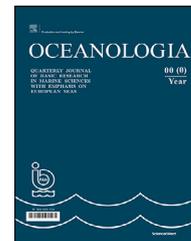


Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.journals.elsevier.com/oceanologia

ORIGINAL RESEARCH ARTICLE

Artists in the face of threats of climate change

Marianna Michałowska*

Institute of Cultural Studies, Adam Mickiewicz University, Poznań, Poland

Received 20 October 2019; accepted 6 March 2020

Available online 4 May 2020

KEYWORDS

Ocean literacy;
Climate change;
Environmental art;
Environmental
photography;
Social impact of
science

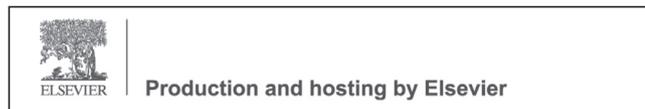
Summary In contemporary visual culture, the subject of climate change and the need for commitment to counteract it (Demos, 2016; Körber et al., 2017; Tsing et al., 2017) are increasingly being addressed. The artists' observation concerns not only the natural effects of climate change but also their impact on the social and cultural heritage of the inhabitants of regions of the most endangered areas. Areas most vulnerable to destruction: oceans, coral reefs and polar regions are becoming a particular subject of interest for artists. A reflection of this interest can be the increasing number of exhibitions devoted to the current state of the environment (i.e. the project *Plasticity of the Planet* presented in 2019 in Ujazdowski Castle Centre for Contemporary Art in Warsaw).

In the article selected artistic strategies to publicize the problems of ecology will be indicated. The first strategy is the exhibition of the beauty of the natural environment and the melancholy associated with its disappearance. An example of this can be *Art of the Arctic* by environmental photographer Kerry Koeping who focuses the audience's attention on ocean literacy by means of affecting landscapes of the Arctic or the artistic residence in PAN Hornsund Polar Station of Janusz Oleksa. The second way is to indicate the physical and biological effects of climate change. An example would be the work of Kelly Jazvac who, in collaboration with an oceanographer Charles Moore and a geologist Patricia Corcoran, presents *plastiglomerate* by Agnieszka Kurant – new forms of fossils, resulting from the combination of shells and stones with plastics or artificial compounds. The third method is the presentation of the residents' experience. The

* Corresponding author at: Institute of Cultural Studies, Adam Mickiewicz University, Szamarzewskiego 89, 60–568 Poznań, Poland.

E-mail address: mariamne@amu.edu.pl

Peer review under the responsibility of the Institute of Oceanology of the Polish Academy of Sciences.



Production and hosting by Elsevier

<https://doi.org/10.1016/j.oceano.2020.03.003>

0078-3234/© 2020 Institute of Oceanology of the Polish Academy of Sciences. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

examples are works of Subhankar Banerjee, who draws inspiration from ethnographic research and documentary films and Jakub Witek's documentary about Polish emigrants living in Iceland. The artist presents the consequences of climate change for the inhabitants of the polar regions. The fourth way is to build a metaphor for the presence of a 'stranger' – a traveller, an explorer or a scientist. An example is a photographic performance entitled *Polaris Summer* by Kuba Bąkowski conducted during a scientific expedition to Spitsbergen, or three-screen projection by John Akomfrah's showing the relationship between man and oceans in the context of exploitation of natural and human resources.

For the artistic practices described in the article, I use the theoretical framework of environmental art that binds together aesthetics, ethics and politics. The purpose of the article is to check whether such a connection can be attractive to the audience.

© 2020 Institute of Oceanology of the Polish Academy of Sciences. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

From 15 March to 22 September 2019, in one of the most important Polish contemporary art galleries, Ujazdowski Castle Centre for Contemporary Art in Warsaw, *Human-Free Earth* and *Forensic Architecture* exhibitions were held as part of the larger project entitled *Plasticity of the Planet* (Figure 1). The artists presented, among others, plastiglomerate samples (Kelly Jazvac), imitated new natural habitats based on artificial substances (Diana Lelonek and Bonita Ely) and analysed the political use of herbicides as biological weapons (Forensic Architecture collective). The event¹ was the first in Poland such a big presentation of a lively developing trend in environmental art (sometimes known as ecological art), which has been around since the late 20th century, and whose aim is the reflection on changes in nature which occurred as a result of human activity (Thornes, 2008).

At the same time, another Warsaw gallery presented the project *Alienations or the Fire Next Time*, i.e. a show of 7 films telling about the human feeling of being overwhelmed by the complex global reality.² The convergence of the exhibitions' themes is not accidental. It is an expression of the artists' profound interest in the links between the exploitation of natural resources and the state policies, the development of IT infrastructure and natural changes and their impact on people's lives. In the works presented at both exhibitions, the artists concentrate on areas where this change is extremely overwhelming, such as seas, oceans, polar and subtropical regions, and is particularly distressing for the in-

habitants and affects the shape of the planet (Bloom et al., 2012; Demos, 2016; Körber et al., 2017; Tsing et al., 2017). 'Environmental art' would, therefore, be a name for artistic activities originating, among others, from land art, ecological art and participatory art. The trend represented by artists from various cultures and continents refers to the fundamental problems for their communities (therefore the scope of questions raised by *Plasticity of the Planet* in Poland will differ from the issues displayed at e.g. the *Arctic* exhibition in the Louisiana Museum of Modern Art in Denmark in 2014 and in other shows). In environmental art, aesthetic and ethical threads are intertwined (e.g. the question about the importance of beauty in the presentation of ecological and social problems) with political threads (the entanglement of nature in commercial globalization and the fight for political influence) and social engagement (activation of recipients to take specific actions) (Demos, 2017). In the works discussed in the paper, we find common features. These are the following: (1) focus on local problems (even if it later serves to build a global metaphor), (2) close connection with current scientific knowledge, (3) cooperation with scientists and research laboratories during the implementation, and (4) translation or explanation of scientific observations in the language of art (Bakke, 2010; Kluszczyński, 2011).

The article presents and comments upon the findings of the research into the relationship between arts and environment, mostly in the contexts of polar regions. Its objectives are to: (1) review the literature on the theoretical background of environmental art and (2) summarize the classification of artistic strategies applied to the representation of the changing natural environment in the polar regions. Four approaches were distinguished: (1) highlighting the beauty of the natural environment, which allows directing the attention of the audience to the importance of the protection of the world on the brink of extinction. Following this strategy, the artists apply mostly photographs and films. (2) Showing the 'evidence' for climate change, e.g. new geological forms resulting from the melting of artificial and natural substances, as well as diagrams, maps, satellite and aerial photographs. (3) Focusing the audience's attention on the consequences of global warming for indigenous and incoming polar inhabitants (e.g. the change of coastline and the consequent need for migration). The works refer both

¹ Exhibitions: *Human-Free Earth and Forensic Architecture*, curated by Jarosław Lubiak, artists: Ursula Biemann and Mo Diener, Bonita Ely, Gast Bouschet and Nadine Hilbert, Kelly Jazvac, Agnieszka Kurant, Diana Lelonek, Angelika Markul, the Mycological Twist (Eloïse Bonneviotti and Anne de Boer), Pakui Hardware, Tom Sherman, Aleksandra Ska, Monika Zawadzki, Marina Zurkow, Forensic Architecture Team, Ujazdowski Castle Centre for Contemporary Art, Warsaw 15.03.2019–22.09.2019.

² Exhibition: *Alienation of the Fire Next Time*, curated by Maria Brewińska, artists: John Akomfrah, Allora & Calzadilla, Yuri Ancarani, Clément Cogitore, Camille Henrot, Arthur Jafa, Angelika Markul, Zachęta National Art Gallery, Warsaw, Poland, 13.07.2019–29.09.2019.



Figure 1 The view of the Human-Free Earth exhibition in Ujazdowski Castle Centre for Contemporary Art, photo by Bartosz Górka (in the foreground – Bonita Ely, *Plasticus Progressus*, 2017).

to human and non-human subjects and user documentation that reaches back to the tradition of ethnographic film, as well as autobiographical narratives. (4) Telling a metaphorical story about the social consequences of research expeditions and the myth of the ‘distant north’. The artists perceive political, economic and social problems behind the scientific research as a reflection of the colonial and global exploitation of resources.

These strategies offer the viewers a variety of ways to access knowledge about climate change: from an emotional commitment to rational explanation. Typical of the selected examples is the diversity of fields and methods of artistic activity. The artists use films, photographs, objects, installations and realize artistic activities together with participants of the events. It is not uncommon to find sources of artistic inspiration in scientific practice. Common features of the above-mentioned strategies emerge only after the formulation of the purpose which the works discussed here serve.

The avalanche increase in the number of works created within the framework of environmental art begs for selection. The article focuses on examples of artworks devoted to Arctic themes (with two exceptions). This area has been recognized by the artists as exceptional for several reasons, going beyond the visual attractiveness of the depicted space: (1) culturally it was identified with the myth of inhumanity, a distant area and, apparently insensitive to human activity, while natural changes show that it is one of the most sensitive areas; (2) it becomes the area of political struggle for mineral resources; (3) the myth of polar regions as uninhabited is disproved – both the presence of indigenous inhabitants threatened by climate change and the consequences of the appearance of ‘new’ inhabitants, i.e. both workers and scientists, is emphasised. Artistic practice

becomes an ally of polar studies, showing their significance for the cultural conditions of social life.

2. Theoretical background

2.1. Environmental art in the theory of culture

The artistic current described here belongs to a broader cultural process, observable both in contemporary audiovisual culture (literature, reportage, popular productions, films and TV series and social media³) as well as in philosophy and reflection on culture. In each of these fields, at least since the second half of the 20th century, the representatives of the theory of post-humanism have critically observed the effects of human activity on the world.

Initially, the researchers’ reflection focused on the consequences of digital technologies for the concept of the human being, on opportunities and threats brought along with artificial intelligence and biotechnology (Braidotti, 2013; Haraway, 1985; Maldonado, 2017), gradually shifting the attention towards the effects of human activities (especially industrialism) on the environment. The question of whether it is possible to give up the primacy of man over his/her environment and consider him/her as one of many organisms participating in it becomes a matter of dispute. The reflection of this is increasingly more frequent reference

³ Connected with the growing public interest in environmental issues (examples include popular series with fantasy elements, such as *Fortitude* (Great Britain, 2015), and *Frontera Verde* (Columbia, 2019)).

to the Anthropocene concept⁴ (Steffen et al., 2011) understood as a new geological era, or Capitalocene (Klein, 2014; Malm, 2016) describing the results of corporate globalization and political consequences of exploration of resources, such as transferring production into distant (and usually poor) regions of the world. Some researchers support the concept of natureculture, which questions the philosophical dualism of natureculture and man-animal (Fuentes, 2010; Haraway, 2003), emphasizing the bio-social interdependence of natural and cultural phenomena. In this cultural landscape, artistic creation plays a special role because art is treated as a laboratory in which the links between knowledge and cultural practices are recognized and tested, hence the emergence of new hybrid approaches to humanities, such as environmental art or cultural climatology (Thornes, 2008).

2.2. Environmental art in the perspective of relational aesthetics and art-based research

The works analyzed in the article represent an approach characteristic for contemporary art, according to which artistic activities are to comment on the surrounding reality. Among the sources of such an understanding of the social role of art is the avant-garde, which has been developing since the 20th century (including futurism, dadaism, constructivism), through neo-avant-garde and counter-cultural experiments (Situationist International, Collectif d'art sociologique) to contemporary participatory art (in Poland for instance represented by Cecylia Malik and Paweł Althamer). This kind of artistic activity assumes that the artist works with and for people, or even that people become the material of a work of art (a concept of 'social sculpture' by Joseph Beuys; Kaczmarek, 2001). A critical look at this trend points to a specific cultural 'compulsion to participate' and makes artists today look for new ways to activate the participants (Bishop, 2012). New ways of inspiration are sought in the concepts of 'aesthetic field' (Berleant, 2000, p. 92) and 'relational aesthetics' (Bourrieud, 1998, p. 56). Arnold Berleant emphasizes the relationship between the environment and the human being, referring to a deeper reflection on the scope of the artist's and recipient's actions in relation to four aspects of experience: creative, objective, performative and evaluative (Berleant, 2000). Berleant wrote: 'In the environmental arts such as happenings, environments, city planning, films, light shows, and mixed media, the qualitative nature of the experience of art has been identified with its intuitive sensuousness through direct involvement in the immediacy of pure experience' (Berleant, 2000, p. 92). For Nicolas Bourrieud, on the other hand, the work of art enters into a relationship with the social system, creating 'community spaces' specific to artistic activity (Bourrieud, 1998, p. 56). Although both Berleant and Bourrieud focus on interpersonal relations, undoubtedly the approach of relational aesthetics makes it possible to pursue

the goal of the contemporary environmental art discussed here, i.e. the involvement of the audience in ecological issues.

2.3. Analysis of a work of art in the perspective of cultural studies

The works analyzed in the article belong to different fields of creativity. They are not homogeneous in terms of genre, created with the use of different techniques, containing images, text, and created in cooperation with others. Mieke Bal proposes a method of cultural analysis for such hybrid realizations which is a way of 'reading' a work of art in which the author's intentions and biography are as important as the meanings given by the cultural context and the narrative of the recipient (Bal, 1999, pp. 6–9; Maryl, 2013, pp. 320–321). The cultural analysis assumes that knowledge does not have an autonomous character. Its many intricacies include historical, linguistic, economic, ethical, political and disciplinary aspects (Bal, 2013, p. 12). It also has a processual character i.e. knowledge 'happens' and its resources are never exhausted. Bal's attempt to construct a concept for cultural analysis was accused of individuality, uniqueness and subjectivity of interpretation (Elkins, 1996, p. 591). However, it seems right that in the cultural analysis it is an object of research, in this case, the work of art, or a selected fragment of it, that will suggest the context of the reading. In this sense, in the area discussed in the article, the context will be related to ecological issues and the knowledge of natural sciences. The stabilizing factors include the object of the analysis, the historical space of the realization and the position of the recipient-reader of the work. Therefore, if we consider that cultural analysis is an approach to reach the knowledge contained in artefacts and activities (Bal, 2013, p. 60). We will see fundamental similarities with the goal of environmental art, defined by T.J. Demos as 'the practice that has to be brought together with aesthetics, ethics, and political science' (Demos, 2017, p. 272).

2.4. Arts-based research in the perspective of science

Relationships between sciences, natural sciences and humanities, focusing on questions about the language of particular fields of knowledge, disciplinary and academic divisions, are the focus of research interest. This reflection is echoed in the concepts of 'third culture' (Snow, 1959), studies on the social construction of scientific facts (Brockman, 1995; Latour and Woolgar, 1986), as well as qualitative art-based research that has been gaining in popularity since the 1980s (Eisner and Barone, 2012; Kosińska, 2016; Leavy, 2009). Among the differences between research practices of science and art, the following are indicated: formal features of scientific cognition, such as the codification of scientific representations (discursive, logical, typological), or generalizations characteristic of science, juxtaposed with the free expression of the artistic approach (Kosińska, 2016, p. 12). Marta Kosińska puts forward a number of counter-arguments that point to the similarities between scientific and artistic cognition, and to the chances

⁴ Paul Crutzen, an atmospheric chemist, and Eugene Stoermer, a biologist, should be considered contemporary promoters of this term. Inspired by the works of the 19th century geologists (e.g. Sir Charles Lyell), they proposed new dating in 2000, pointing to irreversible changes in the environment caused by human activity.

of enriching scientific cognition by art. These include various ways of codifying the language of art (e.g. in conceptualism and post-conceptualism), the formal and research correctness of artistic actions required by the institutional context of art, responsibility towards groups, communities and subjects involved in artistic actions (especially in the area of public art), as well as the use of generalization tools (registration of regularity and cyclicity) in works based on data (Kosińska, 2016, pp. 12–18). Patricia Leavy sees a different kind of benefit in art-based methods (including literary writing, music, performance, dance, visual art, film and other media). They make it possible to use creative arts in a participatory way and to combine theory and practice, which is particularly useful in social research (Leavy, 2009). Therefore, art is more and more often considered to enrich scientific cognition. Visual messages are particularly important because of their polysemy, pre-discursiveness and the ability to engage the audience. This is particularly important in interdisciplinary activities and projects of activist, political and social character, which refer to the emotional and tactile experience of reality (Kosińska, 2016, p. 18).

2.5. The methods of researching the impact of art on social behaviours of viewers

The influence of art on social behaviour and cultural beliefs is studied in the social sciences and the humanities by quantitative and qualitative methods (Curtis et al., 2014; Kay 2000, Lucas et al., 2008). Discourse analysis, based on the belief that cultural content is manifested in textual statements and language, is particularly useful (Manzoor et al., 2019). In the area of digital humanities, discourse analysis methods are used with the help of advanced algorithms for estimating citations (Enge et al., 2012). In turn, the producers of statistical programs (e.g. Google Analytics and Google Trends) provide tools for measuring the interest of recipients in specific topics (e.g. exhibition topics or artists' names).

In turn, social sciences use the triangulation of quantitative and qualitative methods such as data surveys, qualitative interviews, case studies, and audience surveys during exhibitions (Armitage and Rathwell, 2016; Curtis et al., 2014). This helps to estimate the involvement of participants in the project, or the knowledge of recipients before and after viewing the work. For example, in a research project on specific regions of Australia (Curtis et al., 2014) values and beliefs important in determining environmental behaviour, awareness of the consequences of climate change, people's self-concept through interactions with others, and finally, art understood as an act of self-expression were taken into account. Curtis, Reid and Reeve stated that artistic tools (especially those described in the previous section of participating art) encourage participants to discuss the impact of man on the environment, synthesize knowledge about change and promote pro-ecological solutions. Research among Inuit artists from Nunavut, Canada (Armitage and Rathwell, 2016) focused on combining indigenous environmental knowledge with scientific data and looking for relationships between the local context and global change. Based on the survey, it was found that artistic

methods were perceived by the respondents as particularly useful (Armitage and Rathwell, 2016).

Both, research on participation in culture as well as the rapidly growing audience development trend indicate a growing need for this type of research and finding new data. Such might be an insight into the data on the exhibition turnout expressed in the internal statistics of cultural institutions. During three months of the show *Plasticity of the Planet* was visited by 37153 people (data of the Promotion and Communication Department of the Centre for Contemporary Art Ujazdowski Castle, unpublished), which is a good attendance result in the Polish exhibition context.

However, quantitative and qualitative research into the real impact of art on human behaviours not only requires long-term studies but also has its limitations. For this reason, the article focuses only on artists' narratives and does not refer to quantitative research on the audience. I will also discuss doubts regarding these methods in the summary.

3. Artists' narratives about climate changes

3.1. To speak with the beauty and the sublime

The visual attractiveness of the polar landscape has attracted the attention of audiences for centuries. On the one hand, it played a special role in Romantic painting (Caspar David Friedrich), inscribing itself into the model of the aesthetic category of the sublime⁵ (Immanuel Kant, Edmund Burke), depicting the desire to reach what is distant and superhuman. On the other hand, drawings, lithographs and (finally) photographs taken during polar expeditions since the end of the 18th century have focused the viewers' attention on empirical cognition. Today, this visual history of the Arctic is the subject of research by historians and anthropologists (Condon, 1989; Kaganovsky et al., 2019; Lewis-Jones, 2017; MacKenzie and Stenport, 2015), and also constitutes a significant part of art shows (e.g. in the *Arctic*⁶ project in the Louisiana Museum of Modern Art the exhibition's leading themes such as 'The Sublime', 'The Wide World', 'Destruction & Mythologies', 'Voices & Facts' were highlighted both by the works of eminent artists (like Gerhard Richter and Wolfgang Tillmans) and expedition documentation (e. g. Andrée's Balloon expedition).

In contemporary visual culture, Arctic landscape photography evolves from travel photography (accessible through printed and digital publications, thematic channels and social forums) to environmental photography. The creators of

⁵ The dispute over the beauty (positive category: harmonious and cognitive, rational) and the sublime (negative category: indescribable and fearsome, experiential) is one of the main motifs of contemporary aesthetics (Lyotard, 1991). Kant wrote: 'Lofty oaks and lonely shadows in sacred groves are sublime, flowerbeds, low hedges, and trees trimmed into figures are beautiful. The night is sublime, the day is beautiful' (Kant 2011).

⁶ Exhibition: *Arctic*, curated by Poul Erik Tøjner, artists: Daren Almond, Evgenija Abrugayeva, Per Bak Jensen, Marcelo Moscheta, Sigmar Polke, Gerhard Richter, Wolfgang Tillmans, Guido van der Werpe, Museum of Modern Art, Louisiana, Denmark, 25.09.2013–2.02.2014, <http://arktis.louisiana.dk/Arktis-en.html>.



Figure 2 Janusz Oleksa, *Project Svalbard* (2011), courtesy of the artist.

this movement do not call themselves landscapists, but environmental photographers. By defining themselves in this way, they underline the importance of a commitment to the environment.

An example is the Art of the Arctic initiative (available at <https://arcticartsproject.com/>) launched by Kerry Koepping, with such photographers as Joshua Holko, Örvar Borgeirsson, Iurie Belegurschi and Carsten Egevang. The artists publish photographs and films, and promote meetings, articles and projects. As we read on the project website: “The Project mission is to educate, inspire, and provide perspective on the kinetic evolution of the Arctic, on a global scale. The goal is to present a visual body of work that, within its content, will reveal a unique perspective of climate change in the Arctic” (<https://arcticartsproject.com/info.shtml>).

Analyzing the assumptions and formal aspects of the published photographs, one should notice that for environmental photographers the beauty of the image (manifested in a thoughtful composition, a captivating arrangement of colours, capturing the uniqueness of the time of day and the phenomenal character of the natural environment) becomes a rhetorical tool.

From an artistic perspective, environmental photography can serve as an example of overcoming the model in which art is perceived as useless (Groys 2016). The aestheticisation of the image is not autotelic,⁷ but can be a cultural or even political tool. As Boris Groys observes: ‘Total aestheticisation not only does not preclude political action, it creates an ultimate horizon for successful political action

if this action has a revolutionary perspective’ (Groys, 2016, p. 60). This usefulness, therefore, falls within the scope of artistic means which can influence the public more effectively than discursive reasoning.

Janusz Oleksa, a Polish photographer, has chosen a different path, using a much more visually restrained language of modern photography. *Project Svalbard* (2011) is a series of photographs taken during the photographer’s stay in Spitsbergen (Figure 2). The photographer presents almost geometric forms of buildings that blend into the landscape. Pictures taken against a smooth, grey sky are deprived of the illusion of perspective. They are flat, almost like abstract compositions. At the same time, Oleksa deconstructs the image of the Arctic as an uninhabited and inaccessible space by means of these images, deprived of the sight of man, but full of traces of human presence. The effects of human activity become part of the natural landscape, transforming this area into a natural-cultural one.

While Koepping’s and Oleksa’s works can be classified as beautiful, it is worth noting that the poetics of sublimity can be an equally effective tool for influencing the audience. An example of this is the work of Angelika Markul (this is one of the two examples in the article that does not refer directly to the Arctic region but Antarctica). In *Memory of Glaciers* (2017) Markul presents large-format audiovisual projections based on the documentation of the melting ice fields of Patagonia and calving glaciers. Using montage, long camera rides, close-ups, wide frames and a poignant soundtrack, Markul immerses the viewer in the landscape of superhuman and untamed forces that are activated by human action and unstoppable. If we return to Kant’s understanding of sublimity as a moral sense: horror, felt by man against the forces of nature, then undoubtedly such fear is passed on through Markul’s works.

⁷ Autotelic means here respecting their values and goals, independent from the historical and social context. One can say that ‘the aim of art is art’.



Figure 3 Agnieszka Kurant, *Post-fordite* (2019), from the exhibition Human-Free Earth in Ujazdowski Castle Centre for Contemporary Art in Warsaw, phot. Marianna Michałowska.

3.2. Look what you've done

In 2018 archaeologists Bjørnar Julius Olsen and Þóra Pétursdóttir (representing the studies on material culture and the current of the so-called 'return to things', Olsen, 2010) organised with their co-workers an exhibition entitled *Arv. Mankind's unpleasant cultural heritage*.⁸ The Norwegian word 'Arv' means heritage, inheritance. The exhibition shows rubbish which was thrown away on Norwegian beaches: remnants of plastics, e.g. toys, everyday objects, as well as new geological forms – plastiglomerates (an alloy of plastics and natural substances). On the one hand, what Olsen does, the presentation of artefact fragments, is typical of archaeological practice, on the other hand, it raises a few questions. 1) The context of archaeology, which no longer deals with ancient civilizations but with the contemporary past (Shanks, 1992). As once clay shells, plastic is a testimony of our lives today, 2) the status of an artistic object, i.e. a new embodiment of a ready-made object. The flagship examples of Dadaist provocation, exhibited in 1917 by Marcel Duchamp, were mass-produced objects of everyday use: a bottle dryer and a urinal had the critical potential for the bourgeois model of art, the artist's gesture sublimated the object into art. 3) The status of the object as a scientific proof and archaeological artefact. Olsen's objects constitute a collection of objects, which have lost their functionality and became an unforeseen 'cast-off' of industrial civilization – a proof of environmentally invasive actions.

Not only archaeologists but also artists are sure that nothing appeals as strongly to the imagination of the audience as material evidence of certain physical and geological

processes. Therefore, the presentation of plastiglomerate at art exhibitions becomes a forceful argument proving the environmental changes caused by man and at the same time broadening the area of the ocean literacy, i.e. the knowledge about the processes taking place in seas and oceans. From the aesthetic perspective, plastiglomerate is attractive, from the perspective of knowledge about the environment, it is convincing.

Kelly Jazvac and Agnieszka Kurant⁹ presented plastiglomerate at the aforementioned exhibition. A collection of objects integrated in a natural process from fishing nets, plastic waste with rocks, sand and wood was collected by Jazvac in collaboration with an oceanographer Charles Moore and geologist Patricia Corcoran on the Hawaiian coast in 2013. Kurant, in turn, presents speculative, but potentially new geological formations, such as post-fordite formed from the build-up of paint layers in factories in Detroit or mutations of melted works of art (Figure 3).

The presentation of objects in each of these three examples takes the form known from exhibitions more characteristic for natural, ethnographic and historical history museums than art museums. Therefore, the cabinets and displays in which the exhibits are placed evoke an educational context. The objects are juxtaposed with a commentary informing about what we see, which creates an emotive effect. Substantiality speaks more strongly than words.

Garbage found on the coasts of Norway by archaeologists, plastiglomerate from the Hawaiian coast and invented new geological 'fossils' indicate the global nature of the changes. Man-made waste migrates, and its circulation is not limited to human habitat. The processes observed in the polar region also occur in the Pacific Ocean, both in the densely and sparsely populated areas. By presenting waste and plastiglomerates, one can express what Catherine

⁸ Exhibition: *Arv. Mankind's unpleasant cultural heritage*, curated by Bjørnar J. Olsen and Þóra Pétursdóttir, Norges Arktiske Universitetsmuseum, Tromsø, Norway, 2018, <https://cas.oslo.no/in-depth/arv-mankind-s-unpleasant-cultural-heritage-article3110-1167.html>

⁹ Here is the second case in the article that does not refer to the Arctic.

Malabou understands by *plasticité* in the language of philosophy (Malabou, 2010). The concept originally refers to both giving and receiving a form. The term created for the interpretation of philosophical concepts, in the context of reflection on natural changes, means that nature ceases to be a background for human activities and transforms into an unbridled and evasive force. Due to the plasticity of life forms, they are irreversibly transformed, some of them perish, others arise.

An artistic strategy based on the presentation of objects – evidence of change, regardless of whether creators show objects found in the natural environment or whether they produce them themselves, is a subversive comment on the idea of ‘returning to things’. While the relationship between man and non-human actors is fundamental for the understanding of contemporary culture, nowadays it is necessary to consider not only those materialities that have been intentionally created by man but also those that have been created as unwanted waste.

3.3. To be with others

While the activities presented earlier referred to the presentation of material dimensions of the effects of climate action, in the next part I will present those activities that are directly inspired by the trends prevailing in participatory art and relational aesthetics. The examples will involve Subhankar Banerjee’s actions and Jakub Witek’s documentary activities.

Banerjee is primarily interested in the impact of industrialization on traditional communities. His work concerns two areas: *Arctic* (2006) and *Deserts* (2010). Interestingly in the context of the article’s subject matter, the first series of works was realized in cooperation with the Gwich’in and Iñupiat communities in Arctic Alaska. The photographer cooperates with their representatives to give the most complete picture of their lives in the changing climate. In Banerjee’s large-format photographs, we see captivating landscapes with discreetly outlined traces of human and animal activity: tiny silhouettes of traditional whaling vessels suspended on the horizon, traces left by wandering caribou herds and ruts resulting from the movement of heavy equipment for extracting raw materials. The problems of the modern Arctic emerge from the surface of the picturesque landscape: the war for natural resources, climate change forcing human and animal inhabitants of the Arctic to migrate, social problems connected with the disappearance of traditional communities. Each photograph is accompanied by a comprehensive commentary highlighting the political, social and economic context of the depicted space. In 2012 Banerjee published the book *Arctic Voices: resistance at the tipping point* collecting statements by activists, researchers and writers. These first-person narratives are the leading voices of resistance to the exploitation of the Arctic causing an ecological disaster (Banerjee, 2012).

The latter of the mentioned artists, a Polish documentary filmmaker, is the author of the award-winning film *Isoland: Icelandic Stories of Polish Emigrants* (2017).¹⁰ The film intertwines two narratives: the travel story of the author himself, reporting his trip to Iceland, and the stories of Poles

who decided to live on the island. On the one hand, it is a record of the author’s fascination with the High North, on the other hand, it is a collection of private stories of people who reconstruct their individual choices and the circumstances that led them to Iceland. In this story, paradoxically Iceland turns out to be not a place of isolation but a place of fulfilment, not a place of loneliness, but a manifestation of being with others.

In both cases, the main focus is on the relationship between people and their surroundings, as well as on questions regarding the way of surviving and the future of the inhabitants in changing climatic conditions (Demos, 2017). What is important, in the work on both projects, the artist is not only an observer of the changes but also a companion. The realizations are the result of long-term cooperation, during which the creators can get to know their heroes and their problems. Thanks to this, they can more fully depict them and allow their voices to sound. Both examples illustrate the increasingly popular trend in visual culture, in which ethnographic, journalistic and artistic approaches are intertwined.

3.4. Towards a visual metaphor

Banerjee and Witek use a documentary approach to the depicted subject matter. However, equally interesting are those artistic projects whose creators use a poetic metaphor. Thanks to the metaphor, the image referring to a local case (e.g. Hornsund, Silesia) is placed in a global context, becoming a commentary on human relations with others and the environment of their lives. The examples I will use here are the works of Kuba Bąkowski and John Akom-frah.

Polaris Summer (2009) by Kuba Bąkowski is a photograph, which is a record of the performance realized during a polar expedition to Spitsbergen organized by the Institute of Geophysics of the Polish Academy of Sciences (Figure 4). The photo shows a figure with the head of a polar bear in a suit used by the participants of polar expeditions against the background of the ice landscape of Spitsbergen. In the hand of the figure, there is a stick, ended with a flashing lamp, pointing in the direction in which the Pole Star should be found, which is not visible during the polar day. This surprising and disturbing image has been constructed with thoughtful elements. The costume of a bear is a disguise used during ‘leading a bear’, i.e. a folk ritual from the village of Żywocice in the Opole region (Berlińska, 2013). A woman-researcher working at the Polish Academy of Sciences station in Hornsund posed for the performance. In this single photograph, which is the summary of the whole stay, many levels overlap; the motif of a post-humanistic hybrid of a bear-human, observing each other, the motif of an artificially created polar star in the place of this invisible one, and finally the motif of a ‘Polish’ polar bear, it is not known for what reasons it appears in the folk tradition and tourist ritual. As the author himself says, the work is a fragment of an unfinished cycle, initiated by the performance *Ursa Major* (2008), with the participation of miners from the Bobrek mine (Berlińska, 2013). The flashlights on their helmets were arranged in the shape of the Greater Bear. The series would culminate in a fragment realized in Japan. Bąkowski, creating this strange space for his bear-human hybrid, does

¹⁰ Available at <http://www.kubawitek.com/isoland>.



Figure 4 Kuba Bąkowski, *Polaris Summer* (2009) photography, courtesy of the artist.

not explain all the meanings of the work, leaving space for interpretation by the viewer. So perhaps we should ask another question, namely, who is the scientist going to Spitsbergen? A lonely, romantic traveller? A worker? What trace of their research do scientists leave in the Arctic environment?

John Akomfrah also focuses on the consequences of human presence in the world. *Vertigo Sea* (2015) is a three-screen projection that consists of fragments of nature documentaries, archival films showing hunting scenes for Arctic animals, shots based on romantic images showing a figure of a lonely wanderer, and staged shots showing slave ships. The picture is accompanied by a soundtrack composed of fragments of novels and memoirs of travellers, as well as music passages. In this extraordinary panorama, John Akomfrah constructs a story about the relationship between man and oceans and seas. The means used by Akomfrah (similar to those employed by Markul) such as a large-screen projection make it possible for the viewer to be surrounded by an image so that his or her emotions are transferred to the screen. Mieke Bal uses the term affective images for such a manner of presentation (Bal, 2007). This expression includes the aim of the projection, i.e. to appeal to the viewer with an audiovisual narrative, which will be perceived almost subconsciously and which will absorb the audience. However, the visual narrative by Akomfrah is not an illustration of harmonious coexistence, but a brutal and poignant story about colonial exploitation of the natural environment, about the annihilation of species and people who were denied humanity because of greed. Akomfrah's story is intertwined with shots of the polar regions and the

Caribbean, the underwater world and the ocean where people sail. It is a metaphor of globalisation which destroys and in which there are no more 'places undiscovered' by man.

4. Discussion and conclusion

Research in environmental art requires the development of interdisciplinary methods, drawing on both scientific and cultural-social knowledge. Assuming that science is a part of the culture (Kmita, 2007), it should be regarded as both a striving for knowledge and understanding of the world. Art and science, therefore, are not opposing disciplines, and the environmental art trend shows that they are mutually beneficial.

A general assessment of the impact of art on social habits and behaviour is difficult. Quantitative research (e.g., surveys or statistics) does not give full insight into the human experience, which is fundamental for such an evaluation. What's more, algorithms often depend on program producers, and search results can be subordinated to commercial purposes. More reliable data, which can be useful in the study of art are provided by triangulation of quantitative and qualitative research focused on case studies and small groups (Armitage and Rathwell, 2016; Curtis, 2014). They help to track changes in worldview that occur due to specific artistic activities. Undoubtedly, more evidence-based work is needed with respect to differences between scientific cultures and languages.

Although the article devotes special attention to the work of Polish artists, environmental art can be treated as a

transnational phenomenon, just as the problem of climate change is global. This is, therefore, an example of glocalization (Robertson, 2012). It does not assume homogenization and searching for universal solutions for the planet. In addition to the consistent observation that global changes are taking place (e.g., which shows the spread of plastic) and despite the fact that they require some joint political and economic decisions (e.g. replacing the carbon-based economy using natural energy sources), the specific solutions (e.g. type of crop, people's behaviour towards the environment) are local.

Content of works of art relates to the political and social aspects of the place where the work is created. While it has a long tradition in the Scandinavian countries, Australia and the USA, where ecological awareness and organizations developed (as well as research on the impact of art on social awareness), it is a relatively new trend in Central European countries. However, as shown by the interest of Polish artists, environmental art is quickly gaining popularity also in countries distanced from the polar area.

The article highlights three basic aspects of environmental art: (1) The environmental artist can be described with two metaphors: a witness and a whistleblower. As the former one, he or she documents and records changes taking place in the world, as the latter one, he or she informs about system faults and alerts by showing the dramatic effects of Anthropocene in oceans and on lands. Both functions are fulfilled by the works of environmental photographers, Banerjee, Witek, Jazvac, described in the article. They are also clearly visible in Olsen's project. (2) The works discussed in this article use different methods of reaching out to the audience. They share a common goal, i.e. to search for a way of argumentation that will convince the audience of the inextricable link between human activity and the environment. The most commonly used artistic means (e.g. in Markul's and Akomfrah's works) is to appeal to the recipient's emotions by creating affective images, which is to be an incentive for a more rational analysis of the phenomena depicted. Each of the four artistic strategies described (i.e.: sublimity, object, documentary, metaphor) finds its supporters among viewers. (3) The social value of these works lies not so much in illustrating scientific knowledge as in introducing a problem into the cultural discourse. More and more often scientists notice that climate change is not only a natural problem but also a cultural one. The emerging new hybrid disciplines of science, such as cultural climatology (Latour, 2018), are a manifestation of this. On the other hand, art is permeated by the awareness that knowledge about changes in the climate is nowadays a basic resource of social competence and it is the role of artists to publicize it.

Acknowledgements

The author is grateful to Professor Jan Marcin Węstawski as the initiator of the idea of bringing the cultural studies perspective closer to the field of natural research. Also, the author expresses her gratitude to artists: Kuba Bąkowski, Agnieszka Kurant, Janusz Oleksa and Ujazdowski Castle Centre for Contemporary Art in Warsaw for providing visual materials, dr. Katarzyna Turska for language consultations, and the reviewers and the editors of the journal *Oceanologia*.

References

- Armitage, D., Rathwell, K.J., 2016. Art and artistic processes bridge knowledge systems about social-ecological change: An empirical examination with Inuit artists from Nunavut, Canada. *Ecol. Soc.* 21 (2), art. no. 21, <http://dx.doi.org/10.5751/ES-08369-210221>.
- Bakke, M., 2010. *Bio-transfiguracje. Sztuka i estetyka posthumanizmu*, Wydawnictwo Naukowe UAM, Poznań, 272 pp.
- Bal, M., 1999. Introduction. In: Bal, M. (Ed.), *The practice of cultural analysis. Exposing Interdisciplinary Interpretation*. Stanford Univ. Press, Stanford, California, 6–9.
- Bal, M., 2007. What If? The Language of Affect. In: Beer, G. (Ed.), *In(ter)discipline. New Languages for Criticism*. Routledge, London, 6–23, <https://doi.org/10.4324/9781351195195>.
- Bal, M., 2013. *Lexicon for cultural analysis*. In: Babka, A., Finzi, D., Ruthner, C. (Eds.), *Die Lust an der Kulturtheorie. Transdisziplinäre Interventionen für Wolfgang Müller-Funk*. Turia + Kant, Wien, Berlin, 12 p., p. 60, 49–81.
- Banerjee, S., 2012. *Arctic Voices: Resistance at the Tipping Point*. Seven Stories Press, New York, 576 pp.
- Berleant, A., 2000. *The Aesthetic Field. A Phenomenology of Aesthetic Experience*. Cybereditions, p. 92.
- Berlińska A., 2013. *Ekskursje: Węzeł na Spitsbergenie*. Rozmowa z Kubą Bąkowskim, *Dwutygodnik* 113, <https://www.dwutygodnik.com/artukul/4684-ekskursje-wezel-na-spitsbergenie.html>.
- Bishop, C., 2012. *Artificial Hells. Participatory Art and the Politics of Spectatorship*. Verso, London-New York, 383 pp.
- Bloom, L., Glasberg, E., 2012. *Disappearing Ice and Missing Data: Visual Culture of the Polar Regions and Global Warming*. In: Polli, A., Marsching, J. (Eds.), *Far Fields: Digital Culture, Climate Change, and the Poles*. Intellect Press, Bristol, Chicago, 117–142.
- Bourrieud, N., 1998. *Relational Aesthetics*, Les presse du réel. Dijon, p. 56.
- Braidotti, R., 2013. *The Posthuman*. Polity Press, Cambridge, 180 pp.
- Brockman, J., 1995. *Third Culture: Beyond the Scientific Revolution*. Simon and Schuster, New York, 416 pp.
- Condon, R., 1989. The History and Development of Arctic Photography. *Arctic Anthropol* 26 (1), 46–87, <http://www.jstor.org/stable/40316177>.
- Curtis, D.J., Reid, N., Reeve, I., 2014. Towards ecological sustainability: observations on the role of the arts. *S.A.P.I.EN.S* [Online] 7 (1), 1–15, <http://journals.openedition.org/sapiens/1655>.
- Demos, T.J., 2016. *Decolonizing Nature*. In: *Contemporary Art and the Politics of Ecology*. Sternberg Press, Berlin, 272 pp.
- Demos, T.J., 2017. *Against the Anthropocene*. In: *Visual Culture and Environment Today*. Sternberg Press, Berlin, 132 pp.
- Eisner, E.W., Barone, T., 2012. *Art Based Research*, SAGE, Los Angeles, 204 pp.
- Elkins, J., 1996. What Do We Want Pictures to Be? Reply to Mieke Bal. *Crit. Inquiry* 22 (3), p. 591, 590–602.
- Enge, E., Spencer, S., Stricchiola, J., Fishkin, R., 2012. *The Art of SEO*. In: *Mastering Search Engine Optimization*. O'Reilly Media, Sebastopol CA, 671 pp.
- Fuentes, A., 2010. *Naturalcultural Encounters in Bali: Monkeys, Temples, Tourists, and Ethno-primatology*. *Cult. Anthropol.* 25, 600–624, <https://doi.org/10.1111/j.1548-1360.2010.01071.x>.
- Groys, B., 2016. In: *In the Flow*, 44. Verso, London-New York, p. 44, p. 60.
- Haraway, D.J., 1985. *Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980s*. *Socialist Rev.* 80, 65–108.
- Haraway, D.J., 2003. In: *The Companion Species Manifesto: Dogs, People, and Significant Otherness, Vol.1*. Prickly Paradigm Press, Chicago, 112 pp.

- Kaczmarek, J., 2001. Joseph Beuys. Od sztuki do społecznej utopii, Wyd. Nauk. UAM, Poznań, 151 pp.
- Kaganovsky, L., MacKenzie, S., Westerstahl Stenport, A., 2019. Arctic Cinemas and the Documentary Ethos. Indiana Univ. Press, Bloomington, 392 pp.
- Kant, I., 2011. Observations on the Feeling of the Beautiful and Sublime and Other Writings, edited by P. Frierson and P. Guyer. Cambridge Univ. Press, Cambridge, p. 16, 348 pp., <https://tcnypainting.files.wordpress.com/2016/07/kant-observations-on-the-feeling-of-the-beautiful-and-sublime-and-other-writings-cambridge.pdf>.
- Kay, A., 2000. Art and community development: the role the arts have in regenerating communities. *Community Dev. J.* 35 (4), 414–424, <https://doi.org/10.1093/cdj/35.4.414>.
- Klein, N., 2014. This Changes Everything. Capitalism vs. the Climate. Simon & Schuster, New York, 576 pp.
- Kluszczyński, R.W., 2011. Trzecia kultura. O współczesnych związkach sztuki, nauk i technologii. *Prz. Kulturozn.* 1 (9), 24–36.
- Kmita, J., 2007. Konieczne serio ironisty. O przekształcaniu się problemów filozoficznych w kulturoznawcze, Wyd. Nauk. UAM, Poznań, 139 pp.
- Körber, L.-A., MacKenzie, S., Westerstahl Stenport, A. (Eds.), 2017. Arctic Environmental Modernities: From the Age of Polar Exploration to the Era of the Anthropocene. Palgrave Macmillan, 273 pp.
- Kosińska, M., 2016. Między autonomią a epifanią. Art based research, badania jakościowe i teoria sztuki. *Sztuka i Dokumentacja* 14, 12–18.
- Latour, B., Woolgar, S., 1986. Laboratory Life. The Construction of Scientific Facts. Princeton Univ. Press, Princeton, 296 pp.
- Latour, B., 2018. Facing Gaia: eight lectures on the new climatic regime, translated by Catherine Porter. Polity Press, Cambridge, Medford, 327 pp.
- Leavy, P., 2009. Method Meets Art: Arts-Based Research Practice. The Guilford Press, New York, 286 pp.
- Lewis-Jones, H., 2017. Imagining the Arctic Heroism, Spectacle and Polar Exploration. I.B. Tauris, London, New York, 448 pp.
- Lucas, K., Brooks, M., Darnton, A., Jones, J.E., 2008. Promoting pro-environmental behaviour: existing evidence and policy implications. *Environ. Sci. Policy* 11 (5), 456–466, <https://doi.org/10.1016/j.envsci.2008.03.001>.
- Lyotard, J.-F., 1991. The Inhuman. Reflection on Time, translated by Geoffrey Bennington and Rachel Bowlby. Polity Press, Cambridge, Oxford, 224 pp.
- MacKenzie, S., Westerstahl Stenport, A., 2015. Film on Ice: Cinemas of the Arctic. Edinburgh Univ. Press, Edinburgh, 348 pp.
- Malabou, C., 2010. Plasticity at the Dusk of Writing, translated by Carolyn Shread. Columbia Univ. Press, New York, 136 pp.
- Maldonato, M., 2017. Posthuman: Consciousness and Pathic Engagement. Sussex Acad. Press, Portland, Oregon, 224 pp., <http://search-1ebsohost-1com-1002dcdm24ed6.han.amu.edu.pl/login.aspx?direct=true&db=nlebk&AN=1531672&lang=pl&site=eds-live>.
- Malm, A., 2016. The Rise of Steam Power and the Roots of Global Warming. Verso, London-New York, 496 pp.
- Manzoor, H., Saeed, S., Panhwar, A., 2019. Use of Discourse Analysis in Various Disciplines. *Int. J. Eng. Linguistics* 9 (3), 301–309, <https://doi.org/10.5539/ijel.v9n3p301>.
- Maryl, M., 2013. Sztuka czytania? Mieke Bal w teorii i w praktyce. *Teksty Drugie* 4, 320–321.
- Olsen, B., 2010. In Defence of Things: Archaeology and the Ontology of Objects. AltaMira Press, Plymouth, 214 pp.
- Robertson, R., 2012. Globalisation or glocalisation? *J. Int. Communication* 18 (2), 191–208, <https://doi.org/10.1080/13216597.2012.709925>.
- Shanks, M., 1992. Experiencing the Past: On the Character of Archaeology. Routledge, New York, 194 pp.
- Snow, C.P., 1959. The Two Cultures. Cambridge Univ. Press, London, 101 pp.
- Steffen, W., Grinevald, J., Crutzen, P., McNeill, J., 2011. The Anthropocene: Conceptual and historical perspectives. *Philosophical Transactions: Mathematical. Phys. Eng. Sci.* 369 (1938), 842–867, <http://www-1jstor-1org-1f8k82pg10409.han.amu.edu.pl/stable/41061703>.
- Thornes, J.E., 2008. A Rough Guide to Environmental Art. *Ann. Rev. Environ. Resour* 33 (1), 391–411, <https://doi.org/10.1146/annurev.enviro.31.042605.134920>.
- Tsing, A., Lowenhaupt, H., Swanson, A., Gan, E., Bubandt, N. (Eds.), 2017. Arts of Living on a Damaged Planet. Ghosts and Monsters of the Anthropocene. Minnesota Univ. Press, Minneapolis, 352 pp.