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The Importance of Art to Understanding Climate Change

Although climate change is defined primarily by numbers, such as degrees Celsius of global warming or centimeters of sea level rise, artistic interpretations of climate change can often showcase the magnitude of this issue in a more understandable way. Many may be intimidated by pure statistics and apocalyptic news articles regarding climate change, but they may begin to see climate change in a new way through the power of art and interpersonal communication. From indigenous people in the Arctic to civilians in the United States, art has a strong impact upon any viewer, and it can evoke a sense of emotion and connection that may be absent when presenting facts. Even more impactful than viewing or appreciating art is creating it – when someone translates the consequences of climate change into their own creative view, they can spark conversation among friends and family members. Art is a necessary complement to existing conversations about the science behind climate change, making this topic much more approachable and allowing people to begin considering effective, long-term solutions.

Not only does artwork transcend major boundaries such as age and language, but the graphical and emotional basis of artwork illuminates aspects about climate change and its dire impact on the human experience that may not be as clearly communicated through scientific language, data, or graphs. Social activism is paramount to raising awareness and spreading information about climate change amongst the public; a study from some of Europe's top research universities examined how art can be interwoven throughout a variety of activist efforts, focusing specifically on its impact on appealing to the public in an accessible and understandable way. In their study about artivism (a portmanteau of the words art and activism), Dr. Aladro-Vico, Dr. Jivkova-Semova, and Dr. Bailey noted that the process of creating art is an effective way to break past cultural and societal limits, which then fuels expression in urban environments. They claimed that “the strength of artivism lies not merely in its aesthetic avant-garde, but in its catalytic power to point out injustice, inequality, or emptiness in human development” (Aladro-Vico), drawing on how artwork can unite people based on experience and strife rather than other surface-level attributes. There are few other forms of expression that possess the same ability to link people from all walks of life. The connection aspect of artwork plays a large role in its efficacy at bringing people together for a common cause.

Additionally, the sheer impact of coupling art with activism is articulated later in the study, as it “break[s] the structure of conventional communication, erupting into the social space to attract attention and inoculate thought in their recipients... [artivism is done] through emotionalization... or through adapting non-artistic means and times to artistic expression” (Aladro-Vico). Once again, the importance of creativity is heavily emphasized, and the authors

showcase that art is much more impactful, memorable, and thoughtful than a report or document could be. In an article from *The Journal of Aesthetics and Art Criticism*, the analysis of “socially engaged art” is another testament to the value of art when used for activist purposes, although the author emphasizes that the value of art lies in the success of the activists’ efforts. Simoniti argues that “if one wants to dismiss socially engaged artworks as marginal and claim they are therefore not candidates for good art, one will still find that a kindred desire for direct social relevance underpins even the more mainstream contemporary works” (Simoniti). It is natural for humans to seek art that expresses a powerful and meaningful message, and socially engaged art is one of the most influential examples of this. The power of art and activism, or artivism, can make non-artistic issues much more approachable to the public by creating something novel, providing both aesthetic and social value, communicating ideas in a new way, and evoking powerful emotions.

The effectiveness of art in terms of generating a message and eliciting an audience response is paralleled when art is used to describe climate change facts. Many forms of climate change art exist, ranging from visual art such as Jill Peltó’s watercolor representations of data to performance and experience art as described in a *Scientific American* article. People are often swayed by local and subjective sources of information, and Lisa Zaval from Columbia University notes that “personal experience with the daily weather tends to dominate more diagnostic... statistical information provided by experts... because the former is more vivid and accessible” (Art). Existing projects that raise awareness about climate change and its disastrous effects include Eve Mosher’s HighWaterLine project and other efforts to emulate what various coastal cities would look like if they were underwater. Cities such as New York City and Miami are extremely vulnerable to the risks that come with rising sea levels, and not only would this cause a significant amount of property damage, but it would also displace many people and disrupt their livelihoods. Current dangers of flooding may not seem evident, and many likely still do not believe that this is even a possibility that will affect them in their lifetime. However, as Arctic ice continues to melt and sea levels continue to rise, this future may not be as far as it may seem. Mosher’s motivation for marking a line 10 feet above sea level all throughout New York City was to demonstrate just how far inland the effects of a flood could be felt, making it much more personal for people to “realize that the spot where [they’re] standing... will be underwater someday, thanks in part to climate change” (Art). Artistic representations and visualizations of climate change’s mounting effects on humans are extremely effective at helping the public understand that this issue is not just something that can go unaddressed – ultimately, it will affect everybody, even if it may not seem like it in the present day.

Art is often considered even more compelling when it is connected intrinsically to a culture or the creator’s heritage, and climate change art is no exception. Edwin Jurriens’s piece describing the impact of environmental art and activism in Bali relates contemporary art pieces to their natural environment and their culture, delving into the deep history of colonialism and tourism in Bali. Through analysis of Balinese contemporary art, Jurriens stated that “Balinese artists use their creative work not merely as a tool for representing and criticizing environmental destruction, but also for demonstrating... the broader social, political and economic factors

behind ecological disaster” (Jurriens). In terms of using art to represent climate change and protest further environmental destruction, these artists exposed environmental problems such as land reclamation plans. Many artists, politicians, non-governmental organizations, and communities formed ForBali to protest the development of a conservation area, Benoa Bay. While the governor touted the creation of a theme park and racetrack upon the bay as a way to improve Bali’s economy and provide jobs, this completely overlooked the negative impact that the project could have on Bali’s water system. Many artists banded together to protest this, creating performances and other forms of art that represented the “creative, cultural, religious and inter-generational resistance against the land reclamation project” (Jurriens). Once again, Balinese art has demonstrated that art can transcend language and age barriers, representing the thoughts of many in one cohesive expression of emotion and science.

Furthermore, the cultural and social power of art is evident through much of ForBali’s work. They place a strong emphasis on the “broader socio-political factors at the roots of these [environmental] issues” (Jurriens), tracing the cause of excessive pollution and destructive land development to the tourism industry. Especially as Bali has been idealized as a tourist paradise since the mid-20th century, these falsely idyllic representations of the island often obscure the truth of how wasteful tourism can be – plastic pollution has become one of the island’s most pressing problems. Many artists have gravitated towards raising awareness by creating posters regarding climate change, which have been “more accessible than socio-critical paintings displayed in exclusive art galleries and museums, and less prone to censorship or banning than... murals... [they] also help in visually explaining the inaccessible jargon of the legislation surrounding land reclamation to a broader public” (Jurriens). The importance of urban art and its impact on social discourse is not forgotten by these Balinese artists, and they make the most of this to clarify the disastrous effects of tourism and additional land development projects to the public. Another way in which art represents Bali’s plastic pollution is through plasticology. A curious portmanteau between “plastic” and “ecology,” plasticology openly addresses the intersections between plastic, nature, society, and culture to seek a more sustainable future (Jurriens). Many artists have chosen to use plastic as their medium to accentuate not only wastefulness but to remind the public that consumerism led to the buildup of plastic pollution in the first place. By creating these works of art and by banding together, Balinese artists are harnessing art’s profound ties to society and culture to protest further environmental damage, shed light on wastefulness in the tourism industry, and raise awareness about climate change’s effects upon the island.

One of the biggest barriers to discussing climate change facts is having effective communication with family members and friends, as it can often be difficult to articulate ideas clearly while still including relevant facts. To examine and study this phenomenon, I created three different representations of the same set of data and interviewed my peers to see if it would elicit a different reaction. The statistics were taken from NOAA’s NCEI (National Centers for Environmental Information) Data Ordering Services, and I calculated each annual average temperature based on the monthly averages that they provided in their dataset. The first

representation I chose to create was a collection of ten tables, representing the average monthly temperatures of Seattle from 2009 to 2018. The only visual indication of importance in the tables was a bold-faced number at the bottom of each table, which was the annual average temperature. When the tables were shown to the interviewees, both noted that the representation was confusing, difficult to decipher, and that it was impossible to come to a concrete conclusion from the data shown. Nothing stood out to either interviewee either, and they felt as though there was no possibility of having an emotional response to the tables as I simply presented numbers without any indication of what they meant. One interviewee noted that she thought that showcasing data in tables was extremely ineffective because it was difficult for viewers to care about the information presented if they did not understand how to read or interpret the tables. The interviewees then analyzed the second representation of the same dataset, which was the corresponding graph. Both immediately noticed that there was a clear increase in average temperature overall, looking at extreme points on the graph such as local minima and maxima. Again, they did not express that they had much of an emotional response to the data, although the visual representation of an upward trend was a bit clearer than just using numbers.

Finally, I showed the interviewees a piece of art that I created, which was an overlay of the graphical representation of the data on the silhouette of the Seattle skyline. Inspired by Jill Pelto's combinations of data and fine art, I used these elements to remind viewers that the dataset was referring to Seattle's average temperatures. The graph was drawn in red, to indicate the negative consequences and rising temperatures. I shaded in abstract snow patterns on the graph to look like Mt. Rainier, which is visible from many areas in Seattle. However, the snow patterns were mainly downward pointing, indicating that the snow was beginning to melt due to higher temperatures. With the artistic representation of the data, the initial reactions suggested that the art made the problem much more personal and relevant to the interviewees. Furthermore, the aesthetic of the art drew the viewer's eye to the graph and the harsh color, showcasing that the trend is of concern. When asked about whether or not she believed that art was the best way to represent the data, one of the interviewees noted that "art [was] not necessarily the best way, but it [was] a more convincing way of representing the data because... it appeals to the audience's emotions and makes connections so that they feel like this is an issue that they have to care about" (Hwang). While the art piece that I created spanned only ten years and was not necessarily adequate to represent the entire trend of increasing annual temperatures in Seattle, the graphical and visual nature of the art was much more effective at demonstrating the impacts of climate change upon Seattle, instilling more of a sense of connection within the viewer. By creating art to present climate change data in my own creative way, I was able to spark a constructive conversation with the interviewees, my older sister, and many other peers; this showcases how art can productively represent scientific data and discussions.

Climate change is a daunting topic, but creating, sharing, or experiencing art related to climate change can make it much more approachable. From representing scientific facts in a new way, to connecting back to cultural roots, artwork plays a major role in activism and uniting people behind a specific cause. Examples of activist efforts in Europe, the United States, and

Bali comprise just a small fraction of the art that is dedicated to creating conversations about climate change, which is ultimately necessary for devising solutions. Through a small research study, it was possible to examine the importance of art to represent climate change data on a small scale, concluding that visual and sensory representations of data are significantly more effective than tables or plain graphs that do not evoke emotions. Art is invaluable to understanding and fueling activism, and because of its universal and accessible nature, it is an extremely necessary complement to scientific data when discussing solutions to climate change.

References

Aladro-Vico, Eva, et al. "Activism: A New Educative Language for Transformative Social Action." *Comunicar: Media Education Research Journal*, vol. 26, no. 57, 2018, pp. 9-18, <https://eric.ed.gov/?id=EJ1192386>. Accessed 10 March 2019.

This paper presents the findings of a study examining activism, its history, and current experiences. By analyzing the migration of art from museums and installations to urban and social contexts, Aladro-Vico details the importance of using art to further activist efforts and to break down cultural and social barriers. Through a variety of examples, this paper demonstrates the effectiveness of activism and how it may lead to a shift in communication, making discourse about certain topics a bit more approachable. The source is of high quality as it is peer reviewed and the authors are professors at some of the top research universities in Europe.

"Art Makes Environmental Change Real." *Artful Planet and University of Washington Conservation Magazine*, Scientific American. <https://www.scientificamerican.com/article/art-makes-environmental-change-real/>. Accessed 19 March 2019.

Artful Planet and UW Conservation Magazine discuss different artistic efforts to raise awareness about climate change, such as visual and performing arts that exemplify the negative consequences of climate change in big cities. One particular example of art's importance to inspiring change and expressing information is the usage of chalk to draw out where flooding would affect people in New York City. The article makes it clear that artwork is integral to helping people recognize that climate change exists because it provides information in a more accessible way, which is more understandable to the general public. The artists take care to showcase the impacts of climate change in the coming years, which appeals to the natural instinct for humans to protect future generations. This source is of high quality as the UW-based Conservation magazine has won a gold award in a national competition sponsored by the Council for Advancement and Support of Education, and Scientific American is a reputable scientific journal.

Baker, Mike. "2018's heat set some records; 4 of Seattle's 5 hottest years have now come this decade." *The Seattle Times*, The Seattle Times, 1 January 2019, <https://www.seattletimes.com/seattle-news/weather/2018s-heat-set-some-records-4-of-seattles-5-hottest-years-have-now-come-this-decade/>. Accessed 18 March 2019.

This newspaper article details the upward trend of Seattle's annual average high temperatures, comparing it to temperature records from the past century and examining possible causes for the warmer temperature. Baker states that the summer wildfire smoke could be a confounding factor to the average temperature readings, as the smoke made the days a bit cooler than they might have been had there not been wildfire smoke, and he also ties the higher temperatures to negative environmental effects such as declining salmon populations and agricultural hardships. This source is of high quality as it

references credible data from the National Climatic Data Center and the author also consults a Washington State Climatologist.

Hwang, Sophia. Personal interview. 19 March 2019.

This interview was part of the small-scale research study to examine how different representations of data would elicit different emotional responses. Through the interview, Hwang expressed that art was more effective than pure data, as it was much clearer to see what the trend was, and it was more relevant to the audience when presented specifically as data pertinent to Seattle. Hwang is a student at the University of Washington studying Electrical Engineering. This source is of high quality as the interview questions were the same between both interviewees and it represented their genuine first impressions of each data representation.

Jurriens, Edwin. "Art, image and environment: revisualizing Bali in the Plastilicum." *Continuum-Journal of Media & Cultural Studies*, vol. 3, no. 1, 2019, pp. 119-136, <https://doi.org/10.1080/10304312.2018.1547363>. Accessed 10 March 2019.

Jurriens specifically connects art and activism in the context of environmentalism. The paper details how Balinese artists focus on using art as a way to raise awareness about specific issues that directly affect them, such as pollution and land reclamation. Their efforts go beyond creating social discourse, however, as they also embrace their natural history and culture since colonial times. This method of utilizing art to demonstrate how social, political, and economic factors tie into climate change is extremely effective. The source is of high quality as the journal is peer reviewed and the author is a Lecturer in Indonesian Studies at The University of Melbourne.

"Local Climatological Data – Seattle Tacoma International Airport WA US." *National Centers for Environmental Information*, National Oceanic & Atmospheric Administration. <https://www.ncei.noaa.gov/orders/cdo/1659204.pdf>. Accessed 18 March 2019.

This is the data set that was used for a small-scale research study on the differences between representing data as numbers and tables as opposed to an artistic visualization. The page contains monthly average temperatures of Seattle, Washington from January 2009 to December 2018, which were used to calculate annual average temperatures over this time period. The conclusions drawn from this dataset show that the average annual temperature of Seattle is increasing, and that showcasing this data in a visual way is more effective than showing it in data tables. This source is of high quality as it is from the National Oceanic and Atmospheric Administration, which is an authority on climate change and science.

Qiu, James. Personal interview. 19 March 2019.

This interview was part of the small-scale research study to examine how different representations of data would elicit different emotional responses. Through the interview, Qiu noted that the trend was more visible on the artistic representation, and that he felt an emotional response to the data since it was clearly from his home city. He also mentioned that artwork was a clearer way of communicating data than through tables

and graphs, although he believed that it did not showcase enough data. Qiu is a student at the University of Washington studying Computer Science and Engineering. This source is of high quality as the interview questions were the same between both interviewees and it represented their genuine first impressions of each data representation.

Simoniti, Vid. "Assessing Socially Engaged Art." *The Journal of Aesthetics and Art Criticism*, vol. 76, no. 1, 2018, pp. 71-82, <https://onlinelibrary.wiley.com/doi/full/10.1111/jaac.12414>. Accessed 10 March 2019.

This paper focuses specifically on the value of art when it is used for activist purposes, discussing the history behind socially engaged art and how it can be used to create a large social impact. Simoniti applies a pragmatic view to art, concluding that art that is successful at achieving its purpose and making a difference is good, and that ineffective activist efforts through art are not considered high quality. This variability in artistic quality is a clear reminder of how art is subjective and can be interpreted differently, and this paper also assesses how it is important for art and activism to achieve the desired effects. This source is of high quality as the journal is peer reviewed and the author runs the MA program in Art, Aesthetics, and Cultural Institutions at the University of Liverpool.