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Aesthetic strategies for engaging with environmental governance

Christian Nold and Karolina Sobecka

Abstract

The sciences and commercial entities are increasingly engaging with artists to harness aesthetics, creativity and interdisciplinarity. The effect of these collaborations has mostly been to promote public engagement with science and commercial innovation. Yet, it is unclear how such arrangements work, what impact aesthetic approaches have, and whether they are appropriate ways for artists to engage with other disciplines. This text analyses two case studies of aesthetic strategies of ‘mirroring’ and ‘friction synthesis’ as deployed within institutional environmental governance processes. The text argues that aesthetic strategies can highlight blind spots in environmental governance and do this without creating oppositional critique. Instead, aesthetics strategies can engage with existing governance processes and build alternative worlds within them.

Introduction

Art has been alternatively portrayed as a transformative source of new ways of doing and thinking, or dismissed as having little agency to change the world. Artists have found their work underpinning new technological or media trends, or co-opted as “a gloss for dispossession, displacement and, ultimately, social cleansing” (Prichard, 2017, para. 1). This text discusses how artists can proactively use their work on their own terms, by employing aesthetic strategies to engage in alternative environmental governance.

There is a tradition of ‘artist critique’ within the avant-garde that positions the artist as outside of the system they address, allowing them to make critical pronouncements and point out the contradictions of modern life (Chiapello, 2004). But in the last decades, artists are increasingly getting involved in new roles and categories of collaboration to position their practice in different relation to a variety of actors. Art and science collaborations have become established by large institutions (Art At Cern, 2016; Wellcome Trust, 2019) and international prizes (Ars Electronica, 2019) and become a new genre of artistic practice. Artist-initiated art-science projects often focus on ethical and political issues in emerging science and technology, such as Oron Catts and Ionat Zurr’s “Disembodied Cuisine”, an early exploration of the ethics of lab-grown meat, or Heather Dewey-Hagborg’s “Stranger Visions” for which she created 3D-printed portraits based on the DNA of strangers (2014). Yet, institutionally initiated collaborations often see artists uncritically serving the agenda of the institution. For example, the artist role is often assumed to be that of a science communicator, or an illustrator of scientific concepts employed in promotion of science’s societal benefits. In Silicon Valley, technology companies are offering residency opportunities for artists to play and experiment with their tools. They give artists access to new technologies and media, but rarely space to reflect critically on the historical, material or labour

underpinnings of these technologies and corporate practices. Further, resident artists' experimentation is supported with an eye of channelling it towards innovation, thereby placing artists into a similar role as the company's R&D researchers. Not only are artists paid a lot less, but their involvement is additionally being capitalized on by associating the company with cutting-edge culture (Clements, 2012). In other contexts, artists are employed to carry out community engagement in areas where regeneration projects have created local backlashes. In those situations, artists are deployed as social workers and cultural gentrifiers, without their explicit knowledge (Prichard, 2019).

The sketch above represents an overview of areas where artistic methods and practices are adapted in various contexts. Calvert and Schyfter (2017) suggest that these collaborations can be broadly divided into three categories. The first category follows a 'logic of accountability' that uses interdisciplinarity to "*help scientific research become more accountable to society*" (2017, para. 198). The second category follows a 'logic of innovation' that harnesses creative transgression and channels it into economic growth. In the third category, Calvert and Schyfter propose a 'logic of ontology' that generates "*something that would not have happened otherwise*" (ibid), meaning that art is world-making and creates new 'realities' (ontologies).

While the first two logics of accountability and innovation are recognizable in the examples above, the third, of creating new realities, is less clearly visible or articulated in the literature.

In the last decade, Science and Technology Studies (STS) has started to engage with the world-making potential of artistic practices, as can be seen in the interdisciplinary exhibition and book *Making Things Public: Atmospheres of Democracy* (Latour and Weibel, 2005). This approach is part of a shift away from critiquing science and technology production and towards trying to find new methods for building 'common worlds' with the natural sciences (Latour, 2004). Social

science researchers are starting to adopt ‘inventive methods’ (Marres, Guggenheim and Wilkie, 2018) and proposing the need for ‘ontological interventions’ (Law, 2004) that use aesthetic sensitivities to actively transform case studies (Nold, 2018b). In this vein, Lury and Wakeford (2012) offer social science researchers a catalogue of inventive approaches derived from media objects and art for materially engaging in transformative practices.

Yet, so far, it has largely been social scientists describing the ontological potential of artists’ practices as outsiders rather than as practitioners (Beyes and Steyaert, 2011). The result is often an exoticization of creative practitioners that makes it harder to integrate these practices with STS methods. What is missing from these accounts are artists’ descriptions of the dynamics of material things as well as the practical limits and potentials of their practices. In this text, we draw on our dual roles as artists and social scientists to bridge this gap by reflecting on how our work functions. We propose an approach for a more fruitful relationship between STS and art. To do this, we adopt the term ‘aesthetic strategies’ to describe the use of formalized creative approaches that come from the realm of art but aim beyond visual concerns towards inventively performing social and material realities. We frame ‘aesthetic strategies’ as a concept that can stand outside of us and can communicate towards a wider community in order to support explicit impacts on the world. We relate this approach to a lineage of socially engaged art from the 1970s, such as Stephen Willats (2000), and media activism from the 1990s, such as Tactical Media (Garcia and Lovink, 1997), which tried to codify aesthetic practices to achieve broader political impacts. Tactical Media used the military metaphor of tactics as a way of gaining short-term advantage, while strategic power remains in the structural apparatus. Yet, Garcia argues that this focus on short-term artistic tactics often resulted merely in “small scale homeopathic interventions” (2014, p. 14) that did not achieve depth or long-term engagement with real-world

problems. Thus, in our approach, we foreground artists using strategies to build towards long-term gains by engaging with the structures of institutional governance. We prefer the term ‘strategy’ over ‘method’ since it has a clear trajectory and direction in mind, while avoiding being prescriptive and claiming knowledge creation.

Combining the terms ‘aesthetics’ and ‘strategy’ acknowledges that aesthetics is not simply related to judgment of appearance but can be instrumentalized towards specific goals and impacts. Researchers are revisiting notions of aesthetics as a theoretical and practical basis for transforming the world using design interventions (Wilkie, 2016). Jaques Rancière defines aesthetics as the ‘distribution of the sensible,’ and writes that both art and politics use it as a mode of governance based on shaping the regimes of visibility. In his view, aesthetics determines what presents itself to sense experience, working through delimiting of “spaces and times, of the visible and the invisible, of speech and noise, that simultaneously determines the place and the stakes of politics as a form of experience” (Rancière, 2015, p. 13). For Rancière, it is through these aesthetic means that one can intrude into stable political and material orders and reshape them. In this paper we demonstrate how aesthetic practices intersect with environmental governance, and how they can be intentionally used to modulate it.

Case studies

This text brings together two examples of aesthetic strategies developed by the authors: of ‘mirroring’ and ‘friction synthesis’, and reflects on how they function. In particular, the case studies show how these strategies support engagement in alternative decision-making processes within environmental governance. These are merely two examples of the many current and potential aesthetic strategies. We hope by formally outlining them that it may encourage others

to build on these examples. Each case study begins by outlining the strategy as an abstract concept, before describing a specific example of the strategy being used within a particular site. The final section of each study discusses how this strategy functions and how generally applicable it might be (Figure 4.1).

Figure 4.1 Sketchbook notes from the mirroring workshop (2016)

Strategy: mirroring

This strategy involves re-staging an institutional process which might not be explicitly defined as environmental governance, but is part of the bureaucratic protocols that channel actions and decisions. The strategy involves re-enacting a “target process” on a public stage, by focusing on pragmatic and mundane aspects which are not controversial, yet which shape the possibilities of

actions. This might mean restaging the physical or institutional setting, the event structure or the invited participants. For example, the geographical and institutional setting is well known to imbue a processes with epistemic authority (Gupta and Möller 2019) — in particular, when it is associated with a prestigious institution in the global north. Therefore, restaging a process in the global south can reflect on the colonial underpinnings of knowledge and governance and make visible counternarratives that draw on local, situated knowledges. Similarly, mirroring can also be used to restage the demographic makeup of invited participants, the incentives offered for taking part as well as the way a process is facilitated and framed. The mirroring strategy thus highlights the often unacknowledged pragmatic aspects of environmental governance that nevertheless shape its scope and limits.

Example of the strategy

This example focuses on a mirror event, organized by Karolina Sobecka, which restaged the LEISE (Low Environmental Impact Solar Radiation Experiments) workshop that took place at the Institute for Advanced Sustainability Studies (IASS), in Potsdam, Germany, in September 2016. We refer to the IASS workshop as the ‘original’. The event brought together scientists and engineers from the geoengineering community to work in small groups on writing up examples of potential geoengineering experiments. The goal of the workshop was to create a report that would clarify what geoengineering field experiments could consist of, with the result being a shared resource that should “*act as a foundation for discussions among a wide range of stakeholders about the value and risks of SRM research, about experimental priorities, research governance, and ethics*” (Institute for Advanced Sustainability Studies, 2016, para. 3). The

participants were guided to produce a list of potential low environmental impact Solar Radiation Management (SRM) experiments (Institute for Advanced Sustainability Studies, 2016).

Sobecka took the IASS workshop as an object of mirroring to examine how such a process might be “performative:” what it allows and disallows, how it might predispose specific outcomes, how it contributes to problem framings becoming coherent and integrated in the circulated narratives and shared assumptions. The mirroring event took place two days after the original, at the Scripps Institution of Oceanography, California. This workshop convened participants with a goal of producing a list of experiments that could potentially be performed on the atmosphere. One of the most prominent alterations to the structure of the workshop was the change in the disciplinary and gender breakdown of participants, who in this version included artists and designers, and significantly more women than in the original workshop.

The proposals and ideas discussed during the mirroring workshop largely focused on affective or sensory experience of the atmosphere, such as being able to make it audible or capturing and reproducing the ambience and materiality of momentary atmospheric conditions. The approaches and motivations of the participants were diverse and the group-work consisted of collective brainstorming, without narrowing the pool of ideas or focusing on designing specific experiments. The atmosphere was framed as a multiplicity of things: a connective tissue, a system of pneumatic physical exchanges or respiratory exchanges, a communication medium that carries messages, or an entity that you can hear, which prompted questions of what the atmosphere might ‘say’ about the changing weather patterns, emissions, or the planetary and social metabolisms. The result was a sense of the multivalency of the atmosphere that leads less to a concern with its control through technical means than to searching for rootedness in an everyday sense of a relationship with it. The event wasn’t targeted towards generating ways to

address climate disruption, but the multifocal discussions visualized the interconnections between the human, social and physical earth system that might bear new conceptual relationship to it. The mirroring strategy reveals that both workshops were defining goals, visions and the future path of intentional interactions with the atmosphere. The organizers of the original workshop described it as ‘not’ involved in the governance of geoengineering research. However, by defining a narrow set of possible experiments of technical intervention, and recording it in a document, it cemented a vision of actionable solutions, exercising a ‘world-making’ power. The original workshop participates in naturalizing geoengineering imaginary, contributing to its integration in the popular imagination, first through its socialization in the community of experts and then, packaged in the report which is to be referred to as a “foundation for discussions about the value and risks of SRM research,” through the repetition of problem framings and solutions in both the public realm and the realm of climate governance. In contrast, the mirroring workshop made visible a diversity of possible alternative relationships to the earth’s atmosphere, which compel a deeper consideration of values guiding decisions on climate action, and goals that orient and prioritize characteristics of desirable futures. While the solutions put forth through the established processes and institutions have the air of realism and inevitability because they are extensions of what we already have, alternatives that come from different knowledge practices, and ones that activate different engagements, are usually relegated to contexts associated with fictive proposals: utopian fictions and art exhibitions. The mirror workshop overcomes this dynamic by creating a public stage for articulating new approaches and framing those as fundamentally the same as the visioning operations of the dominant modes of governance, albeit not supported and legitimized by them. It compels consideration of the structures that enable some visions to survive as promising or even necessary, while others are

disempowered as naïve or unrealistic. The outcome of the mirror workshop is not a cohesive vision of engineering the sky, but rather a reverie demonstrating logics not consistent with the dominant ways of thinking, what might be called a “poetic displacement,” through which as Rancière suggests, both art and politics can change the status quo.

How does the strategy function and what does it do?

The gesture of publicly organizing an “alternative” version of a process questions the singular legitimacy of the official process and the authority of its outputs. The mirroring strategy works through the interconnected operations of reflection and duplication. It enables critical reflection on the workings of institutional processes. Mirroring as an optical operation involves not only doubling but also transformation, it inverts, offsets and scales, reshapes and reveals different worlds. Taking as its focus the pragmatic and mundane aspects of a process, the mirroring strategy engages with the procedural modes of governance, which leave participants out of decisions about fundamental values or directions, employing them instead in new implementations of environmental governance. Institutional processes can be thought of as procedural or algorithmic: operations of rules and affective settings that don’t set aims or create bias but transmit them. The mirroring strategy cuts the connections to the goals a process was originally subordinated to, and instead floods it with alternative matters, values and actors. The mirror process transforms the process it replicates by creating a space for both sets of participants to consider their roles and agency, and by transforming what the public sees. In this way, the strategy is reshaping the regimes of visibility, which is, for Rancière, how ‘theatre’ as a mode of aesthetic practice can exercise political agency. The stage, according to Rancière, “*is simultaneously a locus of public activity and the exhibition-space for ‘fantasies’*” (2015, p. 13),

and therefore it “*disturbs the clear partition of identities, activities, and spaces*” (ibid). Such stagings, or ‘*performative experiments*’ as Dehlia Hannah calls them, “*play up and render conspicuous specific aspects, phases, and problems*” (2013, p. 11). The mirroring strategy highlights the influence of roles and identities of participants, of the choreographies of collective visioning and decision-making activities, and of the institutional stagecraft, staging them all as implicitly contributing to steering. Mirroring reproduces the staging of the original event and provides a space for making those trappings available for public examination and alteration. Moreover, it allows for a “transgressive appearance of unauthorized speakers on the public stage” (Rancière, 2015, p. 18). Thus the democratic function of the decision-making process can be recovered by “*lending its canonical forms*” (ibid) to be occupied by non-experts. Through mirroring, the institutional choreographies can be stripped of a sense of inevitability and naturalness. Re-enacting the workshop reveals its performative qualities and produces a multiplicity of alternatives that can open up and redirect the process, potentially emerging as ways of shaping our relationship to the atmosphere in different ways (Figure 4.2).

technology and the environment. A key part of this strategy is demonstrating that dualism doesn't work very well and that a synthesis is feasible in practice and can create interesting outputs. Yet, while the resulting synthesis is internally coherent, it still embodies a tension between these elements and creates a discomfort in relation with the institutional actors that find this synthesis exciting but also challenging to categorize. The strategy thus functions through this combination of attraction and discomfort.

Example of the strategy

This example from Christian Nold is the Bio Mapping process, device and workshops (Nold, 2004) that spanned a decade and involved thousands of people across the world. Bio Mapping allows people to take part in 'emotionally mapping' and articulating a local area using a unique device. The Bio Mapping device combines the wearer's body measurement with galvanic skin response as an index of physiological arousal and a geographical positioning system. This is plotted together on a geographical map to display where people walked and to indicate their arousal at that location. Upon returning from their walk, the data is displayed to the participants, who take turns to verbalize their sensation and add textual observations on a map. The map combines both the quantitative data of the galvanic skin response and the qualitative data of people's recollections from their walks.

The key aspect of the Bio Mapping strategy is that it combines three modes of legitimation. First, the project involves over a hundred people in each location whose data and annotations are combined and designed into a single map. The involvement of so many local people including representatives such as politicians allows the maps to claim to speak about collective emotions and public opinions as 'Emotion Maps' (Nold, 2006). Second, galvanic skin response is part of the lie detector test and in the public imagination is seen as providing access to our unconscious.

The project thus appears to make private emotion – publicly visible and useful. In this way, the project chimes with the public, commercial and institutional imaginaries of cybernetic governance. Third, the Bio mapping data consists of XML data that can be aggregated and visualized in technical Geographical Information Systems. This triple combination of mass participation, emotion imaginaries and technical interoperability means the Bio Mapping project is ‘readable’ within existing technical and institutional epistemic systems of governance. This meant that the project attracted masses of interest both from the media as well as specialists such as architects, planners and politicians.

However, galvanic skin response is actually ‘noisy’ data that is hard to interpret and cannot fulfil the technocratic dream of objectively disclosing a person’s emotional state (Nold, 2018a).

Instead, it functions best as a performative trigger for participants to recount their narratives. It is only by people articulating their own bodies, in conjunction with their physiological data, that a meaningful and coherent articulation of emotion and the environment become possible. The strategy thus function as a bait: it attracts those who believe a device might be able to objectively extract emotion. Instead, the workshops demonstrate that the arousal data is useful as a trigger for recollection and it is rather the participant’s reflection that is fundamental to articulating their emotional relationship with the environment. In this way, the strategy seduces technocratic governance to support public art projects and provide them with legitimacy while opening themselves up towards qualitative methods and political complexity.

This adopted legitimacy meant the printed Emotion Maps could be used to foreground local controversies such as the neglect of young people in Stockport, the gentrification of Greenwich or the urban neglect of Brentford. The workshop process involved the participants gathering evidence, discussing these issues and then coming up with alternative proposals that were

incorporated into these maps. This meant the maps combined aesthetic representations with concrete demands for local change that exceeded the boundaries of what many imagined as the limits of an art project. The result was that Bio Mapping creates a frictional synthesis between quantitative and qualitative, body and mind, art and politics. The power of the project lies precisely in the way this combination is held in tension. In Bethlehem (US), this synthesis managed to bring together the city mayor, the economic development team as well as cycling and low-income pressure groups:

Bethlehem is hoping Nold's work can serve a practical purpose. His visit comes at a time when the city is trying to gauge how pedestrian-friendly it is. [...] So the city is committed to Nold's work, [...] So much so that Mayor John Callahan has agreed to be the first person to wear one of Nold's devices when the group meets again.

(Coombe, 2009, para. 16)

In this example, the local actors used the Bio Mapping process to collaboratively develop plans for pedestrianizing one of the town's bridges, creating cycle routes and supporting low-income food provision in the town centre.

How does the strategy function and what does it do?

'Friction synthesis' is a way of forcing a combination between quantitative and qualitative, objective and subjective modes into a powerful yet hard to institutionally 'use' representation. This approach builds on multiple representational modes such as quantification that actors such as planners recognize as well as public participation that politicians recognize. The project thus combines the perceived authority of technical measurement with the democratic legitimization of

having many public participants. Yet, by staging the authority of technical measurement as contestable, the strategy demonstrates the arbitrariness of modernist dualisms and instead offers a performative enactment that dissolves distinctions between mind and body.

This strategy is not a critique or revolutionary confrontation, but the building of new ontologies of urban experience in order to fight for incremental gains in locally situated contexts. The strategy reveals the technological black box that purports to ‘make collective emotion visible’ and instead presents a new ontological reality of collective emotion that is contestable by local participants. In terms of incremental gains, the ‘friction’ of the strategy allows demands from local actors to be legitimated and reformulated so that they can be slid into the workings of governance systems. The process legitimizes actors that are often excluded and allows them to negotiate on the new ontological terrain created by the aesthetic strategy (Nold, 2018a). This approach has so far generated significant international and local coverage, thus making these demands hard to dismiss. Friction synthesis represents an ambiguous agency that is both inside and outside of recognizable systems. This tension means that it is difficult for actors using dualistic notions to fully co-opt this strategy into their repertoire and means that it can maintain an opening for future renegotiations with governance.

Discussion

Both of the case studies show what aesthetic strategies can do when applied to governance processes of the global and local environment. What they have in common is that they highlight blind spots in the way institutional governance excludes public and disciplinary positions. As these examples show, alternative publics and actors can bring contradictory perspectives, sensory observations and new approaches to the governance of environments. The strategies thus both

point to this exclusion and rectify it by offering material alternatives. Yet, they do so without polemical critiques. Instead, both strategies involve an interest in existing governance structures and a direct engagement with stakeholders and alternative publics, who are all invited to become a part of an ‘extended peer community’ (Healy, 1999) where nuanced and sensory collective processes can generate new paths of action.

These strategies are more than a hat tip to the liberal logic of accountability that calls for increased inclusion and diversity of voices. Our argument is that aesthetics strategies involve an ontological restructuring of governance processes to make new realities possible. While both case studies engage with iconic devices of governance – the public meeting and the map, the aesthetics strategies remade these devices and reflected them back as altered versions that ‘do’ governance differently. In the mirroring strategy, the environment became multivalent, embodied and relational, while in the friction synthesis strategy, the environment became a collective body of sensation and political opinion. By performatively restaging implicit visioning processes and building technologies that create politics from the body upwards, new kinds of politics became possible. Governance is thus recognized as more than cognitive deliberation but something that requires experimental and material staging, a process in which artists and designers are critical (Marres, 2013). By engaging with governance differently, we can begin to take over and inhabit these institutional structures. Rather than creating ‘accountability’ or ‘innovation’, these strategies generate material spaces that didn’t exist before using a ‘logic of ontology’ (Calvert and Schyfter, 2017). Demonstrating that aesthetic strategies are ‘world-making’ gives them legitimacy and agency without requiring claims towards artistic autonomy. Instead of pretending to be outside of the system, these strategies create new worlds within it.

But could our aesthetic strategies be used against their intended purpose? Climate denial think-tanks routinely use a kind of ‘mirroring’ as a strategy to sow confusion and undermine scientific insights. For example, the Heartland Institute produced a 2003 report entitled ‘Non-Governmental International Panel on Climate Change’ (NIPCC) that reproduced the look and most of the content of the official Intergovernmental Panel on Climate Change (IPCC) report, but lauded opposite conclusions on the anthropogenic nature of climate change (Dunlap and McCright, 2010). Could our strategies also be co-opted? While their form or stated claim can always be appropriated, we suggest that the mechanisms we propose have a limited potential for misuse. While the strategies we’re describing don’t have any embedded ideological ‘soul’, they have aesthetic affordances that shape relationships in the world. They have a specificity that allows them to function and that constraints their use. The mirroring strategy outlined in this text has different properties from the mirroring of the climate deniers. While the climate deniers are merely trying to produce a facsimile in order to create doubt, confusion and avoid critical analysis, our mirroring stages an infrastructural governance process in a performative way in order to reflexively foreground it. With friction synthesis, the strategy’s ‘friction’ indivisibly fuses qualitative and quantitative data to make it hard to co-opt the strategy without losing its public impact or political ‘bite’ (Nold, 2018a). In both cases, it is the specificity of these aesthetic affordances that gives the strategies their uniqueness and allows them to create new ontological realities.

We propose that aesthetic approaches need to move beyond momentary tactical interventions towards legitimizing and maintaining strategies of alternative representation and ontological

intervention into governance processes. By articulating these approaches as strategies, we point to the modes of legitimization that render them meaningful such as formalization, circulation and categorization. Our hope is that the description of these strategies might help build a network of like-minded researchers for gathering a collection of other aesthetics strategies. It is here that a collaboration between STS and artists can be productive for providing inspiration and legitimacy when engaging with governance in order to open-up structures and build alternative worlds within them.

Figure 4.1 Sketchbook notes from the mirroring workshop (2016).

Figure 4.2 ‘Birds Eye View of the Two Bethlehems’ (2009) showing the aggregated quantitative and qualitative data and perceptions of a hundred local participants. The right side of the map highlights problems such as lack of pedestrianization, low-income food provision and the need for cycle lanes.

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