

Writing in a Plastic World

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In this article, McCauley utilizes the PCHAT terms production, reception, socialization, and ecology to examine the trajectory of plastic pollution in our environment.

I had wrongly assumed that by the time I reached college age, everyone would be properly educated on the topic of recycling or would at least have a basic understanding of the process. What I have discovered since my first semester at Illinois State University is that many people do not fully understand—or care to learn—about the importance of reducing the amount of pollution we create. To be fair, the concept of recycling is more complex than just choosing to throw your water bottle in one bin rather than the other. This complexity may be one reason why people are so hesitant to learn more about the process.

One way that we can try to understand this topic is by using CHAT, which is an acronym for cultural-historical activity theory. Specially, I'm going to be using a structure developed by the ISU Writing Program called PCHAT. Writers can use PCHAT tools to organize their thoughts into concise, relevant, and engaging information for their audiences to interact with and learn from. Like recycling, PCHAT breaks down the writing process into more manageable parts by using genre research and conceptual tools. These tools include terms such as reception, distribution, ecology,

production, activity, and socialization. The tools I will focus on in this article will be **production**, **reception**, **socialization**, and **ecology**. Of course, there are countless ways to apply these tools outside of my examples in this article. Keep this in mind as you consider your own applications of PCHAT to different literate practices. By looking at the topic of plastic pollution and recycling through the lenses of these tools, it will hopefully be easier to see the changes we need to make to our lifestyles and the ways that we can go about making those changes.

More than Just a Bottle . . .

Before I get into too much detail about how these specific tools are related to plastic pollution, it may be helpful to introduce a few other terms. Let's start with the basics. A **text** can be anything that conveys a message to its audience and is not just limited to letters or characters on a page. Concerning plastic pollution, the texts that are being produced are things like plastic bottles, containers, toys, tools, spare parts, etc. Since the demand for these products is still there, the production and pollution will not be halted. Therefore, it's important to consider each of the dollars you spend as votes for the reproduction of the item you purchased. If you want to see an end to plastic bottles—stop buying them! We know now that there are better alternatives.

You see, historically, plastic was not always considered to be an issue. Though the first synthetic plastic was created in 1907, the demand for plastic items increased dramatically due to commercial use throughout the 1950s. At this time, families were not concerned as to what happened to their plastic items once they were thrown away. The phrase, “out of sight, out of mind” rang true for people around the world when it came to recyclable items—especially plastic. It wasn't until the environmental movement of the 1960s and 70s that we began to consider recycling to be an important process. How a text changes throughout its existence is called **trajectory**. Environmental scientists can also use trajectory as a tool to find out where pollution is coming from by tracing the path of washed-up plastic on shorelines back to their original production location. As writers, it is important to understand how your texts can change over time and to keep in mind how new audiences may receive the message differently.

Now, you must know that the information that I collected for this article was not all stuff I had already learned or knew about. Instead, I had to conduct **genre research**, which is the investigation of a specific genre or text and can include things such as videos watched, websites visited, books read, experts consulted, and podcasts listened to. Conversely, if I

had known an extensive amount about this topic already, we would have called it **antecedent knowledge**, or the knowledge of a type of text *before* researching it further. Antecedent knowledge can be a helpful starting point for writers to build during the research process. For example, I had a basic understanding of how plastic bottles were recycled, but I was still curious about what types of machines they used in the process, so I chose to look up a YouTube video that helped me to fill in this missing information.

An Introduction to Recycling

To some people, the process of recycling may appear to be simple. The things that we buy and use are made of specific materials that can be later turned into something new if it is placed in the local recycling bin. However, when you break the process down and think about how and why it works, it becomes complex. For example, there are four major types of recycling programs: curbside pickup, drop-off centers, buy-back centers, and deposit/refund programs. In each of these smaller systems, there are unique processes that help them to run smoothly.

For curbside pickup to be successful, trucks need to consistently drive around and collect the materials that people put outside on their specific pickup day. All these parts of the process require action from people who are involved in it. The drivers of the trucks may need to go online to check their schedules, homeowners need to make the act of collecting the materials and drag their recycling bins outside. You may not have known it yet, but thinking about these things in this way uses the PCHAT tool, **activity**. Activity is the action we take to create a text throughout the production process. An example of this would be the factory running its machines to produce plastic bottles.

The other three types of recycling programs require the activity of people taking their materials further than the ends of their driveways. Therefore, these programs have the potential to frustrate people who do not want to go out of their way to dispose of their materials correctly. This brings us to our next CHAT term, reception. In the case of plastics, you could also think of it as the attitude a consumer has toward a product. If the representation of plastic recyclables is negative—for example, if people feel frustrated with an extensive recycling process—it will affect the number of people who participate in the programs. One of the obvious goals is to



Figure 1: The recycling symbol.

increase participation in recycling programs. In more than a few ways, the attitude towards recycling is the root of the issue. For instance, Norway has implemented a deposit-based system nationwide that gives consumers .07–.35 cents per bottle depending on the size and type of bottle. The deposit centers are required anywhere that sells plastic bottles. The money that consumers receive can also be given as store credit, which becomes a win-win situation for both the customers and the stores. In Norway, people get their plastic from stores but choose to repurpose it by returning it and getting money in return. Their attitude towards plastic is simply that it is a borrowed material. Because of this, less than one percent of Norway’s plastic ends up in the natural environment. Most of the plastic pollution found along its coasts are not even produced in Norway but are coming from other countries that do not have deposit-based systems nor the attitudes of Norwegians. This path of plastic pollution can also be explained with the term trajectory, as I have mentioned previously.

Now, sometimes I wonder how it feels to be a CEO of a big plastic producing company such as Coca-Cola. What do they think about their environmental impacts? Do they care at all, or are they simply concerned with the revenue they will bring in? These types of questions help to discover the company’s **representation**, or how the creator of the text thinks about their product. For example, since the news got out that plastic is harmful to the planet, some water bottle companies attempted to reduce the amount of plastic used to make each bottle. However, these companies have no intention of halting plastic production altogether. I could argue that the representation of these companies is careless, stubborn, and money hungry.



Figure 2: Plastic marine waste accumulated on a beach in Troms, Northern Norway.

Recycling in the News

The attitudes we have towards the products we buy are important. We should try our best to be intentional about our purchases. Think about what you will do with the product or container after you are finished with it. Where will it end up? Could it become harmful to another species living on our planet? Depending on the product, its endpoint could determine another living creature's life or death.

Indeed, plastic straws have become the headline of many news channels over the past five years. Plastic straws have been known to cause issues with nature as well as the animals that live in it. There are a plethora of sad and disturbing photos of sea life struggling to escape the plastic prisons . . . and many of them do not. So far, these news stories have done a good job of creating awareness for these types of dangers we create for the planet. Since the stories began appearing on the news, new laws have been put in place that reduce the number of plastic straws we use and throw away. Additionally, more and more people are discussing the ways that they can make a positive change to the environment, and many people even take online pledges (I did!) vowing to never use a plastic straw again. This process can be defined as **socialization**. As the ISU writing program defines it, socialization is the interaction of people and institutions as they produce, distribute, and use texts. In other words, any social interaction that occurs because of a text. Socialization is important in the recycling process because each time people discuss the necessity of it, it spreads the word and creates awareness for it. This awareness helps to slow people down each time they have something to dispose of. It makes people think about where their plastic is going after they throw it away.

So . . . Where Does My Plastic End Up?

One of the most crucial things for our population to realize is that almost every piece of plastic that has ever been made still exists on the earth's surface. The chemical properties of plastic make it nearly impossible to completely decompose naturally. Instead, natural processes such as erosion and UV ray exposure breakdown the plastic into smaller pieces called microplastics. Microplastics are bits of plastic that are less than .2 inches long, and they are an increasing issue. The CHAT term **ecology** includes all aspects of the environment that a text exists in. In this context, the ecology of the text is literally the physical environment we live in. When talking about microplastics, the ecology of the text is anywhere that they can be found. Unfortunately, this now includes practically every part of the earth. If the

thought of trillions of tiny bits of plastic in our oceans and on our continents doesn't scare you enough on its own, consider the results of a recent study that has confirmed the presence of microplastics in human stools. Yes, you read that right. The plastic that people carelessly throw out the windows of cars is now being eaten and found within our digestive systems. This means that the ecology of microplastics includes the world around us, but also animal and human bodies. Consider how ecology and trajectory are related in this instance. The trajectory of a plastic bottle may be extensive and travel great distances before the end of its life cycle. Since plastic takes at least 450 years to degrade in the natural environment, we must begin to consider the consequences of our ecosystems becoming clogged with our past mistakes.

Now, I do not intend to discourage readers from recycling, but I believe it is important to mention that even if you do dispose of recyclables properly, it is still possible for the end products to end up in the natural environment. This is because recycling centers can be classified as either an open-loop or closed-loop system. If a center is an open-loop system, it means that the items being recycled can be turned into completely new items such as polyester. This type of recycling can sometimes still be bad for the environment because many of the new items made from recycled materials end up in landfills. A closed-loop system means that the items that go through the center are remade into new plastic bottles and containers. This can also be called bottle-to-bottle recycling and is the better option when it comes to recycling. Furthermore, the best option when it comes to recycling would be to **REDUCE** the number of plastic products you purchase altogether. Before buying plastic, at least take a moment to consider alternatives or whether you need the product in the first place.



Figure 3: An example of a sculpture made of plastic bottles.

A question that comes to my mind when thinking about the difference between these two systems is *who decides what happens with our recyclable materials?* This question can be thought about by using the PCHAT term **distribution** and **reception**. Distribution and reception are both concepts that involve looking at where a text goes and what types of things it can be turned into. In particular, reception involves the ways that a text can be taken up and used (or reused) in different ways, even going beyond the original intent of the author or creator. The difference between distribution and reception can be shown by artists who create bottle art since plastic bottles were not created to become materials for sculptures. Can you think of a time you used a product for something other than its intended use?

A Look Inside: The Recycling Process

The final PCHAT tool to discuss is **production**. Production has to do with how the text is produced. This includes the tools and practices that go into the making of a text. Let's apply this new term to our topic of recycling. First, the plastic is collected by trucks that are part of the curbside pick-up program. The plastic items are compacted into bales then delivered to the recycling center where they are then dumped into a sorting machine. This machine removes the labels of products and sorts the plastics by resin type. This type can be determined by the number in the middle of the triangle on recyclable materials. Next, the plastics are sent through several machines to be chopped, washed, and formed into pellets. Once the plastics are in this pellet form, they can be used to make new products, whether it be a brand-new water bottle or the polyester that is used to make a new T-shirt. The machines used throughout the process are tools and every time a truck driver goes out to collect recyclables they are engaged in a practice. These things come together to complete the process and to reach the end result of small plastic pellets.

Our Impact: Why Should We Help?

With an estimated 8.3 billion tons of plastic in the world today, it is impossible to completely erase the damage we have done to our environment. At the very least, now you know how important it is to be aware of plastic pollution. However, it is not enough to only be aware of the issue. We can still do our part to protect our planet from further destruction. Additionally, with the proper change in attitude and systems in place, we can make it easier than ever to help our world. For example, I mentioned earlier how Norway's deposit-

based systems are effective for both buyers and sellers. The view that you are buying the product inside the plastic container and are simply borrowing the material that holds it is a mindset that all consumers should consider.

Moreover, there are more than just environmental benefits of recycling. It was estimated that recycling in the city of St. Louis made over 16,000 jobs and made over \$4 billion in annual revenue. These numbers are based on the participation that they receive in their programs, which means that in larger urban areas where there are fewer people who go out of their way to recycle the numbers are not as impressive. What this tells us, however, is that with good participation, recycling centers have the potential to be extremely profitable.

You may be thinking, “Wow. This seems like a pretty big deal! But there’s so much garbage everywhere, and most things in stores aren’t made to be environmentally friendly. Why bother?” Well, you’re partially right. There *is* a lot of garbage on the planet, and it can be difficult to reduce the amount of plastic waste when nearly every product in stores is either packaged in plastic or is made of plastic. **BUT**, if anything, this gives us a reason to bother with it. We **CAN** make a difference. Recognizing the problem and caring about finding the solution is the first step to making a change. Like many other things in life, it takes time to learn but is worth the trouble.

The Difference is YOU

So, what things can a single person do to help the environment? For starters, try reducing the amount of plastic that you are using and throwing away. A great example of this would be making the change from plastic bags to reusable ones. When you go to throw something away, stop for a moment and consider whether it can be recycled or not. An important thing to keep in mind is that it is possible to recycle things wrong. For instance, most yogurt cups and dirty take-out containers are not recyclable. If these items are thrown in recycling with everything else, there is a possibility that the entire batch of items must be thrown out due to contamination. If you are unsure, take the time to look it up online. The planet will thank you later.

As I have gone through each of the PCHAT tools and applied them to the recycling process, I was able to learn more about how and why it works. Now that you have a basic understanding of how PCHAT works, you can go out into the world and use it on your own! I urge you to continue learning about how you can make a difference in the environment. After all, we only get one!

Works Cited

- Albeck-Ripka, Livia. “6 Things You’re Recycling Wrong.” *The New York Times*, 29 May 2018, www.nytimes.com/subscription?campaignId=67LWR&return_url=https%3A%2F%2Fwww.nytimes.com%2F2018%2F05%2F29%2Fclimate%2Frecycling-wrong-mistakes.html%3Faction%3Dclick%26module%3DRelatedLinks%26pgtype%3DArticle.
- Calcutt, Helen. “Plastic Pollution: The Path to Awareness.” *Plastic Oceans International*, 8 July 2018, <https://plasticoceans.org/plastic-pollution-the-path-to-awareness/>.
- “CarbonLite: Inside the World’s Largest Plastic Bottle Recycling Plant.” *YouTube*, uploaded by KCETSoCalConnected, 16 June 2016, https://www.youtube.com/watch?v=vAr4BZM_Tzk_.
- Grabianowski, Ed. “How Recycling Works.” *How Stuff Works* <https://science.howstuffworks.com/environmental/green-science/recycling1.htm>.
- Hickman, Matt. “Why the World Should Look to Norway When it Comes to Plastic Bottle Recycling.” *MNN*, 19 July 2018, www.mnn.com/lifestyle/recycling/blogs/why-world-should-look-norway-when-it-comes-plastic-bottle-recycling.
- “How Plastic Gets Recycled.” *YouTube*, uploaded by CityofVancouverUS, 6 Mar. 2015, www.youtube.com/watch?v=_BI4wRungro&t=14s.
- ISU Writing Program. “Key Terms and Concepts.” *Grassroots Writing Research*, <http://isuwriting.com/key-terms/>.
- “What Are Microplastics?” *National Ocean Service*, 25 June 2018, oceanservice.noaa.gov/facts/microplastics.html.
- “What Can I Recycle?” *Waste Management*, www.wm.com/thinkgreen/what-can-i-recycle.jsp.
- Quenqua, Douglas. “Microplastics Find Their Way Into Your Gut, a Pilot Study Finds.” *The New York Times*, 22 Oct. 2018, www.nytimes.com/2018/10/22/health/microplastics-human-stool.html.



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