Information Overload: Reading Information-as-Waste in Contemporary Canadian Literature

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Abstract

This thesis investigates three contemporary Canadian texts— Ruth Ozeki's *A Tale for the Time Being*, Margaret Atwood's *Oryx and Crake*, and Rita Wong's *forage*—that treat information as an object that can be wasted and recuperated. Using information theory and a new sub-field of critical waste theory called "Discard Studies," I explore how the authors studied in this thesis place these two lines of thought alongside one another to examine how the concept of recycling information challenges the material, cultural, and ideological structures that distance humans from their waste. Specifically, I read the event of recycling as an interruptive act that triggers a reassessment of the (im)material connections that tether humans to their waste, vast (inter)national networks of exchange, and environmental crises related to our garbage.

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Introduction

In the first pages of Ruth Ozeki's novel *A Tale for the Time Being,* a sparkle from a clotted mass of kelp catches the eye of the novel's protagonist, Ruth, while she walks along the beach. Ruth assumes the shimmer is from the glistening carcass of a jellyfish, "but something made her stop" (8). Similar to the "thing-power" of Jane Bennett's dead rat, which "commanded attention in its own right" and "provoked affects in [Bennett]" (4), the object Ruth encounters has its own thing-power that captures her attention. Upon further investigation, she discovers the sparkling body is not a jellyfish: it is a red lunch box sealed in plastic freezer bags. Identifying the bundle as a piece of garbage, she decides "She would finish her walk and then pick it up on the way back, take it home, and throw it out" (8). When she brings the bag home, she deliberately leaves it on the porch for disposal because she believes the mass is a piece of trash. After her husband, Oliver, insists on opening the lunchbox and reveals its contents—a young Japanese girl's diary, a wristwatch, and a packet of letters—Ruth's attitude toward the bundle immediately shifts. Ruth begins to engage with the materials and tries to solve the mystery of how the lunchbox made its way across the Pacific Ocean to the shores of British Columbia, and her investigation develops into an exploration of the relationship between information and waste. Ruth's initial reactions to and interactions with information spark a number of questions: how is information treated as something that can be discarded or wasted? How does obsolete or wasted information continue to produce effects long after it is discarded? Can information be recycled, and, if so, what are the outcomes of such an endeavour? How does the idea, if not the act, of recycling information generate new understandings about materiality, communications, cultural thought, and specifically ecocriticism?

To investigate these questions further, I study three Canadian texts that treat information as an object that can be wasted and repurposed: Ruth Ozeki's *A Tale for the Time Being*, Margaret Atwood's *Oryx and Crake*, and Rita Wong's *forage*. I use these texts to examine recent literary juxtapositions of two theoretical fields: information studies and a (relatively) new interdisciplinary sub-field of analysis called "Discard Studies." The authors I study set these two lines of thought against one another to re-evaluate ecological concepts, like waste and recycling; reconceptualize key ecocritical ideas, like objects and the posthuman; and assess relationships between waste, information, and other associated phenomena, especially time. I argue that the texts studied in this thesis present the act of recycling wasted information as a disruptive event that generates a re-evaluation of the (im)material connections that tether humans to their waste.[1] Each text imagines, in various ways, what it means to treat information as an object, and specifically how the material natures of different vessels or modes of information (like a diary washed up on the shore) affect how certain "pieces" of information can be discarded and reused. In the critical attention they pay to the relationship between information, waste, and recycling, these texts challenge the physical, cultural, and ideological structures that separate humans from their waste, like designated spaces for garbage disposal or responses of revulsion and disgust that psychologically detach us from our refuse. In so doing, these texts offer an innovative way to approach the ecological "garbage" crisis by considering how information, too, is subject to our culture of waste. Moreover, they posit that by using information differently—and therefore by thinking differently—we can perhaps come to new insights and new habits around our treatment

[1] Throughout the thesis, I use the words "recycle," "repurpose," and "recuperate" interchangeably. While each word has its own nuances, each refers to the act of altering a waste object to fit a new purpose, recovering a piece of waste for new purpose, or converting a waste material to its former state of utility. My application of these words speaks to the idea of reinstating use or value of information and objects.

of matter, our concepts of utility, and the speed with which we tend to consider an object (including a piece of information) to be valuable.

S1. Information Please: Information and Discard Studies

Mary Douglas's seminal text *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* is often credited as the originating work in critical waste theory. Douglas argued that waste is an entity that challenges societal boundaries, and she suggested that: "Reflecti[ng] on dirt involves [a] reflection on the relation of order to disorder, being to non-being, form to formlessness, life to death. Wherever ideas of dirt are highly structured their analysis discloses a play upon such profound themes" (6). Her move to position matter on an axis of order and disorder—clean and dirty, pure and polluted—created social and anthropological categories through which humans could distance themselves from their material waste. Douglas's work shaped the way subsequent thinkers would connect waste to other discourses. For example, Julia Kristeva undertook a psychoanalytical evaluation of waste through abject theory using Douglas's conclusions about socio-cultural boundaries and categorical classifications. Building from the ideas of production and value inherent to waste theory—as well as Foucault's evaluations of biopolitics and Marx's study of human bodies as by-products of capitalism—critics like Zygmunt Bauman and John Beck have recalibrated the idea of "wasted" humans to fit contemporary anxieties around hyper-consumption and capitalism. Moreover, many waste theorists have pivoted the scope of their studies away from the broad term "waste" in favour of more specialized words. Maurizia Boscagli's word is "stuff," Michael Thompson "rubbish," Jane Bennett "thing," and John Scanlan "garbage." Gillian Pye and Susan Strasser both use "trash," and Susan Signe Morrison wrote a book on Chaucer's "fecopoetics."

While the above examples document the robust and growing critical vocabulary developed around the categorization and function of waste in contemporary culture, many scholars continue to think about waste according to Douglas's order and disorder binary. What remains especially important to these scholars is Douglas's argument that a reading of waste must take into account society's "external boundaries, margins, [and] internal structure. Its outlines contain power to reward conformity and repulse attack" (Douglas 115). Douglas notes "There is energy in [a society's] margins and unstructured areas" (115), and New Materialist thinkers, such as Bruno Latour, Bill Brown, Graham Harman, and perhaps especially Jane Bennett (mentioned earlier), build from Douglas's emphasis on the energizing (some might say vitalist) potential of waste. In various ways, New Materialist-oriented approaches argue that waste should not be treated as objects of disorder—matter that is useless, and thus out of place in ordered society. Instead, New Materialism insists it be considered lively, active matter, matter that has sustained relationships and networks with other human and non-human objects. Another area of great interest is an emerging sub-field connected to waste theory called Discard Studies. For many waste theorists, the primary focus of Discard Studies is the waste itself; however, Discard Studies expands the scope of analysis to include waste and the "wider role of society and culture, including social norms, economic systems, forms of labor, ideology, infrastructure, and power in definitions of, attitudes toward, behaviors around, and materialities of waste, broadly defined" ("What is Discard Studies?"). While traditional theories of waste focus on "waste and trash as their primary objects of study, Discard Studies looks at wider systems that make waste and wasting [the] ways they are" ("What is Discard Studies?"). Discard Studies does not dismiss traditional theories of waste, nor is its aim to restructure the systems that classify waste. Instead, Discard Studies offers a more encompassing approach to questioning how waste functions as

part of larger socioeconomic, sociopolitical, and cultural systems. To this end, New Materialism and Discard Studies have helped bridge ecocriticism and complex understandings of materiality, especially in my readings of information as an object already entrenched in discourses preoccupied with concepts of materiality and immateriality.

The term "waste" is no stranger to information theory. First wave information theorists studied information as a series of signals that was subject to classifications based on the perceived value of these signals. If there was too much interference, or "noise" in a communication channel, the information would be classified as "waste information" ("Information" 162). Claude Shannon and Warren Weaver, for example, defined information as "a probability function with no dimensions, no materiality, and no necessary connection with meaning" (*How We Became Posthuman* 18). More recently, however, theorists like N. Katherine Hayles have departed from Shannon to incorporate materiality into information theory. In her book *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, Hayles roots her reading of information and materiality in the posthuman, crediting cybernetics for reconfiguring the material boundaries that corralled original conceptualizations of information.[2] Hayles's work seeks to counter what she calls the "information/matter duality" (*How We Became Posthuman* 12-13) because, in her words, "for information to exist, it must *always* be instantiated in a medium" (*How We Became Posthuman* 13, emphasis in original). In making this argument, Hayles builds from critics like Marshall McLuhan, who "famously identified the medium and the message, or rather, […] defined the message as the medium itself," but her work takes McLuhan's theory a step further ("Introduction" x). Hayles identifies

[2] I explore the idea of the posthuman in greater depth in Chapter Three, evaluating Wong's portrayal of the posthuman body as "a material-informational entity whose boundaries undergo continuous construction and reconstruction" (*How We Became Posthuman* 3).

both materiality (medium) *and* information (message) as essential to the study of information, stating that: "Information, like humanity, cannot exist apart from the embodiment that brings it into being as a material entity in the world" (*How We Became Posthuman* 49*)*. This is just one example of the way that recognizing the materiality of information has allowed contemporary information theorists to reconceptualize the material and immaterial relationships between not only information, technology, and communications systems, but also information, the human body, and surrounding physical environments (*How We Became Posthuman* 13).

Hayles's examination of information's materiality aligns with discard studies in her assessment of how information is valued according to how it is (or is not) materialized. For example, she critiques "an Anglo-American ethnocentrism that regards digital information as more important than more context-bound analog information" (*How We Became Posthuman* 19). Although contemporary perspectives often define digital forms of information as more valuable, deeming traditional "material" embodiments of information like print, phonography, or lithology outdated, some theorists argue digital information is just as susceptible to becoming waste. Brian Thill argues, "Digital waste is not freed from the realities of material existence" (26) because the sheer volume of digital information is destined to "invariably transform into waste when [it] overtake[s] us, when there's no hope of sifting through [it all]" (26). Zygmunt Bauman, too, contends that information is a form of waste, regardless of its (im)materiality: "the world wide web fills the bill of an infinitely capacious, and exponentially growing, waste-information disposal bin" (25). Bauman's idea of "informational waste" includes the "dumping" of excess information into digital repositories (25-26). The visible demarcations of material landfills and mountains of garbage that signal an intentional cleansing and perpetuation of boundaries are just as pervasive online. Though our "digital wastelands" do not impose the same material hazards or

evoke what Julia Kristeva understands to be the horrors of abjection, digital detritus is still recognized as a form of waste, for "Waste […] signifies something more than just a certain stage of an object's life cycle; it is our specific affective relationship to an object that makes it 'waste' in the first place" (Thill 29). Directly connecting the idea of information-as-waste to environmentalism, Heather Houser examines how American authors "treat trash as packets of information in a climate where information risks becoming so much garbage. Their cultural experiments express the anxieties of overload" (743). In different ways, the texts I study in this thesis depict examples in which information is somehow retrieved from this waste-oriented digital economy of the contemporary moment and repositioned in new relationships with people and things and new temporal trajectories as well.

S2. New Materialism, Ecocriticism, and Discard Studies in the Canadian Literary Trashscape

As I have begun to show, New Materialists like Jane Bennett advocate for a recognition of "matter, organic or inorganic, human or non-human, as an agent in its own right, as possessed of its own beingness or thingness, its own life and status," which equips critics and readers with the theoretical tools to consider nature, waste, and "inorganic" matter—like information, ideologies, and global networks of exchange—as autonomous agents that effect and affect their human counterparts (Hawkins and Potter 105). In their study of waste matter and "thing-power," Gaye Hawkins and Emily Potter comment: "Being open to the thing-power of waste […] can lead, as Bennett says, to a 'greater awareness of the dense web of connections with each other and with human bodies and finally, a more cautious, intelligent approach to our interventions in [a multiplicity of different networks]" (114). Ozeki, Atwood, and Wong are deeply invested in

exploring ideas of materiality in conjunction with ecocritical themes, and examining information's "thing-power" or "vital materiality" shows how consumption, discarding, and our waste itself (im)materially tethers us to other bodies, our environments, and multitudinous and entangled local and global networks. Though scholarly publications about these texts have excluded discussions about information, many critics have used New Materialist concepts to guide their analyses. For example, in her study of Ozeki's novel, Michelle Huang uses the Great Pacific Garbage Patch's body of waste to argue that this gargantuan location of deferral for our waste operates at once as a global and local "site of Asian American racial formation," extending ideas of nationhood and identity into a highly networked material location (95). Heather Milne argues that Wong's poetry engages with what she describes as "materialist poetics," a method by which writers engage with the social and material contexts that inform the meaning of their work ("Writing the Body Politic" 67). Milne further suggests "Recycling found discursive materials might also be read in relation to the strong environmental ethic underscoring much of this writing, raising issues regarding the scale of human consumption and waste" ("Writing the Body Politic" 67). Even Canadian scholars, like Matthew Zantingh, are beginning to implicate their own research and writing practices in networked (inter)national exchanges of waste. In his article on *forage*, Zantingh writes: "I wonder whether the tool for writing this paper will become an environmental toxin, poisoning a distant landscape while becoming a burden borne by many I will never meet, resulting in their cancers, damaged nervous systems, poisoned kidneys" (623). Indeed, reflections about the ways our material exchanges deeply connect us to other bodies, locations, and environments is at the forefront of ecocriticism and Canadian literature. In fact, the authors and scholars that feature in this thesis reposition the human element within material culture studies that some argue New Materialism all but lost. Critiquing Bennett in particular for

ignoring the human implications of waste, Babette Bärbel Tischleder points out that "we cannot ignore the human factor if we consider the larger landscape of Bennett's vibrant ontology" ("Theorising Things" 127). Though ecocriticism and New Materialism offer alternative approaches to studying environments and things as independent entities, it is important to reinforce that it is even more compelling to investigate how these entities continue to materially connect humans to the local and global implications of their waste.

Critics have long studied literary periods such as twentieth and twenty-first century American literature, Medieval literature, and twentieth-century British literature through the context of waste. Susan Signe Morrison lists what she refers to as the "Biggies" that make up "The Waste-ern Literary Canon," such as "Dickens's *Our Mutual Friend*, James Joyce's *Ulysses* […] Don DeLillo's *White Noise* (with its chemical spill) and *Underworld* […] Jonathan Swift's *Gulliver's Travels*" (5). Other literary heavy hitters that repeatedly surface in waste theory include David Foster Wallace's *Infinite Jest*, A.R. Ammons's *Garbage*, T.S. Eliot's *The Waste Land*, and Chaucer's *The Canterbury Tales*. These texts have offered writers a number of opportunities to conduct analyses around waste, but Canadian literature, too, presents itself as a ripe prospect for waste critics. Of course, the texts I study in this thesis are not the only Canadian works that place information in literary proximity to waste—William Gibson's *Neuromancer*, Christian Bok's *The Xenotext*, Cordelia Strube's *On The Shores of Darkness There is Light*, Erin Moure's *Pillage Laud*, Rachel Zolf's *Human Resources*, Adam Dickinson's *The Polymers* and *Anatomic*, Thomas King's *On The Back of The Turtle*, and Larissa Lai's *The Tiger Flu* are only a handful of other works that parse the relationships between the two phenomena. Where the three texts examined in this thesis depart from this growing list of Canadian literature is in their preoccupation with repurposing wasted information as a method to critique our material

connections to our waste and broader environmental crises. Through my analyses of *A Tale for the Time Being*, *Oryx and Crake*, and *forage*, this project identifies the act of information repurposing as a disruptive event that calls for a re-evaluation of the conventional cultural and social practices that define materiality and separate us from our waste, and I begin my investigation with a study of the interruptive potential of a washed-up lunchbox in *A Tale for the Time Being*.

In Chapter One, I study the relationship between what can be considered two immeasurable, disembodied, and abstract phenomena—information and time—in Ruth Ozeki's *A Tale for the Time Being*. Ozeki uses the repurposing of information as an interruptive mechanism that permits multiple temporalities to interact and overlap. Ruth's recuperation of wasted information is the activity that disrupts time's linear progression, and in section one of this chapter I take up this temporal interruption in two ways. I first study how the material nature of the diary's information influences Ruth to slow her pace of reading to match the speed at which the diary was written. Using William Viney's concepts of use-time and waste-time in the object lifecycle, I develop my idea of reuse-time as an intermediary period during which a waste-object's use or value is re-evaluated. Through a subtle manipulation of temporal progress, the materiality of the diary inspires Ruth to reassess how quickly she consumes other information mediums. I then analyze how repurposed information impacts temporal progression through its production of "temporal stuttering." Because waste-objects serve as makers and markers of time (Viney 12), the diary's transition to reuse-time generates the opportunity for the diary's past to intertwine with Ruth's present. In this chapter's second section, I examine Ruth's dreams as an unconventional method for Ruth to transmit, recycle, and recover information. In her third dream, Ruth travels back in time and across the ocean to repurpose the diary's information and

the parcel of letters. The event of repurposing allows Ruth to go back in time to change the course of time and occupy two temporal periods at once. Ozeki's use of material information vessels, like the diary, the lunchbox, and the parcel of letters contributes to larger conversations about the materiality of information, and she uses the event of repurposing as the catalyst that disrupts the temporal and spatial conventions that separate Ruth from Whaletown's waste.

Chapter Two examines Margaret Atwood's presentation of information repurposing in *Oryx and Crake* as a dissident act that challenges her dystopian society's control of information, relegation of bodies, and treatment of material waste. In the novel, specific types of knowledge determine a person's value. Those who excel in STEM-based fields are elite groups permitted to live in the security of gated communities called the Compounds, whereas "word people" (31) are consigned to the pleeblands, a derogatory term for derelict cities designated for outcasts. The physical borders signify an "act of separation [that] 'not only creates two categories of persons" (Bauman 22) but two classes of information: valuable, STEM related information, and obsolete, discarded information associated with Arts and outdated, "obsolete" language. Using Zygmunt Bauman's concept of "wasted lives," I analyze how society classifies the value of information in a manner akin to the treatment of invaluable and unproductive bodies. When Jimmy transitions from a valuable member of society to an outcast, he develops an affinity for obsolete information. He recuperates obsolete words to challenge the relegation of information and "word people" like him to the outskirts of society. In section two of this chapter, I examine how Jimmy uses what Susan Stewart terms the "collection" as a tool that uses obsolescence to contest the partisanship of STEM-communities and information in pre-plague society. The chapter's final section studies how Jimmy's recuperation of waste materials and collection of obsolete words dismantles the scientific mastery of the Crakers, humanoid beings created devoid of the

mechanisms of desire and love. Using oral storytelling, Jimmy recycles obsolete elements of human history and information into the Crakers' origin story, teaching them about the very topics his best friend, Crake, eliminated from their creation: language, art, religion, and love. Jimmy uses repurposed information to subvert the Crakers' envisioned scientific nature, but he also uses the Crakers as a repository for information in a post-apocalyptic world. Oral storytelling becomes Jimmy's final subversive act, as he equips the Crakers with knowledge intentionally omitted from their creation and uses them as archives for the preservation of obsolete information. In a novel already committed to exploring the disastrous ecological outcomes of environmental destruction and superfluous scientific experimentation, examining ideas of materiality using wasted information and the disruptive potential of recycling offers an alternative method for rethinking through the material networks that connect humans to their waste, their environments, ideologies, and other (post)human bodies.

My final chapter investigates Rita Wong's collection of poetry, *forage*, as a work that explores information repurposing in two bodies: the posthuman body and the literary corpus. Wong uses both bodies as transformative sites that materialize repurposed information in a manner that illuminates ecological crises. Wong presents the posthuman body and her collection as archival spaces through which readers must forage for repurposed information that offers alternative forms of knowledge from diasporic and Indigenous communities that challenge the hierarchization of Eurocentric knowledge. In section one of this chapter, I use Hayles's concept of the posthuman to argue that Wong presents the posthuman body as a site that acts as an informatic extension of its environment. The posthuman materializes information, and Wong uses microbiological representations of information through genetic codes and recombination to illustrate how the posthuman body transforms information into messages of resistance. These

new messages contest the posthuman body's environmental surroundings, and in order for readers to find these archived messages, they must forage through the posthuman body itself. In this chapter's second section, I explore how *forage* operates as what Hayles terms a "literary corpus." Like the human body, the literary corpus stores, transmits, and transforms information through a material vessel. Wong uses her poems as literary corpuses upon which she transcribes repurposed information from other writers, critics, and activists to position knowledge from diasporic communities in conjunction with Indigenous knowledge.

Perhaps now more than ever, "The universal wastefulness characteristic of all modern production has found its possibly most spectacular manifestation in the insatiable thirst of information" (Bauman 26). Indeed, the three texts studied in this thesis participate in conversations about the ever-growing demand for new and innovative pieces of information, highlighting how it has been commodified in ways that satisfy the constant desire for more information. Ozeki, Atwood, and Wong explore how information is subject to superfluous production and consumption and, by extension, how it is deeply entrenched in ideas of disposability. Like other material commodities, information has become a single-use object that can be discarded after its use is fulfilled. Discourses of waste spill into our treatment of information and continue to inform how we understand information's value, utility, and materiality.

Chapter One: "The gyre's memory is all the stuff that we've forgotten:" Surfing Through the Internet and North Pacific Flotsam in Ruth Ozeki's *A Tale for the Time Being*

After finding a Hello Kitty lunchbox washed up on the beach, Ruth,[3] the protagonist of the novel, brings it home for disposal. Instead of considering the package a relic or something otherwise imbued with value, she treats it immediately as a piece of garbage. Upon reaching her house, she leaves it on the porch for disposal, but then her husband, Oliver, brings it inside. Although the lunchbox physically moves from a designated space for waste (the porch) to the kitchen table, Ruth's perspective on the bundle's value only changes after the lunchbox is opened and she is interested enough in its contents—particularly the diary—to investigate further. At this point, Ruth seems to appreciate the diary for the information it conveys; however, in her interactions with it through the course of the novel she comes to realize that the material qualities of the diary (including the lunchbox and other elements that came with it) are as important as the words written on its pages. In other words, Ruth's process of engagement with the diary through the novel demonstrates an overcoming of the "hierarchy in which information is given the dominant position and materiality runs a distant second" (*How We Became Posthuman* 12). Moreover, as Ruth is affected by the material aspects of the diary as much as the story written on its pages, her experience and understanding of time is also affected. Specifically, as I will argue in this chapter, the act of repurposing information in Ozeki's novel serves as a kind of interruption—a pause in the conventional lifespan trajectory whereby objects (including information objects, like a diary) go from usefulness to useless waste. If *A Tale for the Time*

[3] I will use the name "Ruth" when I refer to the character Ruth and "Ozeki" when I refer to Ruth Ozeki the author.

Being disrupts linear understandings of temporality, it calls into question assumptions about speed and material durability which reinforce our contemporary culture of waste.

A few scholars writing on Ozeki's novel center their studies around the concepts that I am concerned with here—particularly waste and communication media. Beverly Hogue, from whom I draw on a few occasions in my analysis, evaluates Ozeki's use of "garbage as the raw material for meaning-making" (70). Hogue reads waste as matter that "engages in entanglements across boundaries of time and space to disrupt stereotypes about who—or what—matters" (72). Marlo Starr, too, assesses the idea of entanglement in the novel, comparing cyberspace and the lunchbox as vehicles for communication. She observes that it is commonplace for people to connect and meet over the Internet, but pointedly mentions that Ozeki uses the diary as an alternative medium to think through contemporary methods of communication (115). Compared to these studies, my reading of Ozeki's work offers a more ecocritical and information-driven study of the themes at hand. It is not a coincidence, I argue, that Ozeki goes to great lengths to compare the high volume of material waste to somewhat similarly high volumes of informatic waste, nor is it incidental that the novel's characters treat and repurpose waste materials and informatic waste comparably.

Ozeki's novel follows the investigative journey of Ruth, an author living in Whaletown, British Columbia, with her husband Oliver, an environmental researcher and artist. Ruth discovers the diary belongs to Naoko Yasutani, a teenage girl living in Japan. As Ruth reads through the diary, she learns its purpose is to capture the knowledge of Nao's great-grandmother, Jiko. Ruth also learns of Nao's difficulties adjusting to life in Japan after her father, Haruki #2, is fired from a California-based technology company following the dotcom bubble burst. Struggling with acclimating to her new life, Nao writes that she plans to commit suicide, and

Ruth takes it upon herself to unravel the mystery of Nao's purported suicide plans, the fate of the Yasutani family after the 2011 tsunami that devastated Japan, and how the diary made its way across the Pacific Ocean.[4] With the support of her husband and community, Ruth translates the contents of the diary and a parcel of French letters that is also included in the lunchbox. In the novel's climax, a magic realist scene sets the stage for Ruth to interrupt linear temporal progression during a dream. Through her dream, Ruth travels back in time and across the ocean to place the secret French letters written by Nao's great-uncle, Haruki #1, in a box for the young girl to find. The letters detail Haruki #1's experiences in World War II as a Japanese fighter pilot, and his bravery and self-assurance encourage Nao to reconsider her decision to take her own life. As the novel concludes, Ruth learns that Nao is a university student in Montreal and that her father has found work with his new program, Mu-Mu, which can erase information or images from the Internet. The final pages depict Ruth and Oliver finishing the diary together, with Ruth still contemplating one final mystery: how the diary made its way to her. Circling back to the enigma of the diary's oceanic travel, Ozeki leaves her reader contemplating the continued aftershocks of the tsunami.

In the first of the sections that follow, I analyze Ruth's repurposing of the diary through William Viney's concepts of use-time and waste-time. According to Viney, the concept of "use-time" relates to an object's value "and the time it takes for [its] use-value to be valorized and cease" (7) at which point the object enters into "waste time." In the second section I analyze the

[4] Following the 2011 tsunami in Japan, there was the birth of what Masami Usui terms "3/11 Literature." A year after the natural disaster and subsequent nuclear catastrophe, 22 Japanese authors were invited to the literary symposium Salon de Libre to discuss their ideas of the developing 3/11 literary corpus (Usui 93). After the 2012 symposium, a wave of Japanese writing emerged in response to topics around current and former disasters, including "Watari Risa's *Daichi no Geimu* (2013), Tsushima Yuko's *Yamanako Dome* (2013), Murakami Haruki's *Colorless Tukuru Tazaki* (2013), and Oe Kenzaburo's *In Late Style* (2013)" (Usui 93). Like her Japanese counterparts, Ozeki published *A Tale for the Time Being* in 2013, sparking the transoceanic uptake of Japanese writing post 3/11.

novel's three dream sequences. Each dream is a defined example of slippages and temporal overlaps, and the final dream sequence is an unconventional magical realist series of events through which information is exchanged, repurposed, and retrieved through time travel. Because dreams exist in an immaterial realm outside of physical laws, Ruth can reuse and reinstate information in a disembodied manner; however, Ruth is the embodied tether to her waking life, and her actions in her dreams generate palpable interruptions to temporal progression in her waking world. I conclude the chapter with a discussion of how the quantum theories that permeate the many facets of Ozeki's novel—Schrödinger's cat, superposition, quantum information, and quantum mechanics—offer alternative viewpoints from which to consider the enigmatic qualities of information and time. Ozeki creates a number of temporal parallels using the same pieces of recycled information that appear in multiple time periods—Haruki #1's life, Nao's diary's "present," and Ruth's present—and behave in ways that unpredictably connect characters across time. All in all, Ruth's various acts of recuperating forgotten information produce instances of "temporal stuttering" which are inherently tied to the ecocritical underpinnings that fuel much of the storyline.[5] For example, Ruth proposes that the Internet is a type of informatic gyre that mimics the Great Pacific Garbage Patch, acting as "a kind of temporal gyre, sucking up stories, like geodrift, into its orbit" (114). The parallel Ozeki draws between information and gigantic masses of garbage in the ocean is one instance in which the

[5] The novel takes up the connection between ecocritical and informatic recycling in a number of ways that I will not have time to address in this chapter but are important to note: Benoit's repurposed library, composed entirely of finds at the dump and has a "better [selection] than what [Ruth] could find at the library" (221); Ruth and Oliver's relationship, which was established over the Internet; Oliver's wealth of environmental and informatic knowledge; Nao's mother's employment with an academic textbook company (70); Haruki #2's insect origami made from "The Great Minds of Western Philosophy" textbooks (79-80); Haruki #2's program, Mu-Mu, that can erase information on the Internet; Jiko's book; the postwoman Dora's relationship with *The New Yorker* (143); and the Islanders' penchant for sharing and spreading news.

novel makes clear that the treatment of information is a key facet of its ecocritical concerns—that is, its concern with superfluous consumption and thoughtless disposal.

S1. Message in a Lunchbox in the Internet Age

The novel's opening scene offers a quintessential interaction with and depiction of waste, and establishes what William Viney has described as an ever-present and tangible tension between "use-time" and "waste-time." Viney uses the example of running shoes to trace an object's transition from use-time to waste-time. Running shoes offer different forms of value—practically, they protect the body, and aesthetically, they are fashionable—but if the running shoes develop a hole or are no longer in style, their use-time concludes because their use-value ends. Use-value and use-time are superimposed and contiguous; use-time relies on use-value to be true, and when an object's use-value ends, so does its use-time. Together, use and time create a linear temporal structure: during use-time, an object follows a specific temporal trajectory toward waste-time. Every object's use-value has a "finite time," and no two objects have the same finite time. Just as humans are destined to have a "finite" lifespan, the inevitable passage from life to death, so too are objects condemned to progress from use-value to waste-object. Unlike use-time, which adheres to a resolute linear trajectory, waste-time does not have an identifiable end. It is characterized instead "by a temporal *dis*orientation…" (10, emphasis in original) and has no "functional, therefore [...] temporal, end" (10). While a waste-object indicates the loss of utility, it also acts as a marker and maker of time (12). Waste-time, however, is immeasurable because it does not conform to a definite trajectory towards an inevitable end. But what happens when an object, even one that is perceived to be broken or otherwise useless, gets repurposed—gets used for different ends? How does this affect its temporal positioning in

waste-time? I propose that there is a third temporal period that can disrupt the boundless parameters of waste-time: “reuse-time.” Reuse-time is a transitional period when an object is recovered from waste-time and its potential use-value is temporarily re-evaluated. This period of reuse-time facilitates the opportunity for a waste-object’s past to be reinstated into the present. Specifically, reuse-time provides the occasion for the material natures of the diary and wristwatch to confront Ruth’s traditional ideas of information transmission and consumption.

Ruth’s recuperation of the lunchbox’s contents recontextualizes their use, transitioning them into a new period of reuse-time during which she re-evaluates their value and utility. This period of reuse-time establishes a juxtaposition between the materiality of the diary and the immateriality of digital information, creating a palpable tension between the two mediums. I explore this tension in two ways: comparing the speed at which Ruth consumes repurposed material information against her speed of digital information consumption, and each medium’s ability to interrupt temporal progression through “temporal stuttering” or temporal disappearances. Both lines of analysis show how repurposed information and waste-objects have the capacity to circumvent the assumption that time progresses on a fixed linear axis and demonstrate that relics of the past can bridge the past and present.

After Ruth and Oliver unwrap the Hello Kitty lunchbox, it transitions from its status as a waste-object and enters a period of reuse-time. While use-time revolves around the idea of utilization and production, reuse-time accounts for an object’s period in limbo, wherein the object is not of any particular use, but by the same token, also not obsolete. For example, an object might be sitting in storage or may require repairs or improvements. For Ruth and Oliver, the lunchbox serves no specific utility, nor does it contribute to constructs of productivity or value. The lunchbox, rather, occupies a liminal space between use-value and waste-object, and

Ruth and Oliver's assessment of its utility constitutes its reuse-time period. This reset manipulates the temporal trajectories structured around the object's transition from use-value to waste-time. Although the ideas of use-time and waste-time revolve around human conceptualizations and determinations of utility and productivity, I do want to note that the lunchbox's transition from waste-time to reuse-time does not necessarily need to begin with its recovery on Ruth and Oliver's kitchen table. Take, for instance, the package's escape from the gyre—one can argue that while it is in the gyre, it serves no function and is embedded in a system of currents that circulate tonnes of garbage. When it escapes, however, the argument can be made that it enters a period of reuse-time because the set of physical conditions that inhibited its utility have changed. This environmental change sustains a period of reuse-time that leads to a new period of use-time, for the temporal window of reuse-time permits the opportunity for the package to interact with its surroundings and discover new ways to contribute to ecosystems. For example, the protective shield of plastic freezer bags becomes part of multiple oceanic ecologies while it is the home for a cluster of barnacles. Callie, a Whaletown community member and marine biologist, uses the barnacles to estimate the length of time the lunchbox was in the ocean. Callie informs Ruth that the barnacle colony has "been floating around for at least a couple years, probably more like three or four" (118). Though it may appear that the bag was merely a piece of oceanic detritus, the bag became, instead, a "vivid entit[y] not entirely reducible to the contexts in which (human) subjects set them" (Bennett 5). Bennett argues that objects, or "things," continue to interact with and affect each other without human subjects present to identify or influence their roles. The plastic bags are the perfect example of an object as its own "vivid entity"; beyond human contexts which restrict and limit its use, the bags demonstrate an affinity to affect other species and ecosystems and develop relationships with other non-human

entities. Callie's barnacle narrative offers one instance of a non-human driven shift in the bags' use-value, but Oliver's insistence on opening the package creates a human-motivated context that rescues the lunchbox from its fate as waste, interrupting its waste-time period.

Viney's concepts of waste-time and use-time, as well as the idea of reuse-time, are also observable in Ozeki's portrayals of information. One way the diary interrupts linear progression is by altering—mainly slowing—Ruth's normal reading speed. As Ruth and Oliver repurpose Nao's possessions, the diary enters a period of reuse-time, and this period permits it to disrupt and interrupt Ruth's perceptions of time and temporal progression. In particular, the material nature of the diary shifts Ruth's approach to reading. Before Ruth links the diary directly to a person, her convictions about the value and worth of the diary are predicated upon her deeply entrenched beliefs about the relegation of waste; however, after familiarizing herself with the diary, Ruth begins to associate its physical properties—like the scent and, particularly, the handwriting—with a person. The diary holds the scents of the past, which Ruth "realized must be Nao, bitter like coffee beans and sweetly fruity like shampoo" (38), and the more Ruth identifies the material qualities of the diary with Nao, the more she recognizes it as a personal artifact and not a piece of garbage. Unlike the digital information she accesses through the Internet, the material form of the diary produces different effects on Ruth, because "Contrasted with the immateriality of cyberspace, the material object of the diary embodies Nao, bearing her scent, her shifting moods, her presence across time and space" (Starr 116). The first time Ruth sees Nao's handwriting, she compares the experience to reading print: "Print is predictable and impersonal, conveying information in a mechanical transaction with the reader's eye. Handwriting, by contrast, resists the eye, reveals its meaning slowly, and is as intimate as skin" (12). Indeed, Ruth's "access to the girl's handwriting allows for a more authentic and intimate

experience" (Starr 115), and it is the personalized nature of Nao's handwriting that influences and interrupts Ruth's intuitive pace of reading. Ruth challenges herself to read and experience Nao's words at a slower pace:

> Nao had written her diary in real time, living her days, moment by moment. Perhaps if Ruth paced herself by slowing down and not reading faster than the girl had written, she could more closely replicate Nao's experience. Of course, the entries were undated, so there was no way of really knowing how slow or fast that might have been, but there were clues: the changing hues of ink, as well as shifts in the density or angle of the handwriting, which seemed to indicate breaks in time or mood. (38)

The physical properties of the diary, paired with Nao's handwriting, inspire Ruth to read through the diary entries at a slower pace, for "whereas reading may assume or even manipulate the speed of thought, writing obeys the speed of the body, the speed of the hand" (Stewart 14). In fact, Ruth finds this adjustment to her reading pace to be so critical that she mentions it twice more—she comments that "Her first impulse when she'd started the diary was to read quickly to the end, but the girl's handwriting was often hard to decipher, and her sentences were peppered with slang and intriguing colloquialisms" (29), and Ruth later admits to Oliver and Muriel that she has yet to read the diary in its entirety because she intentionally set her reading pace to match the speed of Nao's writing (374-375). Slowing down her reading speed to correspond with the materiality of Nao's handwriting is one way the physicality of the diary manipulates the habitual temporal speed of Ruth's reading, and this slowed speed is further emphasized by Ruth's "fast" interactions with digital information.

Ruth's approach to reading Nao's diary is deliberate and focused; however, her consumption of and interaction with digital information is "fast" and fleeting. Because she is

invested in the diary as an appendage of Nao, she "slowly reads" Nao's words, attentive to the young girl's unique nuances and peculiarities. Undoubtedly, this "slow reading" takes longer than scrolling through a Google search, for speedy periods of digital pursuit allow Ruth to make "several exhaustive searches for *Jiko Yasutani, anarchist feminist, novelist, Buddhist, Zen, nun, Taisho,* and even *Modern Woman*, in various combinations" during her hunt for more clues about the fate of Nao's family (147, emphasis in original). In almost every aspect, the digital appears to exist in a manner that we consistently comprehend as "fast." Tara Brabazon touches on Jason Taylor's idea that this desire for speed extends to food and media, and she suggests that "'fast refers to a culture of disconnection from the origin […].' The impact of [fast reading] to writing and thinking is that scrolling and skimming replaces reading" (9). Ruth demonstrates the very attitude about which Brabazon cautions—the speed of Ruth's consumption results in short-lived use-time periods for pieces of digital information. Take, for example, Ruth's reminiscence about her consumption practices following the 2011 tsunami. Ruth contemplates how the integrity of information that emerged during the disaster mirrored the debris the disaster produced, concluding: "Information is a lot like waste; it's hard to hold on to, and hard to keep from leaking away" (197). The direct comparison between material waste and inaccurate information is worth exploring in two ways: first, Ruth equates the credibility of information that emerges during disasters to the catastrophe's waste, and second, the "fast" nature of digital information makes it difficult for consumers to "hold on to." It is no surprise, then, that Ruth connects the word "waste" to information, for the caliber of the work she reads online mirrors the waste produced by natural disasters. Ruth's engagement with repurposed information and her recognition of the speed of information transmission and consumption is one method through which Ozeki explores how repurposed information affects temporal progression.

Ruth's forthright inference to information as a type of waste is indicative of her concerns around the credibility and accuracy of digital information produced in the wake of catastrophic events. Unlike Nao, who carefully documents her thoughts, digital authors are often more concerned with publishing their work as quickly as possible before it fades into the Internet gyre. If, indeed, the "'information' being pushed from social media [and websites] […] is of both variable and indeterminate value," then it is reasonable for Ruth to question the credibility and reliability of information produced so quickly and abundantly (Brabazon 30). The "fast" nature of this information colours Ruth's perception of it as questionable and, perhaps, even unreliable, which influences her to prematurely end digital information's use-time period. Exploring this example further, it becomes even more apparent that Ruth's attitude does in fact influence the use-time period of digital information. While further recalling the tsunami, Ruth remembers: "for that brief period of time, we were all experts on radiation exposure and microsieverts and plate tectonics and subduction. But then the uprising in Libya and the tornado in Joplin superseded the quake, and the keyword cloud shifted to *revolution* and *drought* and *unstable air masses* as the tide of information from Japan receded" (113, emphasis in original). She recollects the speed at which the tsunami was overturned for the next disaster and how rapidly the buzz words and key terms shifted in response to more recent events. For a day or two, articles published about the tsunami, the state of Japan, and nuclear waste spills flooded webpages and news outlets; however, disasters quickly replace one another, and the world's collective gaze turns away from events like the tsunami, making digital information almost instantaneously obsolete. As a result, a tidal wave of obsolete information that enters an early waste-time period gains momentum as a new deluge of digital refuse, but unlike traditional forms of material information, which are embodied in a physical vessel, digital trash heaps are not immediately visible, existing in what

Ruth calls an Internet gyre. The idea of an Internet gyre is not at all a fantastic imagining. According to Bruce Clarke, there is a tendency to "envision information as perpetually in transit, in social circulation" and forget that "information accumulates, gets stored, and sits there, in some actual or virtual location, awaiting retrieval" ("Information" 164). Ozeki's novel explores the idea that "Everything in the modern world is plastic or digital or virtual," including information itself (87). When we think of storing or saving information, we almost immediately visualize what Katherine Behar terms "Big Data," which "refers to the massive quantity of records that are captured, amassed, and mined in the wake of digitally structured actions. It is the sum total of records of actions—the exponential archive of every component transaction captured in every data trail" (1). However, as Clarke posits, information accumulates in not only virtual locations, but "actual" other digital and non-digital material locations as well.[6] Though an unconventional medium for information transmission, the lunchbox acts as an "actual location" where information sits and awaits retrieval. Digital searches for information result in "ten minutes on Google Books [that] offers up evidence that was practically unobtainable in 1983" (Lee 89), and the lunchbox disrupts these entrenched expectations—not only is the information inside exclusively located in a single material form, but it also takes years for a potential reader to consume the information. Ruth questions: "What is the half-life of information? Does its rate of decay correlate with the medium that conveys it? Pixels need power. Paper is unstable in fire and flood. Letters carved in stone are more durable, although not so easily distributed, but inertia can be a good thing" (114). Clarke, too, investigates methods for information transmission, and

[6] I say digital and non-digital material locations because computers, phones, and other technological devices are material objects; therefore, one could consider them a digital material location. Non-digital material locations refer to any material vessel for information that would not be considered technological or have access to the Internet, such as books, stone carvings, and diaries. Media technologies also offer material examples of information transmission and archival: "writing, drawing, printing, lithography, photography, phonography, and cinema" are mediums that "not only mediate but memorialize—capture and store—their content" ("Communication" 136).

he undertakes an in-depth analysis of the relationship between information and cyberspace. He argues that information is a "virtual structure" that lacks an "intrinsic size" ("Information" 158-159) and posits that "any *material* thing that can bear and preserve a coded difference, from magnetized molecules to carved granite mountain sides, can serve as a medium for the transmission of information" ("Information" 158, emphasis in original). Inertia is a principle of physics wherein matter "continues in its existing state of rest or uniform motion in a straight line, unless that state is changed by an external force" ("Inertia"). For Ruth, repurposing is the "external force" that changes information's state from waste-time to reuse-time, and recuperation retrieves both digital and material information from waste-time. Obsolete pieces of digital information that exist in a sustained period of waste-time, however, accumulate in the depths of the Internet gyre, or what Brian Thill, Ruth, and Oliver recognize to be the Internet's "memory."

The Internet gyre is a deep repository of digital memories, and Ruth finds its utility appealing because it can generate focused searches into Nao's family. As she searches for news about the 2011 tsunami, Ruth contemplates the fate of pictures and articles about it and laments that "These images, a miniscule few representing the inconceivable many, eddy and grow old, degrading with each orbit around the gyre, slowly breaking down into razor-sharp fragments and brightly colored shards. Like plastic confetti, they're drawn into the gyre's becalmed center, the garbage patch of history and time. The gyre's memory is all the stuff that we've forgotten" (114). Ruth understands the Internet gyre's "memory" to be a space that stores obsolete and forgotten information, yet this space remains accessible to users. Thill, too, makes a correlation between the Internet gyre and memory. He distinguishes a key difference between material garbage mountains and digital dumps, proposing that "these digital barrens aren't quite like the piles of old-style material trash we send away from us as quickly as possible. They are, or have the

potential to be, deep repositories of personal and collective history and memory, even if they are only occasionally used and only occasionally important" (26). Such is the case with Jiko's book—it remains buried deep in the Internet gyre, so deep that it is challenging for Ruth to find any trace of its existence, but it persists as a fold of the Internet's memory regardless of how rarely it is accessed. Because "In terms of memory, the Internet is not as flexible […]; in fact, it can be even more rigid than material reality," fragments of information circulating in the Internet gyre are subjected to more static, unchanging conditions than information embodied in a material vessel (Starr 106-107). Ruth observes that the information in the Internet gyre is "all the stuff that we've forgotten" (114), but recognizing the Internet gyre as a stable storage site for memories encourages users to shift their idea of the Internet from a digital dumpster to a digital brain that houses and protects memories from physical decomposition.

Although digital information may have a more ephemeral and short-lasting use-time period, it experiences a much longer and drawn-out waste-time period in the Internet gyre. This prolonged waste-time period maintains the conditions for a user to find a piece of information, no matter how obscure. Ruth retrieves a piece of digital information through an incomprehensible search generated by a typo. While hastily conducting a series of searches, Ruth types "*Harryyki*, which in her hurry she mistyped, the forefinger of her left hand holding the *r* down too long, and her right finger overreaching the *u* and striking the *y* instead, but before she could correct her mistakes, her pinkie hit ENTER" (86, emphasis in original). What begins as an act of randomness for Ruth—a nonsensical string of letters entered in a search bar—is actually a series of "flickering signifiers" that offer fruitful search results. Flickering signifiers, Hayles explains, "exist as a flexible chain of markers bound together by the arbitrary relations specified by the relevant codes" ("Virtual Bodies" 77). What Ruth considers to be randomness—a

misspelled word—equates to an instance of pattern/randomness interplay, wherein "pattern and randomness are bound together in a complex dialectic that makes them not so much opposites as complements or supplements to each other" ("Virtual Bodies" 70). Claude Shannon argues, "If information is pattern, then noninformation should be the absence of pattern, that is, randomness"; however, introducing randomness, or noise, into pattern facilitates the opportunity for the string of signals, or signifiers, to "reorganize at a higher level of complexity" ("Virtual Bodies" 70). While this may not *literally* explain the reasoning behind Ruth's sporadic search result, the concepts of pattern/randomness are tools to think through why the misspelled name produces a productive result while Haruki's properly spelled name generates no results.

The tension between digital and material mediums culminates in Ruth's slippages in and out of time, and Ozeki uses information's transmitting body as the determinant that dictates such temporal glitches. Ruth's exhaustive searches through digital information pools trigger two temporal disconnections. On the one hand, periods of hyper-focused Internet searches result in illusive swells of hours disappearing from her day; on the other, she experiences "time at its most granular, wherein moments hung around like particles, diffused and suspended in standing water" (91). Alluding to Oliver's description of plastic confetti (93), Ruth describes time as if it prohibits her to travel through moments in their most broken-down form. In both instances, Ruth comments that she cannot keep track of the time she spends on the Internet; she explains that her periods of Internet usage feel more like "Slipp[ages] in and out of time," elusive and fleeting chunks of time left unaccounted for (92). This temporal sensation of lost time recurs frequently enough to dismantle Ruth's theory that she is merely suffering from memory loss (like her mother's Alzheimer's) or ADHD. Midway through the novel, Ruth's "temporal stuttering" comes to a head. "Temporal stuttering," according to Ruth, is a "paradoxical feeling that built up

inside her when she was spending too much time online, as if some force was at once goading her and holding her back" (227). She further explains that temporal stuttering brings on "a feeling of simultaneous rushing and lagging behind. It reminded her of the peculiar arrhythmic gait of Parkinson's patients" (227). Temporal stuttering is a unique sensation specific to Ruth's engagement with digital information over the Internet, and it disrupts her perceptions of time in a way that makes entire days disappear without recollection. For example, Ruth loses track of time after sending her initial email to Professor Leistiko. Following her correspondence with the professor, she conducts an extensive online search for any information that verifies the existence of Nao and her family. Immersing herself into her investigation, Ruth encounters a prolonged episode of temporal stuttering: "It had been more than a week since she'd sent the email, and now she had a sudden thought: Had she actually sent it? […] She counted back. Nine days! Where had the time gone?" (227). Such instances of time disappearing, unaccounted for and forgotten, mirror other disappearances that take place midway through the novel. After a power outage, the article "The Instability of the Female '*I*'" goes missing, as does *The Journal of Oriental Metaphysics*.[7] Much like these untraceable pieces of information, the time Ruth loses to temporal stuttering is irretrievable.

While Ruth loses entire days retrieving or searching for digital information, she experiences more conscious and observable temporal interruptions when repurposing and interacting with material information. Throughout the novel, Ruth experiences a shortened and fractured attention span when she works on her mother's memoir. Oftentimes, Ozeki features the memoir and the diary in the same scene, building a palpable air of competition between the two stories. Struggling to finish her mother's memoir, Ruth ruminates on her disconnection from the

[7] This scene foreshadows Nao's missing diary entries later in the novel.

draft; instead of being met with a "jolt of recognition" like she is with Nao's diary, she feels sleepy and foggy when working on the memoir (63). Her admission heightens this disconnection from her writing: "There was no denying that Nao's diary was a distraction, and even though she was determined to pace herself, she had still managed to spend the better part of the day online, looking through lists of names of the victims of the earthquake and tsunami" (64). The previously discussed temporal stuttering occurs when Ruth is engaged with digital information, but as a material interference the diary fractures her attention span. The diary is not the only material relic that interrupts Ruth's work—the wristwatch also deters Ruth's focus away from the memoir. She uses the wristwatch as a tool to hold herself accountable to using her time efficiently, but, ironically, she becomes so preoccupied with the watch's features and Japanese characters that the material object breaks her concentration on the memoir. What begins as a well-intentioned attempt to work productively ends with the fruitful generation of information about the wristwatch, as Ruth undertakes an extensive search into the history of the watch and forgets to edit her own work. Like the diary, the wristwatch disrupts the protagonist's attention span, but it does so in a way that goes undetected by our focused investigator.

The interruptive capacity of repurposed material information is fully revealed near the end of the novel. Where repurposed digital information produces sensations of temporal stuttering—lost and unreclaimable periods of time—recuperated material information opens a temporal window that facilitates the overlap of multiple temporal moments. After receiving a long-awaited reply from Professor Leistiko, Ruth immediately responds, explaining the urgent need to find the young girl to prevent her from committing suicide. Oliver alerts his wife to the fact that the diary's temporal moment has long passed, stating "I mean, it's not like this is happening now, right?" (312). Oliver elaborates further, breaking down the diary's timeline: if

the dot-com bubble burst took place in 2000, Nao would be around the age of 16, and if, as Callie informed the couple earlier in the novel, the diary has been adrift in the ocean for three or four years, Nao would have either committed suicide long ago or grown into adulthood (313). Alarmed, Ruth claims she forgot that the diary's temporal moment is not her present temporal moment, and she describes this lapse as a "slippage." Unlike temporal stuttering, which abruptly starts and stops, the slippage she experiences permits the confluence of the diary's temporal period and Ruth's present moment. This occurrence is not unfamiliar, as Ruth explains that when she writes novels, "entire weeks or months or even years would yield to the ebb and flow of the dream" (313). The difference here is that someone else's words, someone else's story, conflate the lines between past and present. Oliver presents the idea that words come from the dead, and when we repeat words—like Ruth repeats Nao's—it is an instance of "the dead, borrowing your tongue, in order to speak again" (346). Words, like storms and water, hurl the past into the present and resurrect histories, and information instantiates the past in the present. Ruth is so intensely caught in the middle of two temporal moments that immediately after her revelation, she encounters *another* slippage when she has the idea to inform Nao of the reasoning behind her father's refusal to develop malicious software. Oliver consoles Ruth, and his word choice is key: "But don't worry about it. You need to be a little bit crazy. Crazy is the price you pay for having an imagination. It's your superpower. Tapping into the dream. It's a good thing, not a bad thing" (315). Oliver's observation that his wife's superpower is "tapping into the dream" harkens back to Ruth's explanation of temporal slippages, but it also alludes to the importance of Ruth's dreams throughout the novel. Later in the novel, Ruth finds blank diary pages which appear to indicate that "it is far too late for anyone to intervene in Nao's narrative," and yet Ruth uses her dreams to travel back in time and rewrite the events of the past (Hogue 82). Tapping into the

dream proves to be Ruth's greatest ability, as the rippling effects of mingling temporalities become even more tangible after her third dream. The temporal overlaps experienced as slippages in her waking life extend into Ruth's dreams and bring the reader to the climax of the novel, where Ruth uses the power of repurposed information to change the course of time.

S2. Winding Back the Hands of Time

Ruth's dreams dissolve the borders between the present and the embedded past historical moments both documented in and embodied by the diary and letters. Dreams one and two bridge Ruth's lived experiences with the past events of the diary, and both dreams maintain a delicate tether to her waking life that leads Ruth to believe that the dreams are more than a subconscious collision of daily stimuli and experiences. The first two dreams replicate the details in Ruth's life to such a degree that it becomes difficult for Ruth to distinguish where her dreams end and her waking life begins. Dream three bridges my observations about the materiality of information and its ability to interject and change the course of time. Like the Internet, an immaterial repository for information formed by the material world, Ruth's dreams are an alternative method for information recuperation and temporal intervention. Because the dreams exist beyond the physical limitations of the waking world and are not subjected to the same material pressures of time and decay, they are an unconventional and unique vehicle through which forgotten or obsolete information can be reinstated in the present moment. When Ruth recuperates Haruki # 1's secret French letters by placing them in his "remains" box, she uses repurposed information to reach back into time *and* alter the sequence of events in Nao's life, which ripples into the present as the empty pages of the diary are once again filled with words. Oliver tells Ruth that "Tapping into the dream" (315) is her superpower, and Ozeki uses dreams as the vehicle through

which Ruth realizes that the action of recycling creates the conditions for temporal overlap and reshapes the present.

In the first dream, Ruth sees an old nun, described in a manner similar to the description of old Jiko, sitting in a derelict temple. The nun is wearing thick rimmed glasses "not unlike Ruth's own," and she is "leaning in toward a glowing computer screen," with the shape of her back "curved like a question mark as she bent toward the screen" (39). The nun, though presumed to be old Jiko, closely resembles Ruth—they have the same glasses, and her posture and activity foreshadow Ruth's future preoccupations with the Internet. Ruth theorizes this first dream is actually a premonition, for not only did it "fe[el] so real," but she also knows the words the old nun types onto the computer screen before she reads them in the diary: "[She] had that dream over a week before [she] read about the beach, so how did [she] know that?'" (230). Although the dreams pre-eminently feature elements of the diary that Ruth has yet to learn about, her dreams also act as fantastical forewarnings of temporal overlap. As discussed in section one, Ruth fixatedly conducts Internet searches to corroborate the diary's story with reality. Here, the nun represents future Ruth, intently focused on the screen in such a way that she postures her body to be as close to the information as possible. The question mark also signifies her endless questions and queries into Nao's fate, the circumstances leading to the diary coming into her possession, and the wellbeing of the Yasutani family. While the words the nun writes are old Jiko's, her actions mirror Ruth's—the reader never sees Jiko use a computer, but there are multiple instances of Ruth behaving in a manner that almost identically imitates the nun's actions in dream one.

Dream two picks up where dream one leaves off, featuring the same setting and nun. Again, the nun is wearing the same glasses as Ruth and sitting in front of "the harsh, cold light from the computer" (122). This time, Ruth puts on the nun's glasses, and Ruth realizes that:

> The nun's lenses were too thick and strong, smearing and dismantling the whole world as she knew it. She started to panic. She tried to pull the glasses from her face, but they were stuck there, and as she struggled, the smear of the world began to absorb her, swirling and howling like a whirlwind and casting her back into a place or condition that was unformed, that she couldn't find words for. (122)

Where dream one rebuilds elements of the diary for Ruth to passively observe, dream two creates an environment where Ruth can directly connect with the nun and her surroundings. What Ruth does not realize, however, is that dream two is equal parts real and metaphorical. In the pages leading up to dream two, Ruth claims her "mind felt like a garbage patch," and the "smearing and dismantling" from the glasses is a subconscious replication of the mental fog she feels after reading the diary (115). Ruth then transforms into the lunchbox's protective "scarred plastic freezer bag[s]" (12); just as the barnacles attach themselves to the plastic lining, the glasses glue themselves to Ruth's face. The transformation completes itself when she, as the plastic bags, is adrift and thrashed around in the vast, formless waves of the ocean. Like the storm that "hurls everything backward in time," (149) Ruth's second dream thrusts her into a period of nonexistence, where any semblance of her waking life is absent. She describes this feeling as "ruthlessness," a play-on-words that describes the surrounding chaos and reflects Ruth's material sensation of nothingness, as she dissolves away and ceases to exist in her human form. This physical disintegration is yet another aspect of the (im)materiality interplay Ozeki weaves throughout the novel, as Ruth still exists but does not inhabit a physical body. Ruth evolves into

something similar to digital information on the Internet, except the dream is the unconventional vessel that stores and transmits information. The feelings Ruth experiences in dream two mimic the temporal stuttering and disappearances of time she contends with in her waking life. In both instances—waking life and dream—the fracturing of time's linear progression is a result of digital infowhelm. In section one, I discussed how Ruth experiences temporal stuttering when she interacts with digital information. The dream example is rooted in the digital as well, as Ruth was attempting to engage with digital information through the nun's computer screen when the temporal stuttering begins. In Ruth's waking life, temporal disruptions manifest as temporal stuttering or slippages in and out of time, but in dream two our protagonist is "cradled in the arms of time itself, and she stayed suspended in this blissful state for an eternity or two" (123). Like the Internet, which is materially connected to the world through human and electronic bodies, dreams are connected to the material world through Ruth's body. Dream two suggests repurposed information's behaviour can vary depending on whether it exists in waking life or dream states, and in dreams it operates as the catalyst that unites Ruth and time. The dream's repurposed information creates an opportunity for a synergistic relationship between Ruth and time to exist, and the two can act upon one another without the physical barriers that structure waking life. The end of dream two establishes the possibility for the physical and non-physical—Ruth and time—to intermingle, and Ozeki uses dream three to explore how repurposed information can behave in ways that shift the linearity of time.

The climax of the novel takes place in the third and final dream, where the temporalities of the present and the diary overlap and Ruth uses repurposed information to intervene in the past events of Nao's life. The concept of temporal overlap is established from the outset of the dream: Ruth, through her relationship with the diary, has become the vehicle through which

Nao's and Jiko's pasts resurface in the present. In section one, I touched on Oliver's theory that we inherit words from the dead and "Use them for a time to bring the dead to life. [….] when you read aloud, it [is] actually the dead, borrowing your tongue, in order to speak again" (346). The third dream offers a palpable example of Oliver's idea, as it is littered with words that are not Ruth's, signalled to the reader with italic font, which cause Ruth to ask herself: "Where are these words coming from?" (347). Recognizing them as not her own, she notices that "something's gone wrong with the words in time," confirmed by the "swelling" of time that surrounds and overwhelms her (347-348). Jiko's repurposed words so strongly engulf Ruth that the "fragments of the old nun's past flood through her," and Ruth realizes that "She can't hold on to the old nun's past and still find Nao, too" (348). By repurposing the information in Nao's diary, Ruth has become the physical tether that allows Jiko's past to reinstate itself in the present. According to Viney, interacting with and "experiencing waste both makes and marks time" because waste objects stand as material relics of the past while instantiating the past in the present (24). Because the diary is the waste-object through which Jiko's and Nao's "time materializes" (Viney 32), Ruth's recuperation of the information revives these two characters' temporal periods and situates them in the present. This temporal duality exemplifies the power of repurposed information, and while this type of intervention is not as clearly evidenced in Ruth's waking life, she can observe temporal overlap in her dreams because they are not subject to the same limitations of the waking physical world. Ruth alludes to the idea of temporal liberty in dreams earlier in the novel when she recalls a conversation with her father. She asks: "*What if I travel so far away in my dream that I can't get back in time to wake up?*" (184, emphasis in original). The end of the question, "can't get back in time," carries a double meaning. It could be the case that she will not be able to return to the dream's origin point by the time she wakes up;

alternatively, she may not be able to travel back in time, from the past to the present, in order to wake up. This same conversation reappears before the third dream starts, foreshadowing the fact that Ruth will travel back in time to rewrite Nao's story. Because Ruth's superpower is "tapping into the dream," she can use her dreams as instruments that resist the fundamental laws of physics and the linear progression of time. Ruth can observe the merging of multiple temporalities and act as a proxy for Jiko's past to reappear, and she can also intervene in Nao's life and amend the key events leading up to the end of the diary, or Nao's assumed suicide; however, Ruth is not the only physical body that surfaces in waking life and dreams.

Like other elements of waking life that permeate Ruth's dreams, the jungle crow also manifests in her dream state. The crow, emerging from a group of pixels, saves Ruth from the formless fog and guides her to Haruki #2. Hogue observes the bird's ability to transverse across time, suggesting, "The crow appears both in Ruth's waking world and within her dreams, where the well-traveled bird enables her to cross boundaries of time and space to intervene in Nao's life and restore her story" (82). Where Hogue credits the jungle crow for Ruth's suspension across temporal boundaries and ability to travel back in time, I argue that it is actually the repurposed information of Nao's diary that creates this opportunity. Waste objects enfolded in a period of waste-time are suspended in a temporal moment that "commingles pasts and presents and leaves things lingering, loitering and persisting above and beyond the time of functionality. It is the persistence of what has passed that makes waste an articulate thing of time" (Viney 178). Traveling across the ocean, the diary operated as a waste-object that materially sustained a temporal equilibrium, bridging the present with the temporalities of its past; however, it behaves much differently when it is in a period of reuse-time because reuse-time permits the overlap of temporal moments during which the past and present can intermingle with and impact one

another. Though the jungle crow is a symbol of the two worlds colliding,[8] he is only an aid in Ruth's journey to find Haruki #2. Nao's diary is the "material which persists and lingers, an evident and tangible remainder of past action" (Viney 34), the reclaimed waste-object that bridges the Yasutani family's past with Ruth's present.

Once united with Haruki #2, Ruth temporally intervenes using two types of repurposed information: "everyday information" and Haruki #1's secret French letters. I will start with Ruth's temporal intervention using "everyday information," which can be described as the "everyday concept of information [that] is closely associated with the concepts of knowledge, language, and meaning; and it seems, furthermore, to be reliant on […] the concept of a person […] who might, for example, read and understand the information; who might use it; who might encode or decode it" (Timpson 4). Unlike Shannon's information theory, everyday information is a highly generalized and less abstract understanding of sharing and using information gleaned from oral, print, or digital sources. Ruth informs Haruki #2 that she came to meet him to deliver a message from Nao, which falls under the category of orally repurposing everyday information. Using the information from the diary, Ruth tells Haruki #2 that Nao does not want him to commit suicide and shares how much his daughter cares for him—even more shocking, Ruth informs him that his daughter "intends to kill herself, too" (352). In this scene, Ruth also gives Haruki #2 the idea for Mu-Mu the Obliterator, which erases all instances of someone's name appearing online (382-383). Haruki #2 credits Nao and her abhorrent experience with cyber bullying for his idea; however, he finds his exchange with Ruth fascinating and considers her

[8] Another notable temporal parallel that emerges during the dream sequences is the similarity between Ruth and the jungle crow. Both travel across temporal periods and act as the influential agents who intervene in temporal progression. It can be argued that the jungle crow is, in fact, Haruki #1, and he uses the material body of the jungle crow to move across temporal periods (evidence of this argument can be found on pages 258, 326, 331, 378, and 386).

experience with “obliterated” information and temporal stuttering to be “an interesting idea” (352). Equipping Haruki #2 with the realization he must fundamentally shift his perspective on life to save his daughter’s life, Ruth rewrites the final events of the diary, with Haruki #2 declaring to Nao: “We must live, Naoko! We have no choice. We must soldier on!” (369). Recuperating and verbally transmitting the everyday information in Nao’s diary manipulates the outcomes of Nao’s narrative, as Haruki #2 uses the recuperated information to revisit his personal philosophies and offer more emotional support to Nao.

In addition to everyday information, Ruth also repurposes and restores Haruki #1’s secret French letters to temporally intervene in Nao’s past. Prior to the third dream, Ruth is perplexed that the composition booklet was included in the lunchbox yet unknown to Nao: “*She’s read his Japanese letters* […] *but she hasn’t mentioned anything about a secret French diary. Does she even know about it?*” (329, emphasis in original). In this same scene, Ruth concludes that Nao and her father need to read the letters in order to learn the truth about Haruki #1’s actions and intentions. Such passages foreshadow and build up to the moment in dream three when Ruth discovers that the composition booklet is in her possession. Ruth comments that she is familiar with the temple’s layout and she knows exactly where to find the remains box because of Nao’s detailed descriptions of the temple. She also learns through Nao’s diary entries that Jiko received a box from the Naval Authority following her son’s death, and the box is empty apart from one piece of paper that reads “remains” (247-248). Knowing this, Ruth places the composition booklet inside Haruki #1’s remains box. Unlike the everyday information Ruth verbally shares with Haruki #2, the repurposed information in the secret French diary carries the power to materially connect temporal periods, for “In the simultaneity of print, with its rather remarkable capacity for storing information, we find an increasingly complex set of time systems” (Stewart

9). Though Stewart's reflections are in response to Michel Butor's argument that literary texts are inherently imbued with multiple time sequences,[9] I find her statement to be relevant to the topics taken up in this chapter. Elements like dates, the materials used for writing, trends in language, and contexts that influence the writer's ideas deeply root a print source in a specific temporal moment. The composition booklet is already deeply entrenched in a "complex set of time systems," so when Ruth places it in the empty box, she bridges the temporal moments sustained in the materiality of the booklet—including her own—with Nao's present. This substantiates the sequence of events that follows Ruth's intervention: "Nao shows her father the box that had previously held only the slip of paper printed with the word 'remains;' now, though, they find something else in the box: Haruki Number One's secret diary" (Hogue 80). Ruth's efforts to recuperate the letters, both through Benoit's translations and the "physical" relocation of the letters in the dream, result in Ruth reaching back through time to temporally intervene in Nao's life. Nao and her father curiously ponder how the diary made its way to the once empty box and why Haruki #1 wrote the diary in French. Ozeki sets up yet another temporal parallel, using Nao herself to explain that "It was safe […] If the bullies found it, they wouldn't have been able to read it" (368). Like her great-uncle, Nao uses Marcel Proust's book cover as a French façade to protect her diary from outside readers. This suspends the motif of secret French diaries from the Yasutani family's past—Haruki #1's secret French diary—to the family's present.

The evening before the third dream, Ruth and Oliver are reading the last sections of Nao's diary when they discover that the final twenty pages of the diary are blank. Like the

[9] Butor suggests that readers hold great power over the speed of a literary text's narration. He hazards that when approaching a literary work, "we must superimpose at least three time sequences: that of the adventure, that of writing it, and that of reading it" (qtd. in Stewart 9). Stewart builds from Butor's discussion, bringing the question of performativity and enactment into the context of Butor's idea of narrative. If, as Butor suggests, a reader's pace impacts the speed at which a text's time sequence progresses, then elements of verbal recital and theatrical enactments would further complicate Butor's already intricate temporal system.

disappearance of the article "The Instability of the Female '*I*'" from the Internet, the emptiness of the pages disrupts Ruth's perceptions of information's stability. Previously comforted by the idea that inertia could sustain the physical integrity of certain mediums, Ruth is dismayed that she has, once again, lost information. She can rationalize the irretrievability of the article after the power outage with the justification that "Pixels need power" (and the fact that she can not retrieve it from Google is understandable given the unpredictability of search engine algorithms), but it is more difficult to justify the diary's missing words, for the book has been kept safe from destructive elements like "fire and flood" (114). Ruth shares her disbelief with Haruki #2 in the dream, stating: "'Sometimes I'll search for something, and the information I'm looking for is there one minute, and then the next minute, *poof*!'" (352). In her waking life, Ruth is often subject to the ambiguities of the observer paradox, which is, in Oliver's simplified terms, "a problem that crops up when you're trying to measure the behaviour of very small things, like subatomic particles" (397). Because Ruth attempts to quantify and study the behaviour of information, she entangles herself in what she refers to in the Appendix as "the measurement problem: by which the act of measuring or observation alters what is being observed" (409). Oliver, too, touches upon the enigmatic properties of information, explaining: "'Quantum information is like the information of a dream,' […] 'We can't show it to others, and when we try to describe it we change the memory of it'" (395). Such theories could explain Ruth's problem with disappearing information, temporal stuttering, and slippages in and out of time—when she tries to observe information or relay it to others, its memory or material manifestation changes. Contrary to waking life, in dreams she could "feel [the words'] shape, could grab them" and revitalize them in a manner not possible in the physical world (348). Thus, when Ruth places the composition booklet in the remains box in her dream, she is not subject to the same physical

laws that corral her waking life interactions with information. Ruth even asks Oliver how the letters made their way to the box: "'If I didn't put Haruki Number One's secret French diary in his box of remains on the altar, then how did it get there?'" (394). Oliver sums up the basic principle that quantum entanglement can "make parallel worlds talk to one another and exchange information" (395). The repurposed information from Ruth's dream acts as the conduit through which temporal moments can interact with and disrupt one another. This action of recuperation is why Ruth returns to find the diary's empty pages restored: her restoration of the composition booklet changes the past, thereby altering the course of time.

In some ways, we may say Ruth and Nao return to what they perceive to be an empty vessel only to find that it contains something that was not previously there. The question of reliable vessels, however, begins on pages 9 and 10 with the introduction of Ruth and Oliver's cat, Schrödinger, and the unwrapping of the Hello Kitty lunchbox. In this scene Ozeki sets up the lunchbox to function as a modern-day Schrödinger's cat. Schrödinger's cat is a quantum physics thought experiment theorized by Erwin Schrödinger. The thought experiment is as follows: a cat is placed in a closed box with a Geiger counter with a small amount of radioactive material, a small hammer, and a vial of hydrocyanic acid. If after an hour the radioactive atoms decay, the hammer will be released and break open the vial, killing the cat; however, a paradox emerges wherein there is the same likelihood that after the hour is up, the radioactive matter has not decayed and the cat is alive (Trimmer 328). The experiment was meant to show that the cat is simultaneously dead and alive, or the cat is in a state of superposition, meaning it is in two states at once. The caveat to the experiment emerges when the observer tries to open the box and measure the outcome of the experiment. The cat is in a single state but "Until that moment of observation, there's only an array of possibilities, ergo, the cat exists in this so-called smeared

state of being [: superposition]. It's both dead and alive" (397). In Schrödinger's theory, the cat symbolizes matter, as the cat occupies two states at the same time—it is both dead and alive, just as matter can be in dual states. The essence of the famous thought experiment was "to illustrate the perplexing paradox of the so-called measurement problem in quantum mechanics" (413), which is why it is predicated on the idea that "the cat would be both alive and dead, simultaneously, so long as the box remains closed and we don't know if the conditions have been met" (396). Like the cat in the box, Nao is in the Hello Kitty lunchbox, and so long as the mystery of her life remains unsolved, she is in a dual state of deadness and aliveness. In the Appendix section, Ruth explains that the physical principle of superposition maintains that a thing can be in all states at once—Nao is both dead and alive, the diary is both full and blank, and the article is both retrievable and irretrievable (414). The idea that Nao is both dead and alive further feeds into the idea of quantum mechanics, which Oliver briefly presents as "everything that's possible will happen, or perhaps already has" (395). This theory explains the paradox of the diary's blank pages: in one universe, or one trajectory of time, the diary will remain blank because Ruth will not recuperate Haruki #1's letters, and the diary's blank pages indicate that Nao followed through with her plan to end her life. In this universe, however, Ruth *does* recover the composition booklet, which results in Nao continuing to live and finishing the diary. While the length of this chapter does not permit a full-fledged analysis of the physical laws at play in the novel, it is imperative to note that the concepts Ozeki presents— Schrödinger's cat, superposition, quantum information, and quantum mechanics—are influenced and dictated by the action of information recuperation. The most pivotal act of repurposing in the third dream not only manipulates the physical laws Ozeki toys with in her novel but permits Ruth to travel back in time, thereby disrupting temporal progression and changing the succession of past events. In

this way, Ozeki uses information repurposing as the catalyst that enacts change, and she positions information recycling alongside ecocritical themes to tease out the connections between waste, information, and materiality. In so doing, she explores how such phenomena are enveloped within and dismantle temporal constructions.

Dreams connect disembodied information—like digital information on the Internet—with the waking world in ways that produce very real and very tangible outcomes. Throughout Ozeki's novel, waste-objects and information "insist on re-entering the circle of worth, while characters' attempts at measuring worth, at distinguishing between trash and treasure, or disentangling themselves from garbage prove highly arbitrary and transient" (Hogue 85). With this idea of objects and information transgressing human categorization in mind, I will approach Atwood's depictions of "wasted lives" and obsolete information in a similar fashion, interrogating how *Oryx and Crake* challenges common cultural notions of relegation, waste, value, and recuperation.

Chapter Two: **"Oh Snowman, what have we found?": Salvaging for Survival in Margaret Atwood's *Oryx and Crake***

In the previous chapter, I examined how Ruth Ozeki's novel explores the recuperation of information as a disruptive act. This disruption facilitates the overlap of multiple temporalities while simultaneously interrupting the conventional progressive trajectory of an object's lifecycle (in which an object transfers from use-time to waste-time). Where Ozeki's work is concerned with the aftermath of an actual recent natural disaster, Margaret Atwood's novel *Oryx and Crake* imagines a post-apocalyptic world where extreme ecological destruction has been realized. Most critics agree that Atwood's novel belongs to the growing genre of dystopian fiction and make a point to define it as such.[10] For example, the novel is in line with Katherine Snyder's assertion that "Dystopian speculative fiction takes what already exists and makes an imaginative leap into the future, following current socio-cultural, political, or scientific developments to their potentially devastating conclusions" (470). In addition, as Jayne Glover contends, Atwood's text contributes to conversations around "extreme power […] lodged in the State, or, more recently, in multinational corporations" (52). Earl Ingersoll takes up the novel as a warning for potential bioethical and genetic disasters (172-173), and Jay Sanderson describes the text's setting as a "dystopian future in which biotechnology reigns, but eventually destroys the world" (218-219). Although Atwood's text clearly exhibits traits of the dystopian genre, it differs from other dystopian texts in its preoccupation with information, particularly how we share, access, and restrict it in a digitized and science-driven society. Where critics conclude that the Arts and

[10] For other notable publications on this topic, see Bouson 2011; Dunlap 2013; Kroon 2015; Ridout 2015; and Rozelle 2010.

language are imperative to the survival of humans and culture, they seem to exclude from their discussions the restorative role of information in the novel.

In this chapter, I argue that Atwood's novel presents information as a controlled material reserved for specific socioeconomic groups, and I contend that Jimmy's acts of repurposing collections of obsolete words and information disrupts systems of information restriction. The text depicts palpable parallels between the hierarchical classification of bodies and access to information. While there are visible connections between "valuable" people and their ability to retrieve novel information, I focus my examination on what Zygmunt Bauman terms "wasted lives" and how this type of social classification restricts people's access to information. In particular, I look at how Jimmy repurposes obsolete information in an effort to resist social oppression, most obviously seen through the control of information dissemination. I understand information, as portrayed in Atwood's novel, to be knowledge gathered from academic institutions, morals and insights derived from oral stories, obsolete words and facts, and the RNA of the virus stored in the BlyssPluss pills. I pursue this argument in three sections—the first explores society's physical and ideological borders that permit the control of information, the second analyzes Jimmy's acts of repurposing as work that challenges the restricted accessibility of information, and the third assesses Jimmy as the Messiah-figure who imparts repurposed information onto genetically perfected humanoids called the "Crakers." Crake attempts to create a species without the moral, ethical, and genetic limitations of humans; to counter Crake's efforts, Jimmy repurposes pieces of human history, facts, and information into his creation story for the Crakers, disseminating the imperfection of humans onto Crake's perfect humanoid design. The novel illustrates a near-future where science produces more problems than solutions

through superfluous experimentation,[11] but it offers the act of repurposing as a more sustainable alternative to solve ecological dilemmas. Atwood infers that repurposing information can generate long-term solutions, and she portrays science as an end for single-use, one-dimensional innovations.[12] When humans are on the brink of extinction, only our history will remain; as Jimmy expresses, "'When any civilization is dust and ashes […] art is all that's left over. Images, words, music. Imaginative structures. Meaning—human meaning, that is—is defined by them" (204).

Set in an unidentified North American city, the novel follows the main protagonist Jimmy (Snowman) as he struggles to survive after a plague decimates nearly the entire human population. The novel's chapters interchange between the present, which depicts Jimmy's attempts to navigate a post-plague world, and the past, which recalls Jimmy's life from childhood up until the plague's outbreak. The "past" chapters build Jimmy's life as a bildungsroman to illustrate the types of events and people that shape Jimmy into one of the sole survivors of the outbreak. Of particular importance to Jimmy's growth is Glenn (Crake), Jimmy's best friend from childhood into adulthood. As teenagers, Glenn and Jimmy navigate the dark web and play video games, during which time the boys nickname one another Thickney (Jimmy) and Crake (Glenn), though only Glenn's nickname sticks. After graduating from high school, Jimmy and Crake go their separate ways—Jimmy attends Martha Graham Academy, an institution dedicated to declining Arts programs, and Crake accepts an offer at the prestigious Watson-Crick Institute. These years find Jimmy drifting through an unsatisfactory degree and

[11] As seen, for example, in the novel's presentation of overzealous gene splicing.

[12] Scientific experimentation and discovery often generate a single solution for a single problem, and the novel's new scientific methods are largely inapplicable to multiple problems. Take, for example, Jimmy's mother's position at the Compounds as a microbiologist: she identifies dangerous microbes and creates antibiotics and antibodies to prevent disease. These antibodies, however, only act as a solution for one specific microbe, and when the microbe mutates, researchers must create a new antibody.

love-life, and his only consolation is his collection of obsolete words and facts, which surface throughout the novel as distinct lists of italicized words or sentences.

After graduating, Jimmy finds work at AnooYoo as a content writer for ad campaigns until Crake offers him a position writing ads and creating content for his Paradice Project, specifically the BlyssPluss pill. Crake also introduces Jimmy to his latest project, the Crakers, which are humanoid creatures perfectly spliced from numerous species. Soon after arriving to work with Crake, there is a lethal viral outbreak, and Jimmy learns only he and Crake are immune. Crake reveals to Jimmy that he created the virus, placed it in the BlyssPluss pills, and activated the virus after distributing the pills across the globe. Crake then asks Jimmy to take care of the Crakers and kills himself and Jimmy's love interest, Oryx. The "present" chapters take up a different set of concerns for Jimmy. Where the past chapters depict his desire to foster relationships and find productive ways to contribute to society, the present chapters portray his struggles to survive. The present storyline follows Jimmy, renamed "Snowman," and his relationship with the Crakers as the creator of their origin story.[13] It also tracks Jimmy's excursion to Crake's Paradice Dome, a journey made to scavenge for materials. After he completes his expedition, he returns to the beach and learns the Crakers met three other human survivors. In the final chapter, Jimmy follows a set of human footprints to a camp where he is left with a dilemma: does he kill the other survivors in an effort to secure his safety and the safety of the Crakers? Or does he risk his life and approach the only other survivors? The novel ends here, leaving the reader to ponder Jimmy's decision, his fate, and the fate of the Crakers.

[13] In the "present" sections of the novel, Jimmy most often goes by the name Snowman, an affectionate nickname bestowed onto him by the Crakers; however, for continuity's sake, I will refer to him as Jimmy throughout the chapter.

The first section of this chapter examines the novel's portrayal of the dichotomy between the Compounds and the pleeblands. Through Bauman's concept of "wasted lives," I study the polarity between societal groups and how such divisions perpetuate the control of information in a dystopian society. Like material commodities, information is restricted and reserved for citizens of the Compounds—only an elite group of people control information's production, distribution, storage, consumption, and disposal. While borders physically separate and categorize the plebeians from the Compounds' residents, less visible systems control the dissemination of and access to information in the pleeblands. I use this section to interrogate how academic institutions are implicit in the control of information, further preserving the separation of populations and the privileging of certain groups through predetermined ideas of "valuable" knowledge. In section two, I borrow Susan Stewart's concept of the "collection" to study how Jimmy's recuperation of obsolete words disrupts the systemic control of information. Jimmy's recuperation of obsolete words for his collection is an example of how "obsolescence is turned into a master metaphor for creative resistance, civil disobedience, and the iconoclastic power of artifacts" (*The Literary Life* 216). When Jimmy repurposes his collection in a post-apocalyptic world, he decontextualizes it from its historical contexts rooted in privatization and restriction. Repurposed in the present, Jimmy resituates information to suit the present and amends its uses to fit his own personal interests. Section three then analyzes Jimmy's imparting of repurposed information onto the Crakers as his final act of disruption. This final section argues that Jimmy subverts the Crakers' intended scientific symbolism as the pinnacle of scientific success. Jimmy destabilizes their scientific foundation and teaches them about the Arts, language, storytelling, and myth. As he teaches them about humans and language, the Crakers become a tool for information preservation because their minds record nearly flawless accounts of oral stories.

Jimmy uses the Crakers as both a tool for documentation and rebellion; weaving knowledge about the Arts and human culture into their origin story contests Crake's vision of a "perfect" species. Generally, discussions about waste take place through contexts situated in the social sciences or sciences, but Atwood's text demonstrates that the Arts can generate imaginative approaches to solving ecological crises. The novel is "principally concerned with the question of what role language, literature and, more generally, the human propensity for symbol-making can play in our attempts to deal with the ecological crisis," but Atwood also uses the idea of information repurposing to imagine alternative ways to deal with our environmental plights (Bergthaller 729). The novel shows that when humans can no longer rely on science, recuperating and recontextualizing discarded, obsolete information can disrupt the systems that sustain the conditions for ecological despair.

S1. Compounding the Problem: Information Control and Wasted Lives in the pleeblands

In this section, I undertake an analysis of society prior to the viral outbreak to study how spatial divisions control, privilege, and restrict the transmission and consumption of information. This section begins with an assessment of how the Compounds and pleeblands vary in their treatment of material waste and obsolete information. My analysis then shifts to Jimmy's transition from his childhood in the Compounds to his education in the pleeblands. Jimmy's education lends itself to an interrogation of the complicity of academic institutions in the control of information. The discrepancies between Jimmy's and Crake's educational experiences, along with their subsequent careers, illustrate the imbalanced access to information as a result of societal divisions that perpetuate the assigning of value to certain bodies. Studying how Jimmy recuperates information at Martha Graham demonstrates how bodies deemed less valuable (with,

therefore, little access to information) can still, as a kind of act of resistance, salvage through limited materials to create new knowledge. Jimmy's senior dissertation is one instance of how wasted lives recycle obsolete information into new pieces of knowledge that can be archived and transmitted within the boundaries society has imposed.

Most critics comment on *Oryx and Crake*'s dystopian features, but many also make a point of mentioning the dichotomy between the Compounds and the pleeblands. Valentina Adami briefly describes Atwood's dystopian setting as a "society ruled by unscrupulous corporations and rigidly divided between the world of 'Compounds,' where scientists and their families lived safely but pent-up, and the 'pleeblands,' dirty and dangerous cities where the rest of the population lived" (251). In an analysis similar to Adami's, Gerry Canavan only mentions the dichotomy in a brief plot synopsis, commenting: "The world has become bifurcated into very strict class divisions: hyper-secure, gated communities called Compounds, for an increasingly small technical elite, and 'pleeblands,' filled with poverty, desperation, and disease, for everybody else" (142). Where most critics only offer a cursory acknowledgement of this dichotomy as a stylistic dystopian feature, I argue that the relationship between the Compounds and the pleeblands emphasizes contemporary realities of social division and relegation while exaggerating the discrepancies between valuable and invaluable bodies. This dichotomy exposes the social hierarchization that establishes and perpetuates the control of information. Atwood uses this delineation between social classes to demonstrate how information, like other materials, operates as a restricted resource only accessible to higher socioeconomic groups. Upper class citizens who contribute to STEM industries and research have opportunities to access and create new information. This accessibility grants denizens of the Compounds the ability to restrict information transmission to the pleeblands, designating it a privatized resource for the elite. This

dichotomy, then, is not only an integral element of the novel's setting that drives the plot, but it also perpetuates the class division, social hierarchy, and the information control that inevitably comes with societal separations.

The borders between the Compounds and the pleeblands separate geographical spaces while simultaneously denoting who is useful to society and who is cast off as "waste." Bauman defines "wasted lives" as "the 'excessive' and 'redundant', that is the population of those who either could not or were not wished to be recognized or allowed to stay" (5).[14] Bauman expands on this idea, suggesting: "to be 'redundant' means to be supernumerary, unneeded, of no use" (12). One can assume that a wasted body is not singularly worthless—like garbage or refuse—or cast off; instead, wasted lives signify waste through the idea of dispensability, not necessarily ideas of literal garbage. For Atwood, being designated a "wasted life" is not simply a matter of being deemed "wastrel" or a piece of "refuse"—marginalized bodies are recognized as redundant because they do not fit within her dystopian society's hierarchical classifications and social order. From the outset of the first "past" chapter, Atwood provides detailed accounts of Jimmy's upbringing, including the settings and surroundings of his childhood. Jimmy's father works as a scientist for OrganInc and lives with his wife, Sharon, and Jimmy in the "OrganInc Compound, where the top people lived" (33).[15] Jimmy's father describes the Compounds as "Castles [that] were for keeping you and your buddies nice and safe inside, and for keeping everybody else outside" (34). The word "castle" implies that those living inside the secure walls are the select few deemed important enough for protection and safety. The "castle" mentality of the Compounds "dra[ws] a clear distinction between a human world within isolated scientific Compounds and a savage world outside Compound walls" (Dunlap 3). Leaving the safety of the

[14] He also interchanges this term with the phrase "wasted humans."
[15] Jimmy's father is unnamed in the novel.

Compounds requires various security and identity checks, but most importantly "Compound people didn't go to the cities unless they had to, and then never alone. They called the cities *the pleeblands*" (33, emphasis in original). The word pleeblands relates to the root words "plebe" and "plebeian." The Oxford Canadian Dictionary defines "plebeian" as a derogatory term for "a member of the lower social classes," "of the common people," and "uncultured; unrefined in taste" ("Plebeian"). The world outside the Compounds is dangerous and insecure; the pleeblands are a place for "the addicts, the muggers, the paupers, the crazies," and public security is no better than "leaky" (33). While citizens of the Compounds live in secure "castles," denizens of the pleebs are forced to live in subpar housing in close proximity to dangerous areas and environmental hazards: "Rows of dingy houses; apartment buildings with tiny balconies, laundry strung on the railings; factories with smoke coming out of the chimneys; gravel pits. A huge pile of garbage, next to what he supposed was a high-heat incinerator" (239). Atwood uses proximity to waste and decrepit regions to infer the value and worth of bodies, which fits in an ecocritical subfield of analysis called environmental injustice. Discourses around environmental injustice and environmental exclusion draw attention to the fact that marginalized communities "are tied to the trash they leave behind, metonymically becoming trash—unworthy and impure" (Ray 150). The spatial nearness of bodies to garbage not only implies that a person's value is equivalent to refuse but actively separates people into marginalized groups of "dehumanized Others" (Dunlap 3). Environmental injustice, however, is not only evidenced through closeness to dangerous surroundings: wasted lives also share a "semantic space with 'rejects', 'wastrels', 'garbage', 'refuse', - with *waste*" (12, emphasis in original). Bauman suggests the language used to describe bodies further connects waste to people, and if wasted lives share a semantic relationship with waste, then their association with the words from his list suggests that these

bodies provoke the same sensations of repulsion observed in response to waste. Patricia Yaeger explores this type of visceral response in her argument that various African American, Chinese American, and Native American texts often feature "captive migrant[s], indigenous, and immigrant peoples [that] share a preoccupation with the literary stain, with detritus made luminous" (109). Indeed, the novel makes visible the "ways in which social injustice is inseparable from physical environments" (Alaimo 29) and demonstrates this intimate environmental quality through hierarchical class dynamics. Plebeians occupy the middle to lower economic class, and their closeness to environments infused with pollution, toxic elements, unsafe conditions, and overflowing piles of waste infers their value. Such instances of environmental injustice depict wasted lives as bodies that are "not only the sites of the direct application of power, but permeable sites that are transformed by the substances and forces—asbestos, coal, dust, radiation—that penetrate them" (Alaimo 30). Environmental injustice, then, is not only evidenced through the unjust environmental conditions in the pleeblands: it is the materialization of governmental and class power established through the physical borders between the Compounds and the pleeblands which functions to also control the regulation of information.

Unlike the residents of the Compounds, who furnish their homes in the "*reproduction*" style, those in the pleebs have to forage through dangerous and unsafe environments for survival.[16] Jimmy notes that Martha Graham is surrounded by:

[16] In the Compounds, there is a fascination with furniture styled in a manner called "*reproduction*," and "for each reproduction item, there was supposed to be an original somewhere. Or there had been once. Or something" (33). Jimmy recalls living in a reproduction Compound home that was "a large Georgian centre-plan with an indoor swimming pool and small gym" (32-33) and later the Helth Wyzer Compound fashioned "in the style of the Italian Renaissance, with an arched portico and a lot of glazed earth-tone tiles" (62).

> the tackiest kind of pleeblands: vacant warehouses, burnt out tenements, empty parking lots. Here and there were sheds and huts put together from scavenged materials—sheets of tin, slabs of plywood—and inhabited no doubt by squatters. How did such people exist? Jimmy had no idea. Yet there they were, on the other side of the razor wire. (225)

Jimmy's upbringing shielded him from the ruthlessness of society's socioeconomic segregation, leaving him oblivious to the common practices of retrieval and recuperation in the pleebs: "mak[ing] things out of whatever is available, and often what is available is what has been thrown away. Whole economies—both formal and informal—have been built around someone else's castaways" (Yaeger 105). His confession of ignorance is indicative of the systemic discrimination instilled in the Compounds, and his disregard for scavenging methods further exacerbates the depth of his misunderstanding of the alternative economies that exist behind the razor wired walls. The razor wire evokes images of what Loïc Wacquant terms "hyperghettoes" or "urban ghettoes." While Jimmy's description inspires disparaged ideas of twentieth-century voluntary and involuntary ghettoes, which "might have been instruments of class-and-caste segregation and might have branded their residents with the stigma of inferiority and social rejection," urban ghettoes operate in a different manner (Bauman 80-81). Wacquant contends that urban ghettos have largely emerged in American black communities because the growing middle class no longer relies on their services or business. This results in alarmingly "naked" instances of racially motivated "social relegation" (Bauman 82). As a result, the urban ghetto "'serves not as a reservoir of disposable industrial labour but a mere dumping ground [for those for whom] the surrounding society has no economic or political use'" (Bauman 81). It is apparent that, to some degree, hyperghettoes inform the novel's conception of the pleeblands; however, class and socio-economic status appear to be the two pillars that structure Atwood's

presentation of the pleeblands, avoiding current conversations around the marginalization of specific groups based on race, gender, religion, ableism, or sexual orientation. The decision to omit such examples of marginalization is a shortcoming of Atwood's depictions of the pleeblands—indeed, "Because it is so ubiquitous, garbage is among the most immediate categories against which people are defined, and against which their identities are raced, gendered, and classed subjects are conceptualized" (Mazzolini and Foote 3). *Oryx and Crake* gestures towards this reality through the spatial dichotomy of the Compounds and pleeblands, but I argue that the novel's treatment of information more poignantly criticizes the restriction of resources in the pleeblands.

Just as the Compounds have unrestricted access to the newest consumer materials, they also have advantaged opportunities for information retrieval and consumption. As a child, Jimmy is aware that his family is permitted to live in a Compound because "they were numbers people, not word people" (31). Early in the novel, Atwood establishes value through knowledge—those who excel at mathematics and STEM branches fit society's utilitarian agendas. This idea of value extends to both bodies and information: "word people" are wasted lives unfit to contribute to scientific progress, and Arts-based information serves no purpose in a society driven by scientific innovation. When Jimmy arrives at Martha Graham, he learns the campus reflects the surrounding pleeblands with similar "cast-concrete buildings [that] leaked, the lawns were mud, either baked or liquid depending on the season, and there were no recreational facilities apart from a swimming pool that looked and smelled like a giant sardine can" (226). Meanwhile, Watson-Crick mirrors the pristine conditions of Compound life: "The Watson-Crick campus is then—on the surface at least—an ideal place to live: safe, clean, unpolluted, organically diverse" (Glover 53). While both campuses aesthetically reflect their community's conditions, Jimmy

learns that his educational experiences in the classrooms at Martha Graham also resemble the crumbling grounds around him.

The pleeblands' educational institutions replicate the recycling practices in surrounding neighbourhoods through information repurposing. In "a world where access to speed is access to transcendence," Martha Graham has no choice but to use recuperative tactics to revive outdated sources of information to create new and imaginative pieces of knowledge (Stewart 3). Originally a college for theatre and the performing arts, Martha Graham attempts to keep its enrollment up with new programs like "Problematics," which "was for word people" (228). Despite such attempts to modernize and contemporize its program offerings, "a lot of what went on at Martha Graham was like studying Latin, or book-binding: pleasant to contemplate in its way, but no longer central to anything" (227-228). Here, the novel uses its dystopian features to its advantage, emphasizing contemporary anxieties around the dwindling value of Arts degrees. Gina Wisker assesses *Oryx and Crake* pedagogically to study how the novel portrays higher education, and she investigates how teachers can use the text for more productive conversations with students. She writes: "Higher education in 2013 is in a state of tension and absurdity, in which much of what we value is seen as valueless, extra to essential, as waste" (302-303). In response to the novel's portrayal of higher education, Wisker addresses how concepts of waste and value are associated with Arts-based colleges. Connecting waste to specific types of knowledge creates a precarious situation for students and institutions: "the dangers [lie in] representing as waste anything and anyone who does not fit a reductive version of what it means to be human and of 'value'" (Wisker 304). Martha Graham's proximity to the pleeblands implies the information available is obsolete and undesired, extending the association of environmental waste to the university's teachings. If the relationship between an educational institution and its

environment is indicative of the "value" of the information disseminated to students, then this connection further venerates specific groups of students as the next wave of elite generations.

Martha Graham experiences constant educational "attrition," wherein STEM universities aggressively erode its "former intellectual territory" (228) by providing "Better libraries, at institutions with more money [because they] had long ago burned their actual books and kept everything on CD-ROM, but Martha Graham was behind the times in that, as in everything" (237). Jimmy begins recuperating antiquated materials and develops a passion for obsolete information, and his affection toward obsolete books and their information grows because he recognizes qualities of obsolete information to exist in himself:

> Part of what impelled him was stubbornness; resentment, even. The system has filed him among the rejects, and what he was studying was considered—at the decision-making levels, the levels of real power—an archaic waste of time. Well then, he would pursue the superfluous as an end in itself. He would be its champion, its defender and preserver. (237-238)

No longer under the protection of his parents' status, society classifies Jimmy as a wasted life, consigned to the pleeblands with Martha Graham and other societal refuse. Instead of resigning himself to his new plebeian status, Jimmy converts his anger into motivation to rebel against the systems that enforce socioeconomic categorizations. While neighbourhoods act as material indicators of socioeconomic status, Jimmy quickly learns that "With information, the constraining factor separating the haves from the have-nots is not so much possession as access" (*How We Became Posthuman* 39). His affinity with obsolete information stems from an impetus to shift the dynamics of accessibility—though he cannot produce a piece of academic work using innovative information and research, he can create new knowledge by making relevant what was

once irrelevant. Jimmy's senior dissertation is the first product of recycling efforts: he manages to repurpose and transform information about twentieth-century self-help into a relevant topic for his paper. The dissertation later plays a key role in his employment with AnooYoo, demonstrating that his recuperative practices play a role in finding successful employment despite societal biases toward employing STEM-educated graduates. Jimmy's employment with AnooYoo is one example of how he uses repurposed information to challenge the privatization of information—in spite of Compound institutions' control of information transmission, he disrupts the cycle of information regulation by making obsolete information anew. Though it is common practice to use outdated pieces of information for research in academic settings, what sets Jimmy's activities apart from others is the fact that he can *only* use obsolete and archaic information that has been rejected and relocated to the pleeblands. Jimmy's recuperation of exiled information mirrors the recovery of waste materials in the pleeblands, where communities are only afforded the opportunity to make something new from discarded and rejected materials. Beyond recovering information for academic means, Jimmy also repurposes obsolete words and pieces of information for his internal collection, which challenges the privatization of information by resituating information in new historical contexts.

S2. "Not that they come alive in him; it is he who lives in them": Information and the Collection

In this section, I argue that Jimmy's repurposing of obsolete words are disruptive acts that contest the systemic control of information. I borrow Susan Stewart's concept of the "collection" to support my reading of Jimmy's amassing of obsolete words as a tool that signifies his "civil disobedience" and dismantles the privatization of information. According to Stewart,

the collection is an ahistorical group of materials that actively "replaces history with *classification*, with order beyond the realm of temporality," and its value lies in its ability to function outside of a particular historical context (151, emphasis in original). The collection is a tool that decontextualizes its contents from their historical pasts and recontextualizes them to fit their owner's intended applications, and Stewart defines the collection's relationship with time as one where "the past is at the service of the collection [because] […] the past lends authenticity to the collection" (151). Its function, specifically in relation to time, is "not the restoration of context of origin but rather the creation of a new context, a context standing in a metaphorical, rather than a contiguous, relation to the world of everyday life" (Stewart 152). Because it is not tethered to a particular historical or temporal context, the collection's power lies outside of temporal boundaries, lending itself to the creation of new metaphorical contexts. Jimmy uses the collection as a tool that classifies words and creates a new metaphorical context outside of historical or temporal frameworks, which is essential to the confrontation of information control and restriction. When Jimmy recontextualizes forgotten words in conversations with others and, after the viral outbreak, with the Crakers, he challenges the systems that declared the words obsolete and valueless. The repurposing of the collection, then, not only interrupts the systemic control of information and knowledge but transforms Jimmy into the channel through which redefined obsolete information is transmitted to others.

Atwood characterizes Jimmy as a collector, a figure who amasses both collections of material waste-objects and immaterial pieces of discarded information. The post-outbreak sections of the novel feature Jimmy collecting what Stewart terms a "souvenir," which is a material object that "generates a narrative which reaches only 'behind'" and can only ever gesture to the past experiences it represents (135). Stewart's souvenir authenticates nostalgic

moments for its possessor while simultaneously "envelop[ing] the present within the past," which satisfies Jimmy's emotional and psychological ends in his new dystopian environment (151). Jimmy repurposes waste materials, like a broken watch, which functions as a waste-object that materially and psychologically reinstates the past in the present. Gerry Canavan contends that Jimmy's broken watch "now functions as an index of the radical dissolution of the capitalist system" (140), but the watch offers more than a confrontation of the absence of structured social order: it is a souvenir that materializes a "now-distanced experience, an experience which the object can only evoke and resonate to, and can never entirely recoup" (Stewart 136). Although Jimmy collects waste-objects as souvenirs, my analysis focuses on Jimmy's collection of obsolete words, as this part of the novel connects to the other texts I examine in this thesis and serves to further my argument that information is an object that can be wasted, discarded, and repurposed. Many critics explore the post-apocalyptic implications of Jimmy's use of souvenirs, but there is little mention in academic writing of Jimmy's safeguarding of what he considers the most important remnants of humanity: now-apparently-obsolete words and facts. Stewart uses the example of Noah's Ark to explain the collection's capacity to remove its individual components from their original and historical contexts. Much like Jimmy's dystopia, Noah inherits a world that "erases its context of origin. The world of the ark is a world not of nostalgia but of anticipation. While the earth and its redundancies are destroyed, the collection maintains its integrity and boundary" (Stewart 152). In Atwood's dystopia, Jimmy transforms into a Noah-figure—he is the keeper of words, rescuing them from nothingness just as Noah rescues animals from the flood.[17] After graduation, Jimmy works at Martha Graham's library where he is responsible for selecting books for liquidation or digital preservation; however, he is fired

[17] It is interesting, too, that Stewart uses the analogy of Noah's ark given that Atwood titles the second installment of her trilogy *The Year of the Flood*, using the word "flood" as a descriptor for the viral pandemic.

because he cannot throw any books away (291). Jimmy's determination to protect obsolete words and information motivates him to collect words like "*wheelwright, lodestone, saturnine, adamant*. [Eventually] [h]e'd developed a strangely tender feeling towards such words, as if they were children abandoned in the woods and it was his duty to rescue them" (238, emphasis in original). This "tender feeling" fuels his desire to "rescue" irrelevant words from extinction and inspires him to actively hunt for and repurpose them in both his private thoughts and his public interactions. In fact, "The more obsolete a book was, the more eagerly Jimmy would add it to his inner collection" (238). Atwood's use of the word "collection" as the term for Jimmy's accumulation of disparate information directly connects with Stewart's concept of the collection: "Once the object is completely severed from its origin, it is possible to generate a new series, to start again within a context that is framed by the selectively of the collector" (Stewart 152). Decontextualized from their original historical applications, Jimmy reconfigures the definitions of the words in his collection to reflect his ideas of utility and relevance.

According to Babette Bärbel Tischleder, "Attending to obsolescence means reversing traditional hierarchies, making something visible […] that tends to be 'overlooked,' unrepresented, or out of sight" (*The Literary Life* 218). Cataloging obsolete words in his collection allows Jimmy to redefine their meanings and reinstate their use, and Jimmy deploys his collection as a disruptive tool that contests the traditional systems that categorize information, materials, and bodies as obsolete. This type of dissenting work emerges in Jimmy's high school years: "*Awesome* was another old word, like *bogus*, that he'd dredged out of the DVD archives" (101, emphasis in original). One of Jimmy's favourite resources for obscure words is Alex the parrot's CD-ROM "'*Classics in Animal Behaviour Studies*.' He liked the part where Alex invented a new word—*cork-nut*, for almond" (64, emphasis in original). Jimmy repurposes the

word “cork-nut” and redefines it as an insult: “*Cork-nut*, he’d say to anyone who pissed him off. Anyone who wasn’t a girl. No one but him and Alex the parrot knew exactly what cork-nut meant, so it was pretty demolishing” (70, emphasis in original). As the collector of the word, Jimmy reshapes the meaning of the word cork-nut, and because his peers do not know its original meaning, they can not dispute Jimmy’s definition and use of the word. The fact that he uses the word as an insult against his Compound-peers reveals his early outlook on society’s bifurcation; feeling rejected and isolated, Jimmy already identifies himself as an outcast despite his status as a Compound citizen. Walter Benjamin reflects on the concept of the collection in his book *Illuminations* and concludes that the possessor’s objective is to own his collection: “for a collector—and I mean a real collector, a collector as he ought to be—ownership is the most intimate relationship that one can have to objects. Not that they come alive in him; it is he who lives in them” (67). Jimmy exemplifies this desire for intimacy with his collection. He begins his collection of obsolete words because he personally identifies with their classification as castaways, but possessing the collection affords him the opportunity to push his relationship with the words even further by redefining them. Obsolescence becomes the powerful conduit through which Jimmy can transform the definition of words to fit his rebellious disobedience, and he recrafts cork-nut’s meaning for more than one context. He also uses cork-nut as an affectionate nickname with Crake, and the word is so impactful that years later at Watson-Crick Crake greets Jimmy with: ““Hi there, cork-nut,’ […] and nostalgia swept through Jimmy like a sudden hunger” (241). The word cork-nut triggers a nostalgic response because Jimmy recontextualizes it in a framework of reminiscence and fondness. Svetlana Boym argues that nostalgia “‘is not always for the ancient regime or fallen empire but also for the unrealized dreams of the past and

the visions of the future that became obsolete'" (*The Literary Life* 257).[18] The type of nostalgia Jimmy experiences produces sensations of sadness for both his past aspirations and ideas of the future—relegated to the pleeblands, he will never return to his childhood in the Compounds, and any visions he once held for his future are as obsolete as the words in his collection.

Motivations to retrieve and recuperate obscure pieces of information also stem from Jimmy's competitive relationship with Crake. Occasionally, he stumbles upon forgotten words or pieces of information that give him an intellectual advantage over his friend. Jimmy uses a piece of obscure information to benefit his gameplay during a match of "Barbarian Stomp." Instead of selecting a well-known pair, such as "Ancient Egypt versus the Hyksos [or] Aztecs versus the Spaniards," Jimmy plays the pair:

> 'Petchenegs versus Byzantium,' said Jimmy, one memorable day. 'Who the fuck are the Petchenegs? You made that up,' said Crake. But Jimmy had found it in the Encyclopedia Britannica, 1957 edition, which was stored on CD-ROM—for some forgotten reason—in the school library. (94)

Bruce Clarke suggests that "Stored information becomes a medium out of which—by editing, cutting, reframing, resequencing, and so forth—new orders of form can be produced" ("Information" 164). The *Encyclopedia Britannica,* as the medium that stores information, equips Jimmy with obsolete information he later "reframes," repurposes, and recontextualizes as the possessor of the collection. With this "reframed" information, he reinstates the information's use in contemporary contexts to defeat Crake. While winning the game seems a small feat compared to Crake's future success and power, transforming a piece of obsolete information into a tool to outwit Crake is a small microaggression against society's glorification of STEM

[18] Quoted from Boym, Svetlana. *The Future of Nostalgia*. Basic Books, 2001.

knowledge. Jimmy recontextualizes the repurposed information to fit a technology-driven contemporary context, removing it from its historical context of brutality and war to correspond to the contexts of the collection. This instance demonstrates the power of information retrieval and repurposing, specifically material information sources such as books and CD-ROMs, and how they feed Jimmy's desire to salvage obsolete information for his collection.

Jimmy also familiarizes himself with odd and archaic words, "compil[ing] lists of old words too—words of a precision and suggestiveness that no longer had a meaningful application in today's world" (238). Jimmy adds words like "*scoundrel*; one of the golden oldies" (232, emphasis in original), "*Vile*" (72, emphasis in original), and "*Mesozoic*" (46, emphasis in original) to his collection. Jimmy later admits that he gathers so many obscure words that he feels like "His entire head is becoming one big stash of obsolete fridge magnets" (180). His use of obscure words is most apparent, though, when he strings together lists of italicized words. At first, it may appear that the lists are highly randomized. In fact, Tischleder suggests that "As a form of description, lists lack distinction and prevent meaningful connection among its elements" (*The Literary Life* 253). Other authors, like Benjamin, claim the collection is not as unstructured and arbitrary as Tischleder proposes. According to Benjamin, "The most profound enchantment for the collector is the locking of individual items within a magic circle in which they are fixed as the final thrill, the thrill of acquisition, passes over them" (60). In Jimmy's case, the words are carefully curated. While the words' rarity and obscurity suit the "magic circle" of Jimmy's collection, Jimmy classifies and categorizes the words—they are not simply a group of disparate elements. There are several instances where Jimmy "collects" words, and the few I discuss highlight specifically elements of Jimmy's internal processes of organizing and

classifying his collection.[19] In the chapter "Airlock," Jimmy learns about the outbreak of the virus. After watching various news broadcasts and speaking with Crake about the outbreak, Jimmy enters a state of panic and uses his collection as a comforting mechanism: "He sat in a chair in his office, told himself to calm down. The old wordlists were whipping through his head: *fungible, pullulate, pistic, cerements, trull*. […] *Prattlement, opsimath*" (391, emphasis in original). After examining each word's meaning, one can draw connections between the individual components of the list, and a collective relationship to the outbreak emerges. The virus itself "pullulates" as it spreads and becomes more common in its presence. The words "fungible" and "pullulate" together may also imply that, like the outbreak, society revolves around a commodity-driven consumer culture wherein materials can constantly replace and be replaced by inauthentic replicas at rates that normalize single-use, expendable products. "Fungible" and "pullulate" may also refer to the news broadcasts and Internet articles Jimmy reads, which have an inherently replaceable and "prattled" nature.[20] The outbreak, however, forces pause and reconsideration, as many, including Jimmy, feel like an "opsimath," a person who learns or comes to knowledge later in life. This late-found knowledge, perhaps, relates to the word "trull." The *Oxford Canadian Dictionary* defines "trull" as an archaic word for "a prostitute [16th c.: compare German *Trulle*, TROLLOP]" ("Trull," emphasis in original). While "trull" originated as a term for a sex-worker, if we understand the modern-day equivalent, "prostitute," as a verb and not a derogatory noun, it may refer to the corrupt or improper use of a skill for personal or financial gain, which connects to Jimmy's personal life and corporate identity. Lastly, the words "pistic" and "cerements" may be read in the context of death

[19] Other important examples of Jimmy's wordlists can be found on pages 82, 238, 316, 375, 381, 391, 392, and 410.
[20] The word "prattlement" is taken from the word "prattle," which means to speak foolishly or inconsequentially of something.

associated with the outbreak and the exhibition of faith and prayer that emerges in times of distress.[21] In the throes of anxiety, Jimmy turns inward to his wordlist, making observable "the medium through which th[e] main character copes with the world, organizes his affections, and thinks about himself" (*The Literary Life* 240). Jimmy finds solace in his collection because he personally identifies with the words and feels a sense of belonging, and he draws on those feelings of comfort as mechanisms to manage his instinctive reaction to his environment. If Jimmy cannot have faith in humanity's survival, then he can at least find conviction in the stability of his collection.

Another example of semantic connections beyond the "rag ends of language" takes place in the chapter titled "Sveltana." Set in the dystopian aftermath of the outbreak, Jimmy exhaustedly contemplates his lack of food and:

> wishes he had something to read. To read, to view, to hear, to study, to compile. Rag ends of language are floating in his head: *mephitic*, *metronome*, *mastitis*, *metatarsal*, *maudlin*. 'I used to be erudite,' he says out loud. *Erudite*. A hopeless word. What are all those things he once thought he knew, and where have they gone? (181, emphasis in original)

Jimmy's emotional and physical states reveal that components of the collection may be associated with one another through external conditions. Jimmy's hunger results not in a longing for food but in a hankering for material to read, suggesting that different forms of consumption are interchangeable—if Jimmy cannot eat, then consuming information is an alternative that can satiate his hunger. In this wordlist, each word begins with the letter "m," which may imply that Jimmy categorizes his words in alphabetical order.[22] The words in the collection also appear to

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[21] Jimmy's faith seems to appear through his wordlists. He finds not just comfort in his collection, as many believers of faith derive comfort through their beliefs, but also guidance and reassurance in their stability through language.

[22] Another wordlist that demonstrates Jimmy's systems of classification or organization is the list that emerges when he ruminates on his love and lust-driven pining for Oryx: "*Unguent*, *unctuous*, *sumptuous*, *voluptuous*, *salacious*,

appeal to sensory or corporeal qualities, suggesting the words are specifically curated and grouped together to reflect Jimmy's personalized contextualization. The word "mephitic" is an olfactory descriptor, a "metronome" is a musical device that marks time through hearing, and "mastitis" and "metatarsal" both involve the body, the former relating to inflammation of breast tissue and the latter involving any bone in the foot. The final word "maudlin" refers to a state of self-pity or sentimentality that often arises through drunkenness. With the lack of food and nutrition, Jimmy's mental state resembles that of a drunk, and he finds his reflective moments to be self-pitying and melancholic like one in a drunken stupor. Physically, "maudlin" may also indicate Jimmy's physical abilities reflect his mental aptitude, for his malnourished condition greatly impacts his senses. At this point in the novel, the virus has extinguished almost all human life; however, Jimmy continues to make use of his collection, uttering dissident words against a society that no longer exists. The collection is "not constructed by its elements; rather, it comes to exist by means of its principle of organization" (Stewart 155), and Jimmy's lists demonstrate that there is a direct correlation between his external circumstances and the internal structures that classify and organize the collection. Jimmy uses his power as the collector to dismantle the words' historical contexts and adjust their definitions for his personal use. In pre-plague society, Jimmy recontextualizes the words and reinstates their use as instruments that vocally resist the relegation of obsolete information and wasted lives. As section three will explore, Jimmy's final act of rebellion against society's exaltation of STEM-based knowledge occurs when he transmits once-deemed obsolete information to the Crakers, which are Crake's living testaments to science's genetic mastery and superiority.

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lubricous, delicious" (381). Each word relates to qualities of luxury, arousal, seduction, sensuality, and pleasure, and six out of the seven words are adjectives that end in "ous." This is an example of another type of organizing principle that Jimmy implements in his collection.

S3. "White noise, more white noise, more white noise": Resistance Through Oral Storytelling

This final section sees Jimmy's recuperative acts of disruption realized through his imparting of repurposed information onto the Crakers. Grappling with the idea he may be the only survivor, Jimmy searches for ways to record and store the history and legacy of humanity; however, he quickly discovers that once-reliable mediums for storing information are impractical in a post-apocalyptic world. In this section, I argue that Jimmy's use of the Crakers as a vessel for information documentation, storage, and dissemination is the final act that disrupts the very systems that brought the humanoids into being. Using oral storytelling as the medium of information transmission, Jimmy builds language and art into the Crakers' origin story as a spiteful act against Crake's vision of genetic mastery. When Jimmy returns from his expedition to the Paradice Dome, he finds the Crakers chanting on the beach around a pile of garbage they have configured to look like Jimmy. Stunned, Jimmy thinks to himself: "Symbolic thinking of any kind would signal downfall, in Crake's view" (430). The Crakers' production of the Jimmy-like effigy is the culmination of Jimmy's rebellious acts, as the humanoids begin to exhibit the very traits Crake sought to eradicate: making art and developing icons shaped by morals, ideals, and beliefs. Jimmy not only uses his power as the possessor of his collection to recontextualize information for the Crakers, but he also subverts Crake's intention of genetic perfection, destabilizing the scientific foundation essential to their creation.

The first few chapters of the novel, particularly "Flotsam," feature the Craker children approaching Jimmy to ask him about the flotsam washed up on their beach. This daily activity becomes a ritual, as they routinely "scan the terrain, stoop, pick up flotsam; then they deliberate among themselves, keeping some items, discarding others; their treasures go into a torn sack" (8). After filling their sack with different pieces of detritus, they approach Jimmy:

> ‘Oh Snowman, what have we found?’ They lift out the objects, hold them up as if offering them for sale: a hubcap, a piano key, a chunk of a pale-green pop bottle smoothed by the ocean. A plastic BlyssPluss container, empty; a ChickieNobs Bucket O’Nubbins, ditto. A computer mouse, or the busted remains of one, with a long wiry tail. (9)

Reminiscent of Ozeki’s novel, where the first pages describe the washed-up flotsam and garbage on the beach, the Craker children deliver their gatherings to Jimmy in exchange for information about what the materials are, their respective functions, and why they were made. Jimmy is selective in his wording and explanations—he uses vocabulary and words that the Crakers understand because they were not created with the knowledge or understanding of humanity and its creations. In his creation of the Crakers, Crake omits any inherent knowledge about human civilization, society, commodities, or social interaction because the Crakers were intended to live in the Paradice Dome away from human influence. Crake’s dying wish is for Jimmy to look after the Crakers, for he knows they are not equipped to protect themselves, and Jimmy must educate the humanoids to fulfill Crake’s request. When asked about the waste, Jimmy provides a vague, ambiguous response: “‘These are things from before.’ He keeps his voice kindly but remote. A cross between pedagogue, soothsayer, and benevolent uncle—that should be his tone” (9). The Crakers view Jimmy as their teacher, their “pedagogue,” and they trust him because he provides knowledge about dangerous plants and animals, safe areas to live, and, most importantly, he satisfies their curiosity about humans and the waste they left behind: “tins of motor oil, caustic solvents, plastic bottles of bleach. Booby traps from the past. He’s considered to be an expert on potential accidents: scalding liquids, sickening fumes, poison dust. Pain of odd kinds” (9). Imparting knowledge about material waste onto the Crakers is not nearly as disruptive as the

repurposed information he instills in their creed; however, educating them about waste counters Crake's deliberate elimination of the mechanisms of desire and possession in the Crakers, both of which are evidenced in the Craker children's habits of selecting and discarding flotsam.

Crake's inception and creation of the Crakers arises from his desire to design a perfect species that has the rational components of homo sapiens' brains without the hindrances and imperfections of human emotion and desire. Crake removed elements reminiscent of "monkey brains," which create "monkey curiosity, the desire to take apart, turn inside out, smell, fondle, measure, improve, trash, discard" (120). He altered the "primate brain" to rid it of its destructive features such as racism, hierarchical values, and territoriality, which eliminated the need for land, ownership, tools, weapons, clothing, icons, gods, or money (366-367). Crake also removed unnecessary hormones so that love, sexuality, and passion do not influence mating; instead, he programmed mating seasons at regular intervals, guaranteeing the eradication of marriage, divorce, or conflict over relationships and love (367). Although Crake purged elements of human nature from the Crakers to avoid the pitfalls of humanity, Jimmy points out that these "imperfect" features are essential to the artistic triumphs of humankind. During their time in university, Jimmy and Crake discuss the positives and negatives of courtship and hormone secretion. Crake contends that unrequited love and uncontrolled hormones are detrimental to humanity's progress, but Jimmy argues that courtship and the trope of unrequited love are crucial to the development of art. From a scientific viewpoint, Crake posits that art is merely "'An empty drainpipe. An amplifier. A stab at getting laid'" (205). Contrarily, Jimmy argues that:

> 'When any civilization is dust and ashes,' […] 'art is all that's left over. Images, words, music. Imaginative structures. Meaning—human meaning, that is—is defined by them. You have to admit that.' (204)

Jimmy knows that Crake intentionally eliminated the understanding of art in his development of the Crakers, and Jimmy becomes, sardonically, the one to define human meaning for the humanoids. Holding art and language in such high regard, Jimmy deliberately imbues the Crakers' creed with artistic and religious ideas. Jimmy does this for two reasons. First, the Crakers are the only reliable means of information preservation, and, second, incorporating art and language into the creed challenges Crake's idea of a genetically mastered species.

During Jimmy's expedition to the Paradice Dome, he is confronted with the reality that there are no viable methods of recording, storing, and transmitting information. Jimmy questions why he never thought to scavenge for paper and writing utensils on his foraging trips only to realize any attempts at written documentation are futile: "even a castaway assumes a future reader, someone who'll come along later and find his bones and his ledger, and learn his fate" (48). Believing he is the sole survivor of the outbreak, Jimmy does not think a written account of his survival is beneficial because there will never be a reader; however, when Jimmy returns to his Paradice Dome office, the reader learns he did, indeed, leave behind a letter intended for a future reader. He rereads the letter and feels so disheartened that he "crumples the sheets up, drops them onto the floor. It's the fate of these words to be eaten by beetles" (413). Beyond the low prospects of future readership, the letter's medium is also quite precarious—paper is incredibly susceptible to destruction or decay. Jimmy finds other mediums for information documentation, but he discovers that without power alternative mediums like storage disks or digital modes of information preservation are as futile as paper (286). Even a windup radio entices little hope—he briefly hears a voice speaking in Russian or Ukrainian, and soon after someone speaking in English, but afterwards, he is met with nothing but "White noise, more white noise, more white noise. He tries the AM bands, then the FM. Nothing. Just that sound,

like the sound of starlight scratching its way through outer space: *kkkkkkkk*" (329, emphasis in original). The windup radio is valuable in that it does not require electricity and power to function, but much like paper, it holds little value when there is no one to exchange information with on the opposite end. Noise, as introduced in first-wave information and cybernetic theory, is used to measure the "amount of 'entropy in the [communication] channel,'" or the amount of channel interference that impacts the original message, the signal ("Information" 163).[23] While noise can be "measured positively, converted from uncertainty into new information depending on the reception it receives," Jimmy observes the white noise as "the deterioration of the message in transit" ("Communication" 139). The radio's white noise does not offer meaningful information for Jimmy, nor does its state of disrepair facilitate the exchange of information with another party. Troubled with the knowledge that previous methods of information storage and transmission are no longer viable, Jimmy concludes that there is only one reliable medium left to preserve information: the Crakers.

Jayne Glover notes that "Jimmy, in his guise as Snowman, is, however, attracted by the thought that the Crakers 'were like blank pages, he could write whatever he wanted on them'" (58). The Crakers are a blank slate, and they remember nearly every word Jimmy tells them. During the process of creating their creed, Jimmy notes that he is careful with his word selection because the Crakers have nearly perfect memories. If Jimmy recounts part of the creed differently than previously told, the Crakers will question why the story changed. The Crakers

[23] As traditional information theory adapted the idea of communication channels to media systems, the position that *everything* is considered information, including noise, became accepted. This problematized the definition of information for information theorists who constructed arguments around the observer—if noise is uninterpretable interference that has no meaning, then to an observer, noise is not meaningful or relevant ("Communication" 138). On the other hand, for Shannon and other theorists who followed his line of thinking, the concept of noise added another layer of decipherable meaning to their guiding principles of coding, probability, and mathematizing information. For Shannon, noise was not observed as "anti-information. Rather, the productive ambiguity of noise emerged from the consideration that it too *is* information" ("Information" 164, emphasis in original).

primarily document and remember information through oral storytelling, and Jimmy notices that "They're fond of repetition, they learn things by heart" (124). Language is the essential element of the origin story; he tells the Crakers that during their creation, Oryx "*laid two eggs: one full of animals and birds and fish, and the other one full of words*" (116, emphasis in original). This incorporation of language in the creation story directly rebels against Crake's attempt to separate the Crakers from Arts-based knowledge and contradicts the science-based creation of the humanoids, but the creation story itself is Jimmy's greatest disruptive tactic that challenges pre-plague's society privileging of STEM-based knowledge. Crake informs Jimmy that the Crakers have no interest in their creation or existence because "That stuff's been edited out" (374); however, Jimmy learns they are, indeed, interested in their history as a species and understanding how they fit in the world with other species. Jimmy capitalizes on this interest and, to spite Crake and challenge his idea of a "perfect species," fashions his own account of the Crakers' mythology. Jimmy uses his own visuals to explain the viral outbreak and the collapse of the human species. He describes the outbreak as "the chaos" and tells the Crakers about a world where humans were surrounded by and filled with the chaos. He fills an empty bucket with water and stirs in handfuls of sand to visually demonstrate how the chaos and humans were one. He then uses Crake himself as a God-like deity who pours out the humans and dirt to rid the earth of the chaos. Jimmy knows this fabricated myth is "not unmixed with spite: Crake was against the notion of God, or of gods of any kind, and would be surely disgusted by the spectacle of his own gradual deification" (126). Aware the Crakers commit every word of his storytelling to memory and use the myth as a moral compass, Jimmy deliberately makes Crake the God-figure in the creation story to establish the idea that Crake is a vengeful and malice-filled God. The effects of

Jimmy's storytelling are first seen in the Crakers' beachcombing and bringing-of-the-fish rituals, but he does not fully realize oral storytelling's power until he returns from his mission.

After days away from the Crakers, Jimmy finds a disturbing assemblage of garbage on the beach. Jimmy approaches the Crakers "sitting in a semi-circle around a grotesque-looking figure, a scarecrowlike effigy" that features "a ragged cloth body. It has a face of sorts—one pebble eye, one black one, a jar lid it looks like. It has a string mop stuck onto the chin" (429). The Crakers inform Jimmy that this scavenged figure is him, and their chants were done in an effort to call him back to the beach. Alarmed, Jimmy wonders how they came up with such an idea—though, from the scavenging rituals established earlier in the novel, it is apparent that they adopted the foraging practice from Jimmy. This event is the outcome of Jimmy's disruptive tactics, as the incorporation of repurposed information in his storytelling and recuperation of waste planted the seed for the Crakers to start creating art. He recalls Crake's warning: "*Watch out for art*, Crake used to say. *As soon as they start doing art, we're in trouble*" (430, emphasis in original). After years of living as a wasted life recuperating outmoded sources of information and rebelling against the systematic control of information, Jimmy as sole-survivor challenges the peak of scientific achievement—the Crakers—by dismantling their scientific foundations through the infusion of the Arts and language in their origin story. In this way, the Crakers do not symbolize science's greatest achievement, or even Crake's vision of perfection. Instead, the novel presents them as the opposite: they are humanity's hope that human history and Art will live on. If *Oryx and Crake* does not present this conclusion effectively, then Atwood's third installment of her trilogy, *MaddAddam*, undeniably does. At the end of the novel, the reader learns that it is not Toby recounting her story: it is the Craker child, Blackbeard, telling Toby's story to the reader after her death. In this third installment of the trilogy, Atwood offers the

Crakers as a replacement for information mediums, presenting them as the future alternative for information preservation and storytelling.

Oryx and Crake takes up a number of ecocritical concerns through a dystopic lens that both exaggerates and illuminates the severity of our current ecological, biological, and educational plights. Just as Jimmy and Crake's game Blood and Roses predicts the wasteland Jimmy inherits (97), the novel envisions the world's fast-approaching collapse as a result of profligate consumption. In a novel so preoccupied with the palpable tension between Sciences and the Arts, it is no surprise that topics around the value of certain types of knowledge or information drive the main characters' motives. Atwood's text offers itself as an avenue for reconsidering the Arts' relationship with the world's ecological dilemmas, specifically the problem of waste. *Oryx and Crake* demonstrates how the Arts can contribute to conversations about waste management and offers alternative ideas of repurposing and recycling. The novel, then, "while warning us against the dangers of contemporary trends in techno-science, […] also tries to show us a possible way out, suggesting that the arts and humanities could contribute to a greater respect for nature and humanity within the scientific community" (Adami 260). Jimmy's recuperation of obsolete information demonstrates that information repurposing offers a potential remedy for our superfluous habits of consumption and desire for scientific progress while simultaneously generating alternative approaches to surviving in an all-too-close dystopian future.

Chapter Three: Bodies of Information: Evaluating the Posthuman Body and Literary Corpus as Archive in Rita Wong's *forage*

I have argued that *A Tale for the Time Being* and *Oryx and Crake,* novels scholars have largely evaluated ecocritically, situate acts of repurposing information in direct contention with environmental anxieties, particularly anxieties related to consumption and waste management. Like Ruth Ozeki and Margaret Atwood, Rita Wong is interested in humans' connectedness with information and the implications of its recuperation; however, Wong's approach to information takes place on a microscopic level, one that considers the cellular and genetic outcomes of information repurposing. *Forage*, Wong's 2007 collection of poetry, assesses a myriad of contemporary topics,[24] but her fixation with "genetic engineering, […] laundry toxins, body toxins, discarded computer toxins, oil, [and] smog" (Giovannone 222) illuminates her investment in wading through the material tethers that microbiologically connect humans to information. For Matthew Zantingh, the human body is "invaded by foreign objects" (637), and his application of Lawrence Buell's concept of toxic discourse emphasizes the "need to reconfigure our relationship to [things]" (638). This reconfiguration, Zantingh posits, confronts consumers with the physical consequences of objects, and while I agree with the position that humans should rethink and renegotiate their material consumption, I argue that Zantingh's reading of materials

[24] Though there are a host of significant subjects taken up throughout *forage*, most of which cannot be addressed in the space of this thesis, I still feel the need to touch upon these topics, as they are significant issues at hand both in Canadian literature and larger cultural conversations taking place in North America. Wong's investment in articulating the marginalization and stereotyping of groups based on gender and race, in particular Asian Canadian and Chinese groups, is so apparent that it cannot go without mention. Other matters taken up in *forage* also deserve recognition—policies around incarceration and North American prison systems, Canadian policies that built and continue to perpetuate inequities for Indigenous groups, colonialist measures and practices that uphold the control of Indigenous lands, the inhumane treatment of refugees and immigrants, the warfare on oil, species endangerment and extinction, habitat contamination and destruction, and conflicts around natural resources are a few examples of the threads Wong weaves in her effort to study the slippages that takes place along entangled global and local networks.

and chemicals "marking [the] […] body as a toxic space" (632) limits readings of the body to a pure vs. toxic binary,[25] overlooking the possibility that the body can be interpreted along a spectrum of states as opposed to one extreme end or the other.[26]

Indeed, Wong's writing reinforces the fact that the idealized vision of the human body as a pure, clean vessel is a dated bygone. Wong's portrayal of the human body complicates the dichotomy between pure and contaminated, and I shift away from such polarizing terms to consider how N. Katherine Hayles's idea of the posthuman body is one that allows for the body to transform during and after genetic information repurposing. Critics like Zantingh and Catherine Bates have also commented on the theme of recuperation in Wong's work. Zantingh claims that "In a consumer society that attempts to tell us that everything is a commodity available for purchase, consumption, and easy disposal, Wong's poe[try] asks hard questions about the (after) lives of these seemingly simple things" (624). In a similar vein, Bates writes that Wong's "preoccupation with rubbish, or garbage, and our responsibility to recognize and deal with the processes of discard, in particular, runs throughout the book" (193) and Wong's emphasis on foraging through objects, language, and bodies "forces the reader to think of the connection between language, consumer culture, racial stereotyping, and the environment" (198). Building from critical observations of repurposing in Wong's work, I extend the idea of recycling to include discourses around the posthuman, the body, and the transformative potential

[25] In fact, it is interesting to note that Zantingh's word choice further perpetuates other forms of divisive rhetoric that are of importance to Wong. Words like "foreign" and "invader" heavily imply that bodies, like their environments, are contaminated; however, they are also problematic terms that have been used disparagingly against marginalized communities, specifically racialized communities. Wong's representations of Asian Canadian bodies—particularly Chinese Canadian immigrant bodies—are connected to her interests in environmentalism and race in Canada as they pertain to notions of foreignness and estrangement between human bodies and the national body.

[26] Zantingh's analysis is reminiscent of Douglas's early writings on waste. Like Douglas, Zantingh reifies contemporary theoretical frameworks of classification; however, he adapts the dichotomy of pure and dirty in society to pure and toxic in the body. While such readings magnify the polarities at play in discard studies, they do little to push the threshold of how we can rethink the boundaries that reinforce stigmatizations around waste.

of recuperation and recombination. I argue that Wong presents the posthuman body and her book as archival spaces through which the reader must forage. The body, when it repurposes environmental information on a microbiological level, both transforms and is transformed by the information it recombines. This process of repurposing changes the body into a site that rewrites and encrypts new messages, messages that mark the body as a site of resistance. Likewise, the poems function as what Hayles terms "literary corpuses," spaces that showcase the repurposing of information as a discursive tactic to challenge cultural discourses that diminish the severity of current environmental crises. The posthuman body and the literary corpus, then, demonstrate the transformative potential that emerges from information repurposing, and both operate as spaces that transform information into archived messages of resistance.

Wong's poetry explores and critiques cultural understandings of genetics and the way genetic codes relate to concepts of the body or embodiment. After the conception of the McCulloch-Pitts neuron,[27] which "was made to stand simultaneously for a computer code and for human thought" (*How We Became Posthuman* 61), informatic and cybernetic theorists "Transform[ed] the body into a flow of binary code pulsing through neurons [which] was an essential step in seeing human being as an informational pattern" (*How We Became Posthuman* 61). Of course, this line of essentialist thinking perpetuates a dangerous practice, one that Hayles argues is outmoded given human beings' enmeshed relationship with information, machines, and virtual intelligence. Hayles uses the concept of the posthuman to shift away from the sentiments

[27] Developed by Warren McCulloch and Walter Pitts, the McCulloch-Pitts neuron paved the way for neural functioning studies, as McCulloch and Pitts used their research to explore how neurons connected through neural nets could signify logical propositions through a series of input and output signals (*How We Became Posthuman* 58). Although the McCulloch-Pitts neuron was "a simplified schematic of an actual neuron's complexity, not to mention the brain's complexity," (*How We Became Posthuman* 59) it established the idea that "If humans are information-processing machines, then they must have biological equipment enabling them to process binary code" (*How We Became Posthuman* 57).

of Shannon, Wiener, and Moravec,[28] which popularized the idea "that because we are essentially information, we can do away with the body" (*How We Became Posthuman* 12). According to Hayles, the posthuman expresses cybernetics' reinvigorated interest in embodiment and offers alternative methods of imagining how the body interacts with information. Wong, too, shifts away from rudimentary readings of the body as an "organism [that] has been translated into problems of genetic coding and read-out" (Haraway 83) and uses the idea of transformation to imagine how the body responds to information repurposing. Wong depicts the body as already "contaminated" to encourage more productive conversations around the body's materialization of information. In the poem "after 'Laundry Song' by Wen I'to," Wong uses France Queyras's term "body burden," which is a neologism that operates as a footnote for the "approximately 250 chemicals within [every human] body, chemicals that didn't exist prior to 1945" (Zantingh 633).[29] The application of this term positions Wong's perspective of the body in her poetry; it is no longer a defenseless, clean repository at constant risk of pollution, but a body that has transformed and responded to the information and environmental stimuli it encounters.[30]

Critics, too, have assessed the cleverness of Wong's recuperative measures, suggesting her acts of recycling information complement and emphasize the ecocritical commitment in her

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[28] Hayles is not the only writer to work with the concept of the posthuman; in fact, the posthuman has found itself, at times, at the forefront of discourses around New Materialism, offering an alternative approach to contemplations around agency, subject/object relations, materiality, and corporeality. New materialist thinkers such as Karen Barad, Stacy Alaimo, and Jane Bennett, along with others, use the posthuman as a tool to reposition the interconnectedness of humans to their environments, objects, and animals. Used this way, the figure of the posthuman challenges and dismantles the hierarchical positioning of humanist thought and subjectivity as the *only* type of subjectivity. While such uptakes of the posthuman are, indeed, applicable to Wong's poetry and the scope of this thesis, Hayles's move to foreground informatics at the core of her definition of the posthuman more readily lends itself to support the argument at hand. Certainly, if the length and breadth of this project permitted, supplementary visualizations of the posthuman would further generate productive and engaging conclusions about information, the human body, and ecocriticism.

[29] From France Queyras's *Body Burden*.

[30] Adam Dickinson's 2013 book of poetry *The Polymers* pursues a similar line of thinking. Dickinson uses his poems to investigate the structures of chemicals and plastics as a means of evaluating their roles in society. He pushes this thought even further in his 2018 book of poetry *Anatomic*, where he uses his body as the material determinant that informs his considerations of how chemicals interact with and upon the body.

work. According to Heather Houser, information repurposing and recycling has become a common strategy both thematically and structurally for writers: “For artists with social and environmental agendas, information poses concerns about the ethics and politics of the representational strategies they use to manage it. [Houser goes on to ask:] Should a cultural work reproduce sensations of information saturation?” (742). Indeed, *forage* replicates the feeling of “infowhelm” and information overload, for this tactic of oversaturating the reader with information capitalizes on similar responses to the engulfing feelings of anxiety that crop up when deliberating the numerous environmental crises we currently face. Heather Milne writes of this increasingly popular trend in Canadian poetics—she claims that the act of working with “found texts,” or repurposed pieces of information, “reflects a generalized anxiety regarding the unprecedented mass of information available in the context of the Internet and the twenty-four-hour news channel” (“Writing the Body Politic” 67). In an interview with the Capilano University review, Wong remarks: “The title *forage* refers to the process of looking for what one needs to survive for the long term—be that food, philosophy, information, values…” (Aurelea). This interest in rifling through the materials that bind people and communities together—including information—permeates much of Wong’s work. Her essay “Waters as Potential Paths to Peace” studies how water connects bodies to communities and water systems. She argues that foraging through the body and finding points of commonality, like the water we drink from shared water systems, can be a more effective unifier than mutual situational or political circumstances. Similarly, in her piece “Decolonizasian: Reading Asian and First Nations Relations in Literature,” Wong proposes that Asian Canadian studies can prosper from reassessing “where diasporic communities meet indigenous communities” (332). In her analysis of three Asian Canadian literary works, Wong evaluates how writers and readers can rethink

"how one is embedded within power relations that must be carefully negotiated," especially when "attempting to decolonize and deconstruct oppressive systems" ("Decolonizasian" 333). In particular, her study of Marie Clements's play *Burning Vision* discusses how the play's characters, "in their fragmentation and symbolic weight, are not only people but also material signs of how the land has been disrupted and changed by human activity" ("Decolonizasian" 346). This type of analysis, one that takes an interest in how the human body transforms into a material indicator of harmful environmental circumstances, spills into the bodies in her poems. *Forage,* too, endeavours to sift through the material objects and networks that connect various bodies and communities; however, the collection of poems pushes the idea of material connection further. Wong writes of bodies that undergo microbiological transformations following the consumption, repurposing, and recombination of microscopic pieces of information, using information as the material that connects disparate bodies across borders, race, class, and gender. The body, then, becomes a material vessel that is microbiologically symbolic of its environmental surroundings, and it responds to the symptoms of its environment with disruptive messages that challenge discourses around human activity and its ecocritical repercussions: "By focusing on the 'outside' that is 'inside,' [poetry] draw[s] attention to the coextensive and intraactive [3] nature of the body with its environment and the consequent implications for linking the human to the nonhuman and the personal to the global in environmental ethics" (Dickinson).

Section one argues that the posthuman body is a transformative repository that stores and transforms information into materialized messages of resistance that reflect external environmental conditions. In "open the brutal," I study how Wong's depictions of microscopic recycling gesture toward the posthuman body as a reorganizational physical archive. Rifling

through the body's internal "drafts" (20) illustrates how the body acts as a physical specimen that must be read *into* in order to find its critiques of its surroundings. I read the poem "*sort by day, burn by night*" in a similar fashion; however, I depart from a reading of the body as singular and individualized toward a contemplation of the body as a collective. If, as Jodi Dean argues, "the crowd is the fundamental unit of politics rather than the individual," then my assessment of the collective experience of biological information recombination and archiving in Wong's attention to Guiyu village establishes how a group of bodies functions as a singular politicized body that stands as a material embodied response to environmental injustice (Dickinson).[31] Section two investigates the recuperative tactics Wong deploys in the construction and writing of her poems. Hayles suggests that a book can be understood as a "literary corpus,"[32] and I build from her idea to argue that the collection mirrors the human body—like the body, the book is a physical, material vessel upon which information is transcribed, stored, transformed, and transmitted. I argue that these acts of recycling are measures that further emphasize the ecocritical themes at stake in her work, for Wong's literary and visual recycling challenges the "tendency to enact a Eurocentric hierarchization of knowledge that suppresses Indigenous and diasporic ways of knowing […] to justify the marginalization of certain groups and the destruction of certain environments" (Follett 48). *Forage*, in both its content and construction, offers an alternative way to think through the body's relationship with its environment and information.

[31] Dickinson paraphrases this idea from Jodi Dean's *Crowds and Party*. Verso, 2016.

[32] Hayles explores the idea that there is an intrinsic parallel between the materiality of books and bodies. She states: "Like the human body, the book is a form of information transmission and storage that incorporates its encodings in a durable material substrate" ("Virtual Bodies" 73). Though she does not develop the term "literary corpus" into a fully defined term, her play on words creates the idea that the book is a material body that is written and formed by information while simultaneously acting as a physical repository for information.

S1. Inside Information: Information Repurposing in the (Post)Human Body

First-wave cybernetic and information theorists rooted conversations around information away from the body and legitimize the idea "that human identity is essentially an informational pattern rather than an embodied reaction" (*How We Became Posthuman* xii). Thinkers like Shannon, Weaver, Wiener, and Moravec were persistent in discerning and rendering the body and human experiences through the semantics of (de)coding, but there has since been a shift away from the "conclusion that there is no essential difference between thought and code" (*How We Became Posthuman* 61) toward the idea that twenty-first century humans are posthuman. According to Hayles, the posthuman is "an amalgam, a collection of heterogenous components, a material-information entity whose boundaries undergo continuous construction and reconstruction" (*How We Became Posthuman* 3). The posthuman figure marries information and materiality, embodying informatic flows while experiencing biological processes rooted in physical matter. Like Hayles, Wong too adapts the posthuman figure to her poems. Wong presents bodies that strike a balance between what Patricia T. Clough terms the "body-as-organism," a body that "autopoietically [i]s open to energy but informationally closed to the environment" (2) and the body as informational pattern. For Wong, the body is neither strictly informatic nor biological—it is a porous corpus that absorbs informatic flows from its environment and transforms information. In this section, I argue that the posthuman body operates as a transformative space that microbiologically repurposes information. Through the process of recombination, the posthuman body combines repurposed external information with genetic information to create new informatic messages. This transformative process situates the body as an archival space through which one must forage for connections to its environmental surroundings. In "open the brutal," the posthuman body reconstructs itself to mirror its

environment—like the squirrel questioning the authority of the guard dog, so too does the body act as an embodied informational response to the structures that govern its environment. Here, the posthuman body acts as an embodied extension of its informational and environmental surroundings, offering itself as a deep repository of recombined information that reinterprets and recontextualizes information. Where I evaluate the implications of a singular posthuman figure in "open the brutal," I shift my study of the body from the individual to the collective in "*sort by day, burn by night*." In this poem, I argue that the bodies in Guiyu village form a politicized, amalgamated body that materializes environmental injustice. The act of recycling and dismantling electronic waste is mirrored in the body's breakdown of toxic chemical elements, and the process of microbiological repurposing unifies multiple bodies into a collective. This collective body transforms the "toxic ditty of silica" into an embodied response, producing one politicized body that materially symbolizes the environmental injustices and distresses with which it contends. The posthuman body, then, acts as an informatic and material extension of its environment, and corporeal information repurposing creates an embodied archive that critiques environmental injustice and destruction. Wong's portrayals of the posthuman redefine the role of the body in the twenty-first century, fundamentally shifting conceptions of the body as a silent, passive actor in ecocritical conversations.

Many of *forage*'s poems transparently show instances of repurposed information producing genetic transformations in the body: the speaker in "fluorine" cautions readers to "assume poison unless otherwise / informed crowded alloys detect no / health damage until generations later" (5-6), and the poem "vessels" begins with the lines "subterranean creatures shudder in radioactive throes. My / ears have filled with so much dust, my fat infused with / flame retardants. scientists can't tell how the PBDEs entered / me" (1-4). These are just a few

examples of the physical outcomes of corporeal information repurposing that take place in the collection. The speaker in "open the brutal," however, uses a less obvious vocabulary around genetics and biology to evaluate how intangible forms of information possess as much transformative potential as information transmitted via a physical vessel. The body is depicted as a site that transforms and is transformed *by* information, and, if, as Stacy Alaimo, posits "the human body is never a rigidly enclosed, protected entity, but is vulnerable to the substance and flows of its environments, which may include industrial environments and their social/economic forces" (28), it becomes conceivable that information also permeates the body. The speaker notes the body's dissolvable physical boundaries, as she paints the image of the body as a blank piece of paper ready for inscription. The end of the poem reads:

> signpost the revolution. your body's
> alphabet encrypts the message. rising,
> sigh the silent letter that alters the
> sound around it. flesh holds fine blue
> lines hiding just below skin, a small
> wrinkle drafts years of battles &
> bedrooms into its fold. drafts me
> into your likely fire (14-21)

Many information theorists fashion the body as an information archive, a site through which one can rifle for data. Hans Moravec, for example, "proposed that human identity is essentially an informational pattern rather than an embodied reaction," and he used this position to argue that machines could become human beings because, like humans, machines also store information, and if they could one day store human consciousness they could be considered human beings

(*How We Became Posthuman* xii). The speaker, however, demonstrates that the body is not solely a repository of inputted information—it is an interactive and adaptive space that recycles and rewrites information, transforming the original message. The use of the word "encrypts" suggests that there is a conversion that takes place to protect the information and make it exceedingly difficult for an outside party to interpret the new message. Moreover, the speaker implies the "body's / alphabet" (14-15) encrypts the message, essentially transforming and rewriting the original piece of information into a code that can only be read through the body's unique "alphabet." The line "flesh holds fine blue / lines" conjures up images of blue-lined paper, sparking the idea that the body's empty blue lines invite the documentation of information; additionally, the speaker notes that a single wrinkle "drafts years of battles & / bedrooms into its fold," reinforcing the thought that the body is a place upon which information can be written or recorded.

According to Hayles, drawing similarities between the human body and a book is not uncommon: "The metaphors of books, alphabets, and printing, pervasive in the discourse of genetics, are constituted through and by this similarity of corporeal encoding" ("Virtual Bodies" 73). Words such as "alphabet," "encrypt," "message," "letter," and "drafts" occupy the semantic space around writing and books and, as Hayles suggests, are similarly employed to describe "corporeal encoding." Hayles takes this discussion further, proposing that books and bodies share more than metaphorical similarities. For Hayles, "Once encoding in the material base has taken place, it cannot easily be changed. Print and proteins in this sense have more in common with each other than with any magnetic or electronic encodings, which can be erased and rewritten simply by changing the magnetic polarities" ("Virtual Bodies" 73). The concept of the posthuman allows us to rethink how bodies seamlessly navigate informational exchanges with

their environments, lending itself to an information-driven reading of the poem that is more plausible and contemplative. Although the speaker uses metaphors around books to describe the body's interactions with information, her observations regarding the permanency of documentation greatly differ from Hayles's assertions. There are a number of action-reaction dynamics that take place between the body and its environment: "your coast in my / marine" (1-2), "my still eye in your hurried / claim" (2-3), and "your teeth a serif that hooks my ear" (12). Like these intra-active exchanges between the body and its environment, the body also participates in information exchanges; however, these information transfers are less visible to the reader and require the reader to rifle *through* the body to find the archived information. The way the speaker describes the body's swift encryption of information suggests that instances of transformation occur more often and more easily than they would with a book, and the speaker uses breathing, an autopoietic and unconscious action, as a method through which the body quickly and effortlessly transforms information from its environment.

Following the encryption of environmental information from the "deep structures of the physical world," the posthuman body "sigh[s] the silent letter that alters the / sound around it" (16-17). Once the message is encoded, the body transforms it into a silent letter that is exhaled back into its surroundings. While the speaker alludes to the fact that the altered message is still retrievable in the body's "drafts," she indicates that the body itself has transformed into an archival space. Bates suggests that in Wong's work, "the body-as-memory is conflated with archival space; it becomes something to forage through, but not in order to find a final answer so much as to appreciate connections to other bodies" (199). This connection is made apparent when the body assumes the role of the "signpost"—like the "squirrel running across the / grass, a living question mark," the body becomes a "signpost" that challenges its environment (5-6). An

interrogator of its environment, the squirrel taunts the guard dog by acting as an embodied question mark while evading its attempts to catch it. The role of the posthuman body-as-archive imitates the squirrel; it challenges its environment through its function as a site that signposts or signals "the revolution" (14). The body's interaction with and repurposing of information, then, transforms it into an embodied symbol of its environment, one that coyly and nimbly critiques the guards that uphold environmental injustice. Hayles argues that "the posthuman evokes the exhilarating prospect of getting out of some of the old boxes and opening up new ways of thinking about what being human means" (*How We Became Posthuman* 285). A re-evaluation of the human body as a posthuman body offers exciting ways to imagine the body's relationship with its environment, both materially and informationally. If, as the speaker states, "slippage is better than / nothing," a reconstitution of the body as a slippery and affective extension of its environment generates a reference point for a redefinition of the body's material and informational role (4-5). While the biological idea of the human body is, indeed, permeable to microbiological matter, the posthuman is open in a different way: "In the posthuman, there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals" (*How We Became Posthuman* 3). The posthuman body is, all at once, a materially enclosed yet borderless entity open to informational flows. This informational permeability allows the posthuman body to function as a corporeal repository for information, collecting "drafts" of information into its "folds" for readers to search through (20).

Where I have argued that the posthuman body operates as an embodied archive that encodes its environment in transformed messages, I contend that the posthuman bodies in "*sort by day, burn by night*" form a politicized collective body that instantiates environmental injustice

through corporeal information repurposing. Zantingh writes, in Wong's poetry "the networks within which objects circulate become eminently if painfully visible," and the poem "*sort by day, burn by night*" features laptops as the material object that makes a number of networks in the poem glaringly apparent (626). The poem opens with the lines "circuit boards / most profitable & most dangerous" (1-2), establishing the laptop as an object where networks like capitalism, consumerism, and environmental injustice meet. The laptop, however, is not the only material body where these networks converge; I suggest that the body, too, makes apparent the networks that influence and contribute to ecocritical disrepair. Throughout the poem, recycling is an intricate strand in a web of networks, and the "hundred thousand people who / 'liberate recyclable metals'" (5-6) participate in local and global (im)material exchanges. The speaker ironically selects the word "liberate" as the verb to describe the action the workers impart onto recycled materials. In Guiyu, China, circuit boards and other electronic materials function as currency, for "The lucrative electronic-waste recycling industry has transformed the town into what Tim Johnson has called the 'electronic-waste capital of the globe'" (Zantingh 622-623). Zantingh observes that "the laws of profit come into conflict with the laws of human survival so that the villagers are willing to 'inhale carcinogenic toner dust, / burn copper-laden wires, / peer at old cathay, cathode ray tubes' … in order to eke out an existence" (629). It is ironic, then, that the Guiyu workers must sacrifice their physical health and well-being to "liberate" electronic waste under oppressive political and capitalist systems that force them to surrender their own liberty and autonomy. The speaker details how "The laptop is poetically broken down into its requisite parts in the poem, mirroring the physical disassembling the Guiyu villagers do" (Zantingh 629). After breaking down the laptops, however, the bodies come into contact with a number of hazardous chemicals like "lead, aluminum, iron, / plastics, orchestrated mercury,

arsenic" (11-12). There are also a number of chemicals in localized water systems described as "acid sludge" (7) that the body absorbs, such as "lead, / barium leachate, mercury bromide" (8-9). Consistent exposure to these chemical concoctions, the "toxic ditty of silica" (13) found in the stripped laptops result in "someone else's cancer" (22).

Just as the workers' bodies take apart laptops, so too do their bodies break down absorbed and ingested chemicals. The speaker asks "where do metals comes from? where do they return?" (46), and she shows the reader throughout the poem that metals return to the body. As the body repurposes and transforms metals and chemicals through bodily processes, the harmful information latent in these toxic materials disrupt cellular processes and disorder genetic code, resulting in cancers and other diseases. The bodies of oppressed and marginalized groups, of course, are the most at-risk. In this poem, the speaker takes up the environmental injustice the Chinese workers in Guiyu face everyday; however, the collection also examines the environmental injustice groups such as Chinese Canadian immigrants and Canadian Indigenous peoples suffer by means of colonial greed and capitalism.[33] While the speaker focuses on the conditions in Guiyu, she hazards a warning to the reader that *every* human body is intricately connected through the common transformation of our genetic and chemical compositions, not just those living in Guiyu. The line from Walt Whitman's *One's Self I Sing* attests to this collectivity: "'*Yet utter the word Democratic, the word En-masse*'" (14, emphasis in original). The speaker echoes these words at the end of the poem:

> economy of scale
>
> shrinks us all

[33] The poem "after 'Laundry Song' by Wen I'to" also explores how toxic workspaces, like laundromats, impact the bodies of Canadian Chinese immigrants. This poem is another example of how Wong uses the effects of environmental injustice on diasporic bodies to critique entrenched colonial ideals and practices that reify the marginalization of diasporic and Indigenous communities.

global whether

here or there

collapses cancer

consumes en-masse (23-28)

The reference from Whitman emphasizes the collective stakes not just for the workers in Guiyu, but for every human and living being on the planet. Zantingh notes that though the dangerous work of electronic disassembly "has flourished in China where low wages, readily available workers, and few environmental regulations allow for profits to be made," China is not the only country responsible for these ongoing and uncontested conditions (623). Countries like the United States continue to send their electronic waste to China, aiding and abetting the localized Chinese politics that preserve unsafe and unfair working conditions (Zantingh 623). The speaker directly questions and implicates the reader in these indirect contributions: "what if your Pentium got dumped in guiyu village? / your garbage, someone else's cancer?" (21-22). Questions such as this force the reader to contemplate their role in politically systematized environmental injustice, associating their recycling practices or consumption habits in the dangerous information transformations in the bodies of Chinese workers. What was once a call to unity under the umbrella of democracy, then, is now a cry for a new type of unity: Whitman's "en-masse" contemporarily incites us together through action. The cancer-ridden body, which is "global whether / here or there," becomes a global symbol for this unity, as it operates as a site whereby all of us converge "en-masse." If humans decide to ignore this call to action and unify, the speaker warns that cancer will "collapse" and "consume" humanity "en-masse." Like the laptops, the body becomes that through which we must search—the components of our bodily matter, like the parts of the laptops, carry information and link bodies together in unrealized ways. Milne

comments that Wong's work fits in a recent trend in Canadian feminist poetics, wherein poetry has "largely given way to a poetics of global exchange that transcends the borders of the nation, reflecting instead the conditions of global capitalism" ("Writing the Body Politic" 65). Sustained by global capitalism and commerce systems, harmful and dangerous environmental elements "transcend the borders of the nation" and congregate in the body. The various bodies taken up in the poem—the Guiyu workers, the "you" the speaker addresses, and the "us all" in line 24—become a collective body that embodies its surrounding environmental conditions. Repurposed information, once it is broken down and recombined with the body's genetic sequences, transforms the body's genetic message. This transformation, however, is not entirely bad, and I posit that Wong is encouraging readers to shift away from such absolutist and dichotomist interpretations of the outcomes of information repurposing in the body. Though cancer is by no means a desirable or positive outcome of information repurposing and transformation, it is a response that is indicative of larger systemic issues at play in surrounding environments—to borrow Hayles's phrasing, "Instead of discourse dematerializing the body […] the body materializes discourse" (*How We Became Posthuman* 194). Dickinson's poetry, too, thinks through the body's intraconnectedness to its environment, evaluating "the ethical potential of understanding identity as a porous, membranous, transcorporeal [8] organization where the […] forces within are affected by the global […] forces of energy" (Dickinson). Repurposing environmental information transforms a group of bodies into a politicized collective, one that acts as a politicized unit that makes visible and palpable environmental distresses. The collective body featured in this poem is not the only instance of common bodies coming together to form a whole in contestation—*forage,* the collection itself, mirrors this collective body, as the poems

and repurposed information in the collection unite and form a literary body that challenges and disputes contemporary politics and solutions around current ecocritical crises.

S2. "A body and a message": Rifling Through the Literary Corpus

This final section evaluates the recuperative conduct of Wong's artistic measures used in both the writing and structuring of *forage*. Like the human body, which functions as a material archive that repurposes, transforms, and stores information, the literary corpus is a body upon which Wong records and transforms recycled information in an effort to challenge Eurocentric idealizations of knowledge that perpetuate divisive discourses, the exclusion of Indigenous peoples and diasporic communities, and environmental destruction (Follett 48). Hayles suggests: "Just as the human body is understood in molecular biology as simultaneously a physical structure and an expression of genetic information, so the literary corpus is at once a physical object and a space of representation, a body and a message" ("Virtual Bodies" 73). In "seeds, streams, see/pages" Wong explains: "The title of *forage* could refer …. [to] a poetics, a way of writing my way through and in the mess" (Bates 195). Wong not only uses the space in her poems to repurpose information and reproduce anxieties around material waste, but she also uses the space around her poems to restructure the pages and confront the reader with foraged information. Follett notes that Wong uses the collection to "interrogate how diasporic peoples are often complicit in settler colonialism," and her recycling strategies help her "writ[e]… in the mess," directly implicating her own practices of consumption and waste production in the conversation around settler colonial authority (49). Her repurposing tactics, however, offer an alternative rhetorical lens through which "diasporic knowledges can be set in relation to

Indigenous knowledge" to combat practices that reinforce environmental degradation (Follett 49).

Milne explains that the contemporary trend of working with found text "draw[s] on philosophical, theoretical, and literary texts as source material, [and poets] draw on websites, advertisements, newspapers, and scientific discourses, making poetry out of the raw material of contemporary culture" ("Writing the Body Politic" 67). Wong uses found text as a strategic artistic measure to critique the underlying materiality of disembodied phenomena like information.[34] In this section, I evaluate different forms of recuperation and transformation in three poems: "the girl who ate rice almost every day," "nervous organism," and "after 'Thinking of a Fair One' (si mei ren)." The poems themselves become bodies through which readers must rifle for transformed information that critiques colonial-sustained environmental devastation.

In the poem "the girl who ate rice everyday," information presents itself genetically in the foods that the protagonist, slow, interacts with. The genetic information of rice and beets corporeally overwhelms slow, and Wong parallels this embodied sensation of infowhelm by overloading the reader with blocks of recuperated information in the poem's structure. According to Houser, contemporary artists, writers, and poets "experiment with the aesthetics of information management as an end in itself and as a spur to social, political, and environmental critique" (742). Wong is no exception to this trend; throughout the poem, she recycles Monsanto patents for crops and transgenic experimentation in pigs to make visible the sheer excess of information available. The hard data of the patents positioned against the poetic narrative barrages the reader's logic—the poetic narrative captivates the reader, who is then abruptly

[34] Other Canadian poets also work with found text. Erin Moure and Rachel Zolf recuperate different forms of found text, from Internet pages to PowerPoint slides, to experiment with its effects on their writing (*Poetry Matters* 6). Such recuperative methods help writers work through the ways they are deeply connected to vast geopolitical and cultural networks of exchange.

confronted with the scientific language of the patents. This sudden shift acts as a disorienting interruption, mimicking the sensations of infowhelm that result from the poem's packed pages. The formatting, too, provokes a response from the reader. Unlike other poems, which have recycled text in the margins, footnotes, in-text citations, or indirect references to secondary works, "the girl who ate rice almost every day" foregrounds repurposed information in a way that makes it just as important as the poem itself. Splitting the page horizontally gives the poetic narrative and the patents the same amount of privilege on the page, the patents and the poetic narrative given equal importance. The spatial balance of the poem permits an interchange of information across poetic and patent boundaries—the themes explored in the poetic narrative offer examples of how genetic splicing and transgenic experimentation produce tangible repercussions. Slow notes that the foods she consumes are laced with "corporate magic," and the juxtaposition against Monsanto patents directly implicates their unethical practices in her bodily recombinations. Dickinson, too, explores this refurbishing of corporate toxins in his own body, using his collection of poetry *Anatomic* to question "What gives [Monsanto] the right to effectively edit our bodies without our consent?" (Dickinson). Criticism of contemporary agricultural practices continues into slow's purchasing habits as well, as she challenges companies like Monsanto by growing her own rice as a rebuttal against continuing to eat "imported rice from china (white) and the united states of amnesia (brown)" (18). To do this, she must move into the city's sewer systems to escape the dominance of the Monsanto rice patents on the opposite side of the page. The dichotomy between the poetic narrative and patent information is also an artistic measure through which Wong can evaluate the implications of her

own consumption habits, and the protagonist's move underground to grow her own food is an attempt for Wong to break the cycle of a corporate-controlled consumption chain.[35]

More than others, this poem features repurposed information as a crucial component of its body, accentuating the impact of the patents and information on the tone, context, and message of the poem. Wong's decision to place these recycled pieces of information in direct contention with her own words is calculated and intentional—not only do these large pieces of information "exemplify efforts to give form to the infowhelm," but they also provide critical context for the poem's message (Houser 742). The repurposed information is as much a part of the poem as the poetic narrative, and it informs the narrative beyond being a brief reference material or a secondary source. For example, the chunk of repurposed text that explains the "*US Patent 5, 663, 484: Basmati* / *rice lines and grains*" (17-18, emphasis in original) discusses an invention designed to improve rice breeding and predict properties that impact cooking times and techniques (17-18). The patent illuminates aspects of the narrative, such as slow's contemplation of the origins of her rice and her decision to grow her own rice as organically as possible. Incorporating this type of repurposed information also asks the reader to take stock of their own purchasing habits. In fact, the speaker directly addresses the reader and encourages them to undertake their own research of Monsanto's patents and practices. The speaker instructs the reader to "*go to the US patent database*," provides the weblink, and lists the respective number

[35] Although slow attempts to escape the presence of corporate influence in her foods, Wong is not ignorant to the fact that our bodies have been irreversibly altered by corporate activities. Discussing his book of poetry *Anatomic*, Dickinson comments: "I can see Monsanto written into my blood as I read the results of my PCB tests" (Dickinson). Wong uses her poetry to imagine how slow can reassume control over her food and, subsequently, the genetic information she ingests, but she remains realistic in her portrayals of the relationship between humans and their consumables. While slow uses her excrement to avoid the city's chemicals and fertilizers, the "corporate magic" in the beets "had infused her excrement with a permanent red glow," showing that our environmental conditions are unavoidably weaved into our genetics (19).

of patents Monsanto issued for particular crops (16, emphasis in original). Then, the speaker says:

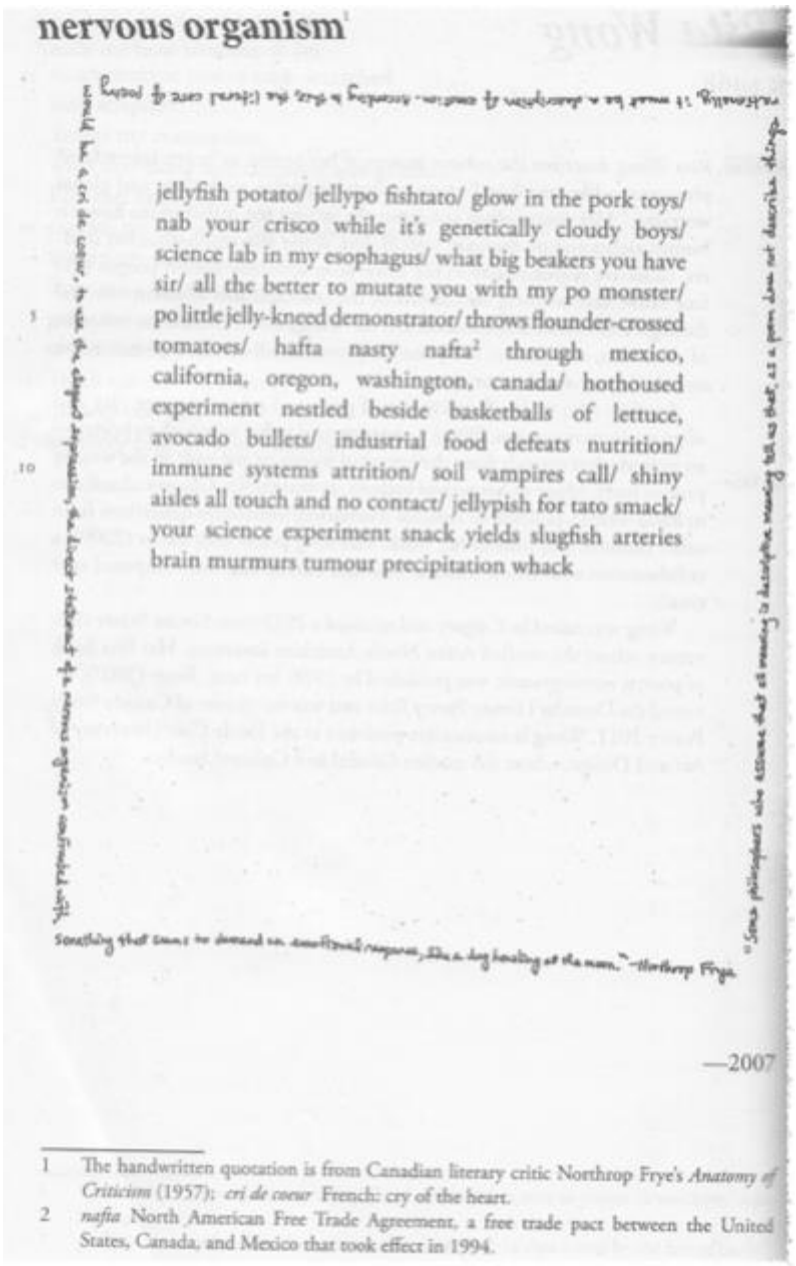
> *dear reader, please note that*
>
> *these numbers are current as*
>
> *of January 2007; there is a high*
>
> *probability that the numbers*
>
> *will be greater by the time you*
>
> *access the database yourself.* (16, emphasis in original)

Expectedly, there are a great deal more patents than the numbers listed on the page. On August 2nd, 2019, at the time I accessed the US Patents Database, there were 8,544 Monsanto records compared to the "*3,894 records*" in 2007 (16, emphasis in original). A direct call to action from the speaker encourages the reader to pursue their own research endeavours to educate their purchasing decisions and re-evaluate their participation in corporately governed agricultural practices. Milne suggests that the turn toward repurposing information in poetry is both an aesthetic and political statement that makes visible the surfeit of information available (*Poetry Matters* 6). It makes sense, then, that in a poem that examines the contamination of food in a society so heavily dedicated to genetic mastery and transgenic experimentation, Wong overloads the reader with recycled information in order to use feelings of infowhelm "as a conduit to social and environmental realities" (Houser 743).

Central to the poem "nervous organism" is the concept of splicing, and the speaker portrays splicing through tropes around transgenic experimentation. For example, she recounts the act of splicing a jellyfish and a potato together to create a "jellypo fishtato" (1), and she identifies other spliced organisms like "flounder- / crossed tomatoes" (5-6). The speaker implies

that she can splice language because she herself has been genetically modified: “science lab in my esophagus” (3). Because the lab in her esophagus “turns the speaker against her will into a site of scientific experimentation,” she is able to mutate language via her own genetic modifications (“Writing the Body Politic” 70). Of course, the poem exaggerates the idea of genetic modifications in humans, but Wong’s position that industrialization and seismic environmental shifts have irreversibly and undeniably altered the human body suggests that *any* body can participate in splicing language. Hayles posits that “‘human’ and ‘posthuman’ coexist in shifting configurations that vary with historically specific contexts,” and the speaker’s splicing capabilities suggest that her posthuman body is capable of crafting these splices in 2007, the year of the collection’s publication (*How We Became Posthuman* 6). The theme of genetic splicing also aligns with *forage*’s preoccupation with repurposing, for Wong’s dissecting and splicing of words or phrases recycled from authors imitates the speaker’s spliced neologisms and genetic sequences. This splicing of language offers a “linguistically playful critique of genetic modification, transgenic experimentation, and globalization” (“Writing the Body Politic” 70). Wong’s emphasis on language, however, extends beyond the splicing that takes place in the poem; the recuperation of words and language, openly displayed in the margins of the poem, reverberates the theme of recycling information as a method of critiquing contemporary approaches to managing ecocritical dilemmas.

Around the perimeter of the poem “nervous organism,” Wong repurposes text from Northrop Frye’s *Anatomy of Criticism*.



nervous organism[1]

jellyfish potato/ jellypo fishtato/ glow in the pork toys/ nab your crisco while it's genetically cloudy boys/ science lab in my esophagus/ what big beakers you have sir/ all the better to mutate you with my po monster/ po little jelly-kneed demonstrator/ throws flounder-crossed tomatoes/ hafta nasty nafta[2] through mexico, california, oregon, washington, canada/ hothoused experiment nestled beside basketballs of lettuce, avocado bullets/ industrial food defeats nutrition/ immune systems attrition/ soil vampires call/ shiny aisles all touch and no contact/ jellypish for tato smack/ your science experiment snack yields slugfish arteries brain murmurs tumour precipitation whack

—2007

1 The handwritten quotation is from Canadian literary critic Northrop Frye's *Anatomy of Criticism* (1957): *cri de coeur* French: cry of the heart.

2 *nafta* North American Free Trade Agreement, a free trade pact between the United States, Canada, and Mexico that took effect in 1994.

Figure 1.1 Rita Wong's "nervous organism"

The handwritten marginalia read: "Some philosophers who assume that all meaning is descriptive meaning tell us that, as a poem does not describe things rationally, it must be a description of an emotion. According to this the literal core of poetry would be a cri de coeur, to use the elegant expression, the direct statement of a nervous organism confronted with some thing that seems to demand an emotional response, like a dog howling at the moon" (*forage* 20).

It is critical to note, however, that Wong purposefully omits the sentences that follow Frye's sentiments expressed in the marginalia. She recycles Frye's text in a way that shifts its original context to tailor it to the message of the poem. Zantingh explains that:

> Wong's use of this epigraph obscures Frye's own feelings that this is not the way poetry works. He argues instead that 'the real core of poetry is a subtle and elusive verbal pattern that avoids, and does not lead to, such bald statements' (75).

Her elision of Frye's feelings on poetry creates a secondary resonance for readers: on one level, the poem is an affective response to genetically modified foods, but on a more elusive and subtle level, it questions the politics of agriculture and scientific improvements of food (635-636). Frye's true opinions of poetry are revealed in the lines that follow those included in the quotation from Zantingh—he writes: "The [poetic] literary structure is ironic because 'what it says' is always different in kind or degree from 'what it means.' In discursive writing what is said tends to approximate, ideally to become identified with, what is meant" (Frye 75). Wong intentionally excludes Frye's explanatory remarks; Frye does not agree with philosophers' perspectives that poetry elicits flagrant declarations of emotion. He instead argues that poetry avoids, to use his word, obvious emotional statements, which makes its discursive form inherently ironic, as the emotional, descriptive vocabulary often used in poetry becomes confounded and recognized as meaning. In this case, Wong repurposes only one portion of Frye's text to achieve what he later discusses: she takes advantage of the poetic form to recycle information in a way that distorts its original meaning and shapes the message to fit her criticisms of colonial, political, and corporate influence in agriculture. While the speaker indicates that "rather than eating these mutant vegetables, one might use them as tools of resistance" ("Writing the Body Politic" 70), the style and structure of the poem accentuate repurposed information as the "tool of resistance." Because

the handwritten additions distinctly stand out from the rest of the text, the reader's eye is immediately drawn to the dissimilarity. I contend that these inclusions of recycled information influence the poetic narratives of the collection and, as Bates suggests, the materiality of the collection itself, for the handwritten annotation "makes clear Wong's own foraging poetics; she explicitly situates her own writing within the creative and critical work she has found rummaging through the writing of others. This 'other writing' frames and infiltrates her intellectual and material work" (Bates 199). The repurposed information Wong features in the collection not only affects the reader's perspective of the individual poems, but the collection as a whole. Using foraging tactics to reproduce the prevalent themes and title of her book incites a call-to-action for readers, urging them to consider the inherent materiality—or, in some informational cases, the immateriality—of the resources and materials we consume, discard, and recuperate.

Other poems in the collection also feature Wong's handwritten annotations: "offering," "opium," "fluorine," "resuscitate," and "vessels" are only a handful of poems that include quotes around the perimeter of the poem or on the sides of the pages. In fact, some handwritten quotations span across multiple poems and multiple pages. For example, the poems "reconnaissance" and "reverb" share a handwritten quotation from Rachel Carson, which flows across a total of four pages. The words borrowed from Carson discuss the pollution of water sources via pesticide use, and Carson explains that once one water system becomes contaminated, all other waterways and bodies of water that come in contact with it become contaminated as well. The reader must not only physically turn the book to read the words as they change direction, but they must also follow the repurposed words across poetic boundaries. Her words even change direction across the pages, mimicking the natural bends and curves of a meandering river. Carson's observations about the borderlessness of water and its fluid

boundaries are reflected in Wong's handwriting—her recuperation of information, too, knows no borders, as she does not let the end of one poem abruptly cut-off Carson's idea in the middle of the quotation. Wong's artistic recuperative measures mirror the message of the repurposed information she uses, but the themes of the two poems also echo Carson's sentiments. Both poems express anger and deep anxieties about the displacement of Canadian Indigenous peoples, the sovereignty of unceded and unsurrendered Indigenous lands, broken treaties, environmental contamination, harmful toxicants and chemicals, and genetic modification. At the end of "reconnaissance," the speaker lists a number of Indigenous land disputes: "ipperwash, gustafsen lake, oka, burnt church, port radium, nitassinan, lubicon lands: returning to the scene of the crime, which you never left" (35-37). The next poem repeats "lubicon land" (14) and adds to the list of colonialized and stolen lands: "nisga'a land" (6) and "coast salish land" (25). Although the geographical locations of these lands are considerably distant from one another, the waterways and water systems that flow through and around them create an intricate network through which the lands are connected. If one water system is contaminated with harmful pollutants, then all water systems with which it has contact become polluted as well. It has been over a decade since *forage*'s first publication, and Wong's sentiments toward environmental stewardship and solidarity with Canadian Indigenous groups are just as, if not more, prominent. Over a dozen articles have been written about Wong's arrest and 28-day sentence in August of 2019 after she "had participated in a peaceful protest on behalf of missing and murdered Indigenous women on August 24, 2018 alongside three other women protestors at the Westridge Marine terminal, impeding access to the Trans Mountain facility in breach of a court-ordered injunction" (Tinwei). She has also been active on her Twitter account regarding court injunctions ordered in early 2020 permitting the RCMP to enter sovereign Wet'suwet'en lands and conduct the arrests of peaceful

protestors, land inhabitants, and hereditary chiefs. Susan Stewart suggests that "Because writing by hand assumes the speed of the body, it is linked to the personal" (14). Wong's choice to handwrite repurposed quotations directly implicates her personal ethics and values in the practice of repurposing and the topics of her poems. Using handwritten quotations connects Wong to the topics of shared water networks while challenging her personal involvement in the contamination of waterways, particularly in relation to Indigenous communities. This act of writing *herself* into her poems in this way positions her daily actions in contention with the settler colonial governance that preserves policies that perpetuate environmental injustice and ravaging. By the same token, Wong's selective repurposing—intentionally altering Frye's message and bridging topics through selective information repurposing—offers alternative contemplations of how diasporic communities can align with the knowledges and initiatives of Indigenous communities.

Like other poems in *forage*, "after 'Thinking of a Fair One' (si mei ren)" deals with the contemporary approach to and treatment of information as it intersects with the human body. The speaker writes "little pilgrim culls friendship from the computer screen, plucks / emails from electricity, botany's archaeology from search engines: / dwarf figs, wild parsley, sweet orange blossom" (1-3). The speaker marries vocabulary around agriculture and digital technologies to capture the similarities between two different foraging practices. The verbs "cull" and "pluck" evoke impressions of harvesting foods, and the speaker uses the words "dwarf figs, wild parsley, sweet orange blossom" to reinforce this image. This vision, however, is not as natural as the speaker suggests. These agricultural procedures take place online, and that which is being "plucked" or "culled" is not food: it is information, and the Internet is the field that produces it. Digital information *literally* becomes consumable: "draw yarrow sticks and preserved plums from / the ming jar jpg. mouth opens" (5-6). The ming jar is a jpg (jpeg), a digital image file,

indicating the yarrow and plums the speaker consumes are actually digital in nature. The speaker consumes these images and the information she "plucks / [from] emails," and these digital interactions leave her "cheeks suffused / with virtual glow" (3-4). Here, the delineations between the body and technology are obscured, for the body's boundaries extend beyond the corporeal. The posthuman, here, is a valuable tool for evaluating the symbiotic relationship between organic bodies and digital technologies, as it operates as a channel for imagining "a dynamic partnership between humans and intelligent machines" (*How We Became Posthuman* 291). Hayles pushes this aspect of the posthuman even further, suggesting that when we think of the posthuman's involvement with machines and technology, "human functionality expands because the parameters of the cognitive system it inhabits expand" (*How We Became Posthuman* 291). Such is the case of the poem: the speaker's perceptive capacities extend into and through the technological, and her union with the computer generates friendship and information about botany and plant life. The posthuman is delicately connected to vast informational networks that flow through and around her. She consumes the information she gleans from the Internet and, in turn, "asks the march of letters for her silicon / fortune" (4-5). This series of interactions establishes a flow of exchange between the posthuman body and the "intelligent machine": the speaker consumes information, transforms it, and feeds it back into the technological system from which it was "plucked." Circular transactions between the speaker and the systems in her environment create a seamless feedback loop of information reciprocation; however, the speaker is not the only person who partakes in transformative activities.

Wong uses repurposed information to construct the poem, but her use of recycled information does not function as supplementary information like the two previous poems; rather, it inspires the reader to explore the reference list at the end of the collection. According to Brian

Reed, who Milne borrows from in her book's introduction, working with recycled information "tells us something 'quite profound' about subjectivity in our historical moment, since the human subject cannot fully distinguish herself from the information she takes in" (*Poetry Matters* 6). The second wave of cybernetic and information theory shifted studies of information to include "what it means to acknowledge that the observer … does not so much discern existing systems as create them through the very act of observing" (*How We Became Posthuman* 131). Reed's observations about the human subject's indeterminate relationship with consumed information resonates with second-wave cybernetic efforts to include the observer in information theory. The poem's outcome of "creation," however, flows both ways, for while the speaker is transforming the outcomes of information through her observations, as Reed suggests, the information also alters her. Wong is privy to the ways we are deeply and unconsciously entangled with our consumables and information. In her essay "Waters as Potential Paths to Peace," Wong uses New Materialist approaches to conceptualize how her individual materiality is delicately tied to and coexists with various Canadian water systems. She claims, "If I were to imagine my identity as part of the Pacific Ocean watershed, or part of the Hudson's Bay watershed, this could help attune my sensory apparatus to the larger scale necessitated by global warming" ("Waters" 210). If Wong's idea of being deeply connected to water systems through consumption is indicative of her process of thinking through networked systems and commodity consumption, then the argument can be made that this attitude extends to information as both consumable and commodity.

While the poem "after 'Thinking of a Fair One' (si mei ren)" does not recycle information in a manner as explicit as the previous instances I have studied in this section, the word "after" indicates that Wong wrote the poem in response to another literary work. There is

also an asterisk at the end of the poem's title that corresponds to an asterisked citation at the bottom of the page. Wong repurposes words directly from Qu Yuan's poem "after 'Thinking of a Fair One' (si mei ren)" but changes the context to fit current informational and technological conversations. Mentioned edibles like "dwarf figs" (3) and "wild parsley" (3) are taken from Qu Yuan's poem and recycled into Wong's poem. After searching for Qu Yuan's poem (which is quite difficult to find through academic search engines and Google) and reading the free portion of the English translation on Google Books, I found that Wong also repurposed the central image of Qu Yuan's poem: an isolated figure trying to send a message. Instead of attempting to send messages from a reclusive outdoor location via clouds and birds, as the speaker in Qu Yuan's poem does, the speaker of Wong's poem solitarily sends messages from her seat in front of a computer screen. Although the central idea of the poem is reimagined from Qu Yuan's poem, Wong repurposes the surreal approach to portraying the lone figure attempting to send a message to fit current issues around isolation, digital media and technology dependency, cyber relationships, and information exchange. Readers, then, can undertake their own research measures to understand from where and from whom Wong transforms pieces of information. Such research endeavours are imperative underpinnings of Wong's work—the "References" section guides readers to the resources that help contextualize the poem, "encouraging the reader's own library browsing and foraging" (Bates 199), and it establishes the collection as a literary corpus through which readers can rifle for information, much like Wong's own discursive techniques. By repurposing significant Chinese poems and reconfiguring the details that shape the message, Wong positions Chinese tropes and themes in connection to Indigenous stories and traditions that have been eroded by the same colonial practices.

Milne argues that Wong's work "addresses, and arguably laments, the ways in which technology, globalization, and capitalism have irrevocably altered the self" ("Writing the Body Politic" 69). While I agree that many of Wong's poems indisputably grieve the various ways modern corporatization and globalization have impacted and exploited Indigenous and diasporic communities, I have argued that *forage* offers more than simply a cry for what has been lost, changed, or stifled. Through my readings of the posthuman body as a transformative space that repurposes information into archived messages, I have suggested that the body operates as more than a sullied, contaminated site—it is an embodied reification of its environmental surroundings, one that is a repository through which we are invited to forage. My approach to the body in this chapter has not been in the spirit of developing a reductionist reading, one that ignores the lives and people attached to the bodies in Wong's poems; rather, my intentions have been to shed light on an alternative way of reading the hopeful and determined messages sprinkled throughout the collection. Sarah Jaquette Ray cautions that reading the body as "a primary site of environmental practice" can extend dangerous discourses of "delineating virtuous 'environmentalist bodies' from environmentally impure bodies [, which] serves to reinforce other social hierarchies based, for example, on race, gender, sexuality, nationality, and ability" (3). I began this chapter with a critique of Zantingh's use of language to stress how words and rhetorical choices intensify the oppression and marginalization of bodies based on the very social hierarchies Ray lists. Wong's poems complicate the simplistic binary between the pure, unaltered body and the "contaminated" "foreign" body, and my analysis of the collective body emphasizes how marginalized groups, like Indigenous and Chinese Canadian communities, can come together to resist colonial and nationalist practices that sustain destructive cultural and environmental practices. Wong's deliberate incorporation of repurposed information throughout

the collection mimics the ways posthuman bodies recuperate and rewrite information, marking her collection as a literary corpus, a body in and of itself, through which readers can search for Wong's own messages that challenge Eurocentric and colonial ideas of knowledge that suppress Indigenous and diasporic communities while preserving dangerous environmental practices. Her poems and *forage*—the literary corpus—demonstrate the impactful outcomes that surface as a result of recycling and recuperating information, especially when considering these acts through an ecocritical and activist lens.

Conclusion

Throughout this thesis, I have argued that repurposing wasted information is a disruptive event that produces new understandings about how humans are materially tethered to their waste. *A Tale for the Time Being*, *Oryx and Crake*, and *forage* all take up repurposing as an act that challenges the physical, cultural, and ideological conventions that distance humans from their waste. I began my reading of information recycling with Ruth Ozeki's *A Tale for the Time Being*, arguing that information repurposing affords Ruth the opportunity to intervene in linear temporal progression and experience temporal overlap, which provides the occasion for Ruth to go back in time and manipulate past events. In chapter two, I turned my observations to Margaret Atwood's *Oryx and Crake*, where I contended that Jimmy uses information repurposing to resist society's control of information. Jimmy's information recuperation disrupts dominant discourses that relegate "word people" to the run-down pleeblands, and he eventually incorporates obsolete information into the Crakers' origin story as the final rebellious act to subvert Crake's idea of genetic mastery. My final chapter explored the idea of information repurposing in the posthuman body and the literary corpus, assessing how the posthuman and literary body are transformative material vessels that archive recuperated information. Both bodies act as extensions of their environments and transform environmental information into messages, thus contesting the hierarchization of Eurocentric knowledge that sustains colonial practices of environmental destruction and displaces diasporic and Indigenous voices. Ultimately, my project has extended what critics have already theorized about information-as-waste to consider how repurposing wasted information generates new lessons about how, even after discarded, humans remain connected to their waste and implicated in environmental crises.

While my reading of wasted information could perhaps be interpreted as the study of an issue only explored as a metaphorical tool in literature, there have been a number of recent events that have produced anxieties about where to find verified information sources, the validity and truthfulness of information, and information's influence in a digital media-driven society. The 2016 United States Presidential Election, Donald Trump's impeachment, allegations against Facebook for the spread of fake news during polarized political elections, and the COVID-19 pandemic have triggered widespread re-evaluations of the value of reliable, safe information. The growing trend to focus on language and rhetoric around the truthfulness of information, like "fake news" or "misinformation," has brought information into a sharper contemporary focus. In fact, over the last five years, various dictionary publishers and language-based organizations have selected information-based neologisms as their annual "word of the year." In 2016, the *Oxford English Dictionary* designated "post truth" its word of the year, *Dictionary.com* named "misinformation" their 2018 winner, and in 2017, *Collins English Dictionary* and the *American Dialect Society* selected "fake news" as their word of the year. Concerns about the credibility of information have perhaps only been surpassed by mounting anxieties over the current and future state of the planet. The parallel between information-based language and words that signify environmental concerns brings to light the intricate and oftentimes unnoticed relationship between information and the environment. The *Oxford English Dictionary* named "toxic" the word of 2018 and dubbed "climate emergency" the word of 2019, while *Collins English Dictionary* chose "single-use" to represent 2018 and "climate emergency" as 2019's word of the year. These trends relate back to this project's topic of materiality. During her discussion of information's materiality and its need to be embodied in a material vessel, Hayles comments, "Embodiment can be destroyed, but it cannot be replicated. […] This observation is as true of the

planet as it is of an individual life-form […] let us remember the fragility of a material world that cannot be replaced" (*How We Became Posthuman* 49*)*. Indeed, contemporary information theorists continue to think through the overarching implications of information's materiality, connecting observations about the vulnerability of material forms to the most at-risk and irrecuperable material object: the planet. At the same time that trends in information-based language forefront the cultural imaginary of information and waste, Canada continues to have logistical issues managing its waste.

In 2019, Canadian media outlets closely followed the story of 69 shipping containers that had been repatriated to Canada from the Philippines after heated political and environmental debates over the ownership and disposal of Canada's trash. According to *The Washington Post*, "The dispute began in 2013, when Chronic, a Canadian company, shipped more than 100 containers labeled as plastics to the Philippines for recycling" (Coletta). The controversy emerged when Filipino officials inspected the containers only to find that they were filled with Canadian garbage, not plastic. For over six years, the ship remained docked in the Philippines, resulting in Philippine President Rodrigo Duterte threatening to "'declare war' on Canada if it did not take back the trash" (Coletta). Environmental groups, too, voiced their frustrations with Canada's refusal to take accountability for and deal with its waste. Philippines-based environmental group the EcoWaste coalition wrote to Justin Trudeau critiquing Canada's inaction. The coalition cited a similar situation with South Korea but commented that the country cleaned up the discarded waste in the span of a year (Coletta). Sean Boynton, a journalist with Global News, poignantly remarked: "The standoff over the garbage has shone a spotlight on Canada's problems in dealing with its waste and recycling, and overseas countries' growing unwillingness to accept it" (Boynton). Canada continues to send its waste to the United States

and other countries for recycling, and the Organization of Economic Cooperation and Development (OECD) released a study that cited Canada as the "eighth most waste-producing country among the [36] member states" (Sevunts). The dispute about Canada's garbage decaying in the Philippines reveals how Canada, as a national geopolitical entity, remains connected to its waste and indebted to its allies across the globe. Even in our attempts to geographically separate ourselves from our trash, we are never free from its material realities—we are always connected to the physical and (inter)national consequences of our garbage.

Information and waste are unique because they are concepts that are easy to grasp yet easily abstracted, always present yet at a remove, simple to identify yet hard to label. Historically, information has been especially difficult to define; however, emerging neologisms like "information overload" and "infowhelm," in addition to other informatic terms that dictionary publishers and language-based organizations have recently recognized, gesture toward a growing familiarity with sensations that emerge when interacting with the vast excess of available information. Alongside traditional conceptions of waste, like garbage and plastic, information is, perhaps, one of the most abundant and flexible objects of the twenty-first century, offering itself as an exciting new prospect through which we can assess new approaches to ecocriticism and reimagine what it means to be material.

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