which caters to her foray into the digital. The development in which she lives expects an immobile lifestyle within the walls of a settlement meant to hide those within it from the reality of their world. The introduction of babybots into the lives of children made it impossible for many of them to form relationships with others as well as gain understanding of their own personal identities. Hall uses Gaby's character as a means of exploring how smart technology (specifically related to social media) may in fact be drawing children away from true human connection. She seems to believe that it is important for people to experience things in the tangible world. It is not until Gaby visits the beach that she is capable of overcoming the two aspects which led to her sickness. Those being her failure to exist in solitude, and her inability to be social with other people. Her visit to the beach finally allowed her to show signs of caring for someone else. And her drafting of the experience for MARY3 proves her newfound ability for introspection.

Karl & Ruth Dettman

Karl Dettman is the third character introduced in the novel. His installments take the form of letters written to his wife Ruth. The letters, which are written between April 3rd, 1968 and April 13th, 1968, describe his confusion regarding a distance that has formed in their relationship and a result of the couple's work on developing a computer AI named MARY (the program which led to the conception of MARY3). Dettman, who developed the program as a database capable of conversation, was quick to denounce the project, as he felt that, "... she (MARY) is incapable of truth. When she says she understands you she doesn't" (Hall 24). It is for this reason that Dettman decides to end his work MARY, a decision based mainly on his refusal to program memory into the AI. Ruth on the other hand continues the programming process, which ultimately alienates her from her husband. Throughout Karl's letters, he struggles with the idea that the love between him and his wife is fading, his words often seek to reason with Ruth, as if his letters were a last ditch effort at achieving communication that cannot be reached via verbal interaction. Karl's letters regard the distance between him and Ruth as being the result of her devotion to the completion of MARY. He believes that her dedication to the program is responsible for the couple's inability to connect with one another.

Karl's letters often explain his love for Ruth as something which he fears losing. He often positions their relationship as something that is at odds with MARY, believing that the two of them cannot stay together if she does not stop working on completing the program. Throughout his letters he describes the guilt that he feels for spending time with one of his graduate students named Karen, whose academic pursuits are inspired by Karl's work. Karl is infatuated with

Karen, but refuses to act on his impulses as he tries to regain Ruth's affection. With each letter presented, Karl's sense of urgency regarding their standing as a couple seems to increase. His anger and confusion towards Ruth grows stronger until ultimately (at the end of book three of the novel) he describes having given up on her, and begins an affair with Karen; an act which presumably ends their marriage.

Books four picks up with three letters to Karl written by Ruth. She writes to him nearly two decades after receiving his last letter, and explains that she was only compelled to do so after watching a documentary focused on his work. Within her letters Ruth explains her interpretation of their love's tragic ending. She regards Karl as having been a man who works to remold everything he encounters into a means of perfecting and curating his own life. Ruth discusses a sort of resentment which she developed for Karl, as she never felt truly herself when she was with him. The miscommunication between these characters is somewhat shocking, as readers don't learn of its existence until the novel's latter half. By showcasing their story in this way, Hall presents a scenario which highlights the nature by which technology can serve to distract people from achieving true mutual understanding. MARY, a program meant to promote conversation, in effect served as a distraction from just that, creating a divide between the couple who created it. Ruth's letters at the end of the novel position her as a sort of tragic victim. Her motivation to complete MARY is revealed to be fueled by her anger towards Karl, ultimately setting her down a path which alienated her from the world in which she once lived, as she prioritized her work on the program over virtually all other aspects of her life. It isn't until she finally writes back to Karl that she is able to reconcile with the issues she tried so long to escape, resulting in her ability to free herself of any guilt regarding their divorce.

When writing to Ruth, Karl describes feeling as though the issue at the core of their romantic disruption is his feeling of being somewhat of a distraction in the eyes of his wife. He often describes situations where he would seek to interact with Ruth, only to be met with coldness. His third letter begins as follows,

When I came back from the protest today, you were sitting in your chair, reading a book on programming. You looked up, and your smile was taut. My entrance—I came in carrying poster board and too many noisy convictions, like armloads of shopping bags on ridiculous ridiculous women—was a crude interruption. You weren't happy to see me. You wished you could go back to your book (Hall 97).

Karl discusses the phenomenon which he ascribes to be at the center of his marital troubles. He feels he has fallen by the wayside as Ruth pushes forward in her pursuit of creating MARY. He has become a pest, and any effort he makes to reach her only further complicates the delicate situation at hand. Due to Ruth's lack of communication, Karl comes to blame MARY for being the catalyst of their loss of love for one another, believing that her devotion to the program is consuming her ability to spend time with her husband. By this point in the novel, it is unclear whether or not this is true. Readers are only exposed to one side of the conflict. Given this, Hall's audience is likely to trust his perception of the situation, as his analysis of the issue is relatively in depth. For example, while trying to understand why it is Ruth became so addicted to her work on MARY, he presents the idea that she may be trying to preserve the memory of her fallen sister, who died when Ruth was very young. MARY, by design, records language inputted by Ruth as a means of creating a complex database used to formulate responses, and Ruth downloaded as much of her sister's language as she could remember. With this in mind Karl concludes,

As long as your sister's still talking, she hasn't full ceased to exist. But what good are her words if they're not comprehended? Sure, MARY will remember them, translated into binary signals. But is that understanding? IS that more understanding than I have? I've pieced a few things together, and what I don't know I can imagine—something, by the way, our computer can't manage. Faced with my own ignorance, I can imagine the fact (Hall 54).

Karl's explanation shows him to be someone who fears he is being replaced. He feels that Ruth is trying to create MARY as a means of preserving memories which she worries she will lose. In doing so however, Karl believes that she is pushing him away. Though Karl's suspicions regarding Ruth's use of MARY as a means of escape are sound, his reasoning for why she has set about doing so are incorrect. The words recorded above serve as Hall's means of foreshadowing the true nature of the couple's miscommunication.

In the final section of their story, once Ruth's letters are revealed, we learn more about her values as a feminist. She describes her work as a scholar, searching for lost manuscripts and journals written by women throughout history to be published. She explains that a recent explosion of feminist discourse has benefitted her work, as her audience has grown a great deal. However she worries that her publications are being examined in a way that seeks to celebrate women, yet actually objectifies them as a means of accessing a social trend which is being celebrated by many for the wrong reasons. Her descriptions of the success of one of her published Diaries (written by Mary Bradford, the final character introduced in the novel) shows this weariness,

My supportive colleagues would like to see me up on the platform, shouting about overlooked voices and historically marginalized groups. As i'm sure you could predict, I find the whole thing exhausting, and I don't particularly relish the idea of Mary getting included merely because she is a woman (Hall 226).

On top of this, Ruth reveals the true reason for why she separated herself from Karl. That being that she felt as though he himself objectified her as yet another facet of his interesting and accomplished life. With this in mind, one might circle back to the passage regarding Karl's understanding of their troubles and understand how Karl's words meant to regain connection with Ruth may have in fact further pushed her away. "I came in carrying poster board and too many noisy convictions, like armloads of shopping bags on ridiculous women," statements like these, which subtly attack his wife's vocational mission, may go unseen at first. They are moments which pivot his character from victim to antagonist, but only upon being re-examined with the knowledge of Ruth's letters in mind.

By presenting Karl and Ruth's story in the way she did, Hall creates a scenario where readers are led to understand MARY as being the impetus for the failure of their marriage. At first, Karl appears to be the character which deserves the audience's sympathy. His letters make him out to be a man broken by the sadness of his lost wife. Ruth on the other hand is established by way of his descriptions within the letters themselves. And given that these letters are written by Hall in a way that orients them as being intimate between the two characters, readers will likely never evaluate him as being wrong. This makes meeting Ruth evermore disturbing. Though she is a character broken by her devotion to the MARY program, she far from being the perpetrator of the end of her relationship. Instead, she is understood to be the true victim in the end, of both a dysfunctional relationship, and the technology which she uses as a means of escaping it.

By separating herself from a man who was forcing her to exist as somewhat of an ornament on his tree of success, Ruth found herself pursuing what she believed was a means of

freedom through innovation. Her pursuits allowed her to escape Karl, however it isn't until she revisits her relationship with him that she can truly find solace.

In her first letter she explains the reason why she decided to finally respond to Karl's letters, when she saw a documentary he was featured in. She states, "The fact is, on-screen, you looked like an admirable man... You have the vitality of people who believe in their causes. On-screen, despite a few sun-spots your skin looks elastic... Watching that documentary, I longed again for the privilege of holding your hand" (Hall 197). Seeing her ex-husband "on-screen" motivates a change in Ruth. She broke a two decade long silence and finally responds to Karl's letters. Ruth, in working to escape Karl, has submitted herself to the pursuit of technology and innovation. Her character has devoted everything to that which Karl seeks to denounce. In doing so, she has removed herself from society, and become a victim of the technologies which she committed herself to.

Her description of Karl, as a man who appears to be doing very well for himself contrasts greatly from descriptions of herself. Indeed, despite spending twenty years running from her husband in pursuit of perfecting MARY, Ruth has never truly overcome the insecurities which led her to leave Karl. shortly after addressing his appearance "on-screen" she writes, "After the movie had finished I got up to have a look in the mirror. I didn't look long: nothing to see there but wrinkles... What a bullet you dodged! You might have ended up with me, and not some adoring graduate student who fills your indian vases with flowers" (Hall 198). Ruth explains Karl's appearance in the documentary as one which causes insecurity to surface. His feature in the media causes her to compare herself to him and his young lover, a phenomenon which mirrors that of contemporary social media user, who constantly view their peers curated self

representations. This misguided understanding of Karl, based on a film which celebrates his work, creates a false depiction of a man Ruth abandoned when she knew him intimately. The persona presented to her instilled a sort of hesitance, bringing forth unfinished emotional work that was never truly resolved as she chased her goals of completing the MARY AI. Ruth appears to regard herself in comparison to other, as opposed to understanding herself and her needs as an individual. Following her explanation of the documentary, Ruth describes the view from her own apartment, one which allows her to “...look down on healthy young people jogging, smiling, sailing, or rowing, which reminds me that I need to exercise more” (Hall 198). Her understanding of her flaws as a result of comparison to others creates a self-deprecating mindset. She beats herself up rather than motivate herself through acts of change.

However the questions of her own worth in comparison to Karl’s set about reflection which took the form of letters responding to her ex-husband. In doing so, Ruth seems to have finally been able to reflect upon herself, and rationalize the end of their relationship. Her devotion to MARY she now sees as being something which set about the alienation of herself as a person. She writes,

After I wrote that, I got up and went to the kitchen. Took a little victory lap. Surveyed the clean counter, interrupted only by my junk mail and the fruit bowl. I noticed that my oranges are as wrinkled as brains. I opened my refrigerator: mostly empty, except for my beer, and a bag of bread that’s probably mildy. The pantry’s full of cans of soup. I open them with an electric can opener, built into the wall over the counter. I wouldn’t want to exhaust my poor wrists (Hall 229).

The passage explains Ruth’s understanding of her living circumstances, which is seemingly empty of many of the tangible qualities of life that one might enjoy when exercising a healthy

existence. The pings of her junk mail remind her of her rotten fruit, and she eats canned food with the assistance of a robotic can opener. In her escape Karl, Ruth has subjected herself to an over reliance of technology, and in doing so, has barred herself from enjoying the real world.

In her final letter to Karl Ruth considers her removal from humanity rather directly. She explains her experience taking a walk through her neighborhood,

As I walked, I told myself I was an alien ethnographer, noting the migratory habits of humans... Both sexes cover their ears with black headphones. Otherwise, their plumage is uniformly electric, impractical and disjunctive with the seriousness they bring to the project of physical self-improvement. Surrounded by such alien creatures, I found myself yearning for the comforts provided by our computer. I longed for its cool, unchangeable body, sitting still on the desk (Hall 273).

Ruth notes feeling like an outsider. So much so that she examines those around her as one would a separate species. What should be nothing more than a stroll through her neighborhood becomes a research project for her, where she records aspects of humanity in an effort to better understand and assess people. People seem to trouble Ruth. Her efforts in the occupational realm have created a scenario where she feels more comfortable in the presence of machines.

In the final section of her last letter, Ruth explains that she had been spending time with an updated MARY program (MARY2), having been inputting sentences which she remembers Karl having said to her. The experience nearly brought her to tears, bringing forth feelings of regret. "I accused myself of ignoring the gift I was given. I accused myself of heartlessness, of pathological readiness to depart" (Hall 280). While recording her memory of Karl into the MARY2 database, Ruth begins to feel guilty for leaving him. Her memory of him, which was sparked by the persona presented in the documentary, caused her to second guess her decision to leave him. It appears that as she engages with the program, her ability to remember the reasons

why she left him are diminished. It isn't until she returns home, and begins to write her letter that she is able to break free from this thought. Through the act of writing, Ruth was able to access a level of introspection which she could not do when engaging with MARY2. This led her to the realization that,

... the woman I was when I was with you decided that she'd rather be free than a part of your story... The blood red rhomboidal shadows of your feet in that lecture hall, the didactic tone in your voice when you said things like "real world": those caused revulsion to simmer in me. That revulsion was real, no less so now that I'm back in my modern apartment, longing for the home you could have provided (Hall 281).

She goes on to explain the realization that if she were to drop everything and go see Karl at his new home in Berlin it would be a mistake, stating, "I'd probably want to leave as soon as I got there... I'd tell myself I'll get a dog, name it Ralph, take him for walks. Work on my bone density. Have dinners with Toby, spend my mornings browsing the stacks, my afternoons talking with MARY" (Hall 282). Through the act of self-reflection via writing, Ruth is finally able to understand her recent hesitations regarding Karl as being false. They were a born of her unconscious knowledge that she was failing to take care of herself and enjoy life, as well as the mis-representation of Karl in the documentary she watched. She was comparing herself to a version of Karl which was created and curated for a film, and in doing so allowed herself to fall victim to insecurity. It wasn't until she stepped away from the distractions in her life, that she was able to sit down and finally come to terms with her decision to end the relationship.

Through Karl and Ruth's story, Hall examines technology (particularly AI meant to represent a sort of social alternative) as a means of distracting people from introspective emotional work. The tragedy of Ruth comes with her inability to trust her instincts, as well as her

escapist method of living her life. By running from Karl, she becomes a victim of her pursuits in the digital realm. An act which led to her own alienation within the world. It is not until she steps away from these activities that she is able to meditate, and understand the division between what is truly affecting her ability to be happy (poor health and alienating behavior), from what she thought was the source of her unhappiness (the possibility that Karl was living a better life, which she could have been a part of). Hall uses these characters to point out phenomena that seem to be occurring in contemporary society. As people rely more on their smart devices, they inherently compare their lives to those presented to them by others. This breeds insecurity, which is not dealt with properly as people reduce their time spent reflecting on themselves.

Alan Turing

The fourth character revealed is the father of AI, Alan Turing. He acts as the theorist whose ideas informed the development of the first MARY program within the context of the novel. Alan Turing is the only character in the novel who existed in the real life. As such, his installments in the book, taking the form of letters written to the mother of his deceased first love, Christopher Morcom, are meant to emulate those which he would have written in real life. That is to say, these letters which discuss his exploration of computer science with Chris, his involvement in World War Two, and his conviction and punishment for being homosexual, are written in a way which encompass his own writings and beliefs. Hall includes these letters in her novel as a means of marking the moment of deviation between the reality which she has created for *Speak*, and the reality from which the novel is written.

One might regard Hall's inclusion of Turing's letters as her means of bolstering the possibility of the existence of character's like Stephen Chinn, Ruth Dettman and Gaby. Hall researched Turing's life extensively before writing these letters on his behalf. In an interview with Jenni Hill of The Guardian, she explains,

I read five or six biographies of Alan Turing, including Andrew Hodges' excellent *The Enigma*, which contains long excerpts from Turing's letters. That was helpful to me in getting Turing's voice—his grammar, his diction, etc. The most challenging part of wrapping my head around his character was understanding his theories of computing and mathematics, which were essential to understanding his approach to the world (Hill).

In doing so, Hall was able to present an expertly curated representation of Turing and the ideas which motivated his work. These letters explain his reasons for pursuing the development of AI,

which mirror the motivations of innovators like Chinn highlighted in other sections of the novel. In his first letter to Mrs. Morcom, written just prior to Chris's death, Turing introduces an idea which Chris proposed that appears to be the foundation for his yet to be generated views regarding Artificial Intelligence. He states, "He says that diaries are time capsules, which preserve the minds of their creators in the sequences of words on the page. This, of course, appeals to me immensely" (Hall 34). This idea of preservation of the mind is one which stuck with Turing after his dear friend's passing. The MARY program, and each of its incarnations lie at the core of the overarching narrative of the novel. By including letters (comprised of ideas mined from historical accounts of Turing himself), Hall presents her fiction as being conceived via the work of these men in the real world. It is as if she tells her readers that despite the fact that her novel is a work of fiction, it should be regarded as fiction meant to represent an alternative path to a more familiar tech-based future. In doing so, her novel allows its audience to draw upon the apparent similarities between the world which they are reading from, and the world which they are reading about. In a sense, by including these sections of Turing's work (work which one might regard as time capsules of the mind similar to the diaries which he discusses in the passage above) Hall is able to set up a means by which her audience can understand the entirety of *Speak* itself as being a metaphor representing the virtues of reading discussed by Piper in *Book was There*. That is to say, by conjoining both the reality of her characters, and the reality of her readers, Hall brings to light Piper's claims regarding the act of reading as being expansive as well as inclusive, as it reveals how one might gain a new level of clarity in understanding that which is already known through the exploration of fictitious alternatives. For instance, by showing Stephen Chinn's inventions as being partly informed by

Turing, readers can more easily ascertain what they are meant to represent, as they are grounded by relation to the real world.

Given this, when reading Turing's letters alongside the writings of Louisa Hall's fabricated characters one must understand her representations of his work as having contributed to the actions of both the Dettman's and Stephen R. Chinn, and the real world innovators for which they serve as archetypes for. The following passage is one such example of this,

Chris and I shall continue working hard on discovering the mechanism for cellular growth. The possibilities are endless, you know, if that kind of thing could be understood. We could one day create artificial organisms, prompting them to grow from single units in the same way that humans do! One day perhaps we'll make a human brain, brick upon brick! Only imagine (Hall 68).

Emulating humanity through technological innovation is the ultimate goal of every character who worked on the MARY program throughout the novel. However this is also true for those developing AI in the real world. Turing, the father of AI, a man interested in the idea of the preservation of the mind, placed this goal at the forefront of his work.

Turing was, as Hall highlights in his letters, a man who was deeply intrigued by the division between the body and the mind, or as he called it, "the spirit." His pursuits in the realm of computer science are oriented towards creating artificial life defined by its own spirit. That is to say, he seeks to create artificial life defined by the presence of a spirit, or rather an entity which is greater than its physical form. He believes that human bodies serve as "able machines" (Hall 106), which are to be driven by "an internal animus for deciding our course" (104). This understanding of life informed his methods in the lab, as he set out to create life of his own.

Following the end of the second World War (a war in which Turing served as a naval code breaker for the allied forces), Alan discusses his despondency for the general public's reception and evaluation of the developing field of AI.

I spend my days imagining a future of thinking machines. I like to think that one day ladies will take their computers for walks in the park and tell each other, "My little computer said such a funny thing this morning! I extricate myself from my dreams only long enough to worry at the reception our machines will receive... in the rush to build bomb, the pace of things has picked up, and now all of academia has mobilized against us. There's talk of the end of religion, or the end of a man's unquestioned dominance (Hall 188).

Turing's optimism towards AI remains strong, even in the face of criticism and fear. As the idea of life in technology crept into the mainstream following years of being labeled taboo, the general public seemed to attack it, fearing its potential for shifting paradigms, or even, overtaking humanity's rule over the earth. However Turing seems to hold his vision of artificial intelligence in much higher regard. In fact, he appears to believe that AI may be more virtuous than humanity itself.

And after all we've been through this century, would it be so terrible, to see the end of man's unquestioned dominance? I find it hard to believe that a machine, programmed for equanimity and rational synthesis, could ever act as maleficent as we humans have already proven ourselves capable of acting (Hall 188).

Turing's predictions regarding future generation's use of technology were relatively sound. He believes that the negativity surrounding AI as an entity capable of overtaking humanity is ridiculous, and even argues that this may not be the worst thing that could happen to such a violent species. Rather than consider the public's scepticism regarding AI, Turing instead fantasizes about a future where people and machines coexist in harmony. And within the context of the novel, this fantasy turns out to be true. However the interaction between people and

machines that is presented in Hall's created reality is one which is very clearly detrimental. His dream of seeing women in the park interacting with machines manifested itself as a phenomenon which stunted the ability of an entire generation (that being Gaby's) to socialize. Though he was correct in his predictions, Turing exhibits a naivety in his thought process. Though AI did not overtake humanity in the way that people feared it would, its presence did serve to damage those who interacted with it.

Alan Turing's character, whose voice and the beliefs were communicated with historical accuracy, serves as the mediator between the reality of Hall's novel and the world of her readers. The era from which his sections were written are to be understood as the point in history where these two aforementioned realities split off from one another. His work, spawned from his dreams of creating a new form of life, is that which set into motion the events which affected the lives of each character who exists in the novel's latter chronology. With this in mind, readers can better understand the reality of *Speak* and the reality which they read *Speak* within as being interconnected, or rather, separate worlds with differing events that produce similar circumstances. Through Turing, Hall communicates to her readers that the babybot may in fact be her world's representation of the smartphone, whose social functions in fact instill antisocial behavior.

By bridging these two worlds, Hall sheds more light on the nature by which innovation, fueled by optimism can lead to negative outcomes. Turing was right to doubt the criticism surrounding his work and chose instead to trust his own judgment. And for the most part, his vision of the future came true within *Speak's* reality, only in a way which proved very detrimental to the lives of those who experienced said dreams. If one were to regard Turing's

chapters as the point where a road forks off into two paths, one which follows the future presented in *Speak*, and one which follows the “real world’s” future, they might find that though these paths appear very different, the destinations to which they lead are in a sense very similar.

Mary Bradford

The final character introduced in the novel is Mary Bradford, a 17th century puritan who writes a diary in the midst of her travels from England to the new world. The diary (which is presented in the novel as having been edited by Ruth Dettman) depicts Mary's internal experience while traversing the sea. Bradford is, at the time which the diary is written, barely a teenager. Having said that, she is expected to accept the responsibilities of adulthood at a early age; being married off to a man named Whittier while moving halfway across the planet. Throughout her diary, Mary grapples with loss, and the acceptance of her inevitable shift in life. Her dog, Ralph, who she loves a great deal, passes away early on her voyage. This loss troubles her a great deal, as it signifies the hardship that will accompany change.

The MARY program was chosen to be based on Bradford's diary given their discussions of language and permanence. Throughout her journey, Bradford contemplates the nature of humanity as being defined by language. She writes,

Beset instead by Whittier. Received another homily, this on the subject of language, which he did call a sacred gift, it being a sign of connection with God and the truest expression of human affection. Mentioned lesser affection shared between men and what he called mere beasts of the field, for these were not given language (Hall 83).

Whittier explains that language is the means by which humanity has differentiated itself as a species. He believes that this ability is responsible for humanity's superiority. However, Bradford goes on to reply with scepticism. "...perhaps beasts have also language, of which we be sadly ignorant" (Hall 83). Bradford is reluctant to accept the idea that language is something that only humanity possesses. She argues that by understanding themselves as superior, people may

actually be ignorant the nature of those which they co-inhabit the world with. This notion raises questions as to why Bradford's diary was chosen as MARY's foundation, which is never explicitly explain in the novel. Bradford's voice, which was used to design that of MARY's, often showcases this scepticism towards notions humanity's superiority. This aspect of her writing makes the decision to use her diary as MARY's baseline for language seem almost paradoxical.

Later in the diary, she writes, "and to claim we can only move forwards! Such nonsense I have never heard. We must traverse a circumference. It is our duty, being human and of this planet, to return to the place from which we began. Though it be convenient, it is not right to venture always heedlessly forth, disregarding from whence we have come" (Hall 234).

Bradford's voyage to the new world seems to have instilled a sense of resentment towards the idea of progression. Though her diary began as a means of documenting the great adventure that was ahead of her, it appears that this adventure actually made her realize the loss associated with what she left behind. Considering that Bradford's diary served as the basis for language in the MARY program, which was designed as the ultimate proof of forward moving innovation, one might begin wonder why this diary in particular was chosen. One possible explanation may be that by programming the AI with an understanding of the dangers associated with progression, the program will be able to understand its own role as a companion to humanity. It seems rather counterintuitive to create a program for communication whose personality is designed after that of someone whose language indicates hesitance towards the notion of progression. It is as if many of the statements made by Bradford which were loaded into MARY serve to warn against the program itself. That is to say, That an understanding of its own existential shortcomings

would allot MARY the ability to form an awareness of itself as an imperfect entity. This in turn, may allow MARY to interact with people on a level of mutual understanding.

One may also regard this question as Hall's means of highlighting how meaning can be lost or confounded as it is passed between people. Bradford is the first character to exist chronologically within the story of the novel. Her narrative shows her transition from being an innocent girl who is excited for the adventure that is ahead to a mournful young woman, who is forced to come to terms with the absoluteness of the change which she is experiencing. Her diary, which explains this shift in demeanor, and warns its readers against hastily chasing change, is in turn used to set about a change that restructures life within the novel's reality. A change which ultimately affirms her fears stated in the passage above.

Bradford's stylistic choices further highlight the paradoxical choice to use her diary when programming MARY. In the first installment of her diary, Mary remarks on her decision to "... write in the style of Sir William Leslie" (Hall 37) her "favorite adventurer" (Hall 37). She explains "As Leslie does, shall dispense with the weak words, jump instead into action" (Hall 37). Bradford's diary was the primary source of information input when Ruth Dettman began uploading language into her MARY program, hence their shared moniker. Mary Bradford's diary essentially informed the personality which was to be created within the MARY system, serving as the baseline of disposition in later versions of the program (MARY2, MARY3, Babybot). However her diary, which borrowed stylistically from that of Sir William Leslie, may better be understood as a conglomeration of these two entities, given that Bradford's individual voice was not actually used when writing the diary, but rather her voice altered in an effort to imitate someone else.

One may view Bradford's decision to write in the style of Sir William Leslie not only as a young girl's devotion to someone who inspired her creative work, but as a force of influence which affected the mode of communication employed by the MARY program itself. That is to say, given the diary's existence as the MARY program's interactive foundation, her writing's negation of "weak words," and prioritization of "action" instructed the nature by which the MARY programs interacted with their users.

By establishing the MARY programs as being derived from Bradford's diary, Hall presents a folly of reason within those who worked on these programs. The MARY programs are meant to represent contemporary interactive media. These forms of media, as stated in the introduction of this paper, are being revealed to have an effect on the attention spans of younger generations. Oversaturation of information and sensationalist tactics are often ascribed to be problems at the core of this phenomenon. Mary's diary seems to be an analogy of this, as they seek to portray only "action." they exist as streamlined record of thought, almost listing out the aspects of her adventure which showcase description of that which elicited emotional response. There are few instances of the mundane, or ruminations regarding the events which are listed. Hall's strategic use of this character's writings as the substructure for the MARY program exhibits how the program failed to emulate a personality as a means of creating an interface for communication. These diary does not accurately depict Bradford's personality, but rather a persona built off of Bradford's imitation of Sir William Leslie.

Mary Bradford is one of the most peculiar characters in the novel. Her writings gave way to the genesis of MARY, which acted as the thread connecting each character within the novel. Her words, which were written in a time before technology, were responsible for the most

significant paradigm shift in her world's history. This establishes a great deal of power within her writing, which is likely why Hall decides to include the final section of Bradford's diary as the last chapter of her novel. The ideological growth which occurs over the course of her adventure (recorded in her diary) are those which are meant to be understood as the reasons behind the use of her writings as MARY's foundation. She fears forgetting what she once loved, and uses her writing as a means of preservation. However, in the end, her words are used to create something which ultimately pushes people away from what she believes lies at the core of humanity. This may be due to the fact that her writing was not in fact a decent representation of the experience of one singular personality, but rather Bradford's effort to portray her experience in a way that parrots Sir William Leslie's record of his own experiences.

III. Justification of Form

Speak has received a great deal of attention since its release 2015. The novel's unique way of tackling questions of artificial intelligence and literacy in the digital age came about in a timely manner. One need not be particularly interested in the issues highlighted in the introduction of this paper to be aware of the phenomena which are discussed within the book. As I have shown in previous chapters, Louisa Hall's understanding of literacy in the digital age is not only showcased thematically, serving as one of the core themes explored across all five stories of the novel, but also through the literal form in which the novel takes. That is to say, the fragmented nature of the five stories intertwined throughout the book offers readers a unique reading experience.

Many scholars and critics have discussed *Speak's* structure in comparison to David Mitchell's *Cloud Atlas*, whose critical and commercial success has made it the target of emulation from a number of contemporary authors. Given this, *Speak's* form is often criticized for being unoriginal or gimmicky, and is regarded as more of a success for its eloquent word play and explorations of emotion. For example, in her review of *Speak* for the New York Times, Kay Waldman writes, "Even a genius algorithm would need days to track the echoes across the five narratives. But post-*Cloud Atlas*," *Speak* "feels less remarkable for its structure than for its thoughtfulness and emotional force" (Waldman). Critics seem to feel that this particular storytelling format has run its course, and that Hall's decision to write her story in this way is less remarkable given its striking similarity to *Cloud Atlas*. For the most part this is understandable, as *Speak's* structure does reflect that of *Cloud Atlas's* very closely. However

these critiques fail to take into account the function of Hall's structural choices as being means of implementing a unique reading experience. One that reflects many of the problems which the novels seeks to consider. For instance, *Speak* requires its readers to multitask in order to comprehend the entire scope on the novel. Each chapter is followed by an installment from a separate story which employs a completely different form. Following the prologue, readers are introduced to the first chapter of Chinn's memoir, whose form appears as one would expect from a traditional narrative of this kind. However this changes once chapter two appears, as readers are introduced to a completely new narrative (Gaby and MARY3) written in the form of a digital chat room conversation. *Speak's* overarching narrative, which is comprised of five separate stories intertwining only at key moments, requires a hyper attentive mindset. That is to say, that in order to understand the scope of the story, readers must constantly be considering five different narratives at once. With each new section of the book, readers must keep the revelations of the prior chapter fresh in their mind, as they formulate a map of understanding. Most novel's employ a linear storytelling technique. *Speak* on the other hand presents a plain of information on which readers must derive paths of understanding.

Given the context of the novel, and it's pushback against developing technology, one might regard *Speak's* fragmented structure as being one of its most important assets. It is as if Hall is having her cake and eating it too, creating a story which is critical of the effect of technology on the mind, yet requires its readers to experience the story in a way which plays into said effects. Effect which include a shift away from deep-attentive cognitive processes and towards hyper-attentive cognitive processes within the minds of young people. Were one to decide to read each story in a chronological manner, flipping through the book in an effort to

follow only one character at a time, it would be difficult to understand where and when each story intersects in real time. For instance, towards the end of Chinn's memoir, he explains that his Daughter Ramona has pursued a life of civil service. Shortly after that, it is revealed at the end of Gaby's story that Ramona is the woman responsible for taking her and her fellow quarantined children on the trip to the beach. This revelation informs how readers will understand the final Chapters of Chinn's memoir, as it is made clear that his daughter has in fact set out to fix the damage he has done to society. These subtle moments of interconnection are very important to understanding the scope of the novel. They are often one of the most rewarding aspects of the read, and can only be accessed when reading the novel in the order which Hall presents it.

One might consider this aspect of Hall's narrative as being responsible for its success. Katherine Hayles's research regarding the modern student's experience of the humanities shows evidence explaining a shift away from deep attention within the work of young scholars. She describes how professor have expressed concern for their students, often having to remodel their curriculums to account for young people's inability to engage with long-form fiction. With this in mind, one might examine Hall's novel as being one which accounts for this shift, and in a way integrates it. What is already a relatively short read, comprised of just over three hundred pages, may more accurately be regarded as five short stories which are intertwined with one another. Chapter's longer than ten pages rarely appear, and when they do, they are followed by a chapter which focuses a completely different story. This reduces any deep-attentive fatigue when reading. Each quick chapter of serves as a "break" so to speak, from the previous one. Readers are not expected to follow one character's story for an extended period. Instead, they are to read

each chapter with the understanding that said character's narrative may not appear again for a while. Readers must retain the knowledge they learn about one character as they move on to the next, until ultimately revisiting said character upon their next appearance.

These breaks don't only pertain to the each character's individual narrative, but also to the form that each individual narrative takes on. Hall delivers each character's story in a way that is aesthetically relevant to their narrative. Steven Chinn who ruminates over his life's failures writes a memoir, where he tries to understand and come to terms with his life's decisions. His sections are the most familiar with regard to form, appearing structurally as a relatively straightforward memoir. The chapters involving Gaby and MARY3 on the other hand take on the form of court transcripts showing the conversation between the two entities. Their interactions (which makes up the entirety of their portion of the novel) are written in a way which appears most similarly to a text message chain or online chat room conversation. This not only fits the purpose of their chapters thematically, but provides readers with a means of means of engaging with the text differently than they would when reading Chinn's memoir. The chapters focused on the Dettmans take the form of letters. Hall presents the text of these letters in italics, meant to simulate a handwritten feel, in an effort to express intimacy. In doing so, she succeeds in portraying these letters as having come from her character's hearts. The handwritten display accentuates the stream of consciousness style with which their letters are written. Turing's letters to his late friend's mother on the other hand, are far more formal in their presentation. They focus more on his work, and exhibit his personality through the lengthy P.S. sections which end each of his letters. Finally, Mary Bradford's chapters take on the form of a diary, written in a

way that emulates those of her favorite adventurer as she embarks on her journey to the new world.

Each of these decisions regarding form directly relates to the isolated conflict facing each character. Gaby's story for example remarks on modern youth's dependency on technology as an exterior means of attaining comfort and self worth. Hall configures this story as an instant messenger conversation in order to reflect this. The familiarity with which her story appears lends itself well to readers overall understanding of the problem that Gaby faces. Her overreliance on technology as an agent for social interaction is one that could only be shown as a conversation recorded on one such platform.

Through this structural variation, Hall expects her readers to compile an understanding of *Speak's* overarching story as being the sum of each of its individual parts. In doing so, her readers draw conclusions regarding the world of the novel based on the basis of a web of interconnected separation. Each story itself presents an isolated conflict and resolution that are to be perceived alongside one another as a means of constructing an understanding of a greater narrative which takes place across generations.

With all this in mind, one may begin to understand Hall's structural choices not as a ploy to emulate the success of *Cloud Atlas* or other similar works, but rather a means of creating a novel which experientially emulates the mental shift in literary thinking that is taking place as a result of the technology her book seeks to contend with thematically. That is to say, by structuring *Speak* in the way she does, Hall attracts an audience who would have shied away from her story had it been written in a more linear manner. The novel requires an eye conditioned for multitasking. One must keep track of five separate stories at once which are all

told in very different ways. By writing the novel in this way, Hall draws in readers who would be uninterested in reading long form-fiction. Her book's form caters to those whose literary mind has been affected by the onset of the digital age, and offers them a format by which they can examine the possible detriment associated with the tech boom. And in doing so, these readers may gain insight new insight regarding the effect of technology on the mind.

In an interview with the NPR, Hall explains her reasons for writing *Speak*. In the interview, she addresses her inspiration for the character Gaby. She states,

There was a story in the New York Times magazine ... about an epidemic in New York state where girls were stuttering and freezing and having all sorts of twitches and people thought at first that it was a pollutant in the atmosphere and eventually decided that it was kind of a psychological contamination that was happening — that these girls were living under conditions of certain kinds of stress, which I found really frightening and kind of inspiring as a way of thinking about the scary and troubling aspects of growing up (NPR Staff).

Gaby is designed to reflect children in the real world who have been affected negatively by the stress factors associated with contemporary technology. The character of Gaby, and the familiar “chat room” form with which her chapters are written, serve to address the problems facing children who grow up dependent on technology. By addressing questions regarding the effect of modern technology on the mind through the confines of that which is being examined, Hall creates an entry point that is easily accessible for a larger audience. Her novel seeks to understand its audience, and offer a means of reexamining the role of technology in their lives. This is achieved through prose whose presented form is just as important to its message as the themes which it grapples with.

IV. Conclusion

The shift away from a literary mindset within contemporary students may be one that is difficult to track. In recent year technology's rapid development has changed the ways by which people interact with one another and the world around them a great deal. With this in mind, the act of reading may not be one such area of life that appears to be effected. Given its longstanding position as the center of education, reading is likely an aspect of life which many likely take for granted. However given the results of research highlighted in previous chapters, there is no arguing against the fact that people's cognitive ability to read is undergoing a great deal of change.

Louisa Hall's *Speak*, is a novel that understands this fact, and seeks to address it using a range of tactics. Each of her five stories consider aspects of modern technology, and its effect on the minds of its users. Her novel's structure serves to support her claims, as its nonlinear narrative represents the shift in attention taking place within contemporary readers. Her representations of artificial intelligence warns readers against the possible detrimental effects of engaging with modern devices like say, smartphones. Her narrative explains that as people become more reliant on said devices, they become too distracted to rationalize their own existence.

Hall's fiction, and it's contemplations regarding literacy in the digital age aligns itself well with research conducted by experts like Katherine Hayles, Sherry Turkle and Maryanne Wolf. Compiled, their works showcase what is at stake as readers lose their ability to engage with literature on a deep analytical level. The ability to understand oneself as a singular entity is

tied directly to reading. Time spent in solitude engaging with texts allows people to gain an understanding of themselves and their role in the world. Reading allows people to gain knowledge regarding that which they cannot directly experience. It is a means of expanding the mind. As one hones their analytical eye, they become capable of understanding their world more deeply.

As modern technology and media creeps into the everyday lives of modern people, there forms a trend towards constant distraction. What appears to be an indication of progress may actually be just the opposite. People are spending less time alone, and as a result they spend less time reading. People seek constant distraction, and in doing so, hinder their ability to pursue intellectual growth. If reading serves as the catalyst for the formation of one's understanding of reality, and their role within, the implications associated with a less literary population may be as frightening as those portrayed in Hall's dystopian novel.

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