The Plastic Crisis

Rachel Petterson

Bridgewater College

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402 E. College St., Bridgewater, VA. 22812

Abstract

 There is an immense amount of plastic on this planet. Because the amount of plastic has grown so rapidly, we do not yet know how to handle it to prevent the damage it is doing to the planet and to us. While this is a global problem, it has local manifestations, including on Bridgewater College’s campus. This report aims to explain the global problem, its local expressions, and possible solutions to mitigate the problem at Bridgewater College.

The Plastic Crisis

Plastic is embedded in our lives more than we often realize. Nearly all of our daily tasks, from brushing out teeth to eating to driving, or even recreational activities like playing an instrument or sport, involve plastic in our modern age. Despite this, plastic has only risen to prominence in the last century. Plastic is a hot topic right now and for good reason. It’s a new problem that humanity needs to address for the good of all, looking at it both globally and locally in order to find the best solutions at both the systemic and individual levels.

In an article by Laura Parker in the June 2018 issue of *National Geographic,* she explains that plastic was first invented in the late 1800s. Plastic is not just one thing, but a category of products. As celluloid, it was first used to replace ivory in various products, like billiard balls. In the 1950s, we discovered that could be made very cheaply from petroleum, and that’s when it really took off. Plastic has helped mankind in numerous ways since then. For example, it’s used for incubators, helmets, has made cars lighter, allowed for airbags, and is an important part of scientific endeavors, such as space exploration. But since the 1950s, an immense amount of plastic has accumulated on Earth. In 2017, there was an estimated 9.2 billion tons of plastic on the planet, with 6.9 billion tons of that being plastic waste, as Parker explains. This is much more than we have the waste management to deal with, and the immense presence of something so new forces us to investigate how it might be impacting the planet and us.

The rise of plastic was largely shaped by the societal context it was born into. American culture is a capitalist culture that values efficiency, innovation, time, and money, often at the expense of all else. Clearly, plastic was not invented with malicious intentions, and it has benefited mankind, even saving lives. But the values of a capitalist society like America can create dangerous norms. For example, individuals and companies are often expected to choose options that maximize profit, in order to be regarded as a “success.” When the competition within the free market is using plastic, and thus selling their products more cheaply, this creates pressure for other companies to do the same in order to maximize the product. This leads to companies directly convincing consumers that they should buy plastic, through advertisement. These advertisements often speak to another cultural value, also tied to capitalism: convenience. Plastic products are often more convenient to use and take less time and effort to maintain. One can just dispose of it and then get a new one, whatever the product may be. This allows people to spend less time washing their reusable products and more time grinding in the capitalist rat race. In today’s age, because plastic is so pervasive, not using plastic takes special time and effort. This requires slowing down and perhaps not being such an efficient money-maker, thus not living up to the capitalist incarnation of a “success.” In the end, companies and individuals have experienced more approval from society at large by using plastic. This has come at a grave cost.

As Natasha Daly explains in a different article within the same issue of *National Geographic,* plastic is a major threat to wildlife, particularly marine wildlife. On the most obvious surface level, it is clear that animals get caught in plastic, it gets lodged on their bodies, and animals also eat plastic, thinking that it is food. But there is also a more microscopic danger: microplastics and nanoplastics. As Daly explains, plastic is broken down by the sun and waves, but also by microorganisms that chew it up, leaving tiny bits floating in the ocean (2018). The microplastics are observable, and they are regularly found in the guts of marine life, who have eaten the microplastics. This exposure to plastic often kills wildlife, disrupting ecosystems that are already suffering from human involvement. Even more insidious are nanoplastics, which are so small that they cannot be observed. As Royte explains in the same June 2018 edition of *National Geographic*, these are what may be entering the flesh of marine animals that we eat, but we cannot know for sure because nanoplastics are currently invisible to us (2018).

Regardless of whether we are eating plastic in our foods, there are numerous other negative effects of plastic on humans. As Royte points out, some chemicals used in plastic are endocrine disrupters, affecting or hormone levels (201\*8). It is hard to pinpoint the exact effect of plastic on our health, as it is found almost everywhere around us. Furthermore, as Kate Lin explained in her article for GreenPeace from this month, there are numerous social impacts of plastic build up (2019). Plastic often accumulates in low income areas, impacting the standard of living and health of those individuals the most. This has been exacerbated in other eastern Asian countires since China stopped accepting other countries’ recyclables (Lin, 2019).

Plastic may not be accumulating on the sidewalks of Bridgewater College, but we are certainly contributing to the accumulation of plastic worldwide. This is easily seen in the use of plastic in dining services. At the often-used grab-and-go station called Take 5, there are numerous snacks packaged in plastic, plastic cups and straws for the drinks, and the food is often put into plastic bags, automatically handed to you by a woman at the cash register. At the main dining hall, while most food is served on reusable plates and bowls with reusable silverware, the to-go system still uses plastic silverware, plastic straws, and plastic cup lids. Furthermore, there are plastic cups and spoons at the ice cream serving station, which students regularly use to hold their ice cream, even when they are eating it at the cafeteria. The last source of food on campus, the Crimson Café, uses plastic cups and straws that are typical of Starbucks. Add all of this together, and countless students are generating plastic waste every day just from eating.

The current systems at Bridgewater support the use of plastic in dining services. At Take 5, for example, save for the bananas, there is almost no food or drink that once cannot select that does not include plastic packaging. Furthermore, the plastic bags are automatically handed to you. This means that, to avoid plastic, students have to either not eat food at Take 5 and/or refuse to use the plastic being offered to them, which is socially uncomfortable when everyone else is using the plastic. In the main cafeteria, there are many more opportunities to use reusable plates/bowls/silverware/cups. However, in the case of the to-go system, once again the plastic cup lids and straws are often handed to you by a worker, and if one wants to use an alternative to take their drink to go, they have to bring it themselves. In the case of the plastic cups and spoons for ice cream, reusable bowls and spoons are easily available, but they are not at the ice cream station. This makes it more convenient on a physical level for people to simply use the plastic. On a social level, so many other people are using the plastic that it becomes an emergent norm. Freshmen entering college are especially sensitive to emergent norms, as this is a new situation for them. Thus, as people enter college, they are likely to pick up the habits of everyone else, which include using the plastic, or else they are running the risk of drawing unwanted attention to themselves.

On both global and local levels, efforts are being made to reduce plastic use. Clearly, the excess plastic on the planet is a problem, for the aforementioned reasons. Recycling is not a reliable solution, as there is too much plastic and not enough recycling systems in place to deal with it. As Laura Parker explains in her second article for *National Geographic’*s June 2018 issue, biodegradable options are also not effective, as they often still take a long time to break down. In 2015, the UN Environmental Programme dismissed biodegradables as a solution, claiming they may even promote littering. Thus, reducing plastic production and consumption is the best solution. On larger levels, efforts to do this can be observed in bans on plastic bags and country-wide goals to reduce plastic waste in specific ways.

At Bridgewater College, there are small signs of efforts to reduce plastic use. For example, the to-go system at the main cafeteria uses paper-based compostable containers. In addition, there is a new sign at the ice cream station saying “Feeling sustainable?” and encouraging students to use a reusable bowl instead of a plastic cup for ice cream when dining in. However, the use of compostable boxes and a sign that just targets individual behavior without changing the system that supports plastic cup usage do not make up for the more pervasive systems that make Bridgewater College a contributor to the plastic crisis.

There are several systemic changes that Bridgewater College could make to substantially reduce plastic waste. On the most extreme side, Bridgewater’s dining services could simply stop buying and distributing plastic and instead use alternatives. The ice cream cups and spoons would be gone, perhaps replaced by paper cups and compostable spoons. The plastic cups and straws would be gone. Instead, freshmen could be provided with reusable cups upon entering Bridgewater college and this could be what they use for all to-go drinks. The plastic packaging in Take 5 would be gone. Instead, snacks would be provided in bulk and either taken in personal reusable containers or paper-based containers. And the plastic bags would certainly be gone, replaced by either no bags or paper bags. These would be drastic changes that would impact the business that Bridgewater’s dining services does, as they would have to change some of their providers for containers. Plastic is a popular business option because it is cheap and it is familiar. There may also be a bureaucracy involved in what items Bridgewater dining services purchases, making changes like this inefficient to do. However, extreme changes like this would be effective, because they would directly and quickly change the emergent norms. We are still a society that values convenience and efficiency. At a student level, just using the containers and food systems at their fingertips will be the most popular option. Thus, if there is little to no plastic available, it will not be used.

On a less extreme level, the plastic available could remain, but more subtle changes could be made to encourage the reduction of plastic waste. For example, the workers at Take 5 and the to-go system at the main cafeteria could ask, “Do you want a plastic/straw/cup lid?” instead of just handing it to the students. This gives students an opportunity to refuse these things, instead of putting them in the potentially uncomfortable situation of handing back something they were just given. In addition, incentives to use alternatives could be put in place. If one says no to a plastic bag/lid/straw, they could be entered into a raffle for a (non-plastic-containing) raffle. This makes use of behavioral psychology principles, which suggest that rewarding someone for a behavior will increase the likelihood of them doing it. Systems like this may change the patterns of behavior at Bridgewater, and thus shift emergent norms.

That said, even with the current systems in place, individuals can still choose to not use plastic at Bridgewater through their own efforts. This may come with social discomfort, though, and will likely not create mass change, as most people are acting along the paths of least resistance put in place by the norms that the current systems support.

Clearly, excess plastic waste is a global problem that, if not stopped, will eventually affect all of us. While it is a huge problem with systems much larger than Bridgewater making most of the contributions, changes at the local level are better than no changes. In fact, the larger system of capitalism can be “hacked” to make larger changes happen. Students at Bridgewater are consumers of the college’s services, and Bridgewater College is the consumer of dining-services-related products. If we, as consumers, demand alternatives to plastic, and stop adding to the profit of plastic-producing industry, this takes away some of the competitive edge plastic provides and may lead to larger changes.

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