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An Introduction to Discard Studies

There is a crumpled cash register receipt in the bottom of the recycling bin. The shine on one side indicates it is thermal paper coated in an industrial chemical called bisphenol A (BPA), which allows the cash register to make marks with heat instead of ink. BPA is one of the most-produced synthetic chemicals in the world, with 7.7 million metric tons produced in 2015 and a projected 10.6 million metric tons by 2022 (Research and Markets 2016). BPA doesn't stay on paper in recycling bins. In addition to escaping from processing plants and distribution through the air (Fu and Kawamura 2010; Bienkowski 2014), the chemical also appears in significant quantities in industrial effluent from paper recycling plants and in recycled paper itself as cash register receipts enter the recycling processes (McMaster 2004). Even more broadly, BPA is on every piece of currency ever tested because the receipts rub against bills in wallets before the receipts are thrown out or recycled. Cash register attendants receive an especially high dose of BPA while they work, and their exposure is increased

when they use hand sanitizers that make skin more permeable to the chemical (Hormann et al. 2014). Furthermore, BPA isn't only in cash registers. It is also used in polycarbonate plastic such as reusable and disposable water bottles, in epoxy resins (like adhesives), and in rotor blade composites in windmills (Research and Markets 2016). The widespread use of BPA and its ability to leach from its host material means that all human bodies carry BPA or its metabolites in blood or urine (Bushnik et al. 2010). BPA is an endocrine disruptor, a class of chemicals that have significant effects at low doses that include cancer, ADHD, asthma, obesity, and diabetes (Bergman et al. 2013). Yet, "notwithstanding the controversy surrounding BPA's toxic effects in food and beverage applications, demand for the chemical is not likely to undergo any drastic change in the foreseeable future" (Research and Markets 2016). These are the relationships—crucial relationships—you can't readily see when you look at the receipt in the bin.

We are familiar with some aspects of waste because we deal with it every day. Yet, as BPA demonstrates, many aspects of waste are entirely hidden from common view, including the wider social, economic, political, cultural, and material systems that shape waste and wasting. Waste always overflows its official meanings, and the technical systems designed to manage and contain it (Moore 2012; Moore et al. 2018). Rather than focusing on material waste and trash as the primary object of study, discard studies looks at these wider systems of

waste and wasting. For example, rather than asking how much people recycle and why they don't recycle more, which would not include the story of BPA, discard studies might ask why recycling is considered good in the first place (Ackerman 1997; Alexander and Reno 2012; Altman 2021; Leonard 2010; Liboiron 2009; MacBride 2012). Instead of an emphasis on the crumpled receipt and its journey through the recycling system, discard studies might ask what allows BPA to be so ubiquitous if it is known to be harmful? How is harm determined? By whom (Murphy 2017a, 2017b; Vogel 2012)? And how do these things change in different regions and over time (Furniss 2017; Strasser 1999)?

This broad and systematic approach to how some materials, practices, regions, and people are valued and devalued, become disposable or dominant, is at the heart of discard studies (figure 1.1). It means that many investigations in discard studies go beyond material waste, though of course the discipline also necessarily includes those materials. Litter, sewage, and trash are all examples of waste, but they aren't *necessarily* the full gamut of concerns to which discard studies attends. Instead of a certain list of objects, discard studies starts with a question: What must be discarded for this or that system to be created and to carry on? To persist, systems must rid themselves of people, places, and things that actually or potentially threaten the continuity of those systems. Wasting is a technique of power, but it's not the only one. For these reasons and others we develop

to explaining the trends around how people are understanding and acting in a global pandemic. For instance, it was obvious that people were not autonomous units whose individual behavioral changes, even added up, could scale up to stop a virus. Instead, we saw how health systems, economic systems, political systems, and cultural and social systems interlock and relate to one another in sometimes predictable and sometimes unpredictable ways (e.g., Loreto 2021). We saw how some people were turned away for health care while others had entire teams mobilized to ensure their health (Verghese 2021). As vaccines continue to roll out, we see a surplus of vaccines and no-shows at vaccination clinics in some places and black-market vaccines and oxygen going for thousands of dollars in others. And of course, we saw that some people are more vulnerable and likely to get the virus—the same people who are already disadvantaged in economic, political, judicial, and other social systems.

We realized that the main theories, concepts, and techniques we know from discard studies are able to describe and help interpret instances of value and devaluation, the wasting of some lives and not others (necropolitics), dominant structures and how they are maintained or threatened, and how hierarchical categories are formed and do their work. To that end, throughout this book we consistently talk about waste and wasting in terms of materials like plastic and recyclables, but we also often talk about the pandemic. We believe that using discard studies to study instances

that are discarded but not necessarily trash is a way to extend the utility and breadth of the field beyond waste while simultaneously nuancing and even challenging the field. This is why we understand discard studies to be something more than simply studies of waste.

As more attention is being paid to waste and wasting, valuing and devaluing—by popular media, policy-writers, activists, engineers, and researchers—it becomes even more crucial to contextualize these problems, materialities, and *systems* of discard. We believe that one of our tasks as discard studies researchers is to trouble the assumptions, premises, and popular mythologies of waste so discussions can address wider systems and power dynamics rather than remain mired in technological or moral fixes (Recycle more! Don't use plastic straws!) that deal with symptoms rather than origins of problems (Liboiron 2014a, 2014b; Rittel and Weber 1973). While we know much of waste, pollution, and discarding, we acknowledge that this is also an extremely partial perspective that is based on a particular scale, a specific genre of waste, and a limited region. The field of discard studies is central to thinking through and even challenging the intuitive and familiar aspects of waste and wasting.

Thus this text does not aim to survey the field of discard studies (see Reno 2016 for an excellent review) nor provide an authoritative reference on its key texts or topics (see Zimring and Rathje 2012 for a two-volume encyclopedia on the topic). Instead, we strive to show how some of the theories and methods in discard studies

can be applied to a broad array of cases, many of which are not focused on waste, trash, or pollution, and how discarding, generally defined, is one way to think about (and change!) the ways dominant systems produce and maintain power.

In short, the core commitment of this book is to show the role of waste and wasting as a technique of *power*. Here, “power” refers not to overt domination and coercion (the ability to force people to do things) but to the way that some things seem true, natural, and good and how those meanings are reproduced in particular ways that align with particular interests. In the words of Michel Foucault, “power produces; it produces reality; it produces domains of objects and rituals of truth” (1977, 194) which have real material effects. For instance, our first example below discusses how “waste” in the environmental movement has come to mean “household waste,” which in turn directs environmental action toward changing consumer behaviors. But the vast majority of waste, and thus the most significant locus for action from the perspective of scale, is industrial. It’s not that certain industries consciously hatched a plan in boardrooms to control the meaning of the term “waste” (though this can and does certainly occur: Al Weswasi 2019; Oreskes and Conway 2010; Schlichting 2013) but that myriad actors (including but not limited to people in boardrooms), infrastructures, histories, events, cultural values, and other components of systems interlock to make some things seem more real, more truthful, more likely, and more feasible.

The five chapters of this book build on one another, creating an increasingly nuanced argument as the book progresses. In particular, the main theories we build up include the following: a theory of relationships, articulated at scale (chapter 2); a theory of power, where threats to certain types of relationships are dealt with at various scales (chapter 3); a theory of difference, which is one way to deal with threats to power, articulated through categorization and stereotypes (chapter 4); and, finally, we end with a chapter on “discarding well,” where we think about examples of where institutions and groups make change *through*, rather than despite, wasting and discarding.

But first we start with methods. This first chapter goes over the basic techniques of how we understand solid waste systems that we can’t grasp from our daily experiences and local knowledge (Moore 2012). We show how these methods can work by using them to unpack common myths and truisms about waste and wasting:

1. Waste means municipal solid waste;
2. Humans are naturally wasteful and are trashing the planet;
3. Waste and pollution are externalities of economic systems; and
4. Purity can be achieved through cleanup.

Building on the work of critical discard studies scholars, we show that each of these truisms is based on

assumptions that do not hold up to critical (questioning premises) and empirical (data- and case-study-based) research. Moreover, we argue that these ideas come from somewhere, and when they become truisms then certain definitions of waste, specific notions of responsibility and agency, and particular terms of action are normalized at the expense of others. This is part of what we mean by power (Connell 1987, 107). As we work through each truism, we articulate various methodologies used by discard studies scholars to do their work: defamiliarization, denaturalization, decentering, and depurification. These techniques are not mutually exclusive, and they often work in tandem, as these examples show.

Myth 1: You Know Waste (Defamiliarization)

At the personal, everyday scale, the waste you know is likely household solid waste. Municipal solid waste (MSW) usually includes household waste and recyclables in addition to some commercial waste, construction and demolition waste, and medical waste. But MSW accounts for very little waste produced overall. The vast majority of waste by weight, by volume, and by toxicity is industrial solid waste (ISW).

Some statistics say that 3 percent of all solid waste produced is municipal solid waste and the other 97 percent is industrial solid waste. There is some debate about these numbers: they are based on only two reports by

the US Environmental Protection Agency (EPA) from the 1980s (US EPA 1987, 1988; MacBride 2012); they are self-reported by industry and so cannot be verified (Atlas 2002); they do not take mining into account even though other studies show that mining is the largest portion of industrial-scale waste (Keeling 2012; Statistics Canada 2012); and the numbers change radically when water is removed from the equation because much industrial waste is liquid, some portion of which is treated and discharged into waterways under the Clean Water Act in the United States (MacBride 2012). Even with all of these issues taken into account, ISW is certainly larger than MSW by an order of magnitude, and the 97–3 split holds fairly well (Liboiron 2016).

Let's look at electronic waste (e-waste) as an example (see figure 1.2). There is considerable activism and public attention around reducing the toxic effects of e-waste such as cell phones and laptops. Yet every exported item of discarded consumer e-waste from the United States is half the weight of how much waste acid is produced by a *single* industrial smelter that produces copper for those electronics and other commodities (see figure 1.2 and Lepawsky 2018). E-waste action would have a greater impact if it were directed at industry rather than consumer recycling. This relative scale is true of most forms of waste.

One of the main analytical goals of discard studies is to defamiliarize waste. “Defamiliarization” is a term coined by Viktor Shklovsky in 1917 in regard to literary and poetic devices that interrupted the reader from

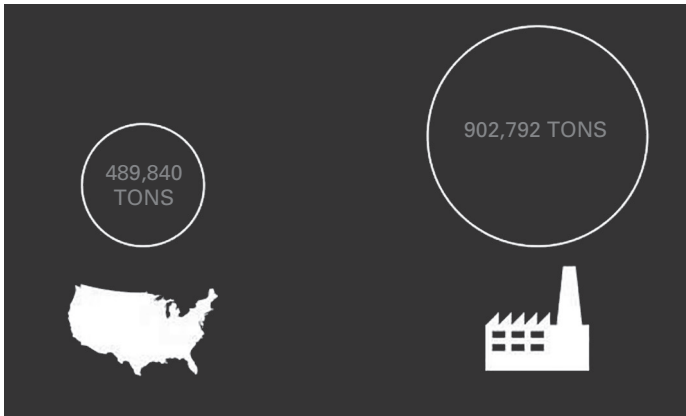


Figure 1.2

Total annual exports of e-waste from the United States compared to waste acid production at a single smelter that creates copper of which the electronics industry is the second largest consumer in the United States. Circles above the icons are proportionate to the tons they represent.

Source: Josh Lepawsky (2018).

using normalized and expected modes of perception, reading, or experiencing art. These techniques were meant to make the familiar strange by stopping the viewer from moving along familiar conceptual routes. This is also the task of discard studies—to interrupt popular, intuitive, expected, and common narratives about waste and wasting by using empirical research and cases from a range of disciplines. This methodology is based on the idea that what is normal is a cultural process, not a natural given state.

Discard studies use various techniques of defamiliarization. One is to question premises upon which arguments are based. For example, Samantha MacBride

(2012) questions the premise “recycling is environmentally friendly” upon which arguments for expanded recycling programs are based. She finds that recycling does not necessarily conserve resources or preserve nature and that it produces pollution (MacBride 2012, 2019; see also Ackerman 1997; Leonard 2010; Rogers 2005). She argues that recycling “has next to zero impact on resource conservation measured in global scales and delivers only weak results in terms of pollution reduction or energy savings” (2012, 8). This statement is well documented in other work that investigates how recycling requires high expenditures of energy (Steinberger, Krausmann, and Eisenmenger 2010), requires considerable virgin materials (McDonough and Braungart, 2002), produces pollutants, and creates products that are “down-cycled” because they are not as robust as their predecessors (McDonough and Braungart 2002, 56–60). Of the 15–30 percent of recyclables that are retrieved from the waste stream, “almost half” are buried or burned due to contamination or market fluctuations that devalue recyclables over virgin materials (Rogers 2005, 176–179).

Recycling infrastructure creates a framework where disposables become naturalized commodities instead of foregrounding waste redesign, reduction, or most importantly, elimination. MacBride argues that a network of social groups, particularly extractive and manufacturing industries within the “recycling movement,” have aligned to support municipal recycling even though it is neither environmentally sustainable nor often profitable

enough to support itself without subsidies or alignment with more profitable waste management systems like landfilling (2012, 16). In this way, powerful industries create what MacBride calls a “diversion” from alternative avenues and concepts, with an emphasis on “business” that keeps civic society working at small-scale, consumer-focused change that does not threaten the status quo, ensuring “that certain matters never come up for a vote, laws are not passed, options are not considered” (12; see also Altman 2021).

Another technique of defamiliarization is to look at the history of how something became normal and even desirable in the first place (e.g., Hawkins 2011). Susan Strasser (1999) investigates how disposability became a practice in the United States, especially after World War II instilled values of frugality and reuse. What moved Americans from one set of norms around wasting to an opposite set of norms? She finds that Americans actually resisted disposability, sometimes violently, and that coordinated education, advertising, and gender- and class-based coaching were required to normalize disposable culture.

Other methods of defamiliarization include tracking down the origin of truisms or famous quantitative figures such as the 97:3 ratio mentioned above (MacBride 2012; Lepawsky 2018), understanding how some methods for knowing about waste and pollution were decided within their historical contexts—such as how to categorize and count racial minorities or municipal waste (Bowker and

Leigh-Star 2000; Melosi 2008; Strasser 1999)—and “zooming out” to consider the wider social, political, and economic systems in what at first appears to be a neutral technical issue, such as how what counts as hazardous waste or potable water is determined (Wynne 1987; Pine and Liboiron 2015; Hamlin 1990).

Discard studies scholars often have to unlearn and debunk their own common knowledge and find concrete methods to defamiliarize their thinking and develop nuanced expertise. Robin Nagle, who coined the term “discard studies,” is anthropologist-in-residence at the New York City Department of Sanitation. She chose the term “discard studies” because it opened up what waste and wasting might include, founding a blog by the name in 2010. Yet even though Nagle has written, taught, and thought extensively and carefully about waste throughout her career, including during her time as a sanitation worker (Nagle 2011; 2013), she once spoke about how people wasted because of feelings of disgust, making wasting a positive activity based in affirmation of things that did not belong (based on Douglas 1966, Kristeva 1982). Yet when challenged with examples of potlatch ceremonies or the sorting practices of waste pickers where wasting was not based on disgust, she realized that she had been reproducing a common narrative about waste and sought to rectify these universal claims. We tell this story because defamiliarization and questioning premises are ongoing activities for experts as well as students.

Myth 2: Humans Are Inherently Wasteful (Methods of Denaturalization)

In one scene from 2016's *The Founder* (Hancock 2016), Ray Kroc, the main character, visits a California takeout restaurant for the first time, in the early 1950s. A woman ahead of Ray assures him the line moves quickly. When it's Ray's turn he glances up at the menu and orders a hamburger, French fries, and Coca Cola. Eight seconds pass, during which Ray pays and then receives his change and order. The speed of the transaction leaves Ray dumbfounded. Can this really be the food he just ordered? The young man behind the counter, acting as both cashier and server, assures Ray it is. But where is all the silverware and plates, Ray wonders aloud, and where should he eat? Smiling in a way that suggests Ray's confusion is not out of place, the man behind the counter helpfully instructs Ray about what to do: "You just eat it straight out of the wrapper and then you throw it all out." There is a pause. Ray is still not entirely sure how to proceed. The man nods encouragingly. Ray finds a place on a nearby park bench and glances around looking for further cues for proper procedure from the crowd enjoying their food. It's a poignant and slightly comedic moment since Ray, played by Michael Keaton, would go on to found the McDonald's fast-food franchise.

The scene shows a moment when a certain way of consuming and wasting is unfamiliar, even strange. Disposability is not an innate human practice even though

throwing disposables out has become so familiar as to seem natural. Yet it has to be taught, and the infrastructure for it must be provided (Liboiron 2013; Reno 2015; Strasser 1999). The tragicomic elements of Ray's confusion work because now, after sixty some years of practice, eating fast food is so familiar to so many that it has *become* unremarkable: the denaturalization is funny. It's also a core technique for discard studies. *How* did certain ideas about waste become so common as to seem natural, and how did discarding work before this naturalization? What are the histories of choices, interests, and efforts of what we now take for granted rather than assuming that the present is the inevitable product of natural development?

To emphasize the novelty of a broadscale industrial shift toward disposability it is helpful to consider that barely more than twenty years before the scene fictionalized in *The Founder*, the notion of planned obsolescence began to circulate in US public discourse. In 1932, a New York real estate developer named Bernard London self-published a series of pamphlets advocating for “planned obsolescence” to solve the Great Depression (London 1932; Packard 1960; Slade 2006). In London's scheme, it would be the role of government to “assign a lease of life to shoes and homes and machines . . . to all products of manufacture, mining and agriculture [and] after the allotted time had expired, these things would be legally ‘dead’ [and] destroyed” (London 1932, 2).

Whether London coined the term “planned obsolescence” or borrowed it from conversations of the day is unclear; what is clear is that it was a novel idea of the era. It would take decades before planned obsolescence became a mainstream industry strategy to enhance revenue. Not until 1956 could Lloyd Stouffer, editor of Modern Packaging Inc., declare, “The future of plastics is in the trash can” (Stouffer 1963, 1), making a call for disposable packaging that has become the norm today. Yet, then as now, planned obsolescence was and continues to be resisted, including from within industry itself (Slade 2006, 164).

Another example of the naturalization of disposability is how the toilet paper shortages in the early days of the COVID-19 pandemic were understood. Hoarding and panic-buying toilet paper and other goods is a common media headline during disaster preparation. It’s the “natural” way to think about commodity shortages. But some journalists denaturalized that truism during COVID-19. Rather than aberrant human behavior leading to a rush on toilet paper, they found that there was instead an issue with supply chains:

The toilet paper industry is split into two, largely separate markets: commercial and consumer. The pandemic has shifted the lion’s share of demand to the latter. People actually do need to buy significantly more toilet paper during the pandemic—not because they’re making more trips to the bathroom, but because they’re making more of them at home. With

some 75% of the U.S. population under stay-at-home orders, Americans are no longer using the restrooms at their workplace, in schools, at restaurants, at hotels, or in airports. (Oremus 2020)

This shift in where people went to the bathroom during lockdown affected consumer toilet paper shortages in the United States, Canada, Hong Kong, and the United Kingdom, among other locations. While there were certainly anecdotal cases of hoarding (e.g., ABC7 Los Angeles, “Beverly Hills Police Department Finds 192 Rolls of Toilet Paper in Stolen Vehicle,” April 2, 2020), it cannot account for the scale of this international trend.

We can denaturalize the toilet paper story even more and ask why would people stand in line for hours to get toilet paper during an international shortage? What makes toilet paper seem like a need? While toilet paper was invented in the 1300s, it wasn’t until the 1850s that toilet paper as we know it today was created and marketed (Blumer 2013). It was an exclusive product for the rich until a series of fear-based advertisements by the Scott Paper Company advised that people would have medical issues in their unmentionable areas if they didn’t use Scott’s special paper (Blumer 2013, 99; 99% Invisible 2020). Today, toilet paper has become extraordinary and expected in many places, but not all places (more on decentering below).

These brief examples illustrate a key lesson of discard studies: waste practices, including disposability and hoarding, are specific to a time, place, culture, and

system rather than inherent, “natural” human characteristics. People have to be taught to practice and accept disposability as well as other waste practices. These practices hinge on the provision of certain kinds of infrastructure—such as packaging cheap enough that it can be tossed away, trash containers in public places that are emptied by municipal workers, or indoor toilets that lead to public sewers or septic tanks designed to handle toilet paper—while other kinds of infrastructure, such as metal cutlery and bidets, are removed or never created in the first place (Liboiron 2014a).

Denaturalization is a core strategy within discard studies. When contextual, place-based, situated, and historically specific moments become naturalized and are assumed to be so normal that they are not thought about, denaturalization unearths how they initially became normal and thus can be changed. For example, the commonsense notion that there is a universal “human” who is “naturally” wasteful only stands up if evidence from the historical record is ignored. Instead of axiomatically accepting the notion that humans are inherently wasteful, discard studies turns disposability into questions such as the following: Under what conditions does disposability make sense (Hawkins 2011)? Who is or are the human(s) in mind when “human nature” is invoked to explain wastefulness? In short: Who is the “we” (Chakrabarty 2009; Hecht 2018) of “human nature,” who does it exclude, and who does it make normal? How do answers to these questions

change what “solutions” to waste look like? These are the core questions of chapter 4.

Myth 3: Waste and Pollution Are Externalities (Methods of Decentering)

In July 2017, China filed an official notification with the World Trade Organization (WTO) to “forbid the import of 4 classes [and] 24 kinds of solid wastes” including plastics (Ministry of Environmental Protection of the People’s Republic of China 2017). Within weeks, recycling systems in Canada, Europe, the United States, and elsewhere were in disarray with nowhere to ship their recyclable discards. The continual, if convoluted, reverse supply network linking household sorting bins in some parts of the world to industrial-scale waste and manufacturing infrastructure elsewhere rapidly underwent shutdown and reorganization. By the end of the year, recycling systems in Canada, Europe, and the United States resorted to stockpiling, landfilling, and incineration while simultaneously searching for alternate buyers to handle the flows of plastic recyclables they could no longer hold (Gregson and Crang 2018). East and Southeast Asia became important alternate destinations for the materials China used to buy (Reed, Hook, and Blood 2018; Pyzyk 2018). Within a year at least one of these markets, Vietnam, had to temporarily

halt imports of these plastics as volumes overwhelmed port capacity (Musulin 2018).

China's 2017 announcement and the ensuing disruption of the global recycling market illustrates how waste is made through relations between centers and peripheries and how the coherence of the center depends on the periphery. Part of what defines waste is its proper place in industrial systems of production. It "clearly belongs in a defined place, a rubbish heap of one kind or another" (Douglas 1966, 161), or in recycling bins, transfer stations, shipping containers, industrial holding ponds, or steel barrels. Each of these receptacles enables the system at the center to carry on, to hold, by leaving that system untroubled by threats to its continuity. In short, most solid waste systems rely on an "away" to keep the center clean—that "away" is what creates peripheries *and* the center. Yet there are always people who live and work in those peripheries (Akese 2019; Davies 2019; Hoover 2017; Reno 2016; Voyles 2015). They, and their regions, become disposable, also called "sacrifice zones" (Lerner 2012).

Recycling is able to be understood as a "green" and morally good practice in Canada, Europe, and the United States because of environmental sinks (places to store waste) in China. Without China, the coherence or "centeredness" of these recycling *systems* comes into question (Liboiron 2018). The center may no longer continue to hold unless a way to manage waste can be

found by which the system's coherence can be reestablished and its continuity reasserted.

One main concept in discard studies is "externality," a term that originates in economics. Externalities are costs or benefits (positive or negative) that accrue to parties not among the original participants in a transaction. For example, getting a vaccination can protect you personally from disease; a positive externality is that it can also offer a quantum of immunity to the wider community you live in. Waste and pollution, however, are always treated as negative externalities, costs foisted onto people and places by the economic actions of others.

In economics, both positive and negative externalities are treated as examples of market failure. Externalities are the result of pricing mechanisms that do not properly capture value, resulting in "free rides" in the case of positive externalities and "uncompensated burdens" in the case of negative ones (Porter 2002, 6). For waste, this means that trash and pollution cause negative externalities on people or groups of people that did not consent to these externalities, and this harm was not properly accounted for in the original calculations of benefits and costs. In both cases, externalities create a center that anticipates and accounts for value, and peripheries where externalities occur. Crucially, these insides and outsides are created through accounting and do not preexist their conceptualization.

Externalities treat the market failures they describe as anomalies or outliers in an otherwise well-ordered world.

Yet waste and pollution are not unfortunate accidental by-products of industrial systems of production but are rather characteristic of all industrial systems, regardless of whether they are capitalist or socialist (Gille 2007; Ofrias 2017; Kao 2013). Such systems of production inherently generate waste and pollution not as outliers or anomalies but as norms. For example, the consistent siting of polluting infrastructure in low-income neighborhoods or on Indigenous land isn't an accident but a strategy (Bullard 2000; Thornbeke 2016). In the early days of the COVID-19 pandemic, particularly in the United States, there was a recurring line that "only x% of people will die" of the virus, and these people, almost always the elderly and disabled, were considered acceptable losses (Ashkenazi and Rapaport 2020; Chait 2020; Pesce 2020; Shammass and Kornfield 2020). Regardless of actual numbers of deaths or whether pollution infrastructure is deemed "safe," these common refrains show which areas and people become normal "sacrifice zones" or peripheries for a more powerful center (Davies 2019; Hoover 2017; Lerner 2012; Stamatopoulou-Robbins 2020). In short, externalities and their peripheries are normal and needed because they are what let the centers hold. We return to this question of insides and outsides, centers and peripheries, in chapter 3.

Discard studies is dedicated to decentering systems that rely on externalization or sacrifice zones and interrogating the power to create centers and peripheries in the first place. Discard studies asks, what kind of

center(s) do wasting and pollution shore up? What, who, and where bear the burden of externalization and being made into peripheries? What are “the uneven relations and infrastructure that shape what forms of life are supported to persist, thrive, and alter, and what forms of life are destroyed, injured, and constrained” (Murphy 2017a, 141–142)?

Questions such as these lead discard studies scholars to examine a much more expansive set of issues than just how to better manage waste and wasting, though these questions are also included. Discard studies methodology brings us to questions of power, inequality, equity, and justice. As such, discard studies is inherently normative: that is, concerned with doing good by explaining and intervening into questions of justice. As biologist Mary O’Brien (1993) argues, normativity is built directly into all research. She writes about how doing research necessarily asks particular questions and not others, in certain ways and not others. Each is a choice that aligns the research with some values, norms, and parties over others. Questions, then, are unavoidably value-laden in that they prioritize some ways of investigating the world and not others.

Discard studies queries what is understood as right and good and how those ideas hold, at whose expense, and for what center(s) (Mol 2002). When a mining company is permitted to create mine tailings in the north of Canada (Keeling and Sandlos 2015), from a discard studies perspective, the center(s) that this allows to

hold is settler colonialism, capitalism, and industrialism rather than prompting a question of better mining waste management. The center, as we have been calling it, is not monolithic but “the sum effect of the diversity of interlocking oppressive social relations that constitute it” (Coulthard 2014, 15). Discard studies considers these both in aggregate and individually for a picture of what waste and wasting accomplish and how this might be made different.

Myth 4: Purity Isn’t Cleanup, Dirt Isn’t Waste (Depurifying)

Theories of purity are a mainstay of discard studies, especially given the importance of Mary Douglas’s anthropological work *Purity and Danger* (1966) to the field (more on this in chapter 3). Douglas argues that “dirt” is “matter out of place” (36); one of her work’s central claims is that “our ideas of dirt [and purity practices] express symbolic systems and that the difference between pollution behaviour in one part of the world and another is only a matter of detail” (36). Many other theories build on this work by understanding discard practices as removing that which disgusts us, reestablishing our notions of order, and offering a material expression of separation between what we think is good and valuable versus wrong and worthless (e.g., Hawkins 2006; Shotwell 2016; Thompson 2017).

Michael Thompson's *Rubbish Theory* (2017, 123) builds on theories that treat particular wastes similarly regardless of their material or social origins to argue that objects move between categories of worth and worthlessness, durability and consumption, "quite common[ly]." Such movement, he argues, "occurs whenever rubbish is got rid of, for example, refuse collection and incineration, sewage treatment, the reinstatement of waste land, the clearance of slums, the deportation of undesirable aliens and, at its most extreme, the gassing of Jews and Gypsies in Nazi Germany" (123). For Thompson and Douglas, a list of discards that includes both recycling and genocide makes sense when both are seen as manifestations of morality expressed through the material logistics of segregation, discreteness, categorization, and "getting rid" of undesirables.

But we argue there are few situations where recycling and genocide are the same kind of thing. Thompson and many others present a continuum of discards within a rubric of wasting-as-social-phenomena, where specific geographies, histories, and materialities are "only a matter of 'detail'" (Douglas 1966, 36). We disagree. Because of similarities between sorting and purifying, the latter is often used as a metaphor for the former. At different points in history and in various places, Indigenous peoples, Jews, women, immigrants, 2SLGBTQIA+ people, people with disabilities, and political prisoners are killable, not just peripheral (Mbembe 2003; Bauman 2004; Butler 2011; Raffles 2017). Throughout this book

we argue that these details are *fundamental*, not incidental, to different systems and effects of waste (Furniss 2017). Genocide and sorting recycling not only are different in terms of social, economic, material, spiritual, and political systems but also they are different in terms of power, oppression, and justice. We will touch on the linked issues of justice and materiality here, and chapter 3 is entirely dedicated to concepts of purity and universalism upon which Douglas's work depends.

In short, cleaning up and purification are not the same thing. Our theories of waste and wasting should not fail to distinguish between blue bins and concentration camps. Materials recycling facilities (MRFs), factories, and concentration camps appear to have strikingly similar material and logistical practices of categorization, sorting, and discarding, but that doesn't make recycling genocidal and Nazism environmentally sound. Because discard studies is inherently normative—making arguments and frameworks for examining, understanding, and practicing what is good and right—it is crucial to differentiate between the ethics of cleanup, which are based in separation, and those of purity, which are based in annihilation. These, we believe, are the stakes of discard studies research (for similar arguments about the crucial importance of problem definition in research, see Rittel and Webber 1973; Tuck and Yang 2014).

The difference between cleaning up and purifying is crucial. Today—literally today, as we write this—medical personnel are making decisions about who to save and

who to leave to die as COVID-19 victims overwhelm hospital resources. The people left to die in favor of helping others are consistently the same ones who are externalized in multiple systems: Black people, people with disabilities, people who lack economic advantages, and older people (Hauen 2020; Kam 2020; Mykitiuk and Lemmens 2020; Rosenbaum 2020; Wikler 2020). These decisions are not necessarily made by people with poor morals but rather by medical practitioners whose job is to do no harm and to help people. Achille Mbembe calls this “necropolitics,” “the power and capacity to dictate who is able to live and who must die” (2019; Verghese 2021). This isn’t an individual power but a systemic issue where some decisions are more likely than others regardless of individual variation. It is why we focus on *systems* of waste, discarding, and devaluing rather than *instances* because it is *systems* that allow some things to make sense, some things to seem valuable or worth saving, and some things to seem natural or inevitable instead of others. Yet, unlike Thompson and Douglas, we are not advocating for a master or universal theory, but rather for thinking about systems in terms of their contexts, materialities, politics, and differential effects.

Conclusions and Points of Departure

Discard studies “stays with the trouble” of difficult questions and situations, as Donna Haraway (2016) would

say, not only because solutionism tends to address symptoms of systems rather than the systems themselves but also because the trouble is already here. Mere gains in efficient use of matter and energy cannot mitigate the tonnage, toxicity, heterogeneity, and harms of contemporary waste (MacBride 2012). In fact, efficiency tends to enhance rather than alleviate demand for resources since gains in efficiency cheapen the production of end commodities (what ecological economists call the “rebound effect” or the “Jevons’ Paradox”; see Alcott 2005; MacBride 2019; Shove 2018, 2020). Nor does efficiency lead to justice. In fact, efficiency can use and discard labor at grander scales than other modes of production (Marx 2004; Alcott 2005).

This is just one example of why discard studies needs to look beyond technical tweaking or reform of existing systems and forward to interlocking systems themselves (in the next chapter we’ll consider how to look at and think about large-scale systems that can be hard to discern). An example of looking at multiple systems at multiple scales is Sophia Stamatopoulou-Robbins’s extensive ethnography on waste practices in Palestine:

When a Jenin resident smells refuse or stops in the street because her shoe strap breaks days after she purchased the shoes, an array of possible actors is available for blame. She may choose to blame street sweepers, UNRWA [the United Nations Relief and Works Agency for Palestine Refugees in the Near East that provides basic infrastructure like trash collection], the American government that withdrew

its funding from UNRWA, the political party in charge of the municipality, the Authority [the interim self-government body that exercises partial civil control over the Gaza Strip], herself for walking that route or buying those shoes, China (where the shoes may have been made), the shopkeeper who sold them to her, or “the situation” (*al-wadi'*) [the occupation]. She might blame the individualist ethos (*anania*) many see as having replaced the mass, cross-class solidarity that characterized life during the intifada between 1987 and 1993, an ethos many remember as having inspired them to collectively keep streets clean. (2019, 7–8)

These are just some of the actors, forces, and infrastructures in waste systems that are discernable to someone walking down the street. There are many more besides. As researchers, we also must account for permanent toxicity, gross inequalities and power differentials, the necessity of dealing with multiple systems simultaneously, a need to offer alternative practices as much as critique, and humble narratives that leave room for open and diverse futures (Schendler and Jones 2018; Rittel and Webber 1973).

If discards are necessary for systems to hold together, then differently organized systems are needed that fundamentally *alter* discards rather than eliminate them. The *elimination* of discards, we argue, would be wishful thinking indebted to the myth of purity. Altering discarding means posing the question, “How do you discard *well given specific contexts, materialities, and power relations?*,” a question we take up explicitly in the final

chapter (Liboiron 2015c; D'Alisa, Demaria, and Kallis 2014, 86–89). Such a question has no absolute or universal answer. Rather than pursue absolutes or universals, something we critique in chapter 4, we offer the question as an orienting device, a departure point, and an apparatus to assist in diverse groups maneuvering problems of waste and wasting.

We do not seek to define the field of discard studies, nor provide an authoritative text on the field or similar work of introduction or synthesis. Rather, this book is an effort to provide readers with examples and skills to add nuance and intention to how we might wade into and alter systems of discard, whether readers are just starting out or direct some of the largest sanitation systems in the world.

We begin to do this in the next chapter by discussing the partiality of knowledge and by offering a theory of scale. “The Scales of Waste: A Theory of Relationality” dives deeper into the myth that most waste is municipal solid waste produced by consumers. The chapter demonstrates the systemic nature of waste by considering waste at multiple scales as well as the various relationships that matter to the question of what waste is, how much there is, and where it is. In short, we discuss scale as a way to think about systems and relationships.

The third chapter, “Insides and Outsides: A Theory of Power,” returns to the idea of centers and peripheries and how they are created. The chapter starts by discussing categorization in social media content moderation: what gets

deleted before it ever gets to your feed and what is allowed to go through. Starting from the premise that dominant systems must find ways to discard people, places, and things that threaten their ordering, we use the case study of content moderation to talk about systems of power. We then move into theoretical work by Mary Douglas in *Purity and Danger* to think about some of the techniques used to keep that status quo safe from threats.

Chapter 4, “There’s No Such Thing as We: A Theory of Difference,” uses theories of difference to show how resistance to racism and fights for justice can inadvertently reproduce the dominant systems that make some groups of people disposable and others secure. It reinforces the idea developed in chapter 3 that disposability is systemic and relates to threats to powerful centers. Using the case study of “inclusive” efforts to broaden the Black Lives Matter movement, it shows that universalism, stereotypes, and inclusion all have politics of discard and even purification. The chapter ends by outlining some intellectual strategies discard studies has to offer to those working to make change.

The final chapter discusses wasting well. It uses earlier concepts of categorization, sorting, and ranking to talk about theories of change in dominant systems that make some things seem obviously valuable or worthless and others natural and neutral. We start by comparing two city’s strategies for getting rid of snow on sidewalks. One city disposes of snow in a way that intentionally addresses gender inequity, while the other makes choices

that knowingly risk pedestrian safety. We extend the concept of wasting well to concepts of refusal and how refusal can be a form of affirmation, of creation. Rather than a utopian vision of a world without discards, we discuss incommensurability and how there will always be conflicting ideas of waste and discarding, value and devaluation. We end the book with a summary of the key techniques, methods, and propositions for a justice-oriented discard studies that keeps power in view.

Our goal as authors is to show that systems and power are at the heart of wasting, whether plastic straws or Black lives, and to offer frameworks to identify and describe these modes of power, critically think about them to question their premises, and intervene to make change. Put another way, we argue that discard studies is about broad systems that waste, where “systems” refers to cultural and social norms, economies and modes of de/valuation, knowledge systems and how some things make sense, even are common sense, while alternatives are hard to imagine, and of course, material infrastructure. These elements of systems are inextricable from one another, difficult yet crucial to study.

