Research Plan

Environmental activism in the museum: art and technology as agents of change

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Abstract

This project aims to understand how technology and virtual elements can be integrated into the museum experience in order to better showcase art concerning the climate crisis. Museums, as trusted institutions, should be actively involved in highlighting the current climate issues affecting the world. Furthermore, museums should provide public access to scientific information and policy on climate change in a format that is accessible and engaging to the average museum visitor. What, then, is the most effective way to display art dealing with the issue of climate change? How should museums be shaped to accommodate the different methods of representation of climate change issues in art?

Technology overlaps with science and art. It plays a key role in not only gathering data on the state of the world, but also in displaying art that directly deals with those conditions. It is used both by scientists to collect data on remote places of the world and by artists to react to or draw attention to those findings. Certain devices such as virtual reality, augmented reality, interactive screens etc. can be employed to best showcase these issues and produce strong reactions in the audience. Therefore, technology can be a powerful design tool to create spaces that engage visitors. It can also be used to attract a younger audience, namely the local population of Tarwewijk and South Rotterdam. This project will focus on exploring ways to integrate technology and virtual elements into the exhibition, so as to provide an informative, immersive and engaging experience to museum visitors.

The research will involve the collection and analysis of qualitative data on the employment of technology and virtual elements in museums and how it is used to engage the visitor, from a spectator to participant. It will also use an exploratory approach to define how spaces are adapted to certain technological devices. This will be achieved through precedent analysis of relevant case studies of galleries and museums that have integrated technology in their exhibitions. The data will be gathered from a combination of primary and secondary sources including observations, photographs and drawings from museum visits, as well as books, articles, webpages.

Overall, the aim is to create a museum dedicated to artworks which highlight the current climate crisis. The design will be developed around the idea that art institutions should play an active role in engaging the public with climate issues. The building will be adapted to display artworks which deal with this subject in a number of ways, through interactive art pieces, immersive exhibitions or representative artworks, which emphasize visualization and communication of issues around the world. By juxtaposing these different strategies a mixed-use program for the building begins to emerge, thus facilitating the engagement of the audience with climate issues on multiple levels and maximizing the opportunity for informative, compelling experiences to take place.

This research will add to the existing knowledge on museum design by exploring new ways to use technology as an integral part of the exhibitions. It will demonstrate the capacity of museums to embody diverse functions by combining the traditional programs of collecting, storing and displaying art, with new ones relating to becoming a platform for discussing issues of public concern.

Keywords: Technology, Climate change, Museum experience, Museum design

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Contents

Introduction

Given the unprecedented environmental alterations the world is facing, it is imperative that more industries become involved in mitigating and its effects. Cultural institutions such as art museums can play a major role in connecting its visitors to environmental causes and can become a vector to communicate issues of public concern. Museums, as trusted institutions, should be actively involved in highlighting the current environmental issues affecting the world, as the opposite would mean remaining neutral in one of the defining problems of the anthropocene. Furthermore, museums should provide public access to scientific information and policy on climate change in a format that is accessible and engaging to the average museum visitor.

Climate change and environmental problems have been classified as hyperobjects[1]. Timothy Morton, an environmental philosopher, created this term to describe large scale phenomena that are distributed in time and space and can be studied but are difficult to see relative to humans. This definition highlights one of the key challenges in communicating the issues of climate change, specifically that it is a broad and abstract concept which is difficult for humans to think about. On the other hand, some have theorised that environmental science has become politicized and therefore is seen as a symbol for certain political parties, instead of simply representing truth[2]. A recent study in the UK found that even though 90% of participants believed in climate change merely 36% thought it was "mainly or entirely" caused by human activity[3]. Both explanations point to a collective complacency towards understanding and engaging with environmental issues that is detrimental to the future of the planet.

Environmental activism requires effective communication to a wide audience in order to highlight ongoing issues around the world. One of the challenges facing this cause is how to properly express the complexity of environmental problems to an audience which may not be captivated by scientific data alone[4]. Studies have found that the general public tends to feel "alienated"[5] and even "paralysed and incapable of action" when confronted with an overwhelming amount of data and statistics on potential catastrophic events - such as the climate crisis. One example of how climate change is difficult to be perceived by individuals is the common confusion between weather and climate[6], one being easily observed and experienced on a daily basis and the other referring to a trend occurring over a larger time frame that is more difficult to comprehend.

Therefore an alternative mode of representation is required to engage more effectively with the public. Art and environmental art in particular, can be a powerful tool to showcase this type of intricate issues and can be used to raise awareness towards the environment and provoke the necessary changes in society. This text sets out to investigate ways to best display environmental art in museums as a way to communicate with audiences the urgency and relevance of environmental issues afflicting humanity. Also, it aims to understand how technology and virtual elements can be integrated into the museum experience in order to better showcase art concerning the environment.

The research is divided into three parts. The first part looks at how museums can be used as a platform to discuss public issues. As a natural gathering space within a community, museums are often used as spaces of discussion. The second part examines in what ways exhibitions can be adapted or rethought to better suit environmental activism. Moreover, the third part is an analysis of different examples of art dealing with the environment, with a focus on the integration or use of technology to bring about emotional responses from the audience.

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Chapter 1

Museum as a platform for engaging with public issues

Museums are not merely places to store and exhibit art, they should also be considered as institutions which have an impact on the social fabric of society. Scholars have called for a reform to the museum as we know it. Robert R. Janes, the director of a notable museum journal, believes contemporary museums are predominantly guided by economic ambitions based on consumption and entertainment rather than being concerned about big global issues[7]. Their business model is no longer suitable for the creation of a sustainable future.

In his book 'Museums in a Troubled World', Janes outlines the shortcomings of museums in addressing the challenges of today. Museums' original functions of collecting, conserving and showcasing materials of relevance for posterity have certainly evolved - from being an amusement restricted to the elite, to a more public source of knowledge, available to society at large[8]. However, museums still fail to engage with every part of society equally, with their visitor demographics being largely made up of well educated and well off groups[9]. Additionally, there is the problematic belief that museums ought to preserve their neutrality on polarizing issues such as the environment so as to not appear biased or to follow trends[10]. In fact, museums might avoid pronouncing their views on issues that may put at risk funding or sponsorships from the private sector.

Nonetheless, museums as institutions are still highly regarded by the public and they hold "high levels of public trust"[11]. This suggests, museums ought to widen their business focus to embrace their social responsibility, to not ignore reality and to face the environmental challenges the world faces. The manifesto for 'the end of neutrality' calls for museums to commit to a new narrative of actively participating in the building of sustainable communities[12]. It states that museums should not be afraid to influence public opinion and present the inconvenient truth. In essence, museums should reflect the major social and environmental troubles of the world.

On one level, the requirements to create a platform for public discussion are architectural, as there are certain physical aspects necessary to accommodate interactions with many visitors. For instance, recent museums have elected architecture which features large lobbies, piazzas and internal squares which are ideal gathering spaces for the public. This trend can be traced back to the Centre George Pompidou in Paris, whose project has been said to have revolutionized museums by "transforming what had once been elite monuments into popular places of social and cultural exchange"[13]. The design decision to include generous meeting spaces has been replicated in other renowned art institutions such as the Tate Modern in London and the Museum of Modern Art (MoMA) in New York, and they point to a new role of museums as spaces of 'congregation' and not merely contemplation[14].

On the other hand, bringing issues of public concern to museums requires an organizational change. Transforming the museum into a platform for the public to engage with global issues can take many forms. From events, to exhibitions, to specific collections, there are many ways to engage with the community. Martha Rosler created the 'Meta-Monumental Garage Sale' (showcased at MoMA in 2012) which challenged the conventional approach to exhibitions[15]. The project, like the title suggests took the form of a garage sale. It involved bringing previously unwanted items to the museum so others may find value and purchase them. The project which is made up of objects with zero utility, subverted the typical operation of museums which involves showing items deemed valuable. This project attracted many visitors from different backgrounds, proving that the monetary value of a collection is not the determining factor in bringing audiences to museums. Ultimately, it lead critics to conclude that "contemporary art museums offer on of the most prominent platforms imaginable to showcase issues of public concern"[16].

Fig. 1. MoMA Media Lounge. Photograph by Thomas Griesel, *Installation view of the MoMA Media Lounge,* 2013, MoMA, accessed January 20, 2021, https://www.moma.org/calendar/exhibitions/1241.
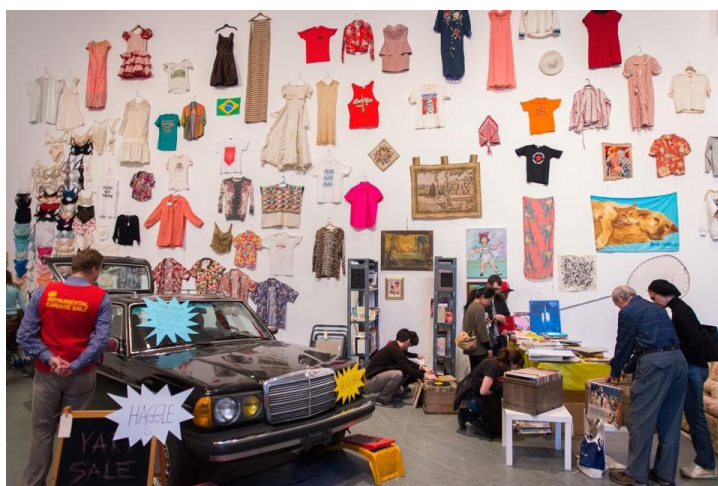

Fig. 2. Meta-Monumental Garage Sale. Photograph by Thomas Griesel, *Installation view of the Meta-Monumental Garage Sale,* 2012, MoMA, accessed January 20, 2021, https://www.moma.org/calendar/performance/1261?installation_image_index=3.

The MoMa Media Lounge installation is another example of ways to rethink the typical display mode in museums. The 2013 project from Renée Green consisted of a virtual archive of MoMA's collection of video and audio artworks. It offered the visitors the freedom to select which pieces they wished to view and resulted in mixed reactions, with some viewers enjoying the democratic approach and others finding the wide number possibilities a challenge[17]. Nonetheless, these examples show how it is possible to adapt museums to alternative uses, especially those which deal with the public sphere. Both proposals set a precedent of a repurpose and reconsideration of the museum which can be translated to environmental activism. The museum need not be a collection of traditionally esteemed valuables but rather it can become a deposit of items and ideas of greater interest to the public sphere, accessible to all.

Chapter 2
Rethinking the exhibition

As previously established, environmental and sustainability issues, as complex hyperobjects, are difficult for individuals to grasp. In this critical time of rapid environmental change, the public needs a place where conversations on sustainability can take place so as to be provided with nuanced discussions and clear information. Exhibition spaces and their selection of artworks offer the public physical manifestations of intangible concepts relating to environmental activism. Thus, museums, which are by definition centered on the material world, can play a crucial role in visualizing abstract ideas. Collections, artworks and objects are helpful to materialize the problems at hand which can be more easily understood than facts and data, in effect, "objects speak directly to all ages"[18].

Nevertheless, museum exhibitions require to be rethought in the context of environmental activism in order to better engage visitors in with the content and messages they aim to convey. Despite being one of the defining characteristics of museums, exhibitions models are considered by some to remain largely unchanged in centuries and continue to rely on the same methods and techniques to be constructed[19]. The limitations of the traditional way of developing exhibitions include the large amounts of time, people and funds required, meaning exhibitions tend to run for relatively long periods and are sparsely rotated. The traditional museum exhibition has been compared to the format of a book[20]. It is made up of objects that appeal almost exclusively to visual sense and which are accompanied by two dimensional text. This linear approach has been criticized for being endlessly replicated and for failing to resonate with visitors, particularly the younger audiences.

Alternatively, Robert Jane argues that exhibition designs should take a more broad approach and include a mixed collection of mediums from which visitors are free to explore and derive meaning from. These so called 'discovery centres', would mimic the way we learn, meaning they would offer a combination or a selection of varied sources to be explored by the viewers according to each one's changing interests[21]. This calls for museum exhibitions to host a variety of displaying devices, from screens to portable multimedia players to other formats such as books, newspapers, magazines etc. An eclectic collection gives the viewer greater freedom to explore content and allows them to discover meaning in their experience. Therefore, museums should embrace experimentation in their exhibitions formats to better suit artworks related to environmental activism. The reinvention of museum exhibitions in the environmental context is a crucial step to provide visitors with an enlightening, engaging and useful experience.

Chapter 3

Art concerning climate change

While the exhibition as a whole is crucial to the experience of museum visitors, it is also important to explore its constituent parts, the artworks. Art concerning environmental sustainability and activism can vary in forms but it shares the common goal of appealing to viewers' critical thinking. In fact, the art of this category is only considered fulfilled when it is experienced by someone, and contemporary artists often eschew creating passive observers and instead aim for viewers to be active participants in the work[22]. Climate change art has recently been classified as a distinct area of contemporary art[23]. It is categorized for bringing together aspects from the fields of science, art and nature. Essentially, artists are responding to scientific concerns for the impact of human activity in the natural environment. It is this fusion of scientific knowledge and visual arts which is used to highlight the urgency of environmental alterations in a unique sense. It is thought that climate change art can, in fact elicit the necessary reactions or responses in audiences and which lead to the realization and understanding of future environmental implications.

Recently, several large projects have brought together artists and scientists to translate scientific knowledge, data and findings into artworks - in formats that are better understood by the public. One instance, such as the "Weather Report: Art and Climate Change", is the result of the work of 51 artists responding to the issue of climate change. The 2007 exhibition was shown at the Boulder Museum of Contemporary Art and included a range of artworks, from sculptures, drawings, photography, land art and digital art. The multifaceted exhibition was in part, deemed a success for its clever incorporation of video "either as a documentation tool, or as the primary vehicle of the artwork"[24]. Additionally, the video pieces had the advantage of being shown at other locations including at the Venice Biennale and the Centre for Arts Media and Performance at the University of Colorado, which prolonged its lifespan and the number of viewers. The exhibition however, received mixed reviews on its spatial organization. Critics say the sheer quantity of different artworks and their lack of hierarchy made the exhibition feel "breathless"[25] and made wayfinding difficult for visitors.

Another large-scale, thought provoking artwork dealing with global environmental issues is "The Weather Project" by Danish artist Olafur Eliasson. The installation was shown in the Turbine Hall at the Tate Modern and it aimed at creating a unique atmosphere in the large space as a simulation of the natural world. The installation featured a huge semicircular light which resembled the sun, the gloomy atmosphere it created was also achieved with the use of smoke. The artificial representation of weather elements had a profound impact on visitors, some of whom chose to sit or lay on the floor, drawn by the powerful experience[26]. The exhibition was made up of basic elements, the light and smoke, and yet it had the capacity to immerse visitors in the experience. This was made possible, in part, by the

clever employment of technological devices including yellow streetlights of 18 000 W which created the desired atmosphere and in part by the size of the hall. The large-scale hall increased the scope of the work and may have contributed to the impact on visitors.

Fig. 3. The Weather Project Turbine Hall installation. Photograph by Tanya Bonakdar, *Installation in Turbine Hall,* 2003, Tate Modern, accessed January 20, 2021, https://www.tate.org.uk/whats-on/tate-modern/exhibition/unilever-series/unilever-series-olafur-eliasson-weather-project-0.

One further artwork relating to this theme of engaging with environmental issues is the work of the British artist, Katie Paterson. The 2007 work involved creation of a real time telephone connection between the museum on one end and an Icelandic glacier on the other[27]. It allowed the museum visitors to ring the specific number and to hear live the sound of the glacier melting. The power of this installation is to bring the public close to an otherwise distant event and it connects on an emotional level the visitor to the natural catastrophe of receding glaciers. These examples all have in common the employment of technological devices to achieve an emotional response from visitors.

Fig. 4. Telephone line inside the museum. Photograph by Katie Paterson,*Vatnajökull (the sound of),* 2007, ImageObjectText, accessed January 20, 2021, https://imageobjecttext.com/2012/03/15/the-sound-of-melting-ice/.

Fig. 5. Melting Glacier. Photograph by Katie Paterson, *Vatnajökull,* 2012, ImageObjectText, accessed January 20, 2021, https://imageobjecttext.com/2012/03/15/the-sound-of-melting-ice/.

Conclusion

Scientific evidence alone, is insufficient in triggering the necessary behavioural changes in the public to adapt to a more sustainable future. Therefore, artists play a big role in representing the gathered knowledge in ways the public can better understand. Moreover, changes in behaviour are more likely to occur when data is processed along with an emotive experience, the kind which is likely to be induced by art.

Art which is created in response to or concerning ecological issues can take many forms, but some of the most powerful examples have technology as an integral part of the piece. Technology seems to be one of the prefered tools utilized by artists to evoke emotional responses to their work or to trigger interactions from the audience. This is applied in many ways from the creation of films, audio recordings and light installations to the creation of a live telephone line to a glacier as done by Katie Paterson.

Museums have adapted in different ways to display artworks concerning environmental issues, particularly those pieces which involve technology. The Boulder Museum of Contemporary Art example showed how multifaceted exhibitions can be successful with engaging audiences as it provides diverse options to be explored. The video elements of the exhibition received especial praise and the combination of visuals, text and sounds seemed to be effective at engaging audiences with climate issues. However the anti-hierarchical approach seemed to create confusion and disorientation in some viewers. This stresses the importance of designing such exhibitions with clearly defined spaces so as to provide a smoother experience to viewers. This relatively minimal intervention, shares similarities with the MoMA Media Lounge installation which only required the addition of small pods with screens for visitors to interact with a range of digital content. Both projects brought technological devices to the core of the museum exhibition and were successful at engaging with diverse audiences.

Alternatively, large-scale installations such as "The Weather Project" were also effective in creating immersive experiences. Here the combination of technological devices and the physical aspects of the room, particularly its unusually large dimensions were central to the creation of the awe-evoking atmosphere. This range of approach shows there are many ways to incorporate technology into exhibitions so as to engage with the public on emotional levels. Moreover, there is no shortage of artists dealing with environmental activism in the most diverse ways. Including a variety of approaches in museum exhibitions will allow the viewer to be an active participant in the work and will perhaps create a more memorable experience. There are many possible ways to incorporate technology into exhibitions, from small interventions to larger, all encompassing installations. This should encourage experimentation in the modes of display in a way which invites the viewer to engage with their own reflections and interpret the work.

The overall aim is to create a museum dedicated to artworks which highlight current environmental issues. Art will be used to better communicate and raise awareness on these issues to the general public. The design will be developed around the idea that art institutions should play an active role in engaging the public with diverse and pressing problems affecting the health of our planet. The most effective medium to communicate this type of complex and immediate problems is technology such as films and other visual and auditory devices. Therefore, the building will be adapted to display artworks which deal with this subject in a number of ways, through interactive art pieces, immersive exhibitions or representative artworks, which emphasize visualization and communication of issues around the world. By juxtaposing these different strategies a mixed-use program for the building begins to emerge, thus facilitating the engagement of the audience with climate issues on multiple levels and maximizing the opportunity for informative, compelling experiences to take place.

Global Relevance

Technology is crucial in showcasing environmental art in an effective and engaging way, particularly when it is required to translate scientific data into a widely understood format (such as art) which is capable of conveying important ideas to a broader audience. By investigating ways to best display artworks concerning the environment, this work will contribute to architects looking to design for this type of art, as well as to investigators and activists in general, who wish to apply the findings to their work. Furthermore, this research will add to the existing knowledge on museum design by exploring new ways to use technology as an integral part of the exhibitions. It will demonstrate the capacity of museums to embody diverse functions by combining the traditional programs of collecting, storing and displaying art, with new ones relating to becoming a platform for discussing issues of public concern.

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