Spring 5-16-2019

Skin, Bones + Bags: Investigating the Death of Marine Ecosystems

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Investigating the Death of Marine Ecosystems

by Rylie Walter

A thesis submitted for the Bachelors of Fine Art at Washington University in St. Louis

May 3, 2019

Abstract

Plastic has become ubiquitous in the oceans. Although a convenient and cheap way to distribute goods around the world, plastic is also a leading cause for the death of many marine ecosystems. Walter explores her personal connection to the ocean, researches the relationship between plastic pollution and the ocean, and examines art as a means for inciting social change to protect and restore ocean environments. By using plastic as her main material for making art, Walter transforms the material from one that harms into one that can be calming and peaceful, while still representing the destruction it causes.

What social or political issue matters to you? This is the question that served as the foundation for my art practice. I have always been fascinated by the ocean, and I knew that the pollution and resulting death of marine ecosystems is an issue that resonates with me. I began researching specifically plastic pollution in the oceans and created a poster based on the statistics I discovered. *46,000* (Fig. 1) marks the beginning of my thesis work that starts a conversation about plastic pollution. This sign contains 27 pieces of plastic, which when multiplied by 1,704 equals the quantity of plastic floating on the surface of the ocean in every square mile, approximately 46,000-50,000 pieces. This poster hung in the trash and dish return station in a dining hall on the Danforth campus of Washington University in St. Louis to encourage students to properly dispose of their waste and to increase their awareness to the amount of plastic currently carried by the world's oceans. This project served as the beginning thoughts that led to later installation pieces created for my thesis work that explores my personal relationship to the ocean and investigates plastic as the culprit for the death of marine ecosystems.

Fig. 1: *46,000*, Rylie Walter

Every year over 100,000 marine animals and 1 million seabirds are killed from ingestion of plastic. Turtles, for example, confuse a white plastic grocery bag for a jellyfish. Once

consumed, plastic releases toxic gasses into the bodies of the animal that ate it, causing pain, immobility, and death. Plastic takes hundreds of years to decompose, so it clogs the stomach and digestive system of any animal that ingests it, leading to starvation. Chris Jordan, an American artist and photographer, documents the direct consequences these waste items have on sea life, specifically albatrosses, in his series *Midway: Message from the Gyre*. This photographic work exhibits the plastic-filled carcasses of numerous baby albatrosses from the island cluster the Midway Atoll. These baby birds were fed toxic levels of plastic by their parents who tragically mistook a piece of plastic for a fish, resulting in the death of the baby birds. The eventual decay of the bodies reveals the hazardous contents of the stomachs of these birds (Fig. 2). In his series *Running the Numbers II*,

Fig. 2: *Midway*, Chris Jordan

Fig. 3: *Gyre II, 2011*, Chris Jordan

Jordan demonstrates the incredible quantity of plastic that enter and exist in oceans globally, and cause harm to animals like the birds in his *Midway* series. In large-scale pieces such as *Gyre II* (Fig. 3) Jordan uses exactly 50,000 pieces of plastic which is equivalent to the number of particles of plastic floating in every square mile of ocean. Jordan's work calls attention to the sheer quantity and variety of plastic objects entering the oceans due to human consumption.

Plastic is the primary contributor to the levels of human waste found in the ocean. The quantity of plastic produced world-wide has increased from roughly 1.9 million tons in 1950 to approximately 330 million tons in 2013 (Seltenrich 2). In 2010, estimates indicated that up to 12.7 million tons of plastic waste infiltrated the oceans (Villarrubia-Gómez 4). Aurora Robson is an American multi-media artist whose work uses vast amounts of plastic debris to create large-scale installations that visualize recurring themes from her childhood nightmares (Fig. 4). The combination of negative imagery from her nightmares paired with the plastic trash effectively

Fig. 4: *The Great Indoors*, Aurora Robson

communicates the negative consequences the high amount of plastic in the ocean has on marine environments. The creations that Robson makes stem from personal imagery but represent a larger problem that can be seen easily world-wide.

My work focuses on this consumerist waste, specifically of grocery stores. Global stores such as Walmart and local stores like Schnucks are prime sources of consumption, as they offer many items needed for a household such as food, toiletries, medication, etc. All items purchased are then bagged, and many times double bagged, into plastic bags to make transport easier. Once the buyer has shelved their recent purchases at home, these grocery bags are more often than not thrown away immediately. Over 50% of the world's plastic is used once and then discarded, effectively ending the working life of this item after one use. I aim to create a longer working life for these single-use plastics and prevent their migration to marine environments by using them as the base material for my art practice.

The collection of my materials centers on the prevention of plastic from entering the oceans; however, many artists working with related subject matter gather their materials once they have reached the beach. Marina Debris is an Australian artist who relocated to the Los Angeles area, and upon doing so, was immediately struck by the poor conditions of the local beaches. As she made her daily run along the shore, she would collect any trash she encountered, but quickly realized picking up the liter was not addressing the issue. She soon became inspired to focus her art practice on the debris that she had been obtaining. Her

Fig. 5: *The One That Got Away*, Marina Debris

series *Trashion* includes fashion made entirely from collected trash. Each piece has a theme, such as “The Ones That Got Away” (Fig. 5) made entirely from discarded drink containers found on the beach. The model wearing this piece was then placed in a small ocean pool and photographed to resemble a mermaid washed up on shore, appearing weak and helpless. By photographing her clothing on humans, Debris begins to point to humans as the problem. Mass-production, -consumption, and -disposal are the primary causes of plastic pollution in the ocean. Although the source of materials differs, Debris and I create work with goals to address the vast majority of marine pollution that stems from improper disposal of items, especially plastic, from human consumption. In keeping with the mass-produced nature of my source material, I adopted screen printing as my main method of making. Printmaking has long been considered an easy means of multiplication and high output quantities. This method allowed me to not only produce a larger amount of materials to be used in my work, but also to prevent more plastic from entering the oceans and destroying the environments in which I feel truly calm and at peace.

Sinking below the surface of the water feels like entering a beautiful new world. The fan corals sway with the current, a shark sleeps in the concavity of a rock formation, fish of all colors dart about searching for food, and light shimmers to highlight the liveliness of the reef. Nothing compares to swimming below the water and entering into this strange world. I realized that the reasons for my feelings of calmness when under the water stem from the colors, patterns and light that I witness. Each time I dive, I experience a new animal, coral, or formation that leaves me awestruck. The colors are vivid and brilliant, and the light shimmers in a way that makes everything feel more alive and provides me a sense of peace.

Lightboxes (Fig. 6) combines the elements of color, pattern and light to recreate the feelings I have when I dive. Night lights are commonly used for young children who fear the

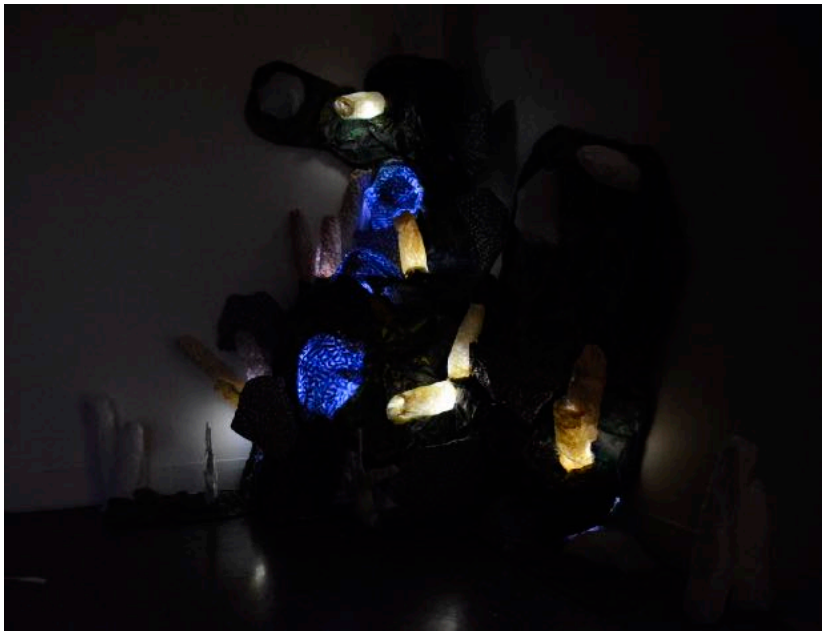
Fig. 5: *Lightboxes*, Rylie Walter

dark. The light emanating from night lights provide a sense of safety to allow kids to relax and fall asleep. This idea of light as a source of peace led to me making *Lightboxes.* These six boxes depict various types of marine life screen printed onto plastic grocery bags. The boxes themselves are constructed of recycled cardboard. Lit from within, the boxes reside in a dark space and mimic the shimmering light in the ocean. This piece transforms plastic into a calming entity rather than a material that causes extreme harm in the ocean.

Two types of plastic have been identified as omnipresent in marine environments: industrial plastics and user plastics. Industrial plastics are pre-production plastic pellets, otherwise known as nurdles, that serve as the base material for plastic goods, or user plastics.

Nurdles are combined with various additives to achieve the desired material to be create a user plastic such as shampoo bottles or grocery bags (Franeker 5). Both industrial and user plastics have been recognized as ubiquitous in the oceans, and are often considered as equally dangerous as the other. Industrial plastics tend to be microscopic, or micro-plastics. These pieces of plastic are nearly invisible to the naked human eye, but pose as much threat as user plastics, or macro-plastics. No matter the size, plastics are being consumed by marine life at all trophic levels. The consumption of plastics by any sea creature can cause starvation, debilitation, lowered reproductive abilities, lessened quality of life, and death. The range of animals impacted by this marine plastic pollution includes and is not limited to: turtles, penguins, various seals and whales, manatees, dolphins and a multitude of species of birds (Gregory 2). Many of these species are known as charismatic species. These are animals that people find cute and have more sympathy for, therefore, these animals often serve as the mascot of plastic pollution.

While many people know the harm that plastic can do on animals such as turtles or seals, fewer know the destruction happening to corals. Sylvia Earle, a renowned marine biologist and pioneer for women in the field, describes in a documentary titled *Chasing Coral* that coral reefs are like cities. The coral acts as the buildings, and the fish as the people. Once the buildings



collapse, the people leave and all that remains are the ruins of a ghost town. This can be applied to coral reefs as coral dies. Coral provides food for fish lower on the trophic scale, and when the small fish no longer have food, the entire ecosystem ceases to survive. My most recent work, *Recycled Reef* (Fig. 6), demonstrates these lesser known effects plastic has on marine ecosystems. Made of screen printed plastic grocery bags, used cardboard, found wire and used plastic cups and straws, *Recycled Reef* recreates a coral reef in two stages of life. The center depicts a healthy coral reef, with corals vibrant and fighting for space. These corals are lit from the inside, symbolizing their aliveness. Near the edges, the reef is no longer thriving, but rather demonstrates the stage of death known as coral bleaching. This is the final stage in the life of a coral, immediately followed by death. When plastic comes into contact with coral, it rips the delicate skin of the animal, making it more susceptible to disease and death (Lamb 4). Once the corals die, the entire ecosystem collapses.

My efforts to bring to attention the state of our oceans places my work in the realm of eco-art. Ecological art is a genre and practice within the art community which aims to educate, restore and preserve the functions and resources of Earth's ecosystems. In his 1972 essay "Art and Ecological Consciousness" from his book *Arts of the Environment*, George Kepes suggests eco-art as a unique genre from environmental art. Environmental art tends to focus less on the political, social-change aspect of eco-art and instead encompasses an artist's relationship to nature, often with the work being directly placed in the environment. Eco-artists tend to have a close relationship to the environment on which their work focuses, but their work often holds more firm stances on policies and social culture as these influence the conditions of Earth's ecosystems. My thesis work stems from personal experiences in the ocean, with the hope that I

can provide my viewers a similar understanding of how it feels to immerse themselves into a healthy marine ecosystem. My work also informs viewers of the destructive relationship between plastic and ocean environments in an effort to raise awareness to the true culprit of plastic pollution and, therefore, the death of marine ecosystems: humans and mass-consumption.

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