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The Ethics of Single-Use Plastics

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DePauw University Honor Scholar Program

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Inspiration for Project

The inspiration for this project came from a simple question: How can individuals be held morally responsible for their consumer actions in a world that economizes environmental damage? As I pursued my environmental studies major, I became increasingly aware of the ways in which social, political and economic structures of the past and present, used the environment as a tool for division. An unfortunate pattern emerged: modern concern for environmental issues, from conservation to climate change, often created moral standards which only the privileged few could possibly reach. This angered me, not only because I cared about social justice, but because I deeply care about the environment and its preservation. I found myself incapable of justifying the pursuit of environmental protection if it required the sacrifice of equity or justice. At the end of my sophomore year I began to seriously doubt my decision to major in environmental studies, and even worse, my passion for environmental issues in general.

During the fall semester of my junior year, I enrolled in professor Everett's Environmental Ethics course. While I had cultivated a passion for ethics and philosophy through serving as a Hillman Intern and writing for the Prindle Post, as well as completing the pre-law philosophy track, I did not really understand environmental ethics as a field until this class. It was exciting and refreshing to be able to talk critically about the competing values within environmentally-focused philosophies. Fundamental to my development in my major was one of the texts we read during our climate change section, "Individualization: Plant a Tree, Buy a Bike, Save the World" by Michael Maniates. While reading the text, I felt like my frustrations with the silent assumptions made by environmentalists as well as within the areas of study I had taken environmental topic courses in, were being addressed. I shared Maniates frustration at the individualization of

responsibility, but I had never been able to properly vocalize my grievances. Even after the class ended, I could not forget about Maniate's essay. I used it in conversation, papers for other classes, and even my Prindle Post articles.

When the time came to start thinking about a topic for my Honor Scholar Thesis, I knew I wanted to do an environmental ethics paper, but I struggled to pick a specific topic. It was hard for me to see how I could combine my passion for Maniate's essay as well as a modern environmental issue outside of climate change. After asking Professor Everett to serve as my advisor, she suggested I consider single-use plastics. I will admit at first, I sort of internally rolled my eyes, because it isn't the sexiest environmental issue, especially when compared to climate change, industrial agricultural, or water rights. However, as I began to read more and more about plastics, and reflect on my conversations with friends and family about them, it became clear that they were a perfect case-study for environmental ethics and the individualization of responsibility.

I have no clue the pre-conceived notions of plastic, individual responsibility, and the importance of the environment that you, the reader, carry into this. However, I finish this Thesis, I hope that in some way, shape, or form, you are encouraged to reconsider the value of single-use plastics and the responsibility that individuals carry in lessening the environmental harms caused by consumption.

Introduction

Found everywhere from doctors' offices to the grocery aisle, plastic has invaded many aspects of our lives. Plastic is so versatile that even the head of UN Environment, Erik Solheim, has admitted that "plastic is a miracle material." (Giacovelli 2018). Because it is cheap to produce, lightweight to transport and easy to make, plastic in some form, has reached every continent on Earth (Giacovelli 2018). We are in an age of plastic, and there is no sign we are slowing down anytime soon.

While plastics serve a variety of functions, their place in the modern consciousness has become one of environmental destruction and pollution. Anti-plastic advocacy is dominated by environmental groups passionate about the world's oceans and wildlife, politicians concerned about plastic pollutions threat to natural resources, and health-conscious individuals skeptical about the safety of this miracle material.

When disaster strikes, many are quick to point fingers, aiming to assign responsibility as quickly as possible. This tendency is reflected in public, government and industry reaction to the increasingly alarming pollution of the world's oceans by plastic. Speculation on who is responsible matters a great deal, because it guides the public conscience on who exactly needs to solve this plastic disaster and how. A clear narrative has begun to form, through media, regulation, and environmental discourse, that it is the individual that holds the responsibility in this crisis.

This narrative, while characteristic of many modern environmental problems, might not represent the true nature of the single-use plastics crisis, but our tendency toward the individualization of responsibility. In his essay, "Individualization: Plant a Tree, Buy a Bike, Save the World" Michael Maniates demonstrates this point by arguing "A privatization and

individualization of responsibility for environmental problems shifts blame from state elites and powerful producer groups to more amorphous culprits like “human nature” or “all of us.” (Maniates 57) When there is no one individual or group to blame for environmental destruction, or rather when there is but these groups manage to escape responsibility, the end result is the continuation of such destruction with the burden carried by those least responsible. Consequentialist motivations for action do not lead to favorable consequences. This does not signal failure of human beings, but rather highlights a system which has stolen the individual’s ability to control their own collective morality. It isolates us from one another, veiling those who truly hold moral obligation and responsibility.

A Brief History of Plastics: The Great Imitator

Conscientious, Affordable, or Neither?

Today, many of the moral quandaries surrounding plastics are related to their relentless pollution of wildlife and the world’s oceans. It may come as a surprise however, that plastics as we know them today were born out of another environmental catastrophe: the ivory trade. In his book, “American Plastics” Jeffrey Meikel details the sociocultural history of plastics in the United States from the 1800’s to the modern era, detailing plastic’s surprising origin and evolution. The rise of middle class life and access to traditionally aristocratic forms of entertainment heightened the demand of ivory in the mid nineteenth century. In 1869, John Wesley Hyatt discovered the malleability of cotton fiber cellulose when treated with the organic compound camphor (The

Editors of Encyclopaedia Britannica 2018). While his product, synthetic polymer, did not serve as a substitute for the quite popular ivory billiards ball Hyatt saw potential in his product and continued experimenting using different formulations of wood and agricultural fibers, providing passable alternatives for games such as dominoes and checkers (The Editors of Encyclopaedia Britannica 2018). In 1870, he and his brothers patented the synthetic polymer and sold it as a substitute for denture rubber. Hyatt's "Celluloid" took off and became the world's largest plastic alternative producer, supplying basic plastic molds to larger companies while still retaining the rights to produce brushes, cuffs, and piano keys (The Editors of Encyclopaedia Britannica 2018). The Celluloid Company bragged that it could serve as an imitator for "coral, ivory, malachite, tortoise shell, amber, turquoise, lapis lazuli, agate, and carnelian." branding plastic as an appealing material for producers and middle class people alike (Meikle 15).¹⁸ Hyatt's synthetic polymer not only served as a solution to the problem of resource scarcity, but decreased the price of consumer products, making previously inaccessible products available to the lower and middle class ("The History and Future of Plastics."). Celluloid's imitation function was not necessarily welcomed by all, however. Reactions from industrialists and critics ranged from suspicious to abhorred by the new invention beginning to take hold of popular consumer products. Imitation was considered not only immoral in its perceived attempt to dupe consumers, but also its potential to "falsely claim a natural or cultural history." (Meikle 13) Criticism abound, plastics' popularity continued to rise well into the 20th century.

However, quite ironically, Hyatt's invention, and the plastics that followed, did little to curb the ivory trade in the late nineteenth and early century. Though Celluloid and Du Pont marketing had consumers believing otherwise, ivory depletion was not imminent until well-after

the introduction of Hyatt's synthetic polymer. Quite ironically, between 1890-1911 annual imports of ivory in the United States doubled, and its price decreased, despite the presence of plastic alternatives. Plastics it seems, were not only born out of material imitation, but also concern for a problem that did not yet exist. The plastics industry relied not only on the myth of ivory's impending scarcity, but also its devastatingly inaccessibility to classes outside of the elite. Marketing techniques employed by Du Pont made plastic appear to the middle class to open the gateway to luxuries previously only available to the rich (Meikle 17).

Plastic: A Public Good

As the popularity of plastic increased into the 20th century, its value was slowly molded from imitation and substitution to a more withstanding versatility.

After the second world war, America's plastic industry shifted its focus from domestic products to industrial ones. Experimentation with plastic continued, now aiming to enter into mainstream production rather than simple commercial uses. The concept of plastic as an alternative was reintroduced, but this time to the industrial sector rather than the consumer one. Inflammable plastics provided a cheaper and more customizable alternative to stone and metal. Plastic's synthetic nature was vital during WWII, and the United States Government invested in plastic research as well as creating the Plastic Defense Committee, which served to aid United States military operations (Meikle 161). After the war ended, older plastics found new uses in consumer products as the development of light-weight plastics began. Polystyrene, owned and developed by Dow Chemical, started with industrial and decorative uses but in less than a decade was a cornerstone in disposable retail products. (Meikle 189) However, it was polyethylene's development in the early 1950's that truly changed plastics industry, emerging with such enormous

potential that it led to the government to consider Du Pont and ICI's ownership to warrant an anti-trust lawsuit (Meikle 189).^[4] Throughout the 1950's plastic found its way into everything from automobiles to kitchenware. Early Monsanto engineers took so much interest in the product, that in 1954, they set out to build the "House of the Future" entirely made out of plastics (Meikle 205). Slowly but surely, Americans found themselves in a world surrounded by plastics, which were so useful because they were "cheap enough to replace rather than repair." (Meikle 190) It was this versatility of plastics that caused little alarm to consumers as the era of mainstream disposable plastics approached. However, as good industry leaders often do, plastic leaders were thinking ahead.

The Tide Turns on Plastic

Though dating back as far as the 1920's, fear of plastic's influence on culture did not gain steam until the 1960's. The legacy of chemical weapons from WWII combined with the nuclear arms race inspired a looming fear of new technologies by post-war activists, like Norman Mailer (Meikle 243). Mailer was one of the first to associate plastics not only with environmental degradation, but also harms to human health. Mailer's 'conspiracies' were later verified by scientific studies conducted during the 1970's which showed the health risks that synthetics posed, specifically when it came to cancer (Meikle 244) Consumers began questioning their constant exposure to plastic, present in everything from dishware to air conditioning units. A rash of child deaths throughout the 50's and 60's due to the choking hazard that plastics caused also prompted fear of the lower -density disposable plastics (Meikle 250). However, plastics producers found intelligent ways to defend their products, addressing the issue of 'consumer' ignorance which they claimed lay at the heart of many of these issues (Meikle 252). To address environmental concerns

industry leaders began to consider the potential impacts of their products as well as the potential regulatory response to it. Industry leaders in packaging joined forces to form Keep America Beautiful, a non-profit organization with the general mission of informing the public on how to reduce their waste. Keep America Beautiful, through media and smart campaigning transformed the looming disposal product litter crisis into an individual issue rather than an industry one. KAB's first PSA about preventing litter was launched 3 years after its founding in 1956, and its campaign was so powerful that it caught the attention of the Ad Council in 1960, beginning a long and crucial partnership ("Mission & History.") After this partnership, KAB's campaigns were endorsed by many public figures, including first lady Lady Bird Johnson and former president Ronald Reagan ("Mission & History.") However, the campaign that truly was, according to KAB, an "iconic symbol of environmental responsibility and one of the most successful PSA campaigns in history," was the 1971 "Crying Indian" television PSA ("Mission & History."). The advertisement, first aired on Earth Day in 1971, depicted a fictional Native American canoeing through a polluted river, eventually stopping to address the audience about pollution only "to reveal a single tear falling, ever so slowly, down his cheek." (Dunway 2017) KAB and the Ad Council's PSA became so popular that Ad Age Magazine considered it one of the top 100 most successful advertisements of the century (ad council). The individualization of responsibility for waste rings clear in the campaign's slogan "People start pollution. People can stop it."

The Rise of the Anti-Plastics Movement

However, not all were convinced that the solution to environmental and societal problems caused by plastics laid in the hands of individuals. Despite the success of plastic products throughout the

1950's and 60's, as the baby-boomer generation came of age, skepticism of the booming industry took centerstage. The 1968 film *The Graduate* a film often thought to represent the spirit of the boomers and the divide between their generation and their parents, references this attitude, with Mr. McGuire's advice toward a disdainful and confused, Ben "One word. Plastics." (Seabrook 2010). Plastics represented materialism, wealth, expectation, and choosing responsibility over passion in this scene; many constructs that rejected by America's "Most Entitled Generation." (Pomeroy and Handke 2015).

Anti-establishmentarians were not the only critics the plastics industry faced. As mounting pressure built against the oil and gas industry in the late 1970's, environmentalists began to question the wanton consumption of petroleum used by the plastics industry. In June of 1979, an op-ed piece in the New York Times railed against the plastics industry's irresponsible use of petroleum to create disposable products which only ended up littering America (Meikle 271). However, some environmental organizations, such as the Worldwatch Institute came to the defense of the industry, by publishing a report detailing how plastic's lighter weight actually saved energy, and therefore used less petroleum, during the manufacture and transportation processes. (Meikle 271) Despite this defense, the plastic industry still grappled with negative public perception throughout the 1980's, due to their "establishment" reputation as well as "chemphobia" following the Vietnam War and the beginning of the modern environmental movement (Meikle 274). The term "plastic" became common to denigrate people who were considered cliché or unauthentic (Meikle 288) During the 80's and 90's authenticity took cultural center stage in the wake of political scandals and the perception of the breakdown of the American family (Meikle 289-290).

Still, what the plastics lacked in reputation, it made up for in its appeal to affordability and convenience. The recycling industry expanded throughout the 1980's to address both environmental concerns about pollution and cultural concerns about disposability. Plastics became essential in the 1980's and 90's in the creation and mass distribution of cyber technology. Computers, laptops, cell phones, all developed during the age of plastic, integrated plastic for efficiency and affordability. Today, plastic makes up over 30% in the average HP computer (HP Product Material Content Information 2016). Modern cell phones are also heavily reliant on plastics, with global cell phone plastics estimated to be an over \$4 billion industry today (HIS Inc. 2013). Though rare metals have been the major cause of concern for environmental groups when it comes to smartphones, some estimate that smartphones are also about 40% plastic (Neild 2015). Smartphones and computers as we know them would not be possible without the advent of plastic.

Conclusion

Since their inception, plastics have faced suspicion, disgust, and general hostility in American culture. Whether it be from those fearful of the health effects of plastic chemicals, outraged by the degradation of authentic taste-driven consumption, or anger at the establishment status of the industry-plastics have never necessarily been universally popular at any time. The history of plastics, and its increasingly imperishable role in our homes, technology, and culture only complicates its consequences. Understanding its history is crucial to contextualizing the ways in which we depend on plastics, and the ways in which we can mitigate its influence. Perhaps a larger and more crucial question however is whether or not we should limit plastic's influence in our lives? If so, on what basis? In the next two sections I will connect the history of plastics to its

role in our lives today, considering the positives and negatives of its permeation in the consumptive aspects of our lives.

Plastics Today: A “Modern Miracle” or a Bad Habit?

The Good

Single-use plastics embody the heart of the instrumental and intrinsic value of consumption: affordable, accessible, convenient. Marketed not only to the consumer on-the-go, the versatility of these products has made them cornerstone to life-saving initiatives to immediately provide care of those living in extreme conditions. Bottled water can save lives in the event of a sudden water contamination. Plastic syringes can save the lives when infectious disease break out. Plastic toiletries can save the lives of those hard-hit from natural disasters. Single-use plastics have significantly improved the accessibility and safety of medical services and save enormous amounts of energy in the recycling and transportation processes compared to other materials. In this section I will describe the positive environmental of single-use plastics.

The miracles of modern plastics are well-documented by modern corporations and think tanks that design and sell plastics. These “plastic-experts” are spread across the plastics market, from the scientists that create them, to the lobbyists that push against their regulation. The American Chemistry Council (ACC) is one organization situated in the scientific community of the plastics

market. The council states that their work drives sustainable innovation, creates jobs, and enhances safety (“Plastics.”). While the ACC serves the interests of companies with a stake in science, they have a large, far-reaching policy platform, which lays out their approach to everything from chemical management to trade policy (“Plastics.”)

When considering the positive aspects of plastic, it is also important to assess the potential alternatives to plastic, as well as their impacts. In a comprehensive 2018 study conducted by ACC in conjunction with Trucost, packaging alternatives to plastic were found to have a greater environmental impact by nearly four times. Not only were alternatives costlier, especially in terms of production, but also in terms of material and energy recovery and ocean damage. (“Study from Trucost Finds Plastics Reduce Environmental Costs by Nearly 4 Times Compared to Alternatives.”) Some scientists and environmental advocates even argue that critics fail to see the positive environmental impacts of plastic in the modern era. Plastics have even been imagined by some to serve as a solution to climate change, through storing sequestered carbon for centuries in the very same plastics we abhor for indestructibility (Rollin and Gallegos 2018).

Climate change is not the only way in which plastics can be environmentally positive, but they might also contribute to environmental justice efforts. While food containers and packaging might seem unnecessary in some contexts in others they improve safe and equitable access to important resources, such as clean food and water. Plastic bottles represent more than simply an addiction to disposability, but also a life-saving solution to water contamination and disaster. In fact, in many cases plastic bottlers are on the forefront of disaster efforts, providing bottled water to those in need of relief or medical attention. Following Hurricane Sandy, which battered the East Coast of the United States in 2012, the International Bottled Water Association (IBWA), a

consortium of over 600 small to mid-sized bottlers and distributors, “delivered truckloads of bottled water” to the Red Cross and Salvation Army in affected areas (“Bottled water industry provides clean, safe drinking water for hurricane sandy victims.”) . The IBWA has used bottled water has not only to provide relief to those affected by natural disasters, but also those who are the victims of water contamination. The 2017 disaster in Flint, MI lead members of the IBWA to donate millions of bottles of water to the community (“Bottled Water & Flint.”). In both of these cases, the cheapness, efficiency, and accessibility of bottled water as well as the bottling industry, provided essential aid to those in need. With these in an article for *Plastics Today*, Heather Caliendo asked the question, “If bottled water bans became widespread, what would happen in times of crisis when clean drinking water is not available?” (Caliendo 2015) This is an important question which reflects the value of plastic packaging and its potential to address large scale emergencies.

This aspect of bottled water has made it very popular in developing countries where access to clean tap water is not a given. A recent report found that India had the most people in the world without access to clean water, at a burdensome 163 million (Zargar 2018). This finding correlates with another: India’s consumption of bottled water increased almost 20% between 2016-2017 alone. According to a recent article in *Quartz*, researchers at international market intelligence organization Mintel, found that the largest users of bottled water were “urban Indian consumers with higher disposable income but facing an acute shortage of potable water.” (Tandon 2018) In this case, bottled water might be filling in some of the gaps in access to safe clean drinking water that the state cannot address.

Outside of environmental and health benefits, one could argue that it is impossible to begin to measure the ways in which plastics have enabled greater access to social mobility, through affordable consumer products, and greater safety, through medical technology and contamination prevention. While it may be impossible to measure the complete benefits of plastic to society, one should be mindful of the measurable positive impacts that plastic has had on the world, as well as the existence of immeasurable impacts. If this is all true, why does plastic get such a bad rap?

The Bad

Plastic wasn't originally imagined to be an environmental threat. In fact, as discussed earlier, it was marketed as a sustainable solution to natural resource depletion. As discussed earlier, initial criticisms of plastic were often made by upper-class elites, citing a concern for the potential for 'cultural imitation.' While these criticisms were classist, criticisms of single-use plastics today are based out of a place of concern for the environment and human health. Single-use plastics environmental fall from grace did not truly begin until the 1970's environmental movement. Indeed, much of the criticism aimed at plastics today comes from an environmental perspective.

It wasn't necessarily an analysis of plastic's effect on our modern culture that spurred radical production, retail and lifestyle changes around plastic in the past two years, but rather a sudden awareness about what these plastics have done to the environment. Documentaries such as *A Plastic Ocean* were some of the first to raise awareness about ocean pollution also called attention to the widespread damages of plastic consumption. The consequences of our plastic pollution serve as evidence of their inherent immorality. Plastic pollution of the world's oceans has become a popular emerging environmental problem, especially after the World Economic

Forum's 2016 estimate that by 2050 the world's oceans will contain more plastic than fish (Kaplan 2016). National Geographic estimates that 73% of all worldwide beach litter is plastic ("A Whopping 91% of Plastic Isn't Recycled.").

Plastic drinking bottles are often the classic symbol for plastic recycling. Despite this recyclability they are the second largest type of plastic pollution, second only to cigarette butts (Giacovelli 2018). This might seem alarming, considering the vast amounts of recycling campaigns and options available for plastic bottle recycling. However, only 9% of all plastic produced worldwide has ever been recycled, and even more alarming, more plastic has been incinerated than recycled, potentially releasing harmful pollutants into the atmosphere (Giacovelli 2018). An unsettling 79% of all plastic waste ever generated has accumulated in landfills, dumps, or been littered into the environment.

In response to these frightening statistics, a number of environmental advocacy groups have made plastic pollution one of their top issues. GreenPeace has consistently launched campaigns against major plastics producers and retailers desiring not only that these companies phase out single-use plastics, but plastic all together. They also recently launched a campaign called "A Million Acts of Blue: For A Plastic Free Future." It is highly unlikely that the plastics industry will want anything to do with this initiative or an organization that actively seeks to destroy the plastics market.

While early campaigns promoting recycling through Keep America Beautiful highlighted to impact of litter on America's natural beauty, plastic pollution extends beyond water bottles on the side of the highway. Though it's easy to take issue with the aesthetic degradation that plastic litter creates, the larger environmental impact lies in plastics decomposition. Microplastics which

are smaller plastic particles, result from the decomposition of the chemicals in plastic. The problem with microplastics is two-fold: Not only does its smaller size make it harder to clean up and eliminate, but it also makes it easier to ingest, not only for sea creatures, but also human beings. Microplastics have the potential to travel up the food chain, spreading from prey to predator. It is estimated that by the year 2050, 99% of seabirds will have ingested plastic, mostly in the form of microplastics (“Plastic in 99 Percent of Seabirds by 2050”). This estimate reflects the radical pollution of microplastic across the world’s oceans.

The dispersal of microplastics is, like many other forms of water pollution, not contained to the area from which it originated. Particles found in plastics disposed in the U.S. have the potential to end up in the form of microplastics halfway across the world. This spells disaster not only for the environment, but also for the health of human beings.

As our lives become increasingly enveloped in plastic, our exposure and consumption of them is becoming an ever-present reality. One study, which aimed to examine the impact of ocean microplastic pollution on human seafood consumption, found that humans are exposed to as many as 100 plastic fibers per meal-not through seafood, but through their own homes (Catarino 2018). Microplastics have been linked to causing genetic mutations in human beings affecting fertility, and in some cases leading to cancer or obesity (Sharma 2017). During the disposal process, plastics pose great health risks in terms of food and water contamination. As stated earlier, 79% of all plastic waste is sent to landfills or dumped into the environment. During *A Plastic Ocean*, a documentary highlighting environmental destruction caused by plastics, one researcher points out that “Over 80% of ocean plastic leaks from land-based sources. Even if you don’t live near the ocean, chances are your plastic garbage has found its way to the sea.” (Leeson)

It is not only plastic waste that can threaten human health, but also plastic production. The production process ranges depending on the type of plastic, though all plastics require polymerization, a highly energy intensive process. Polymerization connects polymers together with monomers to form long chains, which are then broken, usually by heat. This process uses and can release compounds such as Benzene, a dangerous chemical (“Benzene.”) Excess benzene exposure has been linked to diseases such as leukemia and bone cancer. (“Benzene.”)

Most of us come into contact with single-use plastics in our lives, most likely consuming and disposing of them daily. Are there cases where the presence of single-use plastics can be considered morally positive? In the next section, I will consider consumption, and most specifically single-use plastics consumption through each of the three major branches of ethical theory.

Consuming Plastics

The ecological price of our consumption is not invisible to the majority of us. Knowledge of ecological disasters caused by mass consumption have infiltrated our media, our pop culture, and even the marketing strategies of the corporations. Features of the destruction of rainforests, peppered in with b-roll footage of blazing jungles aim to touch the hearts of watchers, seeking gratification from simply being informed. Multinational organizations seek to distinguish themselves from the rest of the pack, by selling products labeled as “fair-trade” or promising to ban disposable components of their products to satisfy the most current social media driven demands. Millionaire celebrities sponsor documentaries which essentialize environmental solutions to piecemeal changes in consumer actions. Anybody who says “I want to live a better

life”, might be understood to in part be talking about their consumption choices. Changing buying patterns, reducing consumption, and recycling are all considered morally righteous actions in their defiance against the “consumption culture” we seem to have created.

However, through a closer examination about the type of plastic that horrifies us, we don’t seem to be targeting every plastic material, rather the way in which we consume this plastic. It is the mix of disposable consumption and environmentally destructive plastic that we ultimately consider harmful, to ourselves, our society, and our environment. This type of consumption is consuming to dispose, which might be better described as disposability. When plastic, specifically the type that is lightweight yet durable, is combined with this type of consumption, we end up with both the physical and ideological product: single-use plastic. The next section will take a closer look at the connection between disposable consumption and single-use plastic.

Consuming to Dispose

Is there an instrumental value of consumption? Is there something to be said about how consumption has changed our standard of living? At a very basic level, we cannot escape consumption. Our bodies require us to consume nutrients, our minds demand the consumption of content to satisfy and entertain us. But both of these don’t seem to truly touch on the heart of the type of consumption that we have become so addicted to. When we talk about our “consumption problem”, what are we really talking about?

In his essay “Consumption, Well-Being and Capability” David A. Crocker seeks to answer the question of the value of consumption by measuring its value in our lives and our well-being. While some anti-consumption rhetoric claims consumption has uniformly inhibited our well-being, Crocker argues that some American household consumption lies directly at the heart of

well-being. Fundamental to determining which types of consumption are necessary is the assessment of how consumption contributes to individual well-being and capacity (Crocker 376). It is not consumption *per se* that is the problem-rather type of consumption that interfere with our other duties (Crocker 385).

Crocker's conclusion seems rather intuitive. Save for the most radical, consumption at the most basic and functional level-food, shelter, and comfort- is not considered inherently morally wrong. The target of social and moral criticism is rather, excess consumption. In the same way that the problem with consumption is the type, modern criticisms of plastic are often about the type, rather than the proliferation of the material itself. The type of plastic which is most clearly linked to concerns about consumption are single-use plastics. Single-use plastics are inherently disposable, meant to be consumed once and discarded immediately. Such short-lived consumption lends itself to excess when incorporated into our daily lives, as it has been in the United States and many other parts of the world.

While the pollution caused by single-use plastic consumption serves as a moral call to action across plastics documentaries and social media articles, arguing this is the only moral dilemma raised by single-use plastics would be overlooking important social drivers of our plastic problem, specifically the role of consumption. However, to truly understand what actions we should take in light of social and environmental harms, we must first examine both the value of consumption in conjunction with value of single-use plastics in order to understand what is wrong with them. In the next three sections I will be investigating consumption and single-use plastics through the three main branches of ethical theory: consequentialism (specifically utilitarianism), virtue, and deontology.

Consumption and Utility in the Grand Scheme

Consequentialism is a branch of ethical theory which defines moral goodness and badness of actions based on direct and indirect outcomes (Haines). Though there exist various theories under consequentialism which define how to measure the goodness of an outcome, and therefore an action, one of the most popular consequentialist theories is utilitarianism. Utilitarianism defines goodness as maximizing pleasure and happiness and minimizing pain and unhappiness (Nathanson). Two major branches of utilitarianism are rule utilitarianism and act utilitarianism. Rule utilitarians measure the goodness of an action based on its relation to larger moral rules while act utilitarians measure the goodness individual actions directly (Nathanson). Utilitarian philosophers such as John Stuart Mill argued that outcomes should be measured by the quality of pleasure and pain in addition to the quantity (Nathanson). The crucial question which defines the goodness of consumption under utilitarianism is whether consumption leads to good outcomes, specifically in terms of pleasure and pain.

Modern philosophers, such as Michael Schudson have applied utilitarian ethics to assess the value of consumption in our society. In his essay “Delectable Materialism: Second Thoughts on Consumer Culture” Schudson defends modern consumer culture, arguing that it has contributed to American abundance, happiness and well-being (Schudson 1998). He does so by responding to what he sees as the five major types of critiques often laid against the good of consumption which according to Schudson, each one of these critiques, in differing manners, makes the fundamental mistake of distinguishing between necessary needs and artificial needs (Schudson 251). Similarly to Crocker, Schudson accounts for the social benefits that human beings derive from consumption, and argues that criticisms toward consumer culture often over-simplify the positive and negative

aspects of consumption and the culture which surrounds it. Ultimately, Schudson suggests that he does not “see any likelihood of establishing a calculus that will enable us to reach agreement about whether our own or anyone else’s uses of products are justified.” (Schudson 266) Put simply, consumption is such a complex act, it is difficult to assess its morality, and therefore, doctrines criticizing the act of consumption and the culture that surround it, are often incomplete.

Some might argue that Schudson’s argument makes fundamental psychological assumptions about the value of consumption. However, scientific studies have evidenced the conclusions of philosophers like Schudson, linking consumption to human well-being. Leisure consumption specifically, has direct ties to human happiness in the United States (DeLiere et al. 2010). Perhaps this is in part due to the social weight that leisure consumption carries, in its potential implication of wealth and power.

And, as Schudson argues, has consumption not led to a greater standard of living and lifestyle for a great many? In his essay, Schudson references the post-Soviet fascination of consumer-culture in an attempt to demonstrate the good of consumption in that it seems to be naturally craved by human beings, regardless of their culture or circumstance. He describes that upon the first opening of McDonalds in Moscow, Soviet citizens “were delighted at the efficiency of service despite a wait of two hours...it takes an immigrant or outsider to speak of American abundance in beatific terms.” (Schudson 249) It is hard to quantify exactly how much good consumption has added to our society, but those who believe in the good of consumption often use comparisons between the capitalist West and the rest of world to demonstrate the link between consumption, wealth, and pleasure. Indeed, countries which are said to demonstrate a higher

“standard of living” are those in which individuals have a greater access to “wealth comfort, and material goods” or put in another way: consumer products (Kenton 2019).

Intrinsic to this way of measuring well-being is capitalism, which is theoretically driven by supply and demand, making consumption the hallmark of a healthy and resilient economy. However, the lifestyle benefits of consumption might not be considered enough when weighed against its impacts on the world around us. Perhaps the largest evidence of our “consumption problem,” is the impact it has on the natural environment. The consequences of consumption, from polluted skies to littered oceans, are also often the inspiration for large-scale calls to action.

One of the best examples of consequentialist criticisms of consumption are those made by Peter Singer. Singer’s work is often critical of the consumption of animals, but he also examines the question of consumption in general. Specifically, Singer’s 1999 article in the New York Times “The Singer Solution to World Poverty” argues that consumption is immoral on the basis of its failure to increase social utility. Frivolous spending may slightly increase the well-being of the consumer but could make a far larger impact if the money was directed toward the impoverished. Singer points out that “a \$1,000 suit could save five children's lives.” (Singer 1994) If this is the case with luxury spending, which is expensive but arguably contributes some contentment to the consumer, what can be said of mindless disposable spending? One could argue that such spending is arguably even more unethical due to the fact it contributes little utility to the consumer but is simply a matter of convenience and ease.

While this type of criticism of consumption is made on the basis of what it fails to do, strong arguments can be made on the basis of the real harm that consumption may cause to producers or those who are left with consumption waste. Take for example the late 1990’s Nike

sweatshop scandal. Nike had been facing criticism from activist groups in Vietnam and the United States for years (Ballinger). However, media coverage of Nike's sweatshop conditions were popularized in the cultural sphere after photos of child labor surfaced in one of Life's magazines in 1996 (Schanberg 1996). These stark images forced not only Nike to reconsider its practices, but also consumers. Many consumers were forced to consider whether the pleasure generated by consuming a soccer ball could really be worth the horrible conditions and poverty-inducing salary of the labor required to make it. Many consumers found the answer to this question to be a resounding 'No' and calls to for Nike to reform were common throughout the 90's (Ballinger). This moral call for action might mimic Mill's conception of the delineation of pleasure, with some types of pleasure considered more valuable, and seeks not to measure morality simply in terms of pleasure and pain quantities. While many more Americans might have enjoyed Nike's products compared to those who suffered to make them, the pleasure generated by these products was not of a high quality, and this became even more apparent when consumers became aware of the harm caused in the production process. In this case, consumers decided that the suffering caused by consumption seemed to far outweigh the contentment generated by it, most likely through quality over quantity.

This same Mill style utilitarian logic can be seen in calls to reduce one's single-use plastic usage. Organizations such as the Plastic Pollution Coalition uses the consequences of consumer straw usage to motivate individuals to boycott straws. Their project "The Last Plastic Straw," aims to "stop this unnecessary plastic pollution." While using the consequences of pollution as a call for moral action, it is important to note that The Last Plastic Straw also aims to shift "our society's disposable culture on a larger scale." ("No Straw Please.") In BBC's critically acclaimed

documentary series, Blue Planet, single-use plastics are juxtaposed against an untainted ocean wilderness. Our everyday consumer plastics are put into a consequential context through the use of shocking imagery, from Dolphins playing with plastic bags to corpses of Albatrosses filled with plastic bottle caps (BBC 2017). We recognize these items as things we use in our daily lives-we may even stop to ponder, *Is that my plastic bag?*

Undoubtedly, moral calls to action born out of consequentialist logic have had a large presence in environmentalism outside of single-use plastics. From The Lorax to Smokey Bear, the environmental consequences of one's actions are not as the prime motivator for individuals to change their behavior. However, is it possible to argue that from a consequentialist perspective, single-use plastics are instrumentally morally wrong? It is impossible to begin to measure and quantify all the utility generated by the consumption of these products versus all the harms caused by them. One can imagine however, the criteria of instrumentality that single-use plastic must hold in order to be justified, and perhaps even considered positive in terms of utilitarianism. Thinking back to the Nike example of utilitarian consumer logic, it is clear that the criteria for single-use plastics does not necessarily include an absence of harm. From a utilitarian perspective, truly moral outcomes should not seek to totally eliminate harm, but to increase utility-even if this means failing to prevent-or perhaps even justifying harm, though this should come as a last resort. In order for single-use plastics to be considered morally positive, the utility must outweigh the harm, either in quantity or quality. An example is if for every two lives that single-use plastics save (where the single-use plastic is essential to the life-saving quality of the treatment, most likely through efficiency and protection from contamination) - say a sterile plastic water bottle, or a vaccine syringe - the resulting plastic pollution costs one life. It may be difficult to justify two lives for

one, especially if it seems like other efficient options are available to save all lives involved, however this is the morally right choice according to utilitarianism.

Utilitarianism accepts that there may be necessary sacrifices that must be made in order to achieve the greatest possible outcomes and defining what the greatest possible outcomes are is crucial to assigning morality. The Nike case provides a scenario which demonstrates this line of thinking-as far fewer sweatshop workers were suffering than were consumers deriving pleasure from Nike's product. It was the type of suffering that these workers were exposed to, as well as the utility they were unable to access (in the case of children) that was given more moral weight than the type of pleasure derived from consuming Nike's products.

Could the same be said for single-use plastics? Many of these products are not in themselves valuable for the majority but serve an instrumental purpose. Plastic straws and bags for example serve as a cheap added convenience to other consumer products, not necessarily products in themselves. The pleasure derived from them might be considered of a lesser quality than the harm caused to the environment, by microplastic pollution to wildlife destruction, by their mass consumption and disposal. On the other hand, single-use plastics which serve a greater instrumental function, such as transporting clean water or ensuring biomedical safety, could be said to be of an equal if not greater quality of good than the harms they cause, especially if one values human life over environmental health or the lives of animals. Therefore, the greater the instrumental function of single-use plastics, the more likely it is that they may be considered morally good from a utilitarian perspective.

While single-use plastics may have contributed good to the world, there is no indication they hold intrinsic value in their consequential impact. Completely eliminating them should not be

taken lightly in the context of the instrumental value they provide for society and their potential to save lives, especially as discussed earlier, in the case of natural disasters and medical emergencies.

The Virtuous Consumer and the Culture of Disposability

While consequentialism is focused on external outcomes, virtue theory is centered around on internal qualities and their influence on moral goodness. The most popular virtue ethicist was Aristotle, who believed moral goodness to be the product of individuals with virtuous traits. Virtue theory provokes the individual to morally nourish themselves in order to obtain the highest ethical state of being, or “the good life” as Aristotle put it. Rather than concerning duties or their consequences, virtue ethics is all about cultivating moral character. Virtues include “courage, justice, tolerance, patience, compassion, persistence, intelligence, imagination, and creativity.” (514, Garcia-Ruiz)

It’s no secret that a large number of consumer critiques target not only its consequences, but also its influence on the integrity of the human spirit. Our problem with consumption could be considered-fold: consumption is not only a force that has the potential to corrupt the external environment, but also our internal well-being. Sasha Adkins examines this idea in her essay “From Disposable Culture to Disposable People: teaching About the Unintended Consequences of Plastic,” as she explains that our problem with plastic is that “plastic wastelands hold up a mirror that reflects what we do not want to see in ourselves” (114) Plastics are truly frightening, according to Adkins, because they reflect something about ourselves and our character that indicates that we are morally corrupt. This is especially the case if we consider the original conceptions of plastic, which were to contribute to freedom, equity and modernity, or as Adkins

puts it, “We thought that they made us modern and free.” (114) The moral failures of plastic are simply an externalization of our own moral failures.

Such critiques approach consumption with the underlying assumption that what is important is the preservation of the individual’s integrity, reflecting the overall framework of virtue ethics. However, consumption is unavoidable: it is an inherent feature of our survival, and only increases with the complexity of our physical and social structures. Is it possible that consumption could, if approached correctly, reflect or promote the virtue of mindfulness?

The lines between consumption and materialism are often blurred, but this does not mean necessarily that they are one in the same. In fact some consumption ethics virtue theory claims that, “selecting *consumption* goods can become the occasion to order and prioritize *moral* goods into a coherent individual narrative” (Garcia-Ruiz 521) Ethical consumption might not be a contradiction, but rather a reflection and cultivation of one’s moral character. Sustainable consumption refers to “the use of goods and related products which respond to basic needs and bring a better quality of life without jeopardising the needs of future generations.” (Black & Cherrier 438)

Consumption might also be considered morally virtuous if it enables us to focus less on our needs and more on our identity. The pursuit of technological advancement might be considered a virtuous one, particularly if it incorporates or seeks to foster other virtues. Single-use plastics, and their role in our society, is arguably a product of such technological advancements, many of which merely a century ago were not imaginable. However, the real question is whether or not single-use plastics have the capacity to promote virtue development and the pursuit of the good life. Single-use plastics could be considered morally good if they contribute to our happiness,

and the pursuit of “the good life.” Single-use plastics might be considered as a bridge for us to direct more time, care, and resources toward pursuing other, more virtuous, goals. The mindlessness we can attach to disposable items goes beyond what we carry our groceries, but also what we have for dinner, and how much time it takes us to get out of the house in the morning. If single-use plastics are the product of increased efficiency, in the same as the invention of the wheel or the printing press, they could certainly be considered morally good.

As previously stated, many criticisms of the modern consumer result not only from environmental harm, but also spiritual or character degradation. However, if single-use plastics in some way contribute to one’s personal identity, perhaps they could be considered as morally positive from the perspective of virtue theory. The most direct way in which single-use plastic could be argued to contribute to one’s personal identity in a way that encourages the virtue of mindfulness is through a tie to the disposal process, specifically the process of recycling. Recycling has become a classic example of positive environmental action. Those who recycle are often passionate about this fact, and advocate for others to do so.

One’s consumption choices can be a way to develop virtue through consuming ethical products or abstaining from unethical ones. Choosing to buy “fair-trade” products, or those made from recycled material can, and perhaps often does, result out of a place of concern for one’s moral character and identity rather than the specific impact of one’s actions in the larger scheme. The formation and maintenance of personal identity is a crucial concept in virtue ethics and has been researched to be an important aspect of certain realms of consumer culture. (Cho and Krasser 2011) Choosing to participate in, or abstain from, certain types of consumption can certainly be avenues through which virtue and identity are formed.

choosing not to participate in some type of consumerism can also exhibit the character trait of courage, as was the case during the Apartheid boycotts of South Africa across the world in the late 1950's. (Gurney 1999) The relationship between our consumer choices and their sociopolitical meaning enable consumption to be considered from the perspective of virtue theory. Alternatively, choosing not to engage in a boycott or reformation of consumption can also be a sign of courage depending on the circumstance. For example, choosing to support and shop at Jewish businesses in the during the late 1930's of Nazi Germany, despite the boycott, is certainly a type of consumption, but given the context, can be considered a virtuous act, as it took courage given the context of anti-Semitism and anti-advocacy. ("The Boycott of Jewish Businesses.")

While consumption may hold the potential to cultivate values in the consumer, it also holds the potential to cultivate the wrong values within us. Consumer culture is often portrayed as a sign of moral corruption, with those who participate in it lacking integrity. Often, prioritizing consumption is portrayed as materialistic, vapid, elitist and potentially apathetic if one consumes without contemplation. Having little disregard for where your products come from and where they go might be tempting in a consumer society, as it allows individuals to escape perceived moral obligation or guilt. However, mindlessness might certainly mirror a larger vice within one's character: apathy, or the carelessness to do what is right.

Essentially, disposability and carelessness lend themselves to apathy is considered morally corrupt. The normalization of disposability and single-use plastics might cultivate apathy in two ways: 1. By justifying releasing the consumer of worry about what happens to the item after use and promoting willful ignorance 2. By enabling the consumer to become unaware the degree to which they are using these products. As mentioned previously, the convenience that comes with

disposability might be considered positive in that it allows one to cultivate other moral virtues and pursue noble causes. However, disposability in excess has the potential to disconnect consumers from their actions and potentially from other people. There is also something intuitively sinister, especially from the perspective of character, of being unconcerned with the degree to which one uses resources—in other words, being apathetically wasteful. The disposability of single-use plastics disconnects the consumer from their actions, which has serious potential to lead to moral wrongdoing.

Is it possible that fostering a culture of consumption and disposability inherently degrades the moral character of those who participate in it? While it isn't a given that caring less about material items leads to caring less about people, it is easy to imagine that a lifestyle which emphasizes constant intake and output, consumption and disposable, could lead to a depreciation of the things that “really matter.” One may start treating their relationships with other people as easy come and easy go as they treat the products they consume. Sasha Adkins explores this concept in her aforementioned essay as she explains: “The idea that some lives are more valuable than others arise from the same underlying notion that worth is a function of utility and productivity. In this worldview, value is instrumental rather than intrinsic. Things and people that no longer serve are discarded or destroyed...Cultivating a habit of the heart in which we no longer regard things as disposable may lead to actions affirming that life is not disposable.” (Adkins 12) Single-use plastics, and their function simply as things we use, devoid of much value, reflects a larger problem of virtue within our society: disposability. Cultivating disposability and participating in a system which uplifts it, might be considered morally wrong because it is not the type of virtue one wishes to foster within oneself.

The Equity of Consumption

Theories of deontology measure ethical values based on individual and collective duties, which are intrinsic and should stand regardless of the consequences. Immanuel Kant is considered a fundamental deontologist, who laid much of the groundwork for incorporating the concept of rights into deontological theories. Kant's conception of the categorical imperative emphasizes that there exist moral obligations which surpass all other considerations, more specifically the obligation to never treat others as a means to an end, but as an end in themselves. Equity and justice are also very important principles in deontology, as they relate to the actions and relationships between people who bear certain duties.

Perhaps certain types of consumption is morally wrong not because it leads bad consequences but because it's violates important ethical principles. One ought to buy the ethically produced product rather than the sweatshop made one because products made in sweatshops use human beings in a way that treats them merely as means to an end, violating Kant's categorical imperative. Even if buying the ethically produced product does not overall lead to more added utility, it is still the better thing to do because it does result from the violation the rights of another person, as the sweatshop product does. One could see how one's consumption choices might be framed around personal rights or the rights of others, especially the idea of consumer sovereignty.

On the other hand, perhaps consumption, or at least certain types of it, can be framed as a moral duty. One's consumption may reflect a dedication to one's own duties to take care of oneself or others. Provisioning is one example of how consumption can play a positive force in adequately addressing the needs and rights of others, especially if they cannot fulfill these needs themselves. A classic example is the role of consumption in childcare. Parents are faced with the duty of caring

for their children, which includes consuming products to take care of them, from diapers and food, to car-seats and toys. This type of consumption is arguably righteous in that it is done out of a place of duty. Another example of consumption as an expression of one's duty as a consumer-citizen, which requires one to consume in a morally responsible manner. If it is inevitable to consume, one must do everything in their power to consume ethically, taking into account their rights to others. 'Ethical consumption' may therefore be defined not by improving the outcome of one's consumer actions, but making consumer choices which reflect one's duties and respect the rights of others.

While many examples of modern day consumption include rights violations, what is to be said about consumption which includes fair pay, good labor conditions, and has little to no production consequences? These products and their consumption are available under the guise of "fair-trade," "ethically-sourced," or "cruelty-free." What these phrases imply about the products they can be found on is that they did not violate a particular moral principle in their production. Fair-Trade often refers to the equitable exchange of goods in the product between the laborers and the producer/retailer, ethically-sourced often refers to the environmental or social impact of a product, and cruelty free denotes that there was no mistreatment of animals in the creation of a product. Deontology can play an important part in consumer choice and obligation.

The aforementioned Nike case serves as an example of why consumption might be considered wrong from a deontological one in addition to a consequentialist one. From a deontological perspective, it is the aspect of labor and human rights that makes the Nike case, and other examples of consumption morally wrong. The production and distribution process of

products matters greatly in deontological approaches to consumption, which often points to the violation of others rights or individual duties for the reason why consumption in itself is wrong.

If consumption has the potential to help one fulfill their duties, can it also lead to a more equitable world? As discussed in the “Good” section of Plastics, single-use plastics have contributed to equalizing access to clean water and medical attention. The inherent cheapness of plastics enable the ability to provide far cheaper medical services. Additionally, the ability to transport clean water across the world was made possible by the inception of bottled water, which relies heavily on disposable plastics. And is there something to be said about equity when it comes to the less instrumentally valuable products, such as plastic bags and straws? Is there something inherently good about the mere fact that the same item can be found in a supermarket in an extremely impoverished developing country as well as the wealthiest country on Earth? While these single-use plastics may be universally recognizable, which could be in some ways considered epistemic equity, it does not seem that many of them add value in a way that contributes to substantial, deep equity. The prevalence of single-use plastics around the world, for the most part, do not seem to improve the equality of quality of life around the world. Plastic bottles seem to hold the most potential in terms of enhancing equitable access to clean water across the world. However, the bottling industry in some cases actually takes water from poorer communities and sells it to wealthier ones, such as with international water bottle brand Fiji (Raz 2010). Bottling corporations like Nestle have been accused of buying water resources that might otherwise be free, in order to sell bottled water to low-income communities, all while resisting the development of water infrastructure in these communities (Byrd 2018). Bottled water, and the corporations that profit

from it, have the real potential to commit harms to underprivileged communities and to generate environmental injustices.

Despite this, there is something to be said theoretically about plastic bottles as cheap, safe, and lightweight objects which make transport of goods far easier across the world. This technology in itself might be considered morally good in its enormous potential to address inequalities. The instrumental value of single-use plastics to address inequities such as access to cheap, safe water, or medical services, should not be overlooked. Does this potential to address inequity have something to do with the ubiquity of single-use plastics? We are living in an era of universalization of consumer products, not just across the United States but around the world. As artist and cultural critic Andy Warhol described in his 1975 book, *The Philosophy of Andy Warhol*, “America started the tradition where the richest consumers buy essentially the same things as the poorest. You can be watching TV and see Coca-Cola, and you know that the President drinks Coke, Liz Taylor drinks Coke, and just think, you can drink Coke, too. A Coke is a Coke and no amount of money can get you a better Coke than the one the bum on the corner is drinking. All the Cokes are the same and all the Cokes are good. Liz Taylor knows it, the President knows it, the bum knows it, and you know it.” (Kottke 2010) Warhol’s observation about accessibility of specific consumer products across class distinctions is one which praises the phenomenon of consumer universalization. While single-use plastics are not necessarily in themselves products in the same that a Coke is, their universalization is similar. One can find plastic bags in a Target in Metro-Area D.C. as well as remote village shops in the Guatemalan highlands. The ubiquity of large corporations, such as McDonalds, enabled the presence of plastic straws in essentially every country in the world. While universalization is an incredible feat, it does not necessarily imply

equity, at least in a sense that goes farther than pure physicality. Single-use plastics in their universality have become a consumer symbol, recognizable around the world in the same way the golden arches or the white polar bear have become. While equal access is a value in its own right, that does not mean that the subject of equal access is necessarily valuable. This concept can be demonstrated by considering the duality of many deontological principles.

One great example of this concept Robert Bullard's discussion of locally undesirable land uses and the duality of environmental justice in his 1994 essay "Overcoming Racism in Environmental Decision Making". According to Bullard, environmental justice does not only demand equal access to a healthy environment, it also demands equal distribution of environmental harms, where necessary (Bullard 1994). Bullard describes how black communities systematically have been forced to carry the burden of LULU's due to lack of government regulation and targeting by corporations. Bullard is advocating for a more equitable spread of LULU's, in order to ensure equality, but he is not claiming that LULU's are good, or that we should increase the total number of LULU's (Bullard 1994).

The same can be said about the universality of single-use plastics. While it is positive that they are universally accessible, this does not mean that they are inherently good. Not being used as a reinforcement of inequality, whether it be by race, class, or other positionality, is necessary to be good, but it is not sufficient. Therefore, it is not the intrinsic value of single-use plastics which might make them morally good, but rather their instrumental function which contributes to equal access to all. If we consider single-use plastics in addition to the distribution of other more intrinsically valuable commodities, such as water, the strength of an argument in favor of their goodness might increase. While the transport of clean water does not inherently depend on single-

use plastics, their clear capacity for universality in combination with this water, can potentially serve an important function in fulfilling equity.

While consumption may serve one's duties or contribute to equity if it does not violate ethical principles, single-use plastics consumption holds the most promise from a deontological perspective for contributing to good through its universality. If one acknowledges equal access to consumer products as an intrinsically valuable principle in itself, single-use plastics might be said to serve good. However, it is not clear that equal access to products is in itself valuable, specifically if those products and their use violate other, more important moral principles. It is not clear, from a deontological perspective, whether single-use plastics are inherently good or bad. Rather, their instrumental value, either through equitable accessibility or by harming wildlife, is what can determine which contexts they can ultimately be considered unethical.

Applying the Ethics

This section will carefully examine the role and responsibility that actors in the plastics economy play in the context of moral harms committed by the collective. In the previous sections I examined the history of plastics, their positive and negative effects, and how these positive and negative effects can be interpreted through the lens of the three major branches of ethical theory in the context of our consumption of single-use plastics. I have kept my analysis of the ethics of single-use plastics general in order to provide enough background on the facts and morally significant aspects of single-use plastics consumption. Now, I will apply this analysis to specific actors and their actions in order to derive what moral responsibilities exist in relation to actor's

consumption of single-use plastics. The harms that I will specifically be focusing on in this section will be those involving the environment.

Reduce or Recycle?

In terms of the morality of certain actions, independent of the individuals and collective agents who commit them, there are two specific ways that the environmental harms caused by single-use plastics consumption can be diminished. The first is through reducing waste of single-use plastics. In order of effectiveness this could be through increasing the amount incinerated or sent to landfills, preventing leakage from landfills, and recycling. Reducing waste is certainly better than doing nothing, however there are still some problems with even the most effective waste reduction methods. While waste reduction methods like recycling address some utilitarian concerns, which centers waste as the consequences of consumption, and potentially virtue-based concerns of disposability and apathy, since recycling addresses both the willful ignorance of consumers to an extent as well as forces them to recognize the amount of single-use plastics they are using, there still exist concerns from a deontological perspective.

While reducing waste fails in this aspect, reducing use succeeds. Not only does reducing use eliminate the consequences of waste production and disposal, it also does not violate moral principles relating to participating in collective harms or reflect an individual's apathy or cultivate a culture of disposability. Reducing use of single-use plastics eliminates the avenues through which single-use plastics can be considered morally harmful for the environment. Of course, the positive aspects of single-use plastics were raised in previous sections, and these aspects should not be overlooked or ignored. However, many of these aspects, such as ubiquity

and convenience, are directly tied to improving those who are challenged in the aspects of access or capacity, two major features of individuals and actors that I will incorporate into my assessment of moral responsibility in the following sections. These positive aspects of single-use plastics seem to be instrumental rather than intrinsic, and for this reason, I will not be considering these aspects as fundamentally morally relevant in terms of assessing, theoretically, which action is the least morally problematic.

In the following sections I will be considering moral obligation for each actor when it comes to reduction in use and reduction in waste of single-use plastics. It should be noted that I believe that the most generally positive course of action, from least positive, to most is: doing nothing, feeling guilt, reducing waste, and finally, reducing use. I will not be discussing doing nothing, because, as mentioned before, I am approaching this section with the underlying assumption that single-use plastic consumption is unethical from the perspective of each of the three major ethical theories.

Determining Accountability in Collective Environmental Harms

One of the defining characteristics of the large-scale environmental harm caused by single-use plastics is that it is the product of collective action. Not all harms, or goods, occur in a linear fashion, or are traceable to one specific actor or actions. In fact, a large portion of environmental harms exhibit this quality. Canonical environmental texts such as Garret Hardin's "Tragedy of the Commons" identified that the harmfulness of some actions is inherently linked to the number of individuals committing them, though these types of actions might not be independently harmful. One farmer freely using a pasture for his cows might not pose a problem, but when many farmers do the same, the pasture quickly becomes barren. Hardin's example shows that certain individual

actions, especially those involving a resource, when multiplied, can lead to serious environmental harms.

I argue that the nature of the environmental harms caused by single-use plastics, categorizes the consumption and disposal of these products as a harm caused by collective action. If it were the case that only one person used single-use plastics, or even 10, 100, maybe even 1000, single-use plastic consumption might not have led to significant environmental harm across the world, and certainly would not have garnered global attention. If individual action is unattached to the overall consequence, is it still possible to determine morality? I argue that it is still possible to determine responsibility and obligation, but consequentialist logic for demoralizing actions must be abandoned.

In order to contextualize my argument, I will be using Tracy Isaac's theory of individual responsibility in collective harms. Isaacs acknowledges the phenomenon of moral fragmentation in her book "Moral Responsibility in Collective Contexts," arguing that "some harms are not necessarily the result of collective moral wrongdoings, but rather amoral actions that lead to harm and destruction" (100). Isaac's perspective is un-utilitarian in the sense that it presents moral wrongdoing as disconnected from moral harms, believing that some harms do not necessarily result from wrongdoing. Isaacs categorizes humans' unintentional environmental destruction, such as climate change, under this category of harms, which "occur only because of the actions of a number of people." (100) The connection between such harms and individual responsibility, according to Isaacs, is that "individual's obligations intensify when they have more power and more room for personal choice with respect to how they fulfill their roles." (134) In other words,

those individuals who have more opportunity and ability within the context of the collective to change their actions, hold a greater moral responsibility and obligation in the collective harm.

Isaacs approach to assessing moral responsibility and obligation within fragmented moral systems, guides my analysis that access and capacity are the two factors which can be used to assess actor's responsibility to reduce use or reduce waste in relation to single-use plastics. In the next section, I discuss my own conception of Isaac's idea that 'power' and 'room for personal choice' influence moral obligation in order to apply these principles to actors and actions.

Privilege and Obligation: An Important Connection

In July of 2018, Starbucks announced it would ban plastic straws from all its commercial chains by 2020 ("Starbucks to Eliminate Plastic Straws Globally by 2020."). The celebration of Starbucks' plastic straw ban came to a screeching halt less than two days after the announcement. NPR's "Food for Thought" described the disabled community's desire for more 'flexibility' when it came to straw bans. The article explained that while there existed straw material alternatives to plastic, the flexibility of silicone was "one of the most important features for people with mobility challenges." (Danovich and Godoy 2018) At this point in the article, some might have stopped to ponder, *but why not carry your own straw?* The article conalso explains the difficulty washing reusable straws can pose for those in the disabled community.

Mandating a ban on plastic products lifts the burden of these moral choices from obligatory for some to obligatory for everyone in practice. It is not only privilege and external standards of morality that complicate individual consumption reform, but also layered internal privilege as well. If such laws especially are motivated from an ethics standpoint, they become even more problematic in their implications. As Jo Littler describes in *What's wrong with ethical*

consumption, “While the production and distribution of cheap high street commodities undeniably involves ecological and social exploitation, singling out the poorer end of the market as the place consumers should avoid in order to ‘make a difference’ undeniably discriminates against working class people, who want access to goods just as much as middle class people.” (Littler 34) Littler’s point is reaffirmed by modern research in behavioral economics. A study published in 2012 in the *Journal of Economic Psychology* found that happier people tend to save more and consume less (Güven 2012). While happiness can be influenced by a number of factors, the study focused on those whose happiness was correlated to exposure to sunlight (Güven 2012). Exposure to sunlight is relatively arbitrary in terms of ethics, yet it potentially has a large influence on the likelihood of a person to be happy and therefore consume less. This study shows how arbitrary some of the factors in our lives can be regardless of their influence on outcomes.

Less arbitrary than sunlight are factors such as identity and socioeconomic status, both of which can theoretically influence consumption patterns. If factors as arbitrary as how much light one is exposed to can have an impact on consumption patterns, it seems unjust and illogical to immediately condemn one’s consumptive actions. However, determining the exact formula of privilege and circumstance that gives one total power and therefore moral responsibility over their actions is impossible at best and robs individuals of agency at worst. While Amanda might hold white racial privilege, be a member of the upper class, and has an abundance of free time, she could have a physical disability which inhibits her from using paper straws when she eats out. While Jessie might struggle to pay her rent every month and faces the intersectional oppressions of gender and race, she might have very capable access to single-use plastic alternatives. There is

no single factor which can determine how to set moral standards in a diverse yet unfortunately inequitable world.

With this in mind, it is important we are conscious of factors of privilege and identity that tend to inhibit one's access to certain resources and agency to make certain choices without entirely defining one based on these factors. There is no secret formula that churns out the level of responsibility in the single-use plastics individual stakeholder analysis. There are however, general influential factors by which we can begin to distinguish those who hold obligation and those who do not. There are two reasonable factors which are influential in the distinction between obligation and supererogation of abstaining from single-use plastic products. The first is access (external). Access can be defined as the external ability of an actor to reform their actions in order to address a moral dilemma. Examples of factors that can limit access are things such as geography, infrastructure (physical and theoretical), bad luck, etc. The second factor is capacity. Where access is external, capacity is internal, and reflects positionality and ability. Examples of factors that can, but do not necessarily, limit capacity are things such as physical or mental disability, socioeconomic status, race, etc. Both access and capacity can overlap, but the distinction between the two is important, because I argue that both of these factors must be considered when assessing moral obligation across actors and actions. Identifying these factors are essential in determining the difference between obligation and supererogation in the ethics of single-use plastics.

In the next section, I will consider the five actors in the single-use plastics consumer economy and assess their level of responsibility and obligation when it comes to use reduction and waste reduction.

The Actors

There are five distinguishable actors in the global plastics crisis, all of whom have some type of stake in the harm generated by single-use plastics: producers, retailers, the waste industry, government, and individuals. When considering the plastics crisis, it is important to distinguish between actors who are contributing to a collective harm versus those who are contributing to a collective wrongdoing. Specifically, I will be examining each of these actors and how they serve in relation to individuals in order to address moral fragmentation and the single-use plastics crisis.

Private Actors

The most obvious players in the plastics economy are the producers of plastics. Those who make plastic or formulate the chemicals that are present in polyethylene. These producers often are not solely focused on the making of plastic, but also other man-made materials and chemicals. Lyondell Basen a major plastics producer, describes itself as “one of the largest plastics, chemicals and refining companies in the world.” (“LyondellBasell Homepage.”) Their market capital is nearly \$32 billion, and their stock price hovers around \$80-\$90 (“LyondellBasell Homepage.”) In terms of their plastic production, industrial plastics make up the majority of their line, though they manufacture consumer products as well. Many producers are difficult to identify, as they are represented by larger advocate groups, such as the American Chemistry Council, discussed earlier.

Other major plastics producers are corporations we might traditionally identify as retailers. Plastic straws, bottles, and cups have become the center of media attention when it comes to plastic waste. Because the market line ends with retailers, many large retailers who use these products end up acquiring the distribution and manufacturing production in order to further copyright, brand, and market their products. Companies like Coca Cola have been in-house bottling their

products since the mid 20th century (The Coca-Cola Company). While early retail straws were made of paper and wax, retail cups were nearly always made of glass. The history of plastic production demonstrates that some producers have sought to address moral complexities arising from their products.

Distributors are those who collect plastics from producers and sell it to retailers. They facilitate the relationship between producers and retailers. As the plastics industry has grown, along with the large corporate powers that rely on single-use plastics, some distributors have also become retailers. In fact, one of the largest plastics distributors also produces the single-use plastics straws used by fast food chains such as Burger King, Starbucks, Dunkin Donuts, and more. Interestingly enough, this company, known as Prima Straw is based outside of the United States, with its factory and headquarters in Indonesia (“Primaplast Indonesia.”)

Finally, the last private actor I will be considering in this section is the waste management industry, specifically recyclers. For the purposes of this paper, I will be focusing on the major industrial plastic waste recyclers such as Waste Management and Republic Services. Both of these recyclers also provide garbage services and operate their own landfills. They also are large exporters of plastic waste from the United States to less developed countries in Asia.

Individual Actors

Individuals are people who participate in the Consumers are people who, whether purposefully or not, use single-use plastics in their consumer habits. Often, the use of these plastics is subconscious but is a necessary albeit silent part of one’s larger consumer choices. Consumers often see single use plastics in the fast food and restaurant industry, as it uses single use plastic cups and straws. Packaging is also a large part of consumer plastic waste however this project will be focusing on

identifiable plastics which perform an essential function rather than which simply are added to another consumer product. Water and soda bottles, cups, straws, and bags make up the bulk of consumer single-use plastic waste that I will be considering. It is estimated that the average American uses an average of 1.5 plastic straws every day (Coleman 2018). Plastic straws are just one example of single-use plastic that cannot be recycled, but even products such as water bottles and cups are overwhelmingly thrown in the trash by consumers.

Public Actors

Policy makers are those who have direct political influence over the regulation of the use of plastics and the plastic economy. These policy makers exist at small city and state levels all the way up to national and international levels. For the purpose of this project I will be focusing on the smaller branches of government in the United States and the larger branches on an international level. This includes cities, states, U.S. Congress, The U.N., the E.U. and other national governments across the world. In what circumstances can we expect the government to take moral responsibility for harms caused by single-use plastics? The answer to this question relies heavily on what we believe the government is. For the purposes of this paper, I will be considering government carries the duties of representing the interests of its citizens, regulating industry and protecting the general good.

In the next section, I will attempt to define moral obligations and responsibilities for each of these actors when it comes to the single-use plastics consumptive actions of reducing waste and reducing use.

Reducing Waste

Individuals

When it comes to plastics waste, individuals might initially appear to be morally responsible. As the “Crying Indian” of the 1970’s declared, “People start pollution. People can stop it.” On a small scale, this power-to start and stop pollution, might be true. After-all, consumers are the ones who ultimately consume the single-use plastic products and choose, to some degree, what happens with these plastics when they dispose of them. It is quite intuitive to argue that because of the basic power consumers hold in the consumption and disposal of plastic that they hold the most moral responsibility.

Even more tempting perhaps is the desire to delineate consumer responsibility based on the amount of plastic each person uses. If Jessica drinks three Starbucks venti iced coffees every day, trashing each cup, lid, and straw, is she not more morally responsible for the global plastic problem than Claire who indulges in one Starbucks drink a week, and carefully recycles the leftovers? The problem with this approach to moral responsibility is one of qualification. It is not possible to qualify a specific amount of environmental harm to each plastic product both in theory and reality, due to the collective nature of the problem.

The great conundrum of our plastic problem is not necessarily that one piece of plastic in a vacuum causes harm, but rather than a colossal amount of plastic waste and production is what is truly driving our plastic crisis. The consequentialist approach to issues of consumption have long been complicated by the increasing alienation that the global capitalist economy has created between production, labor, consumption, and disposal. The moral responsibility of the consumer becomes more troubling to identify when aspects such as identity, geography, and ability are factored into access to plastic products and their alternatives. These factors are not as simple as

calculating the net income needed to survive without plastic, but also the time and effort that such a task requires.

Regardless of these challenges, reducing one plastic straw, or even thousands, might not make much of a difference in the overall harm caused by plastic waste. The nature of the plastic waste situation makes it such that, as Tracy Isaac's describes, "no action within the reach of ordinary moral agents seems likely to make much of a difference." (Isaacs 140) It is the collection of plastic consumption and waste, at an enormous level that has led to such an egregious impact. As Isaac's explains, "Since individuals do not perform collective actions, individuals cannot be personally guilty for the actions of the collectives to which they belong." (75) Even if one attempts to reform their actions, zero-waste activists often highlight this massive undertaking, producing books and videos detailing the intricate challenges posed by choosing to completely avoid single-use plastics. Lauren Singer began her zero-waste journey in 2012, keeping track of the waste she produces by placing it all in a small mason jar (Commins 2018). She has dedicated her life and career to reducing waste, founding her own company Package Free Shop, which sells products without the plastic packaging. While Singer shows that living plastic free is possible, there is something to be said about how she has been able to turn this lifestyle into a counter-culture brand. She gives tips to individuals on how they can reduce their plastic waste, and though she loves being informed and living sustainably, she has admitted that going zero waste it "is really time-intensive to do all the research." (Commins 2018)

Reducing waste, is a burden not accessible to many individuals, with relatively little consequential impact. Even if one chooses to recycle their water bottle, there is no promise that it will balance out the sum of harms caused by initial production, consumption, and recycling. The

area of ethics which holds potential for assigning waste reduction obligation to individuals is deontology, through a set of principles and duties. Perhaps it's wrong to participate in the single-use plastics economy at all knowing the colossal nature of its destruction. Or maybe by trashing plastic meant to be recycled, one is failing their duty to choose the environmentally better option when available. Deontology provides a good framework for individual responsibility, especially since it can be interpreted as agent relative, allowing the application of access or capability as factors which diversify obligation across a spectrum of individuals.

While the effort required for individuals to recycle ranges from relatively low, throwing a plastic bottle in a bin at work, to moderate, paying for curbside pick-up or driving to recycling centers, this reflects their overall power and ability within the single-use plastics economy. After all, it is difficult to hold individuals responsible for plastic waste beyond what they produce, as this would be directly akin to holding one accountable for another's actions. Therefore, those who have access to recycle and are capable of doing so bear a moral obligation to recycle, and not just recycle but do so *correctly*. Those who either do not have access to such facilities or are in some way not capable do not hold an obligation, but if they choose to do so, can be considered especially moral.

Private Actors

The recycling industry is often seen as the moral band-aid in a very large and destructive resource consumption culture. However, the waste-management industry, like other actors in the plastics economy, has its own goals and motivations that lie outside of preventing environmental destruction. Plastic recycling took off in the 1980's with the Society of Plastics Industry, today

known as the Plastics Industry Association, invention of the resin identification code. According to the American Chemistry Council, this initiative was spurred in part by economic demand and public policy. According to the ACC, the system simultaneously benefited the recycling industry as well as producers by “providing manufacturers a consistent, uniform system that could apply nationwide.” (“Plastic Packaging Resin Identification Codes.”)

If individuals do not hold a large portion of the responsibility to reduce waste, does the waste industry itself? Even if environmental impact is minimal, the circular economy that the large recycling conglomerates advocate for does not fundamentally challenge the structures which have promoted the fragmentation of responsibility, or plastic consumption itself. In fact, the solutions presented arguably centralizes the profits of producers and waste management, leaving little shifting the responsibility of waste reduction in the hands of individuals. Large corporate recyclers, such as Waste Management, the largest residential recycler in the United States, misleads individuals to believe that they have meaningful control over which products are recycled and which end up in the Ocean. Waste Management recently teamed up with Keep America Beautiful to target individuals to feel pressured to recycle, with their campaign “Recycle Often. Recycle Right.” (“How We ThinkGreen.”) While this might seem positive-since Waste Management is promoting recycling, it also implies that consumers hold a significant responsibility to manage their waste, and that that recycling consistently makes a difference.

Consumers not only provide companies like waste management with their discarded materials, but they are actually charged to do so, despite the fact that these industries are turning a large profit, which extends beyond the cost of simply providing a service to aid a morally obligatory action. Not only do recyclers like WM charge individuals to take their plastics, but they

are unclear about exactly how the recycling process contributes to other social or environmental harms. In 2018, after China's National Sword Policy banned recycled imports, a Waste Management spokesman interviewed on the issue admitted that WM has been "shipping into China for years, [and] we also have opened up market in other parts of Southeast Asia, India, South America and Europe." (O'Donnell 2018) Which plastic waste is recycled, which ends up in a landfill, and which ends up in the sea, is not even necessarily in the hands of Waste Management, let alone consumers. The recycling process is shrouded in mystery and confusion for many consumers who become entirely disconnected from where their plastic waste ends up. With these considerations in mind, it is difficult to say that recyclers like Waste Management truly providing the service they claim to be.

Other large corporate recyclers, such as Republic Services, touting 10 billion per year in revenue, does not pile pressure on to the individual in the way that Waste Management does, but have drastically reformed their recycling policies in the wake of China's National Sword Policy. Republic reportedly sold over one third of its recyclables to China in 2017 but has now been forced to accept less from municipalities, citing the rising cost of collection and processing (Grabar 2019). This 'rising cost' has driven recyclers to accept less in part because, according to Republic Vice President Pete Keller, "processors are not capable of making money." (Grabar 2019) Clearly, Republic Services is prioritizing profit over the environment, in that it's perfectly willing to let these recyclables get trashed "unless there's a business transaction occurring at the front door" of those they collect from (Grabar 2019).

Even if the waste industry is clear about its practices and prioritizes sustainability over profit, it is still possible for them to contribute to the single-use plastics waste crisis. One recent

meta-study, which compounded 18 years-worth of environmental impact studies on plastic material impact, found that “*recyclability* is a poor predictor of environmental benefits and as such, should be avoided.” However, this same study found that products which contained more recycled content generally had a lower environmental impact than those which contained “virgin” content. In other words, simply consuming recyclable plastic is not enough to make a difference, especially if it is never recycled. This finding is complicated further by a 2013 study which concluded that “recycling efforts can lead to increased resource usage, as the involvement in recycling behaviors serves as a license to justify the increased resource usage by boosting environmental self-identity.” (Ma Baolong et al. 876) In other words, researchers found that the more a person recycles, the more confident they feel about themselves and the more likely they are to feel justified in consuming.

While recycling might prevent some single-use plastic waste from ending up in the ocean, the amount is nominal compared to the plastic that is not recycled. Perhaps the industry is not morally complicit in the consumption of single-use plastics, especially since the amount of plastic that is recycled seems to be in control of the materials producers use as well as the will of consumers to make sure their bottle ends up in the recycling bin. However, the recycling industry’s placement within the capitalist economy makes it so that recycling is primarily driven by profit, much of which relies on the fulfillment of the moral obligation of individuals to recycle.

As outlined before, it is in some cases morally obligatory consumers to recycle their plastics, which enhances the well-being of the recycling industry. Retailers might even be attracted to these products, as they can easily use sustainability branding that advertises this new “environmentally friendly” recycled plastic. It is possible that the consumer, in a sense is duped into this process, as they end up buying the recycled plastic products for the same price, or more,

and give it right back to the recyclers, potentially without compensation to restart this process and while recyclers and producers are not prioritizing the well-being of the environment. If producers and recyclers intend to use or reinforce moral standards upon individuals to derive benefits, rather than improve the environment, they would certainly be violating the Kantian principles of using consumers as a means rather than an end.

The recycling industry might also be considered responsible for the environmental damage caused by the globalization of recycling. In the past decade, the growth of plastic recycling has prompted an international global market for plastic recycling, which primarily ships waste from Western developed countries to less developed ones. Documentaries such as *Plastic China*, have highlighted the toxic environmental and social effects of the global plastic market. *Plastic China*, follows the plight of 11 year old Yi-Jie and her family's struggle to make a living through a dangerously unregulated plastic recycling plant in one of China's industrial districts ("Storyline."). cited as being the potential motivating factor in President Xi's implementation of the National Sword Policy (Taylor 2018).

When the recycling industry misleads consumers about where their recycling ends up, or even worse-contributes to an increase in single-use plastic consumption, as they can be considered as committing moral wrongs, deontologically. Not only is misleading consumers wrong as well but companies like Waste Management and Republic Services hold both the access and capability to make it clear exactly where consumer's recycled plastic ends up and to stop framing the individual as the agent responsible for single-use plastics waste. Recyclers should also promote anti-plastic consumption initiatives, aimed at reforming production and regulation, in order to decrease the amount of waste that needs to be recycled in the first place

It is difficult however, to argue that the waste industry has a large responsibility in preventing plastic waste. Despite what has been discussed in this section, it is not clear that the industry holds either capability or access to solve this problem. It appears rather that they have filled in a gap in the lack of options for handling one's plastic waste. The industry has neither the power nor ability to demand consumers recycle their plastic, or that producers choose to incorporate recycled plastic into their products. The ways in which the recycling industry does have access and power rest in supporting plastic consumption reduction and international plastic recycling, which has a major impact on the environment. These large recyclers should also prioritize sustainability over profit and hold an obligation not to contribute largely to leaching of these plastic's waste into the natural environment. This means improving their methods so as to recycle as much waste as possible, not just as much waste is profitable. These recyclers should also not ship waste overseas if they know the countries which they are shipping this waste to are likely to mishandle the waste after use.

While it may be tempting to rest more of the weight of preventing waste on the shoulders of this industry-they are not the ones creating the waste or failing to regulate it. If responsibility does not necessarily lie with the recycling industry to reduce plastic waste, does it lie with the producers themselves? The power and ability that is held by actors such as producers and governments is much larger when it comes to the moral obligation of recycling. Multinational plastic producers, such as Coca-Cola, should be obliged to use recycled plastic not only where it is cost-effective for them, but also to a degree which reflects the power and capability they hold in a similarly scaled manner to that of the individual, at least. While it would be unreasonable to argue that every individual has the duty to recycle every single-use plastic they can, the key factors

mentioned earlier, access and capability, can be used to assess the moral standard for consuming plastic for each individual and each specific action. In applying this principle to producers, the standard must be higher than simply including some percentage of recycled plastic in their product, especially considering the fact that this action in many cases benefits them, enhancing their capability to do more. Further reduction of plastic waste might be made possible by enhanced corporate social responsibility, specifically around the disposal of their products. Business ethics theories such as Extended Producer Responsibility demand push back on the assumption that producers forfeit responsibility of their products when they enter the consumers hands. Extended Producer Responsibility purports the idea that “If you manufacture or consume a product, you should be fully responsible for the pollution it causes as well as the costs of dealing with it when the consumer is done using it.” (“Producer Responsibility.”)

This concept of producer responsibility, taken to the full extent, is not only unimaginable, but potentially unjustifiable in a consumer capitalist society, where the individual is perceived to hold both the power and responsibility that is attached to consumption. However, the reason by which this scenario is unjust and unimaginable is that the bar is set so low for corporations to take responsibility for harms caused by their products, not only through the moral ‘status quo’ but also the political one. Though many countries and municipal governments across the world have attempted to tackle plastic waste in the form of bans and taxes, very few have truly implemented more radical forms of EPR. Governments largely in Europe and Canada have taken to implementing policies which incorporate EPR, while the United States and the rest of the world have fallen behind (“Producer Responsibility.”). Some form of EPR policy when it comes to single-use plastics should certainly be the standard in developed countries and systems of

government which enjoy the legal power to regulate producers while protecting individual liberties.

There are significant questions that must be asked when applying this standard to producers. Two significant questions are: 1. How do we determine producer responsibility in comparison to other actors? and 2. How do we determine responsibility across the production market? The first question is one which reflects the pattern of harms caused in systems which contain moral fragmentation. One manner in which to address this fragmentation in order to appropriately assign responsibility, is to consider producer's ability to reduce the harm caused by single-use plastics, as well as their contribution to the harm in the first place. It is certainly true that without producers single-use plastics would not exist, and therefore, single-use plastic waste would not exist. That is not to say waste in some form would not exist, or that the presence of producers necessitates this waste, rather that they seem to be a major source from which the overall harm of single-use plastic waste is stemming from. Producers also have an enormous capacity to address the single-use plastics problem and have already showcased this ability in some cases. Take for example Coca-Cola's signing of the Ocean Plastics Charter, which redirects the responsibility of plastic waste back onto producers, incorporating a holistic view of plastic consumption. and investment of "hundreds of millions of dollars in state-of-the-art recycling facilities." (Whitehead 2018)

While these steps taken by producers are important, it is crucial to note that much like the waste-management industry, producers have not taken larger steps to fundamentally challenge the virtue-based concerns arising out of single-use plastics consumption. That is in part because many of these concerns are tied to the use of these products rather than their disposal. Generally speaking,

it is against the best interest of producers to limit the use of their products, unless there is some type of danger that warrants a recall. Therefore, it is unlikely that any major producers will pursue actions beyond the scope of reducing waste, unless prompted by law or economic incentive. This fact represents a fundamental problem with the way in which our economy profits off of environmental damage. These issues will be discussed at length in the next section.

An example of a standard set would be one in which the producers are challenged to bear responsibility for a specific percentage of plastic waste which corresponds to its Herfindahl index market power (index). While the duty to take on this responsibility rests with the producers, the duty to enforce and implement these changes might fall with the government.

Public Actors

As the UN Single-Use plastics reports points out, it is not so much individual choices that are responsible for the plastic waste crisis, but rather poor waste management infrastructure (Giacovelli 2018). Many countries that have high recycling rates and little plastic waste output have governments which subsidize and prioritize waste management. There are a few policy approaches that governments can take to reduce plastic waste: disincentivizing trash disposal, subsidizing recycling services, and enforcing EPR.

The first policy approach that the government could take in order to specifically reduce plastic waste is to enforce regulations upon individuals. This could be done through pay as you throw programs, banning certain types of trash disposal, or mandating recycling. Pay as you throw programs (PAYT) essentially charge individuals based on the number of bags they throw away on a weekly basis (“Pay-As-You-Throw.”). This program is thought to encourage residents to invest more effort into sorting recyclables, in order to reduce the number of bags they use and

therefore save money. Studies conducted by organization WasteZero, which partners with local governments to implement PAYT programs, have found that municipalities with PAYT annually generate 44.8 percent less trash per capita and have 62.3 percent higher recycling rates than municipalities that do not (Crisan-Heavilin 2018). Though this method is proved to be effective, and encourages mindfulness, one could argue that it has the potential to be unfair. While PAYT fines aren't very high, typically \$1-\$2, reinforcing a higher economic burden on those who have more trash does not necessarily reflect a moral principle, considering the fact that having more trash does not mean that one is doing something wrong ("Pay-As-You-Throw."). Sally might live alone, have no kids, and throws away all of her recycling, while Jan is a single-working mother, takes the time to sort out her recycling, and ends up with the same amount of trash and ends up paying more, despite the fact she took the time and effort to 'do the right thing' and has generates less trash per-capita than Sally. Despite these differences in effort, Jan and Sally still end up paying the same amount. The PAYT system generates the capacity for people to be treated differently, in this case in terms of fines, regardless of the morality of their actions or their responsibility in the generation of trash. PAYT ultimately aims to increase recycling but does so on the basis of standard economic reinforcement, which generates the capacity of inequality.

A way to fix the inequality that PAYT has the potential to generate, governments might take the burden of recycling out of the hands of private industry and either make it a public service or subsidize it. Both of these methods would help lift the burden of recycling, so that environmental protection could be valued over what is profitable or affordable to the industry. An example of a country which has implemented subsidized recycling is Belgium, specifically in the nation's

capital of Brussels. The recycling system in Brussels divides waste up by trash bag color, which is collected by the City's municipal waste organization, with fines imposed on citizens who do not dispose of their waste properly. This system works so well that a 2018 report estimated that over 80% of Brussel's plastic waste is recycled (Vincent 2018). From a consequentialist perspective, government subsidized recycling appears to be the most ethical way for the government to approach waste.

However, publicly subsidized programs can be problematic if they divert individual's tax money away from other important social needs, especially if the money is used to subsidize private industry. In a way, this subsidized service might be seen as inequitably piling responsibility to handle waste onto tax-payers, when the true responsibility should lie with producers.

As discussed earlier, EPR of some form seems to be the moral obligation of many producers, meaning that the responsibility to internalize the cost of recycling lies mostly with producers, and not with individuals or the government. Based on the stature of government as an entity which regulates industry behavior, government should establish laws which promote or reinforce EPR. Some international governments, such as the European Union, have already implemented EPR policies in order to reduce plastic waste, enhancing producer responsibility for take-back, recycling, and using recyclable materials in their products. According to a study published earlier this year, this method has been effective for increasing single-use plastic recycling, with the 2015 rate hovering around a total of 40% (Leal et al. 2019). Some ethical concerns about EPR are that if the producer is forced to internalize the externalities of its products, it may increase the prices of its products, ultimately hurting consumers. However, as discussed earlier, producers already hold a moral obligation to implement EPR, notwithstanding government

intervention. Simply implementing EPR and balancing the costs of this program by increasing product prices is simply shifting the burden of back onto individuals and is not truly taking full moral responsibility for harms caused by their products. Therefore, this type of criticism toward EPR rests on the assumption that producers don't already hold a moral obligation to implement EPR.

While all of these actions spurred by recycling might lead to better environmental consequences, standardizing recycling across the board as a moral obligation for individuals does not truly address many of the deontological and virtue based moral dilemmas raised by single-use plastic consumption, and arguably has the potential to create new inequalities across the plastics economy, since as discussed earlier, not every individual has the access or capability to recycle. Recycling is not the best action that can be taken to address the harms caused by single-use plastics from each angle of ethical theory. That being said, individuals should recycle when they can, not necessarily to reduce the impact of single-use plastics, but because recycling is generally better for the environment and encourages disposal mindfulness, the waste industry should not reinforce the idea that individuals alone have a moral obligation to recycle or bear the weight of plastic waste responsibility, producers should implement some form of extended-producer-responsibility as they hold the most obligation due to their access and capacity and share a responsibility with the government, and the government has an obligation to reduce plastic waste most preferably through enforcing EPR due to its access and capacity to regulate industry.

Reducing Use

Reducing use of single-use plastics is limiting, reforming, or abstaining from participating in the single-use plastics materials economy. This might be through stopping personal use of plastics, transitioning to either an anti-disposable or anti-plastics product framework, or implementing policies which inhibit the production and consumption of single-use plastics products.

Individuals

This group of consumers might initially appear to be the easiest to assign moral blame to, especially since the groundwork has been laid for moral complicity regardless of specific consequential outcomes. While these consumers might not be personally or individually guilty for the harm that plastics consumption leads to, as a collective, they can be blameworthy considering the fact that they are aware of the massive harm linked to their actions yet do not change. However, is this lack of change truly the sign of a moral wrongdoing or rather a lack of access or capability?

Michael Maniates argues that individuals in the United States are relatively powerless when it comes to preventing environmental harm caused by consumption. In his essay, mentioned earlier, “Individualization: Plant a Tree, Buy a Bike, Save the World?” examines this question of individual environmental moral responsibility. Maniates uses the popular children’s story “The Lorax” by Dr. Seuss to demonstrate the problem with environmental consequentialism. The Lorax represents the model for environmental activism and moral behavior. Maniates explains that “By ending with the charge to plant a tree, The Lorax echoes and amplifies an increasingly dominant, largely American response to the contemporary environmental crisis.” (Maniates 45) The provocation for individual action is what makes the message of the Lorax so powerful and popular. But this provocation, or as Maniates defines it “the individualization of responsibility” is also incredibly problematic. Environmental advocacy groups encourage lifestyle changes, like turning

out lights and signing up for recycling services, all neatly packaged into a list of steps for the individual to do their part (Maniates 48). And even more apparent is the corporate adaptation of environmental responsible consumerism, with the marketing of “green alternatives.” Maniates believes that this approach to environmental problems is not only impractical, but fundamentally unjust.

Maniates explains that the individualization of responsibility, and its vast popularity in the environmental community is not necessarily the source of powerlessness but is instead a byproduct of it. The over-reliance on consumer choices to solve environmental problems may be because “in our struggle to bridge the gap between our morals and our practices, we stay busy-but busy doing what we are most familiar and most comfortable with: consuming our way (we hope) to a better American and a better world.” (Maniates 51)

But why aren't we fighting back? Maniates believes that “our deepening alienation from traditional understandings of active citizenship, together with the allure of consumption-as-social-action” has resulted in the popularization of individual responses to environmental destruction (Maniates 51). The public has been encouraged to view themselves as more effective consumers than citizens because of our separation from “the small arenas in which we might practice and refine our abilities as citizens.” (Maniates 51) In other words, the average citizen does not feel or see themselves as in control of the decisions in their community, country, and even the world at large. But this power has not disappeared, but simply shifted hands. The business world now holds the power to “commodify dissent and sell it back to dissenters.” (51)

The explanation for this power shift in the United States lies largely in Reagan era political philosophy, which diminished to role of the government as a consumer advocate and

corporate regulator. The government began its long trajectory of prioritizing the profits of business over the well-being of citizens and the environment. When considering these fundamental aspects of the American political system and its history, the individualization of responsibility appears starkly unjust. With all this considered, it is difficult to justify holding individuals morally responsible for their consumer actions in a world that economizes environmental damage. Our loss of control and connection to the products we use and the decisions we make has inspired solutions in the form of smokescreens. ‘Voting with one’s dollar’, eco-friendly consumption, and sustainable living have become the public’s way of easing the moral burden of the increasingly apparent destruction. And these false securities are often perpetuated by the very interests considered radically environmental in our system. The individualization of responsibility has become so intertwined in the modern environmental context that it has become a large moral burden based on flawed logic and false promises.

While individuals do not hold a large share of the responsibility in reducing single-use plastics consumption, they still have some basic obligations when it comes to single-use plastics consumption. Individuals should be realistic about their contribution to and control over harms caused by single-use plastics consumption and understand the agents who truly have the access and capability to address these problems-governments and producers. If an individual can, they should reduce their consumption of single-use plastics, not necessarily due to the consequences of this consumption, but due to the deontological concerns addressed by recycling and also the virtue-based concerns raised earlier in this paper, in terms of disposability. Being mindful about the products we come into contact with every day, the impact they have on the world, and the

inequities and injustices their consumption facilitate, can be reflected in one's decision to reform their consumption.

Private Industry

After individuals are ruled out, one might argue that the majority, or even sole responsibility of plastic pollution and consumption rests with the producers. The chain of responsibility begins with them, and their profits rest solely on the consumption of plastic products. Their larger stake in the plastics economy makes them more inclined to drive the demand for plastic and do whatever it takes to protect the right to produce and consume them.

While it is hard to use consequentialism as a moral standard for the single-use plastics crisis, there is another reason why producer's desire to increase single-use plastics usage could be considered morally wrong. Producers within the plastics economy have been framing the narrative of plastics since the beginning. While originally claiming that plastic served as an environmental alternative to ivory, producers mislead individuals, whether purposely or not, into believing that using plastic was overall positive for the environment.

Producers are capable of connecting with policy-makers through lobbying efforts as well as consumers and media through propaganda. Additionally, the production industry is capable of contact with scientists who develop their products or testify to product safety. According to OpenSecrets.org, the Plastic Industry Association, the "only organization that represents every segment of the plastics supply chain" spent nearly a quarter of a million dollars in 2018 lobbying the United States Federal Government. Clearly, the producers are not only responsible for the physical existence of the plastic products, but also are in some way influencing the actions of policy makers in order to advance their own interests.

Spreading doubt about the harm that plastics cause to the environment or framing narratives that push moral responsibility onto consumers is one action that can be considered morally distinguishable. The method of spreading doubt and reframing narratives is not unique within the economies of products which have led to widespread harm, and such methods were historically adopted by the tobacco and fossil fuel industries. There are several ways, besides lobbying that producers might actively oppose reform. One is by moralizing use of single-use plastics in ways that misinforms, targets, or manipulates consumers. One example of pro-consumption propaganda is plastic manufacturer Inteplast Group's development of a children's coloring book "Journey to the Big Time Recycling Extravaganza." ("It's A Recycling Extravaganza in Inteplast's Coloring Book.") The book was distributed to school districts across North America, with the intention of communicating "the recycling facts and benefits of plastic carryout bags out to communities." ("It's A Recycling Extravaganza in Inteplast's Coloring Book.") While a coloring book might seem harmless, it targets children of a young age to begin moralizing single-use plastic consumption. Perhaps even worse was when a plastics industry lobbying group pressured school officials in California to incorporate "The Advantages of Plastic Shopping Bags" into an 11th grade textbook (Rust 2011). Efforts such as these market single-use plastics products under the guise of recycling efforts, while in reality moralizing the act of single-use plastics consumption in itself.

Even without these considerations, it makes sense to hold retailers morally responsible for plastic waste. According to GreenPeace, the top three producers of plastic waste worldwide are food retailers Coca-Cola, Pepsi-Cola and Nestle (Schleeter 2018). Single-use plastic is seemingly essential to the products retailed by these companies in the form of plastic bottles. All three companies have acquired rights to production and bottling in order to further copyright and

distinguish their brand, and while plastic is not their product, it certainly plays a part in their brand, marketing, and convenience. Retailers also have the most direct contact with consumers and rely on consumption very directly to drive their profits. They develop techniques to market, advertise, and enhance their products to attract as many consumers and drive as much consumption as possible. While single-use plastic isn't the source of their revenue, it does greatly increase their profits, by driving down production costs of their final product. One could argue however, that their demand for plastic is simply a reflection of a consumer demand that they are striving to meet. This type of discussion, as many which challenge capitalist modes of production, can very easily become a chicken-egg debate, drawing confusion about whether product drives demand or demand drives product. Regardless of cause, it is clear that producers have profited off of plastic consumption.

And this might be in part why producers have felt the brunt of accusation when it comes to plastic waste. The very fact that GreenPeace ranks the producers/retailers as the top plastics polluters speaks volumes about how the environmental community sees the moral landscape of this issue. These producers/retailers are easy to identify, as are their products if they end up littered in the oceans or environment, due to their unique branded shape or label. While the immediate reaction might be to blame plastic waste on those who put it in the hands of consumers, does this method miss the responsibility of consumers to responsibly dispose of their waste?

Retailers often encourage plastic recycling, as it can save them money on production costs. In January of 2018, Coca-Cola pledged to reduce plastic waste by collect and recycle the equivalent of every bottle or can it sell globally by 2030 (Moye 2018). Pledges such as this one, are more than many consumers or policy-makers and even producers are willing to make. While retailers

might play a pivotal role in the single-use plastic problem, they are also seemingly heavily committed to reducing their role in this problem. Many retailers now fall under this category, due to the increasing pressure by consumers.

Public Actors

Many countries and international conglomerates have already taken action on reducing single-use plastic production and consumption. In democratic capitalist countries, governments are often portrayed as regulators, who hold the responsibility of balancing the public's good with the rights of private citizens and corporations. When tragedy strikes at the hand of private interests, the government is often seen as responsible since they hold the burden of preventing harm from occurring and serving justice when it does. When the government consistently fails to prevent harm from occurring or to appropriately serve justice, they can be seen as complicit in the harms themselves. In terms of the availability of single-use plastics, their availability as well as the large harm that they cause to people and the environment could become the responsibility of the government to take care of.

While bag bans and taxes have their own moral dilemmas, they showcase an attempt by states to address plastic waste in an efficient and effective manner, as studies have shown that these political tools are successful in curbing single-use plastic waste. However, such policies, while effective at addressing harms in terms of consequences, they hold the potential to create new inequalities, or at the very least fail to address the deontological and virtue-based concerns of single-use plastic consumption. "Sin-taxes," which use small tax as punitive actions to reduce the consumption of morally harmful products, I would argue not only theoretically endorse capitalism, but also to reinforce a consumer class system that emphasizes distinction. At the federal level, sin

taxes exist on products such as alcohol, tobacco, and are enforced on the income for actions such as gambling (Amadeo 2019). Sin-taxes might be thought of to reflect the moral harm caused by products, and therefore their 'true-cost.' Sin taxes on single-use plastics products exist at the state level in the United States and at the national level in other countries (UN doc). Plastic bags tend to be the target for the implementation of sin taxes, as the proliferation of alternatives-such as paper bags or reusable ones, are fairly easy to access in comparison to other single-use plastics. Sin taxes, while extraordinarily effective at simultaneously curbing bad behavior while generating revenue to fund the promotion of good behavior, are morally problematic for both theoretical and consequential reasons.

The first reason is rather deontological: It is morally wrong to profit off of the moral wrongs of others. While the government as an institution isn't necessarily promoting the use of plastic bags, they are finding a way to profit off of the bad. Utilitarianist approaches to economics and single-use plastic policy might not pose any ethical issues to this approach-especially if the revenue generated from the tax goes to serve more moral good than the harm caused by using the plastic. One positive aspect of sin taxes is that they do not take a black and white approach to morality and consumption-rather they leave flexibility which can actually be more equitable than straight out bans in some ways. They certainly preserve the convenience factor of single-use plastics, though this might be partially mitigated by the added cost of use generated by the tax. The other morally problematic aspect of sin taxes is that they enable morally wrong actions. The response to this might be, sin taxes are not solely for the benefit of generating some type of revenue for the state but are also to curb the behavior itself and potentially to use the revenue generated to mitigate the harms caused by the product. However, both components of this argument seem to be just as easily,

if not more easily, addressable with a ban. After all, if using plastic bags is bad enough to tax, why not simply ban them? How can we distinguish between products which carry sin taxes to those that should be outright banned?

With these moral considerations raised when it comes to sin-taxes, what can be said about outright bans? Single-use plastics bans undeniably eliminate the convenience factor of plastics as well as limit the liberties of consumers to access these products. Policymakers who take this approach to solving the plastic problem might be viewed by some as paternalistic, and potentially oppressive by those with strong neoliberal free-market values. Eliminating consumer access to certain single-use plastics is arguably more effective in reducing harm than sin-taxes in the sense that they will not be consumed or disposed of, if, for the sake of argument, we assume a black market for these products does not grow substantial. However, from a utilitarian moral perspective, sin-taxes could still lead to a larger net positive good since they generate revenue which can be used to generate more utility. However, bans address issues of rights and virtue raised by single-use plastics consumption. Bans equally enforce a moral standard upon all consumers, instead of risking the fulfillment of these standards be dependent on income, which is possible with sin-taxes. Jessica might be able to afford the minor inconvenience of a five-cent tax for every plastic bag she uses, but Sam cannot do the same do to his socioeconomic status. Sin-taxes have the potential to create morally harmful products into luxuries-only accessible to a specific group of people, most commonly the middle and upper classes. When the fulfillment of moral standards which are easily influenced by such external factors, the standard itself should be reconsidered, as it contains a large potential for inequality or injustice.

Bans eliminate this problem by demanding the same action from all consumers: abstinence. Bans also eliminate concerns about the cultivation of the wrong kinds of values by single-use plastic consumption. While it is possible that the outcome of a single-use plastics is that they are replaced by another disposable alternative, banning single-use plastics can be said at least to open up the possibility to using products which are not disposable and might potentially encourage consumption that incorporates mindfulness, single-use plastics consumption fails to do.

While these positives seem to elevate bans over sin-taxes, bans pose another problem for consumers: individual agency. Taking away agency from individuals demands strong justification. In order to not only deprive individuals from the ability to use these products, but effectively take these products away from consumers even after they have become accustomed to using them, there should be a significant harm caused by or wrongness about the product that justifies such an extreme and impactful action. Bans are a more extreme measure and therefore require more extreme justification, especially since these are products that lifestyles have been built around. Another problem is the potential for, or perception of governmental overreach. While many bag bans have been spurred by public demand, what if the majority of citizens in a city, state, or country, are not in favor of banning plastic bags? Is it still right for bag bans to be implemented? These kinds of questions are not limited to single-use plastics but permeate political philosophy and theory of government. Lack of choice to make morally significant actions, as mentioned before, might be considered paternalistic and leave little to no potential for agents to actualize their moral potential. There is something morally significant about not using a plastic bag despite the choice versus not using a plastic bag because of lack of choice. While this is an important consideration, governments should assess the moral harms caused by single-use plastic

consumption in addition to public desire in order to make a rational decision which serves its constituency as well as the overarching moral good.

Conclusion

Reducing single-use plastic use is a better action than reducing waste in that it addresses utilitarian concerns about waste, deontological concerns about equity (as long as access and capacity are involved), and virtue concerns about the culture of disposability.

The Significance of Guilt

One can imagine the individual who is knowledgeable about the harms of a system they participate in but fail or refuse to make any meaningful changes in their actions. Intuitively, these may appear to be people who are alienated at best and morally corrupt at worse. How can one acknowledge a system is wrong and still willfully participate in it? Before attempting to answer this question, it is important to delineate further this type of consumer into two categories: those who feel guilt, and those who don't know, and those who don't care. Feeling guilt for one's complicity in a harmful system may be defined as generally feeling guilty when reflecting upon one's usage of single-use plastics, even if this guilt is not enough to motivate or enable a change in action. It is also important to note that guilt requires "a self-assessment of moral wrongdoing." (Isaacs 72) This distinction might also be key for protecting those whose complicity is in result of lack of opportunities to change one's actions especially if their limitations are less detectable or definable in terms of a standard for excuse.

While it has been established that consequences are not necessarily reliable measure for one's moral complicity in the plastics economy, intention to reform might serve as one. Consumers who are knowledgeable about their contribution to single-use plastics waste and make a conscious effort to reform their actions are arguably morally distinguishable than those who know and do nothing and those who know and feel guilt. However, due to all of the factors that can influence one's ability to reform their actions, the distinction between feeling guilt and not changing one's actions and feeling guilt and changing one's actions is difficult to navigate. Restraints such as lack of opportunities to plastic alternatives, economic hardship, and even disability might inhibit someone who genuinely feels guilt and desires to change their actions to do so. With this consideration in mind, it would be inconsiderate and potentially unjust to consider those who feel guilt and fail to reform their actions automatically more morally complicit in the collective harm of single-use plastics than someone who feels guilt and reforms their actions. This of course is not to say that it is not possible for those who lack opportunities to reform their actions. In fact, it is possible that those who face social or economic challenges to actively seek ways to change their actions. When this is the case, one could consider these actions supererogatory since they are even more moral than what would be obligatory for people in these groups.

The clearest moral framework which supports a moral distinction between the guilty and the careless is virtue ethics. The presence of an internal dialogue and moral grappling in terms of one's actions and what they reflect about oneself reflects the type of introspection that virtue ethics holds great moral significance. The type of person one is and the type of values one holds can determine whether one feels guilt for chucking a water bottle in the trash can rather than recycling it. Mindfulness is one example of a virtue that guilt might be reflective of and even indicate is

well-cultivated. Guilt can be a signal to us that our action is not reflective of the type of person we want to be or the type of values we want to live our life by. The mere presence of guilt at least indicates some formation of character and assessment of value, which are extremely important to the pursuit becoming a good person.

While the link between guilt and good is clear in virtue theory, can it be morally significant from a deontological perspective? The presence of guilt might also represent a deeper remorse for violating one's duty or moral obligation. Maybe I don't feel bad for using the plastic bag because it challenges my identity as an environmentalist, but because doing so is just *wrong*, reflecting deontological reasoning. Let's say in this case, using a plastic bag is wrong because, as an ethical principle, one should always avoid taking an easier path that causes more harm than to put in slightly more effort to prevent this harm. One can imagine those fully aware of the consequential harms that plastics cause and the mindlessness that disposability cultivates would be enough for it to be considered far more harmful than inconvenient to use a plastic bag than to avoid it. If one feels guilt for doing so, it reflects that avoiding plastic bags has become a moral standard for this person, while it is unclear whether this is the case for a person who does not feel guilt. Guilt is morally significant in that those who feel it at least perceive they have a duty to reform their single-use plastics use, which is a sign that they are on the right path to being good.

A consequentialist perspective on single-use plastic consumption and disposal might not initially lend itself to justifying moral distinction for internal grappling, especially since, all other things the same, the end consequence between one who uses a straw and feels guilt and one who uses a straw and does not results in the same consequence. However, the presence of guilt might serve as an indicator for determining the likelihood of one to change their actions given a different

context. Utilitarianism is focused on maximizing the best possible outcomes and considerations about practicality and realism are relevant, and some cases, pertinent within such a context. The value of guilt is forward thinking in the same way consequentialism can be. While feeling guilt does not change the consequences of one's current actions, it might indicate likelihood to change one's actions in the future or if given the chance.

While guilt might be morally significant given the context of knowledge, what about those who are not guilty because they are ignorant to the harm they are causing? Does ignorance of harm make one less morally responsible for it? On the one hand, the importance to which we give intention is a large factor in the ways we determine accountability. Perhaps many of those ignorant of the harm they cause are not intending to harm at all but continue their actions due to sheer ignorance. This type of ignorance does not necessarily need be complete but could also be missing small bits of information which lead people to act in ways that have large consequences. One example of this in terms of single-use plastic is the individual who consistently uses and attempts to recycle plastic that is unrecyclable. This person is not only unaware that the plastic they are using ends up in a landfill, the ocean, or potentially the stomach of an animal, but they actually believe their use of plastic and the way they dispose of it is a moral act. This seems rather ironic and tragic, but does it change the moral state of one's actions?

Access and capacity can apply to situations of ignorance such as this one. Is the individual who recycles wrongly, or not at all, able to easily correct their ignorant beliefs? If the answer is yes, then in the case of guilt, and even action, one who fails to feel guilty because they are unaware of the harms they are inadvertently committing could be considered committing moral wrongs under each ethical theory since they are 1. Acting in a way that produces negative

consequences 2. Not fulfilling their duty to stay informed if capable and 3. Reflecting a type of apathy which extends to the epistemic realm as opposed to the physical one.

Consumers who know about the harm that systems they are complicit in cause and fail to change and don't feel guilt, are consumers who don't care. Certainly, these seem like the types of consumers most close to being morally responsible for the harms that result from the system they are a part of. However, even these consumers contain the potential for moral delineation, if we are to acknowledge the difference between the relative privilege of consumers in their ability to change their actions. As mentioned, it is possible for a consumer to genuinely feel guilt for their contribution to a harm while being unable to diminish it. After time, perhaps these individuals begin to feel alienated, a result which as discussed previously, philosophers like Michael Maniates argues our current political system fosters. Feeling guilt with the powerlessness to change one's actions might eventually lead to a numbness to the current system. Perhaps a better way to differentiate these types of consumers who don't reform their actions is to assess how access and capacity play into the potential for these individuals to feel alienated from the impacts of the single-use plastic consumer economy. Lack of access to and capacity for changing one's consumer choices, engaging with the political system to change policy, or dismantling the larger corporate structure which economizes environmental damage, are all ways in which individuals might feel alienated from their actions, and might hold apathetic attitudes about how their consumption of single-use plastics impacts the world.

With these considerations in mind, I believe that it is not morally obligatory for individuals to feel guilty for their participation in the single-use plastics economy if they already lack the power to change their actions. However, I do believe that those who do feel guilt and resist

alienation despite a lack access and capacity to change, can be considered morally outstanding and deserving of special recognition.

Conclusion

In this thesis I have summarized the history of plastics, considered their positive and negative impacts, examined single-use plastics consumption through each of the major ethical theories, and finally, applied ethics to discuss the moral responsibility and obligation of each of the major actors in the plastic materials economy. Despite this, you might still be wondering “What are the ethics of single-use plastics?” The answer is messy, but not unnavigable. By centering access and capability when it comes to agent-oriented ethics, and consideration of all three major branches of ethical theory when it comes to action-oriented ethics, one can begin to derive answer important ethical questions about when it’s okay to recycle or who shouldn’t be expected to reduce their consumption.

As mentioned in the beginning of this thesis, my inspiration to navigate these tricky ethical questions came from a frustration at how little control the individual seemed to bear the moral burden of responsibility, reinforced by mainstream environmental advocacy, propaganda from private industry and capitalist ideology. I hope that through exploring consumer ethics in the context of the global capitalist era we are living succeeded in the defense, though not absolution, of individuals and the reentering of private industry and government in solving these collective harms. The single-use plastics crisis is not a fatal tragedy, but instead an opportunity for us to begin working toward a world where we may all be held accountable for the harm we contribute to. I hope that one day, our social and economic structures protect a more equitable distribution of power across the collective, as opposed to concentrating this power in the hands

of the wealthiest, regardless of their impact on the well-being of society and the environment. In such an era, it would be safe to say that individuals would reclaim the ability to make each action meaningful, and justly be held responsible for their influence on the world, their fulfilment of duties, and the internal character that they cultivate.

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Works Cited

- “A Million Acts of Blue Toolkit.” *Greenpeace USA*, GreenPeace, www.greenpeace.org/usa/campaign-updates/a-million-acts-of-blue-toolkit/.
- Amadeo, Kimberly. “Sin Taxes, Their Pros and Cons, and Whether They Work.” *The Balance*, Dotdash, 8 Apr. 2019, www.thebalance.com/sin-tax-definition-examples-4157476.
- Athanassoulis, Nafsika. “Virtue Ethics.” *Internet Encyclopedia of Philosophy*, Internet Encyclopedia of Philosophy, www.iep.utm.edu/virtue/.
- Adkins, Sasha, "From Disposable Culture to Disposable People: Teaching About the Unintended Consequences of Plastics" (2017). Dissertations & Theses. 395. <https://aura.antioch.edu/etds/395>
- “A Whopping 91% of Plastic Isn't Recycled.” National Geographic, National Geographic Society, 20 Dec. 2018, news.nationalgeographic.com/2017/07/plastic-produced-recycling-waste-ocean-trash-debris-environment/.
- Ballinger, Jeff. “Nike Chronology.” *Washington.edu*, Center for Communication & Civic Engagement, depts.washington.edu/ccce/polcommcampaigns/NikeChronology.htm.
- BBC. YouTube, YouTube, 7 Dec. 2017, www.youtube.com/watch?v=I4QNolP7Khc.
<https://www.youtube.com/watch?v=xGfIsMMTbL4&t=42s>
- “Benzene.” *Cancer.org*, American Cancer Society, Inc., www.cancer.org/cancer/cancer-causes/benzene.html.
- “Bottled Water & Flint.” *International Bottled Water Association*, International Bottled Water Association, www.bottledwater.org/bottled-water-flint.
- “Bottled Water Industry Provides Clean, Safe Drinking Water For Hurricane Sandy Victims.” *International Bottled Water Association*, International Bottled Water Association, 2 Nov. 2012, www.bottledwater.org/bottled-water-industry-provides-clean-safe-drinking-water-hurricane-sandy-victims.
- Byrd, Ayana. “STUDY: As Bottled Water Sales Rise in Communities of Color, So Do Environmental Dangers.” *Colorlines*, Colorlines, 21 Feb. 2018, www.colorlines.com/articles/study-bottled-water-sales-rise-communities-color-so-do-environmental-dangers.
- Caliendo, Heather. “When Disaster Strikes, Bottled Water Is the Superhero.” *PlasticsToday*, UBM Americas, 17 Dec. 2015, www.plasticstoday.com/content/when-disaster-strikes-bottled-water-superhero/60075683518131.
- Catarino, Ana I., et al. “Low Levels of Microplastics (MP) in Wild Mussels Indicate That MP Ingestion by Humans Is Minimal Compared to Exposure via Household Fibres Fallout during a Meal.” *Environmental Pollution*, vol. 237, 29 Mar. 2018, pp. 675–684., doi:10.1016/j.envpol.2018.02.069.
- Cho, Sooyoung, and Andreas H. Krasser. “What makes us care? The impact of cultural values, individual factors, and attention to media content on motivation for ethical consumerism.” *International Social Science Review*, vol. 86, no. 1/2, 2011, pp. 3–23. JSTOR, www.jstor.org/stable/41887471.
- Coleman, Korva. “One Child's Outsized Influence On The Debate Over Plastic Straws.” 23 Jul 2018. Vermont Public Radio, www.vpr.org/post/one-childs-outsized-influence-debate-over-plastic-straws#stream/0.
- Commins, Leanna. “10 Trash Reducing Tips From Zero-Waste Activist Lauren Singer.” *Cosmopolitan*, Hearst Magazine Media Inc., 2 Feb. 2018, www.cosmopolitan.com/lifestyle/a13100767/zero-waste-tips-reduce-trash-lauren-singer-recycle-rules/.
- Crisan-Heavilin, Hilary. “WasteZero Releases Report on Impact of Pay-as-You-Throw Programs.” *Recycling Today*, GIE Media, 8 June 2018, www.recyclingtoday.com/article/wastezero-report-pay-as-you-throw-programs/.
- Crocker, David. A. “Consumption, Well-Being, and Capacity.” Crocker, David A, et al. *Ethics of Consumption : The Good Life, Justice, and Global Stewardship*. Rowman & Littlefield, 1998. pp 366-390.

- Danovich, Tove, and Maria Godoy. "Why People With Disabilities Want Bans On Plastic Straws To Be More Flexible." *NPR*, NPR, 11 July 2018, www.npr.org/sections/thesalt/2018/07/11/627773979/why-people-with-disabilities-want-bans-on-plastic-straws-to-be-more-flexible.
- DeLeire, T. & Kalil, A. *Int Rev Econ* (2010) 57: 163. <https://doi.org/10.1007/s12232-010-0093-6>
- "Deontology." *Ethics Unwrapped*, Ethics Unwrapped, ethicsunwrapped.utexas.edu/glossary/deontology.
- Giacovelli, Claudia. "Single-Use Plastics: A Roadmap for Sustainability." *UN Environment: Technology for Environment*, 2018, wedocs.unep.org/bitstream/handle/20.500.11822/25496/singleUsePlastic_sustainability.pdf?sequence=1&isAllowed=y.
- Dunaway, Finis. "The 'Crying Indian' Ad That Fooled the Environmental Movement." *Chicagotribune.com*, 27 Nov. 2017, www.chicagotribune.com/news/opinion/commentary/ct-perspec-indian-crying-environment-ads-pollution-1123-20171113-story.html.
- Franklin Associates, A Division of Eastern Research Group (ERG). "Impact Of Plastics Packaging On Life Cycle Energy Consumption & Greenhouse Gas Emissions In The United States And Canada." Jan. 2014, plastics.americanchemistry.com/Education-Resources/Publications/Impact-of-Plastics-Packaging.pdf.
- Garcia-Ruiz, Pablo and Rodriguez-Lluesma, Carlos, Consumption Practices: A Virtue Ethics Approach (July 1, 2014). *Business Ethics Quarterly*, Vol 24, No 4, pp. 509-531, 2014. Available at SSRN: <https://ssrn.com/abstract=2556388> or <http://dx.doi.org/10.2139/ssrn.2556388>
- Grabar, Henry. "Recycling Isn't About the Planet. It's About Profit." *Slate Magazine*, Slate, 5 Apr. 2019, slate.com/business/2019/04/recycling-dead-planet-profit-americans-commodities-china.html.
- Greenhouse, Steven. "Nike Shoe Plant in Vietnam Is Called Unsafe for Workers." *The New York Times*, The New York Times, 8 Nov. 1997, www.nytimes.com/1997/11/08/business/nike-shoe-plant-in-vietnam-is-called-unsafe-for-workers.html.
- Gurney, Christabel. "When the Boycott Began to Bite." *Sahistory.org*, South African History Online, June 1999, www.sahistory.org.za/archive/when-boycott-began-bite.
- Güven, Cahit. "Reversing the Question: Does Happiness Affect Consumption and Savings Behavior?" *Journal of Economic Psychology*, vol. 33, no. 4, 2012, pp. 701–717., doi:10.1016/j.joep.2012.01.002.
- Haines, William. "Consequentialism." *Internet Encyclopedia of Philosophy*, Internet Encyclopedia of Philosophy, www.iep.utm.edu/conseque/. "How We ThinkGreen." *WM.com*, Waste Management, Inc., www.wm.com/thinkgreen/how-we-thinkgreen.jsp.
- HIS Inc. "Plastic Component Revenue Rising in Cell Phone Market." *Plastics Business*, Peterson Publications, 5 Nov. 2013, plasticsbusinessmag.com/uncategorized/2013/plastic-component-revenue-rising-in-cell-phone-market/.
- "HP Product Material Content Information." June 2016. <http://h20195.www2.hp.com/V2/getpdf.aspx/c05117791.pdf>
- "It's A Recycling Extravaganza in Inteplast's Coloring Book." *Waste Advantage Magazine*, Waste Advantage Magazine, 5 Feb. 2019, wasteadvantagemag.com/its-a-recycling-extravaganza-in-inteplasts-coloring-book/.
- Isaacs, Tracy. *Moral Responsibility in Collective Contexts*. Oxford University Press, 2011.
- Jankowiak, Tim. "Immanuel Kant." *Internet Encyclopedia of Philosophy*, Internet Encyclopedia of Philosophy, www.iep.utm.edu/kantview/.
- Kaplan, Sarah. "By 2050, There Will Be More Plastic than Fish in the World's Oceans, Study Says." *The Washington Post*, WP Company, 20 Jan. 2016, www.washingtonpost.com/news/morning-mix/wp/2016/01/20/by-2050-there-will-be-more-plastic-than-fish-in-the-worlds-oceans-study-says/?utm_term=.bd739415f414.
- Kenton, Will. "Standard of Living." *Investopedia*, DotDash, 1 Apr. 2019, www.investopedia.com/terms/s/standard-of-living.asp.

- Kingsley-Hughes, Adrian. "Plastic Is the 'New Currency' in the Cellphone Market, Analysts Claim." ZDNet, CBS Interactive, 3 Oct. 2013, www.zdnet.com/article/plastic-is-the-new-currency-in-the-cellphone-market-analysts-claim/.
- Kottke, Jason. "Andy Warhol on Coca-Cola." *Kottke.org*, Kottke.org, 18 Oct. 2010, kottke.org/10/10/andy-warhol-on-coca-cola.
- "Learn About the Supply Chain." Plastics Industry Association, www.plasticsindustry.org/learn-about-supply-chain.
- Leeson, Craig, director. *A Plastic Ocean*. Netflix, Plastic Oceans International.
- Leal Filho, Walter, et al. "An Overview of the Problems Posed by Plastic Products and the Role of Extended Producer Responsibility in Europe." *Journal of Cleaner Production*, vol. 214, 2019, pp. 550–558., doi:10.1016/j.jclepro.2018.12.256.
- Leonard, Annie. "Our Plastic Pollution Crisis Is Too Big for Recycling to Fix | Annie Leonard." The Guardian, Guardian News and Media, 9 June 2018, www.theguardian.com/commentisfree/2018/jun/09/recycling-plastic-crisis-oceans-pollution-corporate-responsibility.
- Littler, Jo. "What's wrong with ethical consumption?" Lewis, Tania, and Emily Potter. *Ethical Consumption: a Critical Introduction*. Routledge, 2011. pp 27-40.
- "LyondellBasell Homepage." *LyondellBasell*, Lyondell Basell Industries, www.lyondellbasell.com/.
- Ma, Baolong, et al. "Recycle More, Waste More? When Recycling Efforts Increase Resource Consumption." *Journal of Cleaner Production*, vol. 206, 2019, pp. 870–877., doi:10.1016/j.jclepro.2018.09.063.
- Maniates, Michael. "Individualization: Plant a Tree, Buy a Bike, Save the World?" Princen, Thomas, et al. *Confronting Consumption*. MIT Press, 2002. pp 43-66.
- "Mission & History." *Keep America Beautiful*, Keep America Beautiful, www.kab.org/about-us/mission-history.
- Meikle, Jeffrey L. *American Plastic: A Cultural History*. Rutgers University Press, 1997.
- More, Jay. "Working Towards a World Without Waste | Coca-Cola Journey." *The Coca-Cola Company*, The Coca-Cola Company, 19 Jan. 2018, www.coca-colacompany.com/stories/world-without-waste.
- Nathanson, Stephen. "Act and Rule Utilitarianism." *Internet Encyclopedia of Philosophy*, Internet Encyclopedia of Philosophy, www.iep.utm.edu/util-a-r/.
- Nield, David. "Our Smartphone Addiction Is Costing the Earth." TechRadar, TechRadar , 4 Aug. 2015, www.techradar.com/news/phone-and-communications/mobile-phones/our-smartphone-addiction-is-costing-the-earth-1299378.
- "No Straw Please." *Plastic Pollution Coalition*, Plastic Pollution Coalition, www.plasticpollutioncoalition.org/no-straw-please.
- O'Donnell, Noreen. "Recycling Breaks Down: US Struggles to Keep Plastic From the Dump." *Nbcconnecticut*, NBCUniversal, Inc, 13 Aug. 2018, www.nbcconnecticut.com/news/national-international/US-Struggles-With-What-to-Do-With-Tons-of-Recycled-Material-489971551.html?amp=y.
- "Pay-As-You-Throw." *WasteZero*, WasteZero, wastezero.com/our-solutions/pay-as-you-throw/.
- "Plastic in 99 Percent of Seabirds by 2050." *ScienceDaily*, ScienceDaily, 31 Aug. 2015, www.sciencedaily.com/releases/2015/08/150831163739.htm.
- "Plastic Packaging Resin Identification Codes." *Plastics.AmericanChemistry.com*, American Chemistry Council, Inc., plastics.americanchemistry.com/Plastic-Packaging-Resin-Identification-Codes/.
- "Plastics." *Plastics American Chemistry Council*, American Chemistry Council Inc., plastics.americanchemistry.com/default.aspx.
- Pomeroy, Ross, and William Handke. "The Most Entitled Generation Isn't Millennials. It's Baby Boomers." *RealClearPolitics*, RealClearPolitics, 8 Jan. 2015,

- www.realclearpolitics.com/articles/2015/01/08/the_most_entitled_generation_isnt_millennials_its_baby_boomers_125184.html.
- “Popular Packaging Attributes.” *Oregon.gov*, Oregon.gov, www.oregon.gov/deq/mm/production/Pages/Materials-Attributes.aspx.
- “Producer Responsibility.” *Ecocycle*, Eco-Cycle, www.ecocycle.org/zerowaste/overview/producer-responsibility.
- “Primaplast (Indonesia).” Primastraw, www.primastraw.com/.
- Raz, Guy. “A Bottled-Water Drama In Fiji.” *NPR*, NPR, 1 Dec. 2010, www.npr.org/2010/12/01/131733493/A-Bottled-Water-Drama-In-Fiji.
- “Recycling for Residents.” *WM.com*, Waste Management, Inc., www.wm.com/customer-service/residential-recycling-faq.jsp.
- Robert D Bullard. “Overcoming racism in environmental decision making (coverstory)” *Environment* Vol. 36 Iss. 4 (1994). <http://works.bepress.com/bullardrd/13>
- Rollin, Joseph, and Jenna E. Gallegos. “The Surprising Way Plastics Could Actually Help Fight Climate Change.” *Phys.org*, Science X Network, 29 Nov. 2018, phys.org/news/2018-11-plastics-climate.html.
- Rust, Susanne. “Plastic Bag Lobbying Group Influences Curriculum.” *SFGate*, San Francisco Chronicle, 19 Aug. 2011, www.sfgate.com/green/article/Plastic-bag-lobbying-group-influences-curriculum-2334747.php.
- Schanberg, Sydney H. “Six Cents an Hour (1996 Life Article).” *Laborrights.org*, International Labor Rights Forum, 28 Mar. 1996, laborrights.org/in-the-news/six-cents-hour-1996-life-article.
- Schleeter, Ryan. “These 10 Companies Are Flooding the Planet with Throwing Plastic.” *Greenpeace International*, GreenPeace, 9 Oct. 2018, www.greenpeace.org/international/story/18876/these-10-companies-are-flooding-the-planet-with-throwaway-plastic/.
- Schudson, Michael. “Delectable materialism.” Crocker, David A, et al. *Ethics of Consumption : The Good Life, Justice, and Global Stewardship*. Rowman & Littlefield, 1998. pp 249-269.
- Seabrook, John. “Plastics.” *The New Yorker*, Conde Nast, 13 Sept. 2010, www.newyorker.com/news/news-desk/plastics.
- Sharma, Shivika, and Subhankar Chatterjee. “Microplastic Pollution, a Threat to Marine Ecosystem and Human Health: A Short Review.” *Environmental Science and Pollution Research*, vol. 24, no. 27, 2017, pp. 21530–21547., doi:10.1007/s11356-017-9910-8.
- Siegmund Cuda, Heidi, and Elizabeth Glazner. “The Turtle That Became the Anti-Plastic Straw Poster Child.” *Plastic Pollution Coalition*, Plastic Pollution Coalition, 11 Nov. 2015, www.plasticpollutioncoalition.org/pft/2015/10/27/the-turtle-that-became-the-anti-plastic-straw-poster-child.
- Singer, Peter. “The Singer Solution To World Poverty.” *The New York Times*, The New York Times, 5 Sept. 1999, www.nytimes.com/1999/09/05/magazine/the-singer-solution-to-world-poverty.html.
- “Starbucks to Eliminate Plastic Straws Globally by 2020.” *Starbucks*, Starbucks Corporation, 9 July 2018, stories.starbucks.com/press/2018/starbucks-to-eliminate-plastic-straws-globally-by-2020/.
- “Storyline.” *Plasticchina.org*, CNEX Foundation Ltd, www.plasticchina.org/.
- “Study from Trucost Finds Plastics Reduce Environmental Costs by Nearly 4 Times Compared to Alternatives.” *Plastics American Chemistry Council*, American Chemistry Council, plastics.americanchemistry.com/Study-from-Trucost-Finds-Plastics-Reduce-Environmental-Costs/.
- Tandon, Suneera, and Suneera Tandon. “Indians Are Guzzling Bottled Water like Never Before.” *Quartz India*, Quartz, 26 Mar. 2018, qz.com/india/1235327/bottled-water-sales-are-soaring-in-thirsty-india/.
- Taylor, Brian. “Think (Less) Globally, Act Locally.” *Recycling Today*, Recycling Today, 8 Oct. 2018, www.recyclingtoday.com/article/think-less-globally-act-locally-for-plastics-recycling/.
- “The Boycott of Jewish Businesses.” *Encyclopedia.ushmm*, United States Holocaust Memorial Museum, encyclopedia.ushmm.org/content/en/article/the-boycott-of-jewish-businesses.

The Coca-Cola Company. "History of Bottling." *Coca-ColaCompany.com*, The Coca-Cola Company, www.coca-colacompany.com/our-company/history-of-bottling.

The Editors of Encyclopaedia Britannica. "John Wesley Hyatt." Encyclopædia Britannica, Encyclopædia Britannica, Inc., 24 Nov. 2018, www.britannica.com/biography/John-Wesley-Hyatt.

"The History and Future of Plastics." Science History Institute, 20 Dec. 2016, www.sciencehistory.org/the-history-and-future-of-plastics.

Vincent, Christopher. "Belgium Recycles over 80% of Its Used Plastic." *The Brussels Times*, The Brussels Times, 16 Apr. 2018, www.brusselstimes.com/belgium/11002/belgium-recycles-over-80-of-its-used-plastic.

Whitehead, Chris. "The Coca-Cola Company Signs Ocean Plastics Charter at G7 Meeting." *Coca-ColaCompany.com*, The Coca-Cola Company, 20 Sept. 2018, www.coca-colacompany.com/stories/the-coca-cola-company-signs-ocean-plastics-charter-at-g7-meeting.

"Working Towards a World Without Waste | Coca-Cola Journey." The Coca-Cola Company, 19 Jan. 2018, www.coca-colacompany.com/stories/world-without-waste.

Zargar, Haris. "India Has World's Highest Inhabitants without Safe Water: Report." *https://www.livemint.com*, Livemint, 21 Mar. 2018, www.livemint.com/Politics/WoHowGWquof0lr7KPDV7GO/India-has-worlds-highest-inhabitants-without-safe-water-re.html.