Climate Change: Outcomes of being bystanders in a global windstorm

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We have heard the phrase global warming and most of us by now know what that means. The goal is not to focus on what or why global warming is happening but rather what the results of not taking steps toward better consumption could have on society. You always hear phrases like “It’s the simple pleasures in life that make it beautiful” and “take time to stop and smell the roses”. Have you ever wondered what would happen if the resources we consume became dependent on us for their survival. We see it all the time with endangered species. Their home torn down to build a new shopping centre or to supply the millions of paper products we consume every day. Humans have to take in the animals and create them habitats so they can merely survive. Life is never the same for those animals when they are the last of their species. What happens when the life that once was able to sustain itself needs us to depend on? Are we going to support the life that gave us those simple pleasures or are we going to let the species take a spot in history and only have the pictures in textbooks and our memories to remind us of how beautiful the world was when flowers existed? Flowers are not only symbolic of life but also of love, joy, sorrow and celebration. The question I asked myself was: what would it look like for nature to be dependent on us? I explored the different ways that nature helps us and thought about what we could offer nature in return.

Interactive installation. Climate change. Community. Nature.

1. INTRODUCTION

This paper presents an interactive art installation, titled *Windstorm*, and facilitates the discussion of climate change through artwork. Nature provides us with many tools that make our lives easier. It provides food, water, medicine, fuel, and so much more. The list of what nature provides substantially minimises what we provide in return. The amount of resources we consume is too immense for nature to provide sustainably. *Windstorm* is a piece about a near future where nature can no longer provide us with the same tools we need to survive.

2. BACKGROUND

According to the U.S. Global Change Research Program, “The number of record high temperature events in the United States has been increasing, while the number of record low temperature events has been decreasing, since 1950” (2017). The need to address the issue of climate change and

environmental safety is becoming more important (NASA 2019). In order to address these topics, the possible outcomes were explored to determine what the future has in store for humanity based on our current trajectory. Clips are shown of extreme weather on television, but if a person is not directly affected by these tragic events, they are easy to ignore. The question posed by Bendor, Maggs, Peake, Robinson, and Williams (2017) is “Would evoking meaningful experiences prompt participants to consider sustainability in new and powerful ways, to move beyond thinking about the facts of sustainability to contemplating the concerns it raises?” This question debates whether art can be used to create an experience powerful enough that these issues cannot be ignored. Therefore to make the topic more relatable to people that are not experiencing the destructive weather, I imagined what my day to day life would be like without nature. Then, I tried to synthetically recreate the beauty of nature in a way that was inspiring and whimsical enough to make the answer to this question yes.

Figure 1: *Topographic Tapestry.*

3. THE WORK

Windstorm was created by the desire to create a work that can bring people closer together, give perspective, and teach empathy for nature. Whenever possible, I use recycled materials in my artwork because giving old material a new life adds to the beauty and depth of art. By giving new life and use to objects that are commonly seen as spent, you can show how reusable everything has the potential to be. I recently travelled to North Carolina to work on homes that were destroyed by hurricanes within the past couple years. This trip enlightened me on the need to push the boundaries of consumption.

While at the worksite, we completed a variety of tasks that included building porches, cleaning up the yard, and various projects within the home. On the first day, as I was raking piles of leaves in a flowerbed, the homeowner questioned why I was completing this task. I explained it was to prep the area for construction. Her response was that she keeps the leaves there to aid in the flowers growing by stunting the growth of the grass. I thought that I was picking up garbage but, to the homeowner, she was using those leaves to create her beautiful garden. She could see the end result, and I only saw the current state of the garden. I started thinking about the way we consume everything. When new resources are made available, we assume they will be enough for us to sustain our way of life. By raking the leaves nature provided, I was taking away an opportunity to change that narrative.

The site coordinator that was teaching us how to construct porches told us something on the first day of service. He said that we are not here to judge or change the people we are helping; we are here to make their environment safer, to make their day brighter, and to make them smile. I realised throughout the week when someone says they are for the people they must also be for the environment of the people. Someone cannot be for the people if they are not for the environment of the people because people and their environment are direct reflections of each other. When looking at

issues and solving problems on any scale, I have found it is necessary to acknowledge both the differences and similarities between subjects. The fragility and strength of life is astounding to me and the importance of the environment in the future is important because as the environment changes and is destroyed the people that live in those environments lives change and become destroyed.

In the future there are possible outcomes that could become reality, and in this work I have explored what nature could be like in a lifeless climate. The kind of environment where life no longer exists in the terms we know and understand. The goal is to show that working together is not only important but also necessary in order to achieve the results that we are seeking for our future. This work started as a piece on working together but has evolved into furthering the discussion of how to positively affect climate change.

3.1 Implementation of the work

It is hard to enact change if perspectives and ideas are not challenged, stretched, and broken down. Gaining perspective is another goal of this piece; I want to push people to see nature in a different way and appreciate what nature does every day for them. The most peaceful times in my life have been when I feel surrounded by and one with nature. The speculative future for the world currently is far from the future that I desire for it. This piece is showing one speculative future possibility.

Once people know it is okay to interact with a work they then tend to look for their affordances and limitations. If there are too many affordances and not enough limitations they seem to get overwhelmed or bored but if there are not enough affordances and too many limitations the participant can become bored or frustrated.

Windstorm is built using a set of wooden gears on a circular frame that enable a hand crank to change the voltage that is passed to LEDs. The flower structures are wired into bread boards underneath a topographic tapestry made of recycled fabric samples that are hand stitched and crocheted together (see Figure 1). The flower structures light up in a progressive sequence formulated in Max and powered through an Arduino (see Figure 2). The physical motion of three sets of the gears being cranked lights up the flower structures, however if the physical cranking motion stops the gears will turn off. This illustrates the need for continuous energy to be exerted in order to keep the flower structures living. The flower structures rely completely on the person interacting with them to survive, with their survival being synthetic and never representative of the real natural experience. *Windstorm* is an art experiment to see how people

react to physically sustaining nature in order to gain the reward of its beauty.

The gear concept came from trying to create something that multiple people would have to work together to experience the piece as a whole. The circular frame was used to create a smooth yet weightless feel to the gears, which are typically thought of as heavy and industrial. The gears must be turned in order to click three separate buttons that when clicked together will trigger the LEDs in the flowers to light up. The flowers were created by taking two pieces of wire and twisting them to create a sturdier stem. I took the rubber from the wires I twisted together that was stripped and slid it onto the ends of the LEDs in order to differentiate the sides from each other and to create a stronger material to support the petals (See Figure 3). For the petals I recycled plastic cups that when melted down created a nice texture as well as diffused the LEDs wired into the flowers perfectly. The flowers were then wired into bread boards underneath a tapestry that was created to look like a topographic map.

Growing up in Central Illinois I was constantly surrounded by fields. The inspiration for the map was to express the nature that is most prevalent to me and what I would want nature to look like if it did not exist in the natural world anymore. The breadboards underneath the topographic tapestry were secured to yarn threading plastic material to give extra support to the fabric on top of it but also to create a structure that is see through enough to be able to wire the flowers into the breadboards with more ease. When wiring the flowers into the topographic tapestry issues arose dealing with keeping the flowers standing up out of the material so I used some old buttons and stitched those into the fabric where the holes were already made for the flowers. The buttons I chose to use all had four holes so I could stitch them to the tapestry using two holes and insert the wires from the flowers in the other two holes. The buttons provided much needed support and a barrier between the flower stem, the tapestry and the breadboards.

The goal is for people to gain an understanding of what a more realistic future of nature could look like. *Windstorm* is meant to get people thinking about the way climate change is not only affecting humans and other species but also nature.

4. DESIGN EXPERIENCE

Windstorm starts when a participant first sees the work. Participants have the ability to not interact with the art, and that is a choice that parallels the choice we have when it comes to restoring our environment or participating in any social issue. If the participant chooses to interact with the piece they can do so by turning one of the wooden gear sets on the circular frame using any of the wooden handles. This, however, will not trigger anything else to happen. At least three of the wooden handles connected to the gears must be turned to activate the next step. There are only three clickers but one person cannot turn all three handles by themselves therefore they have to work with someone else to trigger the next step. This is to show that one person although they might be very passionate about creating positive change cannot fix such a large problem on their own; there is power in numbers. There are also four handles instead of only three because sometimes people might be working on different parts of a problem but if there is no communication the work becomes redundant and therefore not as productive as it could be. The clickers are attached to the circular wooden frame with screws and the clicker switch is extended using the same plastic form the plastic cups that were melted down to create the flower petals. Once all three clickers are clicked for thirty seconds the max patch will output a signal for the wired LED flowers to light up sequentially in groups of three. As soon as the clickers stop being clicked an input is given to start a countdown timer and the flowers will only stay lit for 30 seconds longer. In order for the flowers to be turned back on the process must begin again. The work is meant to be visually organic but still show some rough wires and edges. The art emulates nature while being far from natural. The system only works when participants interact with it because in this speculative future, nature is only what we can create, and the earth can no longer sustain flowers in the form we currently know. The system also has to be constantly sustained and requires constant energy from the participant because the environment will not be restored putting forth effort only sometimes. Additionally, the stand for *Windstorm* holds the piece close to the ground so participants have to go out of their way to turn the gears. Change is not always comfortable or convenient. If people are willing to interact with a synthetic version of nature that requires a constant output of energy, then the logical conclusion would be to utilise that energy to restore the environment.

Figure 2: Red LED flower lit up.

Figure 3: LEDs with wire insulator added.

Figure 4: Windstorm.

5. REFERENCES

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