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Paralyzed in a Plastic World

Gena Leib

Honors Project

Submitted to the Honors College
at Bowling Green State University in partial fulfillment of the
requirements for graduation with University Honors

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I. Introduction

Our oceans are one of the largest ecosystems found on our planet, and they are also one of the driving forces to a balanced planet. I believe that it is very important to restore our oceans to the once clean environment, and it is up to mankind to make that first step to do so soon and without hesitation. I believe that many people are uninformed on the topics of pollution, and it is important to bring attention to the issues through a perspective that society can see. Social media has had a huge influence on helping this, but for my honors project I wanted to take it a step further and see what other ways we can reduce plastic pollution in particular, while creating awareness. That is how I landed on the idea to create an art medium that displays the issue at hand with the product of the issue incorporated into the work. I believe art has a big impact on culture, and if we can use that to speak for our oceans, then people will see the message and want to help out in these endeavors for a cleaner environment.

II. Research Questions

Our oceans take up about 70% of our planet and are home to some of the most diverse ecosystems and organisms. As humans, we rely heavily on this environment for our social and economic gains. We also rely on the oceans simply for our wellbeing, without them we may not exist as we do. For our benefit, we need the ocean's ecosystems to be healthy and thriving. As of right now, these habitats are being negatively affected through anthropogenic impacts. These impacts may include increased carbon emissions, habitat destruction, pollution and many more. For my project I am focusing on the affects of plastic pollution on our oceans. I want to further my knowledge on the destruction of these habitats by plastic debris. On another note, I also want to learn more about solutions to these issues. What are the impacts of plastic in our oceans? What can mankind do to reverse their impact?

II. Literature Review

According to *Plastic Pollution and Potential Solutions*, plastic is taking over our natural world. It is a growing issue, that by the year 2050, there will be more pieces of plastic in our oceans than fish. This journal discusses the importance of finding a solution and persevering through the difficulties of the situation at hand. One of the main forms to deal with plastic is recycling. The process of recycling is a complex system, that in the end most plastics cannot qualify for the process. In modern days, industries are producing new versions of plastic polymers that are stronger and a different component than what was once easily recycled. With the creation of these polymers, only about 9% plastics actually are recycled. This leaves 12% to be incinerated, and 79% to end up in landfills or our natural ecosystems. With this issue, comes a whole new atmosphere of solutions. The author describes a popular solution of reusing these plastics for material items. This would replace the creation of virgin plastics and eliminate waste.

Another paper I researched, *Marine birds and plastic pollution*, studied the direct effects of microplastics on marine birds. Although my project does not focus on birds specifically, I liked the educational purposes showing the harsh effects that our products can have on living

creatures. Not only are marine birds at risk of negative impacts from microplastics, but other organisms that we consume like tuna or salmon may contain fragments of plastics as well. Not only would we then be consuming these contaminants, but also a good portion of the marine food chain would also be impacted and at risk of death from too much of these microplastics. Again, this paper supported more and more the importance of reducing plastic waste, while applying it to a topic where readers want to be empathetic to the cause.

Within *Shifting Awareness: Recycled Plastic Bag Art*, author Young Song describes a new form of education on the topics of plastic pollution. This form of teaching is to create an art from plastic bags. This encourages kids to become involved in the solution to plastic waste, while allowing the students to embrace their creativity. This paper applies directly to my project, as I will be paralleling similar aspects to my own work.

III. Activity

In order to determine solutions for the current global plastic crisis, my plan is to create an artistic model that both represents the issues we face while also combatting these very same problems. My focus is to create a mosaic that is made from 100% recycled and reused plastics. By doing this, it eliminates the use and creation of new or “virgin” plastics for this project, which at hand demonstrates how useful second or even third hand plastics can prove to be. My idea was to express a need for change within the plastic industry, that way my project has an educational purpose and a goal to remove the use of these virgin plastics that are overwhelming our natural ecosystems.

This project reflects interdisciplinary characteristics because I am applying marine biology research to an artistic form of display. My research is focused on biological studies performed within the last 30 years revolving around the topics of pollution, marine ecosystems, anthropogenic issues, and solutions to the crisis. From these papers, I developed my own thoughts on how the individual can limit their own impact on the plastic issues. This research led me to the artistic side of my project, which is a model made from recycled plastics. This display limits the amount of trash entering landfills and possibly our riverways, while also presenting itself as a new form of creative expression.

IV. Methodology

In order to create an artistic mosaic that creates a theme of change in the plastic industry, I thoroughly reviewed research papers and articles that related to the topic of marine plastic pollution and its effects on the ecosystems. From this research, I created a mosaic based on these properties. I applied my research to the model and made it an accurate representation of the pollution crisis.

After completing the research for my project, I then moved on to designing my artistic mosaic. I used plastics that I collected off of beaches myself. I spent my summer in South Carolina and did weekly beach cleanups where I collected straws, water bottles and plastic bags. I cleaned the materials I decided to use prior to incorporating them within the painting.

Once I had my materials from this summer, I wanted to begin with the design and set up of my project. The design is a large canvas painted with an ocean display, the waves are made out of plastic bags, as are the clouds. I lined the canvas with straws and even showed a plastic bottle rolling in with the waves. To contrast, I included real sand and shells to show a paralleled Segway into what should be found naturally, vs our artificial trash.

V. Conclusion

The conclusion I would like to take away from this project is a better understanding of the anthropogenic impacts on our ecosystems, and how if presented with no viable solution then we may be faced with our next extinction. I want people to understand how important balance within our world is, and this balance means between man and the natural environment. I want to portray this message through a piece of art, which will speak louder than most words can. When we can understand these issues and their potential outcomes, then can we understand the solutions to move forward. When my project is finished, I want to induce a curiosity to solutions for this topic, as it will take everyone working together to accomplish the inevitable.

Project Timeline

Summer 2021	Collect plastics at beach cleanups- materials for my art project
Week of August 29, 2021	Meet with advisors about design of my project and relevance to topic
September-October 2021	Work independently on my art mosaic. Put together the main project and design.

October-November 2021	Meet with advisors to show progress and maintain staying on track
October-November 2021	Schedule and Complete Honors Oral Presentation and Defense
Exam Week 2021 @ 5:00pm	Submit copy of final project
Research Symposium in April	Optional