Sketches on
Everlasting Plastics

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Intimate Synthetic Entanglements
by Ani Liu

Shortly after I finished breastfeeding my son, I learned that researchers had found microplastics in human breastmilk.[1] It was a startling revelation; like many mothers, I went to great lengths to breastfeed. Considered one of the most nutritious foods for a baby, breastmilk is custom made by the lactating body for each individual baby. In addition to calories and vitamins, it contains antibodies and culture-specific flavor molecules.[2] And as I now know, also tiny particles of polyethylene, polyvinyl chloride, and polypropylene.

We have colonized the Earth with plastics, and now these plastics are colonizing our bodies in the most intimate of ways. Microplastics have been found in our blood,[3] our lungs, even our placentas.[4] Even more intimately, some plastic molecules mimic the shape of our own hormones, becoming endocrine disruptors. Bisphenol A (BPA), polyfluoroalkyl substances (PFAS), and phthalates have a molecular shape so similar to hormone structures that our bodies are tricked into thinking they *are* hormones. This is a kind of simulation with real implications—it can block our hormones from functioning correctly and can cause cancer, diabetes, neurological impairment, and reproductive disorders.

While the effects of our industrial processes on climate change and ecological destruction are well known, most people turn a blind eye until the realization that plastic colonization has infiltrated their own bodies. These

individualistic beliefs are harmful: after all, we live in a complexly woven net of interdependence. What is considered an individual body is actually a rich community of other species we call a microbiome, which we could not survive without. To thrive, we exist in an ecology of cooperation, in complex relationships beyond human to human: with plants, animals, fungi, microorganisms, minerals, climate. The impact of our activities on these entities should be enough to awaken us to change, but perhaps it is not until our own bodies are notably impacted that we feel compelled to change.

That microplastics exist in placentas and breastmilk entered my news feed around the same time that abortion rights were challenged in the United States. Where I live, the constitutional right to abortion ended in 2022 when the Supreme Court abandoned its duty to protect this fundamental right. So, what of plastics and bans? These two simultaneous realities swirl together in my head: we are forcing people with uteruses to bear and care for children as our capacity to care for our planet—and even for ourselves—is strained. In the context of both plastics and reproductive rights, seemingly intimate acts between bodies are urgently re-entangled into the larger systems they exist in. The private body *and* the social body are both compromised in these toxic transgressions.

In recent years, the rallying cry for bodily autonomy, "My Body My Choice!," has come to mean many things for many people across the political spectrum. For some, it remains the ability to choose healthcare for one's own uterus, including abortion; for others, the ability to choose whether or not to receive a vaccine. And yet, as microplastics and endocrine disruptors course through our bodies, it also signifies no choice at all—or, rather, to what shouldn't be a choice at all: the collective, shared *right* to parent or remain childfree "in safe and healthy environments."[5]

1 In a study published last year in *Polymers*, researchers detected microplastic contamination in the majority of breastmilk samples from healthy mothers. See Antonio Ragusa et al., "Raman Microspectroscopy Detection and Characterisation of Microplastics in Human Breast Milk," *Polymers* 14, no. 13 (2022): 2700–2713.

2 Joanne M. Spahn et al., "Influence of Maternal Diet on Flavor Transfer to Amniotic Fluid and Breast Milk and Children's Responses: A Systematic Review," *The American Journal of Clinical Nutrition* 109, no. 1 (2019): 1003–1026.

3 R. L. Kuhlman, "Discovery and Quantification of Plastic Particle Pollution in Human Blood," *Environment International* 167 (2022): 107199–107206.

4 Antonio Ragusa et al., "Plasticenta: First Evidence of Microplastics in Human Placenta," *Environment International* 146 (2021): 106274–106281.

5 Loretta J. Ross and Rickie Solinger, *Reproductive Justice: An Introduction* (Berkeley: University of California Press, 2017), 9.

Picking Our Poison

by Ayesha A. Siddiqi

Plastics have a long history and, evidently, an even longer future. The word "microplastic" was coined in 2004, fifty-one years after General Electric and Bayer began developing polycarbonate, fifty-four years after DuPont began manufacturing polyester, and sixty-two years after Dow Chemical built a polystyrene plant. These innovations changed the world. And the post–World War II boom in manufacturing and consumption would only accelerate that change. Plastic was always known to have a range of forms and uses—the discovery of microplastics has proven the material can swirl like wind, fall like rain, be absorbed like nutrients, all while invisible to us. Microplastics have been found in the ground and in our blood. One can imagine them atomizing in the air with every twist of a plastic bottle cap, every snap of a Styrofoam clamshell food container.

Microplastics are everywhere, because plastic is everywhere and it reduces into specks so small they become aerosol. This fact lends microplastics an air of inevitability, which can come as a kind of bitter relief. To remain nourished as a human is challenging enough without the added rigor of avoiding poison. Microplastics join "heavy metals" and other toxins on the list of ambient threats to health I can only shrug at or close my hands in prayer against. The average body in the United States is a testament to the absence of regulations and consumer protections in this


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