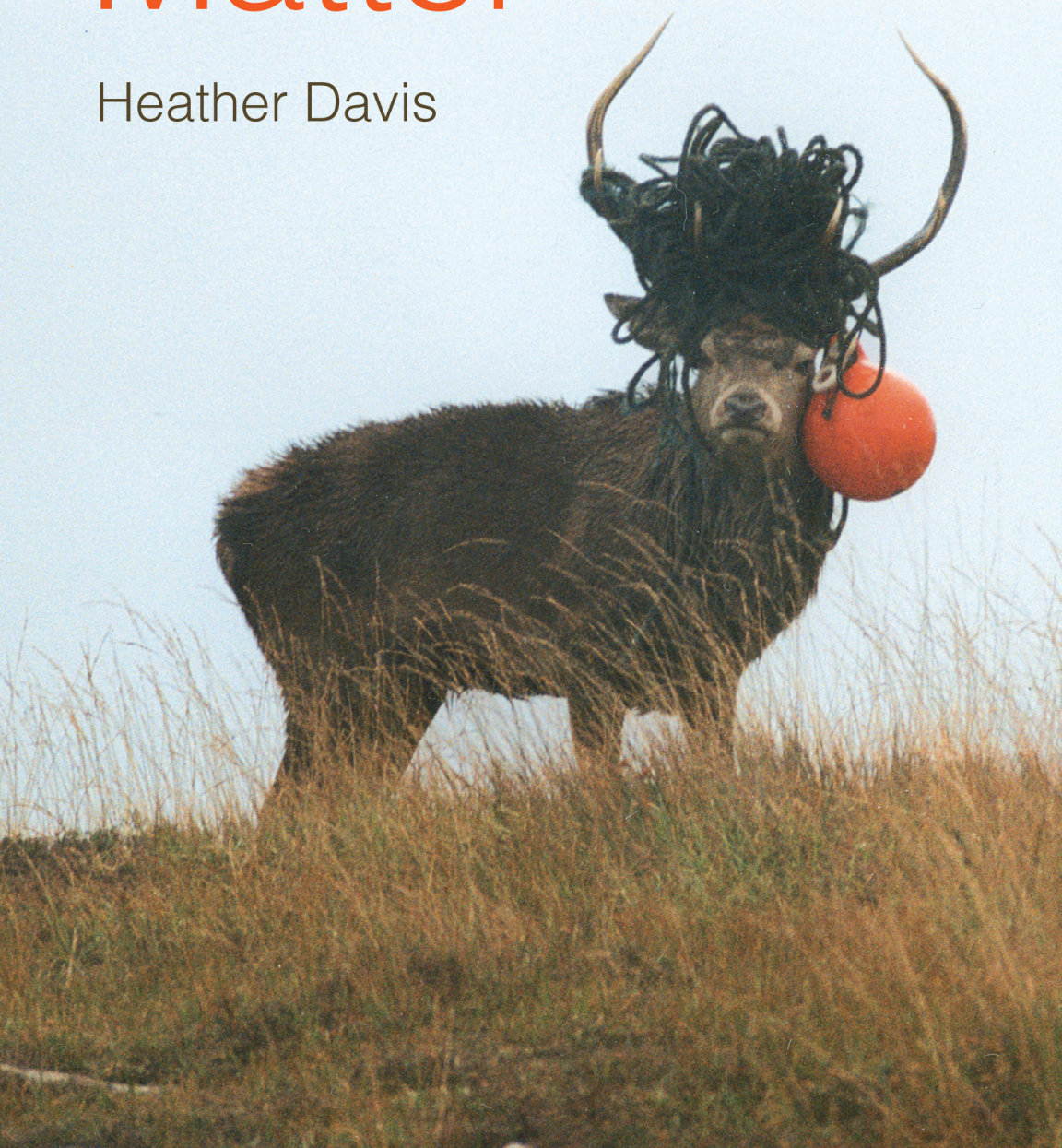


# Plastic Matter

Heather Davis



# Plastic Matter



# Plastic Matter

Duke University Press *Durham and London* 2022

HEATHER DAVIS

© 2022 DUKE UNIVERSITY PRESS. All rights reserved  
Printed in the United States of America on acid-free paper ∞  
Designed by Courtney Leigh Richardson  
Typeset in Whitman and Helvetica Std by Copperline Book Services

Library of Congress Cataloging-in-Publication Data

Names: Davis, Heather M. (Heather Margaret), author.

Title: Plastic matter / Heather Davis.

Other titles: Elements (Duke University Press)

Description: Durham : Duke University Press, 2022. | Series: Elements |

Includes bibliographical references and index.

Identifiers: LCCN 2021025560 (print)

LCCN 2021025561 (ebook)

ISBN 9781478015130 (hardcover)

ISBN 9781478017752 (paperback)

ISBN 9781478022374 (ebook)

Subjects: LCSH: Plastics. | Plastics—Environmental aspects. | Plastics  
industry and trade—Social aspects. | BISAC: SCIENCE / Environmental  
Science (see also Chemistry / Environmental) | SOCIAL SCIENCE /

LGBTQ Studies /

General Classification: LCC TP1116. D385 2022 (print) |

LCC TP1116 (ebook) | DDC 668.4—dc23

LC record available at <https://lcn.loc.gov/2021025560>

LC ebook record available at <https://lcn.loc.gov/2021025561>

COVER ART: Red deer stag with fishing line and buoy. Courtesy Ali Morris.

## Contents

PREFACE: Complicated Inheritances	vii
ACKNOWLEDGMENTS	xi
INTRODUCTION: Plastic Matter	1
1 Plasticity	21
2 Synthetic Universality	39
3 Plastic Media	63
4 Queer Kin	81
CONCLUSION: Plastic Futures	103
NOTES	109
BIBLIOGRAPHY	135
INDEX	155

*This page intentionally left blank*

## Complicated Inheritances

Most families have a story that gets repeated again and again over dinners, to the annoyance and delight of everyone who's heard it a million times before. In my family it's the story of how my grandfather helped to develop the plastic milk bag. This sealed bladder of milk, a staple of my childhood, is common throughout Europe, South America, Israel, India, and Canada, where I grew up. Family gatherings were loud, chaotic affairs. Cousins ran everywhere while aunts and uncles talked over each other. It was difficult for anyone to get a word in, or finish a sentence. Anyone, that is, except my grandfather, Ken Irvine. He had all the gravitas and entitlement of a white man who grew up on a farm and had succeeded in the burgeoning chemical industry, fully believing in its promises of creating a better world. Ken was married to a beautiful, intelligent woman, Marg, and the father of seven children—a 1950s patriarch par excellence. When he spoke, we listened.

He would tell us the story of the milk bag, and he was clearly proud of his involvement. Later, looking through his documents, I found a speech on the same topic that he had given to a gathering of former employees. In 1964 he was tasked with finding new business opportunities for DuPont Canada. Founded in 1802 in Wilmington, Delaware, as a gunpowder mill, DuPont later turned to industrial chemical production, including the development of synthetic tex-





FIGURE P.1. Marg and Ken Irvine in Texas, 1952. Courtesy of the author.

tiles, paints, and polymers like nylon, Tyvek, and Teflon. One morning, while working on the problem of expanding DuPont's Canadian markets, my grandfather's colleague Jean Paul Trudel came into his office and asked: "What's the cheapest way to package a liquid?" "In a bag!" my grandfather replied, and so they began to work on how to package milk in bags. The story goes that when it came time to test the seal on the bag, Trudel marched into my grandfather's office and threw the bag across the room to prove that it wouldn't break. It didn't.

In the speech my grandfather gave at DuPont of this invention, there is no mention of my grandmother. But when he told his story around the dinner table, my grandmother would interject, reminding him that he brought home various milk bags for her to test. As the quintessential suburban housewife, my grandmother was the perfect focus group. The initial milk bag had no corresponding container, so my grandmother had to keep the bags in a bowl or transfer the milk to a pitcher. They would flop around and spill everywhere. "Oh, I really didn't like them," she would say, making a face. Eventually a corresponding plastic pitcher, made from a harder and more durable plastic, was developed to go along with the milk bags. And we would keep a blade, encased



FIGURE P.2. Marg Irvine, early 1950s. Courtesy of the author.

in another kind of plastic, attached by a magnet to the fridge, whose sole purpose was to open these bags.

In the summers we visited my grandparents in Kingston at their sprawling midcentury home across the street from Lake Ontario. We swam at the beach and ate in their meticulously kept backyard. As a child I never paid attention to the “private, for residents only” sign on the fence guarding the beach, or the high-security men’s penitentiary in the near distance. It wasn’t until I was a teenager that I began to register the predominantly white, wealthy bodies on the beach, or the overrepresentation of Indigenous men populating the penitentiary, whose foreboding walls we could see as we swam out to frolic on a raft.

Around this time my high school history teacher, Mr. Cox, stopped during a lesson one day, stomping his foot for emphasis, as he sometimes did, to ask: “Why are we speaking English in the middle of the bush?” This question hit me hard. From that moment, I began to question my presence, my feeling of belonging, on that land, to no longer understand it as inevitable, and to see, slowly, its history of settler colonialism. I had always understood myself as the descendent of immigrants. I was taught to be proud of my English, Irish, and

Scottish heritage, filled with stories of hardship that naturalized my family's presence on the land, rendering it benign. That day in class, looking out into the forest, I began to wonder about the ways in which I do not belong. Why didn't I know the history, language, or culture of the Algonquin and Anishinabeg peoples whose land I occupied, even though a nearby park, one of the most iconic in Canada, was called Algonquin? It was the beginning of what I now understand as a lifelong process of recognizing and questioning how my body participates in forced displacement, genocide, and alienation: not only of Indigenous peoples but also of Black people as well as racialized settlers and immigrants.

I was praised for being the first grandchild to get a PhD despite no one understanding what I studied. My grandmother once introduced me to a friend not by my name but by my title. In other ways, however, I had clearly fallen short. I didn't get married or have kids. I don't own property. It wasn't until I was thirty-eight that I finally got a permanent job. I'm queer and have never brought any of my female or nonbinary partners to meet my extended family. When I was doing my master's degree and living in Toronto, I remember getting a thick envelope in the mail from my grandparents, the same day as massive protests against the start of the Iraq War. I was so excited to open it, thinking it might be a long letter or a present. Instead it was a portfolio explaining how my grandfather had invested \$1,000 on behalf of each grandchild, much of this money in fossil fuels, to teach us about the stock market. My heart sank. I immediately thought of the war and the fact that that fossil fuels are also used as one of the primary means of Indigenous dispossession and environmental injustice. I never finished reading that letter. I also didn't pull the stocks out, fearing it would be insulting.

I tell this story to show how plastic has structured my life but also to open up broader questions of inheritance—namely, how whiteness has influenced the technological and material realities in which we live. As Kyle Powys Whyte has argued, our current ecocidal moment can be understood as living in my ancestor's utopia—that is, the utopia of European-descended settler colonizers.<sup>1</sup> This world is certainly the utopia of my grandfather. And as much as I would like to disavow it, it is mine as well. This book is my own attempt to grapple with this inheritance.

## Acknowledgments

This work is indebted to and enmeshed in countless conversations, workshops, and the generosity of friends, family, and colleagues. Some of my earliest theorizing of plastic happened through late-night talks with Pinar Yoldas. Although her artworks don't appear in these pages, her brilliant projects, particularly *Ecosystem of Excess* (2014), have been central to the ways I have come to understand and theorize plastic. Terike Haapoja, Jason Pine, Elaine Gan, Jeannine Tang, and David Berring-Porter all provided generous engagement as I neared the end of writing, looking over numerous versions and edits that were invaluable to the coherence of this book. Caitlin Berrigan sent me so many quirky articles on plastic that always blew my mind; she also provided rigorous editorial feedback. Thank you to Tejal Shah for their inspiring work and dedication to queer ecologies. Much gratitude goes to Courtney Desiree Morris for her intellectual and artistic practice and brilliant presence in the world. I am constantly amazed and humbled to have so many magnificent thinkers in my life that are also dear friends.

In between, there were so many who provided attention, detail, encouragement, and necessary critical interventions. Leah Vaughan Aronowsky was the first person to read the book in its entirety; Pablo Rodriguez, Kathy High, Robin Veder, Lauren Berlant, Katrin Hornek, Dehlia Hannah, Gloria Kim, Paige Sarlin, Oliver Kellhammer, Marina Zurkow, Dominic Pettman, Jami Weinstein, Alexander Klose, Eyal Weizman, and Susan Schuppli all gave me much-needed feedback and supported this work in countless ways. Michael Bérubé, and a fellowship with the Institute for Arts and Humanities, created time and space for me to think and write, for which I will always be grateful. I also benefited from two fellowships at the Hagley Museum and Archives that allowed me to look at primary source materials and references. I am immensely grateful for

the continued support of my teachers Monika Kin Gagnon, Peter Van Wyck, Brian Massumi, and Elizabeth Grosz. Generous collaborators and cothinkers, including Kirsty Robertson, Kelly Jazvac, Kelly Wood, Tegan Moore, and Jennifer Wagner-Lawlor have continued to inspire me and keep me on my toes. I have learned so much about work, generosity, and care from the Synthetic Collective. I am grateful to the participants of the Elements workshop, including the careful comments of Rafico Ruiz, Darin Barney, Yuriko Furuhashi, Ayesha Vemuri, and Burc Kostem. I presented versions of this work at so many venues over the years—thank you to everyone who invited me and engaged these ideas. I also want to thank Michael Nardone, for his abiding love, and infectious love of language, through many years of writing. I have so much gratitude for Waqia Abdul-Kareem, their compassion, support, love, and piercing critical eye. Finally, the ongoing dedication of Stacy Alaimo and Nicole Starosielski to my work has been exceptional, buoying me through moments of difficulty, providing a beacon of feminist inquiry and generosity.

An earlier version of chapter 4, significantly revised for this publication, was originally published as “Toxic Progeny: The Plastisphere and Other Queer Futures” in *PhiloSOPHIA* 5, no. 2 (summer 2015): 231–50.

Every day I am thankful for my parents, Diane and Phil, and sisters, Alison and Marcy, who always provide a ground of love, support, and intellectual rigor. This book is dedicated to them, for the complications, compromises, and beauty of being-with.

## Plastic Matter

Plastic is now everywhere, and it seems to transmit its daily banality outward. What could possibly be said about such a terribly mundane material? How can it provoke thought beyond a shrug or exasperated scream at its unfathomable accumulation? As I will argue throughout this book, plastic's presence is an invitation to a broader reevaluation of matter and material relations. This book traces the relationship between plastic and plasticity, following the consequences of engineering matter. I argue that plastic reveals broader assumptions about relations to matter, and how matter is understood under technocapitalism. Plastic matter describes the assumptions that matter is there to be manipulated; it can and should be bent and made pliable; and its potential for manipulation is endless. *Plastic Matter* is a provocation to reexamine all matter in light of plastic's saturation. For plastic is not just any material but is emblematic of material relations in the twentieth and twenty-first centuries, showing how intimately oil has coated nearly every fabric of being, how the synthetic cannot be disentangled from the natural, and how a generalized toxicity is producing queer realities.

But what, exactly, is plastic?

Plastic, for the purposes of this book, can be defined as “any one of a large and varied group of materials consisting wholly or in part of combinations of carbon with oxygen, hydrogen, nitrogen and other organic and inorganic elements which, while solid in the finished state, at some stage in its manufacture is made liquid, and thus capable of being formed into various shapes, most usually through the application, either singly or together, of heat and pressure.”<sup>1</sup> This broad definition covers the range of plastics that have been manufactured, most of which are dependent on coal, oil, or natural gas for their molecular carbon. There are many different types of synthetic polymers that we call plastic. They are mostly known through their recycling symbols, found on the bottoms of containers that give a false impression of the range of plastics. There are, contrary to those seven recycling symbols, thousands of different kinds of polymers, each with its own characteristics. To these basic molecular compositions, up to eighty thousand additional chemicals might be added to give plastic the qualities that a producer might desire, for example, to make it pink, or heat resistant, or pliable. Some plastics are made from materials such as polylactic acid, which comes from corn, or cellulose, derived from cotton. These sets of polymers are conventionally known as bioplastics or biodegradable plastic.<sup>2</sup> A range of naturally occurring materials with similar molecular chains (polymers), such as rubber, are sometimes also referred to as plastic. However, these two latter categories of plastics, those that occur outside chemical laboratories, and those manufactured from nonpetroleum bases, fall outside this book’s focus. Rather, I am rather interested in the ways in which fossil fuels have infiltrated almost every aspect of our daily lives, most intimately through plastic, and what this tells us about Western assumptions regarding matter and materiality.

The Indian artist Tejal Shah’s installation *Between the Waves* (2012) depicts many of the central problematics of this book. The artwork creates a world that blurs the boundaries between ancient systems and contemporary form, where humans and our artifacts—plastic chief among them—are thoroughly enmeshed with nonhumans. Occupying a temporal register that is at once past, present, and future, the piece offers a mythic exploration of queer ecologies and a particularly poignant portrayal of a world saturated in plastic. Shah invites their viewers, placed in this mythic world, to see plastic as agential and lively but also as defying easy categorization.<sup>3</sup> Much like our own world, there is no escaping plastic in *Between the Waves*. In one scene, it appears that the characters are being birthed from the ocean. Images of them, bruised and bloodied, are juxtaposed with footage of sea turtles coming on land to lay their





FIGURE 1.1. Video still from Channel One, “A Circular Fable,” *Between the Waves*, 2012, by Tejal Shah. Courtesy of Project 88 and Tejal Shah.

eggs. There is something deeply primal about the scene. The characters lie in the sand, with waves passing over them, entangled with all kinds of debris, including Styrofoam and plastic-coated wires. As they rise and help each other wash off, we see that they are clothed in more plastic—bags and film refashioned as tunics.<sup>4</sup> On one of them, the dress they wear is adorned with numerous CDs, which catch the light. This saturation of plastic, and its creative reuse, mimics the realities that are now present virtually everywhere. There is nowhere you can go to escape plastic. It is in the Arctic, the Mariana Trench—the deepest place on earth, over ten thousand meters beneath the surface of the Pacific Ocean—and on remote mountaintops in the high altitudes of the Pyrenees. It is in the air we breathe and the water we drink. Plastic microparticles circulate through our bodies; nanoplastics penetrate our cell walls.<sup>5</sup> Its chemical by-products have been found in everyone who has been tested. The world is now plastic.

This inability to filter out plastic, to maintain a neat division between the synthetic and natural worlds, is shown in two other scenes in Shah’s piece. In one, set in a mangrove forest, the characters wade around in the water, picking up plastic trash from the roots of the trees with a scythe. They neatly collect the plastic debris into another plastic bag in order to remove it. Yet, even as this





FIGURE 1.2. Video still from Channel One, “A Circular Fable,” *Between the Waves*, 2012, by Tejal Shah. Courtesy of Project 88 and Tejal Shah.

channel plays quiet and generous acts of care and disentanglement, the viewer is conscious of another channel, which depicts a large landfill, where this plastic, neatly removed from the forest, will end up. It is a poignant reminder that plastic does not go away; it is only put somewhere else. In the other scene, the characters swim underwater with a constructed coral colony, all composed of plastic waste and e-waste. Plastic jellyfish float by. These scenes are intercut with footage of marine life, but the juxtaposition does not pit “artificial” reality with a pure, untainted nature but rather shows the ways that *plastic is now nature*. For despite the fact that plastic was designed as a protective barrier from the earth and other creatures, plastic cannot help but become part of the earth, it is still a material of the earth, even if in a purposefully oblique and engineered fashion.

*Between the Waves* tells the story of waste colonialism, with countries such as the United States, Canada, and Western Europe using Southeast Asia as a dumping ground.<sup>6</sup> Although much of India’s waste is generated internally, the artwork reflects the consequences of the aggressive marketing of plastic and plastic products in so-called developing nations, which often lack adequate waste disposal systems to deal with all this plastic.<sup>7</sup> (But what country really does have the proper infrastructure for the mountains of plastic produced ev-



FIGURE 1.3. Video still from Channel One, “A Circular Fable,” *Between the Waves*, 2012, by Tejal Shah. Courtesy of Project 88 and Tejal Shah.

ery year?) Plastic pollution, as the science and technology studies scholar Max Liboiron has argued, can be understood as a form of colonization.<sup>8</sup> It is not incidental, in this context, that the first landfill in India was created by the British during their occupation of the subcontinent.<sup>9</sup> Plastic is transferred to peoples and places that do not consent to all the consequences of plastic and its waste, even if and when these items are produced and used locally. Regardless of where plastic comes from, it has the effect of transmitting a sense of universality; plastic is designed to be divorced from a specific location, appearing as if from nowhere and coating particular places in this sense of globalized unlocality. Here it is possible to see how plastic is imprinted with the colonial logics of dissociation, dislocation, denial, and universality, reproducing itself without regard for local cultures or ecologies. This is what I call synthetic universality, which I take up at length in chapter 2. Synthetic universality refers to the imprinting of plastic with a particular semiotic designed to be universal, placeless, and to deny its surroundings. Synthetic universality describes how plastic is a deliberately alienated material, which enacts its violence through the dislocation from the earth, as part of what Kathryn Yusoff calls “White Geology.”<sup>10</sup>

In cases where plastic appears through logics associated with waste colonialism, as in India, I describe this as transmission. Differentiated from inheri-