Modes of Climate Engagement: Three Recent Case Studies of Climate Change-related **Exhibitions**

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ABSTRACT

The challenges of how to connect people to the seemingly abstract concept of climate change has been explored by countless researchers who aim to help people understand the impact of emissions on rising temperatures. Climate change-themed exhibitions offer new pathways for connection with difficult-to-grasp climatological concepts; these methods are similar to the ways in which Lauren Berlant claims art activism "interferes with the feedback loop whose continuity is at the core of whatever normativity has found traction." This review of three such exhibitions—one in-person, one online, and one hybrid—explores how new forms of meaning-making can emerge out of these public proposals for what is, essentially, a greater engagement with the terms of climate change in the here and now. These exhibitions share questions of social responsibility by involving forms of new media and piquing the curiosity of visitors, offering rich case studies with which to examine how mediation operates on multiple levels, and potentially broadening public engagement with climate change.

INTRODUCTION

James Hansen, who first spoke about climate change to the United States Congress in 1988, more recently described the challenge of abstraction regarding long-term consequences and locally based knowledge as the "greatest barrier to public recognition of human-made climate change." The socalled "deficit model" of climate change communication, a method of increasing and improving upon educational resources that express scientific data in terms understandable to public audiences, has generally been accepted as insufficient in provoking substantive improvements to public understanding. Susanne Moser explains the reason for this: "The complexities of socially embedded use of scientific knowledge by lay individuals, decision-making, and the knowledge and mechanisms available (or not) to translate understanding and concern into practice must be addressed through relevant communication and supporting mechanisms." In other words, the problem was not that people lacked information about the impacts of climate change, but that there are other barriers to action that prevent them from identifying their role within it. Other mechanisms of creating connections have risen in popularity as a result, through social channels, television shows, movies, and the arts, including theater and dance. One such area in which climate change is being explored is through exhibitions at galleries and museums, bridging the gap from hearing about to connecting with this intangible concept. This review of three such exhibitions from the United Kingdom, Germany, and Australia first gives an overview, then explores more about what these exhibitions offer through a meaning-making process regarding the exigencies and abstractions of climate change, and identifies what affective responses might be happening in the process of viewing, and gaining understanding from exhibitions about climate change, both in person and online. To varying degrees, these exhibitions attempt to address the failures of the deficit model by not just providing information, but also creating affective and emotional responses that connect viewers with the concepts in a more embodied way.

OUR TIME ON EARTH, BARBICAN CENTRE, LONDON, UK. MAY 5 – AUGUST 29, 2022.

According to the press release for *Our Time on Earth*, the exhibition was premised upon visitors being able to "[j]oin us on an immersive exploration of radical ideas for the way we live. Where technology brings us closer to nature, and indigenous insight reconnects us to our roots." The eighteen works all engaged with digital technology in some way within the physical exhibition, and visitors weaved their way through them on a clear route. The exhibition space was designed to be immersive, and each work incorporated at least one sensory element: these experiences included visual and aural compositions, but also interactive works that reacted to viewers' movements. Some of the installations included scientific data and provided facts and/or figures about the climate crisis, but those that did used that data in evocative ways that transformed the information into a more creative interaction.

Internationally renowned artists and activists were included in collaborations and solo projects. An installation by Superflux about what multi-species dining would look like was encountered next to an immersive experience visualizing data of soil systems co-created by George Monbiot and Holition, followed by a sonic waterfall designed by Damon Albarn of the rock bands Blur and Gorillaz. *Planet City*, an ongoing project from designer and director Liam Young, speculates upon a vision of the future where the entirety of the world's population—all 10 billion of them—has been concentrated within one city, leaving the rest of the planet to re-wild in order to protect wildlife and revoke ownership of stolen lands from Indigenous people. The project further pursues questions about what type of food production, housing, media, power, and other resources would be required for such a city. The rendered fictional images were accompanied by a short film using real actors which was also shown on a loop at the Barbican, accompanied by actual costumes from the film evoking imagery of the many cultures and festivals represented within the so-called "Planet City." The juxtaposition of the speculative-fiction images, film, and the material costumes combined to encapsulate one of the exhibition's major themes: immersion as a method for helping audiences imagine the potentiality of what might be required for a sustainable future to exist.

CRITICAL ZONES: OBSERVATORIES FOR EARTHLY POLITICS, ZENTRUM FÜR KUNST UND MEDIEN, KARLSRUHE, GERMANY. ONLINE, JULY 2020 – PRESENT [AT TIME OF WRITING].

Critical Zones was due to open at the Center for Art and Media (ZKM) in Karlsruhe in May 2020, but due to Covid-19 restrictions, the exhibition could not open as designed. In seeking an alternative

mechanism of connecting with audiences, curators adapted the existing exhibition and created an online platform instead. The concept, as described by exhibition curators Bruno Latour and Peter Weibel, was to inspire audiences to reconsider the "Critical Zone," the few kilometers of the planetary surface within which viable life is sustained. Similarly to some of the installations in *Our Time on Earth*, Latour and Weibel created an exhibition that was grounded in science but interpreted through art. In turning to an online platform during the pandemic, they aimed to ensure the affective impact of experiencing the exhibition online could remain. The exhibition was launched on Zoom with expert panels, and throughout its run has offered online workshops and guided tours of the exhibition on Zoom (which continue to be provided on a biweekly basis.)

The exhibition includes more than 100 works coded for different "paths." The specific path varies each time a visitor enters the site according to categories such as "Collaboration," "Instruments," or "Gradient." There is also an external link where the content of the exhibition can be accessed in full. *Atmospheric Forests* by Rasa Smite and Raitis Smits was an artistic representation of scientific research on an ancient forest in Switzerland, using laser imaging, detection, and ranging (LIDAR) techniques to create a visual and audio representation of certain organic compounds released by trees which remain invisible to human vision, only smell. The video interface allows viewers to direct the angle of the VR scene of the forest, and the streams of compounds analyzed are depicted using color and sound to illustrate intensity and direction.

An adaptation of the exhibition toured through South Asia in 2023–24, renamed *Critical Zones: In Search of a Common Ground*. Revisions have been made to include works by artists from India and Sri Lanka, to connect the exhibition more directly with specific local issues.⁵

100 CLIMATE CONVERSATIONS, POWERHOUSE MUSEUM, SYDNEY, AUSTRALIA. IN PERSON AND ONLINE, MARCH 2022-DECEMBER 2023.

The Powerhouse venue in Sydney was a coal-fired power station from 1898 to 1960, so it may seem historically appropriate that the multi-modal 100 Climate Conversations takes place in the station's former turbine hall. The weekly Conversations are interviews released as podcasts between 100 Australian innovators and journalists related to climate change. The interviews take place in front of a live audience who can register for free to attend, and the conversations are also retained to become part of the Powerhouse permanent collection. The recording location of the turbine hall also functions as the exhibition space, as video recordings from previous conversations are added each week on screens to create a wall. Individuals are variously highlighted over time, creating a digital version of a yearbook-style gallery showcasing the diversity of the people chosen to speak. This accessible, multi-platform format is described by the Powerhouse as "Australia's most ambitious climate-focused cultural project."

This exhibition project more clearly follows the information-deficit model recognized by Hansen, but the format of an interview and the telling of personal stories through anecdotes allows such "data" to be transformed into a social experience. While the format for the podcast remains the same each episode, the subject of the conversations varies widely, and topics have ranged from electric vehicles and solar panel technology to blue carbon research in the Antarctic, Indigenous land management strategies, and sustainable engineering in power stations. The speakers are experts in their fields, sometimes renowned beyond Australia like conservationist Tim Flannery, or unique specialists like Torres Islander Torres Webb who spoke about the importance of

traditional knowledge to heal "Country," a term used by Indigenous Australians to describe their ancestral lands. The conversations also include discussions about how the subject's work can be relevant to the listener in terms of what actions they could take, which coincides with the overall aims of the exhibition.⁷

Similar to the first two examples discussed above then, 100 Climate Conversations breaches a number of digital and analog conventions, enabling both a personal, singularly accessible experience of listening to a podcast, but also creating a collective experience as the recordings take place in a room with other people.

QUESTIONS OF MEDIATION

The adoption of digital media in exhibitions and their expansion to online platforms was accelerated during the pandemic as museums scrambled to continue to appeal to visitors online by producing exhibitions accessible remotely. In Art, Museums and Digital Cultures: Rethinking Change, authors Helena Barranha and Joana Simões Henriques explore how this uptake has "expand[ed] the debate on how digital technologies have contributed to the creation of new territories and stimulated different innovations in artistic production, curatorial practices and museum spaces."8 In thinking about this perspective of the "new territories" that have emerged out of the exhibitions previously described, adaptations have created online spaces that aim to replicate the experience of being in a museum to the extent that, in the case of the online platform for Critical Zones, there were guided tours via Zoom where the docent asked interpretive questions of the small audience. However, as a result of the volume and high quality of the images included, the loading times for the webpage can detract from this experience; the spinning wheel representing progress only serves to highlight that you are reliant on the speed of your internet connection to be able to view the exhibition. As a result of the lack of smooth functionality, questions arise around how effective these attempts can be to create connection to the issues of climate change as hoped, or if they actually serve as disconnections.

These questions probe further into whether these materialities are more or less meaningful in a physical form. Both theorists and practitioners historically prioritized physical objects, where an artifact's meaning was dependent on the context of being in the museum building and the other items surrounding it. However, as digital collections have grown and become more accessible to online audiences, the common understanding of materiality has shifted; digital media are used as more than a tool for display, and instead have merit for representing significance in their own right. The affordances made by platforms such as *Critical Zones*, which prioritize digital exhibitions and artifacts, demonstrate that experiences and feelings can also be elicited through engagement in the virtual sphere.

The additional mediative role that the platform plays could be said to hinder an embodied response, but can also be said to assist it, or at least engage it in a different way. The online experiences can be returned to again and again, and therefore different, or deeper engagement can be held in different locations around the world compared to a visit to a physical exhibition, which may only be experienced within a limited time frame and location. The ability to repeat the experience provides opportunities to create personal connections with the exhibitions through online mediation, even if it cannot be a wholly immersive experience, as it would be in person. However,

there is a "barrier" between the visitor and the artifact in the presence of the screen, even if the piece is digital. Bolter and Grusin describe the attempt to make barriers invisible, particularly in different forms of new media, as part of a process of *re*mediation. They conclude that "*all* mediation is remediation," and therefore, the self always needs to engage in some kind of interpretation or decoding of an experience. They also identify that, in so doing, users cannot help but then become aware of the function and presence of media, leading to what they describe as hypermediacy. In the experience of the *Critical Zones* exhibition, the immediacy afforded by being able to access the exhibition from anywhere, at any time, also draws attention to the online mechanisms of engagement. In the example of the *Atmospheric Forest*, viewers of the data visualization are aware that what they are looking at is something mediated, enhanced, and manipulated for a particular effect due to the digital representation of the forest processes and viewpoint that would not be visible in a more tangible exhibition format.

Conversely, *Our Time on Earth* was only able to be experienced in person, with physical immersion within a circumscribed space taking on a primary role. If, as described by the exhibition organizers, the exhibition is one "where technology brings us closer to nature," then digital media with a focus on immersion—as a type of "surround," to borrow from Fred Turner's terminology regarding closed intermedia environments from the mid-20th century—became the preferred format for bridging the knowledge gap between viewers and the impacts of climate change. However, critics such as Steven Vogel, Cara New Daggett, and Andreas Malm have partly attributed the current crisis to the role of technology because it increases the separation between humans and nature. This inherent tension between technology as a tool which both separates and connects is not satisfactorily addressed in either exhibition.¹⁴

In Curating the Future: Museums, Communities and Climate Change, Jenny Newell, Kirsten Wehner, and Libby Robin speak to the potential that museums have for surmounting any perceived divisions between nature and culture, particularly by drawing on practices of relationality where the museum operates as a place for connection between artifacts and viewers, whether online or in person. 15 Through the immersive exhibitions in Our Time on Earth, the Barbican's curators have attempted to build these connections, but in a similar way to the barriers experienced when viewing the Critical Zones website, the indifference to the distinct characteristics of digital media also acts as an obstacle or distraction. In one review of the exhibition, the close proximity of many of the immersive works near to each other only served to produce a dissonance, with the reviewer describing his experience as a "cacophony" of sound creating a "nightmare." Where exhibitions include audio, there are often measures to ensure that the sound is not distracting or does not bleed into other exhibits, which may not have been feasible, or was a deliberate choice for the Barbican —this was not clear from the exhibition material, but does demonstrate the different treatment that such exhibitions may require compared to more silent works. Personal tastes aside, the close proximity of the works to each other due to the restrictions of the space, not to mention the popularity of the exhibition resulting in crowds of people in attendance, meant that there was a lot of environmental stimulation; as a result, the efficacy of some works may have become lost. The results seem to deny what Libby Robin and colleagues discuss in Curating the Future, wherein physical museum galleries allow for the contemplation of climate-change principles due to the format of "slow media," which allows for meaningful time to be spent with individual works. 17 They maintain that this potential for having a slow pace with which to contemplate the gravity and scale of the problem allows visitors to alleviate some of the anxiety associated with climate change. This may have been something that the curators of Our Time on Earth may have been striving for

in calling it so, but for some visitors like the reviewer quoted above, did not succeed entirely. As a space that embraces creativity and often celebrates the pushing of boundaries and comfort levels through the plays, art, and dance that it produces, perhaps the Barbican curators were intending for more of a shocking, immediately physical experience, which I certainly found affective and novel.

The tension inherent in these exhibitions relying on digital technology to re/connect us to nature was not addressed in the above two cases, nor was the additional impact that the digital technology utilized has on increasing emissions. The only one to do so in a direct statement was 100 Climate Conversations, which includes on their website a certification that this "is the Powerhouse's first carbon neutral exhibition." ¹⁸ As a ground-breaking project that encompasses a multitude of approaches from various experts, the podcast as the chosen medium to bring them together is a useful platform for a museum. Podcasts have become widely used in recent years as a platform to offer alternative access to traditional media. There are a wide range of podcasts on the subject of climate change, so the decision made by the curators of this exhibition to focus on Australian stories from a museum's platform distinguishes it from more journalistic or magazine-style podcasts. However, the Powerhouse does not address the emissions associated with podcasting, which are growing at a huge rate globally, with the average monthly download cumulatively calculated as "equivalent to the emissions created by charging 12,000,000 smartphones." ¹⁹

In order for climate change messaging to be effective, that usually means making it appropriate to a local audience and making it culturally meaningful.²⁰ As Silverstone says, some of the cultural work done in meaning-making is by virtue of exhibitions being associated with research-based institutions, like museums. For instance, when the Powerhouse Museum produces a podcast on climate, the cultural caché of the content already carries significant weight. By making the content locally focused, the inherent authority of the scientific content is therefore more substantial and perceived to be scientifically sound by the listening audience. As established at the start of this review, information alone is not enough to connect people with the issue of climate change, but the combination of strong scientific content with the authority of the museum supporting its production and the popular digital medium of the podcast leads to a compelling example of the potential for exploring mechanisms of engagement through the museum. The aims of the project were to provide hope through sharing positive stories of Australians responding to the climate crisis and to inspire action. Informal feedback from attendees confirmed they have found it highly effective for learning about climate solutions and for finding out who, locally, is doing important work in the climate space.

CONCLUSION

These three cases of exhibitions employing digital engagement to try to connect visitors with climate change offer different stories of engagement beyond the model of providing information to counter a deficit. The online exhibition creates increased accessibility but also increased layers of mediation; the in-person exhibition which utilized immersive digital technology to connect humans to a separate nature caused dissonance and created confused messaging for some. The podcast showcasing 100 conversations about climate supports the upscaling of climate action by sharing information and bolstering hope through positive stories. The cases demonstrate different ways that the museum can take on the role of a platform, giving space for experts and exhibitions to tell stories and potentially reach wide audiences. Distinguished museum scholar Robert Janes's book

Museums and Societal Collapse: The Museum as Lifeboat describes the vital role of museums as trusted institutions that have the privileged position within society of being able to bridge the gap between science and the arts to help people prepare for a challenging future. As venues where communication can be explored without the overload of data and facts, they can be unique locations for people to connect to crucial issues in creative and inspiring ways. This was understood by Lauren Berlant, whose claim about art activism acting as interference and disruption from the traditional ways of informing—quoted in the introduction to this article—could be helpful to change the narrative on climate change and create new pathways for connection. Returning to Hansen, Sato, and Ruedy, we can recognize that making climate change's impacts more tangible, based on direct experience, is a way to increase people's connection to the crisis, be that through a physical or digital materiality. Exhibitions such as these, which offer different ways of experiencing climate and draw on state-of-the-art digital practices, cement the continuing relevancy of museums in public spaces, and even where they may not have been entirely successful, the continuing experimentation with novel methods of communication is clearly necessary in the ongoing need to connect people with the climate crisis.

ACKNOWLEDGEMENTS

Amy Harris's research is supported in part by funding from the Social Sciences and Humanities Research Council and the Digital Democracies Institute.

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