

Toxic Plastic Politics: Rethinking Plastic Pollution through Art and Activism

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Art and Environmental Justice ___ Politics of ecology and environmental activism have found increasing resonance in the contemporary art world, giving rise to a wide range of artistic responses, especially when it is a question of ecological emergencies like climate change and other forms of environmental destruction driven by the violence of contemporary fossil-fuel-based capitalism.¹ At the intersection of art, activism, and marine plastic pollution new communities have evolved that want to raise awareness about the urgency and magnitude of this global challenge. With a diverse set of new artistic approaches they created a new sphere to foster environmental justice that became particularly attractive to critical hybrid practitioners, who often have a background in art and activism as well as in science.

Reorienting within a World of Plastic ___ The art practice of Canadian artist Max Liboiron has long been concerned with the materiality of waste and the endeavor to open up a wider debate about systems of waste and their sociocultural and economic implications, with a strong focus on plastic pollution. Moreover, with a PhD from the Department of Media, Culture, and Communication at New York University (and active in various academic communities), Max Liboiron finds it important to articulate new critical frameworks by developing interdisciplinary research approaches with *discard studies* and anticolonial scientific practices with the aim of introducing environmental justice work to academia.² Her references to scientific knowledge, scientific research methods, and laboratory bench work, are a major strategy in her artistic practice, but at the same time she wants to do science differently. She therefore critiques established scientific approaches, especially with regard to their inherent colonialist worldviews that obviously make scientific communities prefer and privilege certain topics and articulate certain questions while suppressing and avoiding others. Rethinking (non)participation in science activities and what is recognized in general as »doing science« is also a question of the historicity of the process that forms scientific communities, science identities, research methods, or academic standards.





FIG. 1
Max Liboiron, *RUBBISH TOPOGRAPHIES*,
2011, mixed media, used tea bags,
and trash. Installation view at
the Touchstones Nelson Museum
of Art and History, Nelson, Canada.
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With art projects *DINNER PLATES (NORTHERN FULMAR)* and *COD OBJECTS (INGESTION STUDY)* (2016), part of the larger project *SEEING LIKE A SCIENTIST*, Max Liboiron looked for marine plastics in the guts of fish and birds. *COD OBJECTS (INGESTION STUDY)* shows digital microscopic images as the result of plastic ingestion studies from the guts of Atlantic cod taken with a camera built into the laboratory microscope at CLEAR, Civic Laboratory for Environmental Action Research, which she runs. Based at the Department of Geography in Memorial University of Newfoundland, St. John's, CLEAR explores marine microplastics and wild food projects as well as food security and food sovereignty with a focus on the community-based, and citizen science, monitoring of plastic pollution.

During the 2015 Newfoundland food fishery, Max Liboiron analyzed 205 Atlantic cod with a group of students, searching for marine microplastic particles in their guts, while developing a citizen science dissection and analysis protocol. The difficulty here was, as with all plastic ingestion studies, to detect the microplastic particles among the other pieces of digested food because under the microscopic landscape of the gastric contents the microplastic particles seemed indistinguishable from the rest. In 2015 the cod stocks had recovered somewhat after the total collapse of the Atlantic northwest cod fishery in 1992, due to massive overfishing since the beginning of the 1970s. This collapse did irreversible damage to the Atlantic cod population, which was brought to the brink of extinction and had a devastating socioeconomic impact on Newfoundland communities.

With plastic ingestion studies, Max Liboiron explored, with her community, the effects of fish eating plastics because of the vast distribution of micro- and nanoplastics in marine environments. Fish eat plankton but also microplastic particles, which have about the same size as many planktonic organisms. Fish are ingesting plastic directly but also indirectly through feeding on zooplankton—the basis of marine food webs—which also eat microplastic particles. The damage plastic does to fish eating microplastic particles is twofold: on the one hand it can physically damage the digestive tract, and on the other there is a high risk of potential uptake of toxic pollutants by the organism, because microplastic particles are very efficient absorbent surfaces for pollutants.

For *DINNER PLATES (NORTHERN FULMAR)*, the artist chose the Northern fulmar (from the Labrador Sea): not an endangered species like the Atlantic cod, but an abundant marine animal. Because of its wide distribution, the Northern fulmar is a key indicator for monitoring the level of exposure of marine birds to plastic debris. Again the artist was dissecting the gastrointestinal tracts of a marine animal searching with her community for plastic-like objects, which were then removed from the bird's guts, put into a petri dish, and analyzed under a microscope before finally being photographed (FIGURE 3).

FIG. 2

Max Liboiron, *RUBBISH TOPOGRAPHIES*, 2011 (detail), mixed media, used tea bags, and trash. Installation view at the Touchstones Nelson Museum of Art and History, Nelson, Canada.

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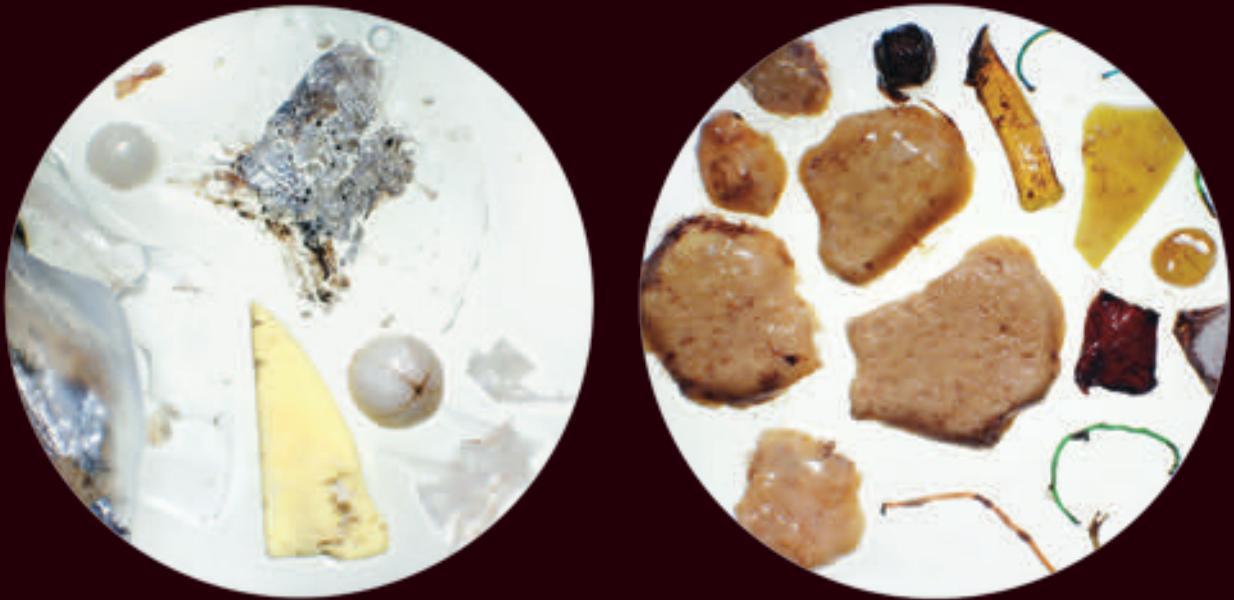


FIG. 3
Max Liboiron, DINNER PLATES (NORTHERN FULMAR), 2015, digital photographs of items taken from the guts of NORTHERN FULMAR. These images are part of the larger series SEEING LIKE A SCIENTIST.
 © Max Liboiron

FIG. 4
Max Liboiron, SEA GLOBES, 2013–2014, ocean plastics, historical landfill, New York City kitsch globe. View of the piece in the 2014 exhibition GYRE: THE PLASTIC OCEAN at the Anchorage Museum, Alaska, USA.
 © Max Liboiron



Rethinking plastic pollution and making art from waste was already on Max Liboiron's mind when she was living in New York City, and with *SEA GLOBES*, 2013–2014, she took a close look at the degree of plastic pollution in the Hudson River (FIGURE 4). The artist took water samples from the Hudson River, south of Brooklyn, collected bituminous coal from a landfill that closed in the 1930s, and bought some snails from a SoHo taxidermy shop in downtown Manhattan. She then arranged all the parts and snails in typical holiday souvenir style, like a snow globe. While snow globes mostly show idealized, miniaturized scenes of landscapes in a kitschy way, in *SEA GLOBES* the artist carefully presented the waterfront environment of New York City, accurately and the way it looks today, using also tiny miniatures of plastic bottles, still the number-one item found in shoreline trash at the Hudson River.

67

Trash Transformation ___ With participatory art installations like *Material Afterlife: Circulation* (2009–), *New York Trash Exchange (NYTE)* (2010), *ELOCATION* (2010), *RUBBISH TOPOGRAPHIES* (2011), *Steady-State: Development Without Growth* (2011), *Founder/Worker* (2011), or *Trash Transformation* (2013) and others, Max Liboiron was making art from trash while at the same time looking at entire systems of waste, giving gallery visitors a structural system defined by a set of rules offering ways to interact with objects considered trash. *ELOCATION* (2010), for example, was based on a model-scale display of an

FIG. 5

Max Liboiron, *ELOCATION*, 2010,
mixed media, trash and glue.
Installation view at the nonprofit
art space NURTUREart,
Brooklyn, New York, USA.

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area of East Brooklyn, where the local communities at the time were going through a challenging and disrupting transformative process because of major gentrification, followed by cultural displacement. Built from tiny pieces of trash, some of the architectural objects depicting people's neighborhoods were glued on the table while others were not (FIGURE 5). Gallery visitors were free to interact with the movable objects: anything that was not glued down on the table people could take away with them. People were also invited to glue down anything they wanted or had brought with them, adding their perspective on the transformation process of this area of East Brooklyn. At the end of the exhibition the shape and appearance of the miniature neighborhood on the display had changed because many visitors had taken objects with them, exchanged parts of the installation, or even made major modifications with objects they brought to the gallery.

With *RUBBISH TOPOGRAPHIES* (2011), Max Liboiron again involved gallery visitors, but also her friends, community, and even strangers. The rule of interaction was to send the artist clean and dry used tea bags as raw material for her installation. Each and every donated tea bag was carefully inserted by the artist into the design of the construction of the installation, which consisted of a pile of tea bags and about ten dozen miniature houses made of discarded cardboard and other sorts of trash. All objects were meticulously arranged to imagine a kind of miniature

FIG. 6

Maarten Vanden Eynde, *HOMO STUPIDUS STUPIDUS*, 2008, human skeleton, clay. Installation view at the 2012 exhibition *THE MUSEUM OF FORGOTTEN HISTORY*, Museum of Contemporary Art Antwerp, Belgium.

Photo: Maarten Vanden Eynde

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city at the foot of a mountain, a mountain made of landscapes of tea bags in all possible shapes and shades of color (FIGURES 1–2). By asking to donate used tea bags, which are usually thrown away after one use, the artist wanted to make people care about their waste and rethink the systems of waste in which they are locked in rather than moralizing about the trash practices of each and every individual involved. Turning trash into an aesthetic resource was intended to help people develop a different perspective on their waste, especially when having the option to reuse it in a meaningful way while participating in an art project.

69

Inserting non-art objects or even trash, thus expanding the language of art in multiple ways, has a long history in art. At the beginning of the twentieth century, Western avant-garde artists began to blend their art with objects that were not considered art. By inserting scraps of newspaper and small pieces of wallpaper and other discarded items onto the canvasses of their cubist paintings, artists like Georges Braque (1882–1963) and Pablo Picasso (1881–1973) crossed the demarcation line between the everyday world and the world of fine arts because any fragment of the ordinary world would say more about reality at the dawn of the twentieth century than any painting could. A few years later Dadaist artist and writer Kurt Schwitters (1887–1948) found the greatest pleasure in turning discarded items through art's transformative power into meaningful artistic materials for his collages and *Merz-Bilder*, fostering an approach towards art, which earned him great deal of criticism and contempt. Although his art was widely rejected, Schwitters remained deeply fascinated with turning trash into an aesthetic resource because there was no underlying meaningful history of its material use that would limit his artistic expression, quite similar to how artists evaluated the use of synthetic materials like Bakelite at the time.³ Max Liboiron's artistic objectives seem not so much to set out to rethink the value of trash as an artistic medium, but to offer a model—conceived as a system defined by a set of rules—to challenge our existing ideas and attitudes toward our systems of waste, which seem so familiar to us that we hardly notice them or simply overlook them. With plastic ingestion studies from the guts of marine animals like the Atlantic cod, which could end up on our dinner plates in one form or another, the perspective on systems of waste come full circle and the consequences become clear because the artist makes them visible and understandable.

The First and the Last Things ___ Taking gallery visitors to the man-made plastic waste of the world's oceans is also the concern of Belgian artist Maarten Vanden Eynde, who began exploring marine plastic pollution immediately after he learned about the Great Pacific Garbage Patch in 2008 and subsequently that much of the world's ocean debris is floating in five gyres. These five gyres are large systems of rotating ocean currents, located in

the North and South Atlantic, the North and South Pacific, and the Indian Ocean. The artist responded with art projects like *PLASTIC REEF* (2008–2012), *1000 Miles Away From Home* (2009–2013), *CONTINENTAL DRIFT #2* (2014), and others. His great interest in plastic pollution is based on the main characteristics of this material made of petrochemicals: the long polymer strands that make up plastic are not biodegradable and therefore this material lasts forever.

Objects made of plastics will be the fossils of the future to come. With his long-term research project, which Maarten Vanden Eynde calls *Genetology* or *Science of First Things*, he developed, from 2003 to 2014, an oppositional concept to the established concept of *Eschatology* (The Science of Last Things) in order to reconstruct civilizations from the past. With *Genetology* the artist explored his interest in diverse methodologies of academic disciplines—his enthusiasm for archaeology, history, the humanities and natural sciences as well—articulating a fictional scientific methodology as a novel way to frame our perception of the world.⁴



The ubiquitous present of plastic has left an irrevocable footprint on the planet, whereas the toxicological responses to plastic are not yet fully understood. When all other evidence of the existence of our civilization will have vanished from the face of the Earth, plastic objects will still exist and continue to poison ecosystems. With *HOMO STUPIDUS STUPIDUS* (2008), the artist makes a critical visual statement about the denomination of modern man as *Homo sapiens sapiens*, the wise and sensible man as 18th century Swedish botanist Carl von Linné (1707–1778) called his own species, when introducing his system of nature through the three kingdoms of nature, according to classes, orders, genera and species, still known today as the Linnaean taxonomy. Maarten Vanden Eynde took a human skeleton apart and put it back together in an unsystematic and rather senseless way to symbolize that the traditional denomination of modern man as wise and sensible no longer justifies for a failed species, a species that knows so little about its past and present and the world at large; that it destroys the planet to an extent which no other species ever has.

71



FIG. 7

Maarten Vanden Eynde, CONTINENTAL DRIFT #2, 2014 (detail), vintage globe, melted plastic debris from the world's oceans, variable sizes.

Photo: Philippe De Gobert

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FIG. 8

Maarten Vanden Eynde, CONTINENTAL DRIFT, 2014, vintage globe, melted plastic debris from the world's oceans, variable sizes.

Photo: Philippe De Gobert

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The *Theater of the World and Plastic Globes* ___ The sculptural installation *PLASTIC REEF* is made of melted plastic debris Maarten Vanden Eynde extracted from about 1000 kilograms of collected plastic in the years from 2008 to 2013 while travelling to the five gyres located in the Pacific, Atlantic, and Indian Oceans (FIGURE 11). The sculpture was constantly growing over the course of time, resembling the impression of a colorful coral reef as a kind of substitute in perspective to the dying of the world's coral reefs: The title of the artwork makes reference to a phenomena occurring across the globe caused by a process known as »bleaching«: the world's coral reefs are dying because they have, amongst other things, difficulty adapting to rising water temperatures due to climate change. The title also reflects possible responses of fragile coastal ecosystems, such as coral reefs, to their massive exposure to microplastic and nanoplastic particles.

CONTINENTAL DRIFT #2 is a globe also made of melted plastic debris (FIGURES 7–8). The title of this artwork refers to the Flemish cartographer and geographer Abraham Ortelius (1527–1598), the creator of the first modern atlas, the *Theatrum Orbis Terrarum* (*Theater of the World*), and considered to be the first scholar who imagined the continents were once a single landmass before drifting apart, albeit his idea about continental drift went unnoticed until the 20th century. The shape Maarten Vanden Eynde gave his artwork also recalls the oldest surviving terrestrial globe (earth apple), which was produced under the direction of the German textile merchant and cartographer Martin Behaim (1459–1507) in the years 1490 to 1492, shortly before the New World became known to Europeans.

With his monumental piece *GLOBE* (2013), the artist again refers to the motive of the globe, this time to articulate the phenomenon of planned and progressive obsolescence (FIGURE 9). The intention to shorten the lifespan of consumer goods or make them go out of fashion after a certain period of time to accelerate the rate of consumption and thus economic growth, increased dramatically after World War II due to the enormous capacity of the production system and the logic of Western markets, characterized by innovation and accelerating production and sales cycles. To build the *GLOBE* 8.5 meters in diameter, Maarten Vanden Eynde used different kinds of scrap and rubbish found in and around the small village of Saint-Mihiel, France, setting up the installation in an old rubbish dump.

Inequity of Waste: Plastic Pollution and the North-South Divide ___

To rethink the way wealthy countries are externalizing their plastic crisis by shipping their contaminated or mixed plastic waste to countries of the Global South, the artist takes a de-colonial perspective with *MAMAMUNDI* (2010), showing the continued presence of colonial logics of current hazardous waste politics (FIGURE 10). The artist put a pile of recycled scrap plastic objects on top of the head of a wooden statue from Africa depicting

a pregnant nude woman standing upright and holding a large bowl with both of her arms, probably to collect wood. The female statue represents the origin of life and the sustaining of the family, whereas today the only thing left for her to do is to collect and sort the garbage from the Global North. The idea the sculpture articulates is not so far from the reality in some parts of Africa, where pregnant women and children, regardless of the toxicity of the materials and fumes, have to sort garbage to survive. According to the artist, this artwork refers also to a female version of the representation of Atlas, a character from Greek mythology who was punished by the gods after the titans were defeated in battle, forced to carry the vault of heaven. With this sublime sculpture, Maarten Vanden Eynde raises awareness of the fact that the countries of the Global South suffer disproportionately from environmental injustice.

73

FIG. 9

Maarten Vanden Eynde,
GLOBE, 2013, various materials.
Permanent installation at Vent
des Forêts, Lorraine, France.

Photo: Marjolijn Dijkman

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FIG. 10

Maarten Vanden Eynde, MAMAMUNDI, 2010, wood and mixed media. 2012 installation view at the Museum of Contemporary Art Antwerp, Belgium.

Photo: Maarten Vanden Eynde

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Plastic recycling is very profitable and a global billion dollar business. Countries of the Global North like the USA or the European Union export their plastic waste to the Global South for more than three decades, including African countries such as Ethiopia and Senegal. Since China closed its doors to most plastic imports in early 2018, the handling of plastic recycling moved progressively to poor countries, located especially in regions like East Asia and the Pacific (particularly China's neighboring countries: Indonesia, the Philippines, Malaysia, and Vietnam). Overwhelmed by the sheer magnitude of waste volume, many of these countries have not yet developed an appropriate basic waste management infrastructure and show a high degree of waste mismanagement and practice limited environmental regulation. As a consequence, plastic waste is inadequately disposed—disposal in dumps or open, uncontrolled landfills—plastic waste enters the ocean easily via inland waterways or transport by wind, therefore the effects of plastic pollution in the world's oceans becomes worse.

Toxic Plastic Politics and Living in the United States of Plastic —

The current global plastic crisis motivates artists like Max Liboiron and Maarten Vanden Eynde to explore interdisciplinary collaborative models at the level of artistic production and activist intervention to engage their communities in collectively rethinking the way we want our future lives to be and what kind of aspirations will be possible or even probable under the auspices of fossil-fuel-based capitalism and mass consumerism. Both artists welcome, in their communities, potential allies, artists, scientists, scholars, and hybrid practitioners from diverse backgrounds and disciplines to engage in global concerns including ocean plastics and the global North-South divide, and join forces effectively to foster positive change.

The perspective on plastic pollution offers major insights into the deep interconnectedness of the social and the ecological questions involved, and discloses the urgency of fostering systemic change, especially because the heavy toxic burdens associated with plastic are contributing to a massive global health crisis affecting human health as well as all other organisms, because basic features of biology are shared across all life forms. The magnitude of the impact of ocean pollution is only beginning to be understood, but it is obviously a highly complex phenomenon that needs global cooperation as a response as well as a holistic approach because potential ecological collapses are interrelated. Rebuilding greener economies and fostering greener science after the COVID-19 crisis could be a turning point in giving rise to a more sustainable future. Whether this opportunity (which would only be a first step) will be taken or not, or if the responsible decision-making elites in industry and government bodies decide to make us carry on living in the United States of Plastic remains open.

75

1 See T. J. Demos, *Decolonizing Nature: Contemporary Art and the Politics of Ecology*, Berlin: Sternberg Press (2016), and Amanda Boetzkes, *Plastic Capitalism: Contemporary Art and the Drive to Waste*, Cambridge, MA: MIT Press (2019), Jennifer Gabrys, Gay Hawkins, and Mike Michael, eds., *Accumulation. The Material Politics of Plastic*, London, New York: Routledge (2013), and Lea Vergine, ed., *Trash. From Junk to Art*. Exhibition catalog of Museo di Arte Moderna e Contemporanea di Trento e Rovereto, Mailand (1997).

2 Max Liboiron, *Redefining Pollution: Plastics in the Wild*, PhD dissertation, New York University (2012). In 2010 Liboiron and Robin Nagle cofounded *The Discard Studies Blog* to foster the new interdisciplinary field of discard studies, <https://discardstudies.com> (last accessed January 3, 2021). Her recent book focuses on plastic pollution and models of anticolonial scientific practice aligned with indigenous concepts of land, ethics, and relations: Max Liboiron, *Pollution Is Colonialism*, Durham, NC: Duke University Press (2021).

3 On the use of plastics and other synthetic materials in art from around 1850 to the period after World War II, see Esther Leslie, *Synthetic Worlds: Nature, Art, and the Chemical Industry*, London: Reaktion Books (2005).
4 Katerina Gregos, Nav Haq, and Jan Zalasiewicz, *Maarten Vanden Eynde: Digging up the Future*, London: Yale University Press (2021).





FIG. 11

Maarten Vanden Eynde, PLASTIC REEF, 2008–2013, melted plastic debris from the world's oceans.

2019 installation view at Art Space Pythagorion on the island of Samos, Greece.

Photo: Panos Kokkinias

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