

American Beauties



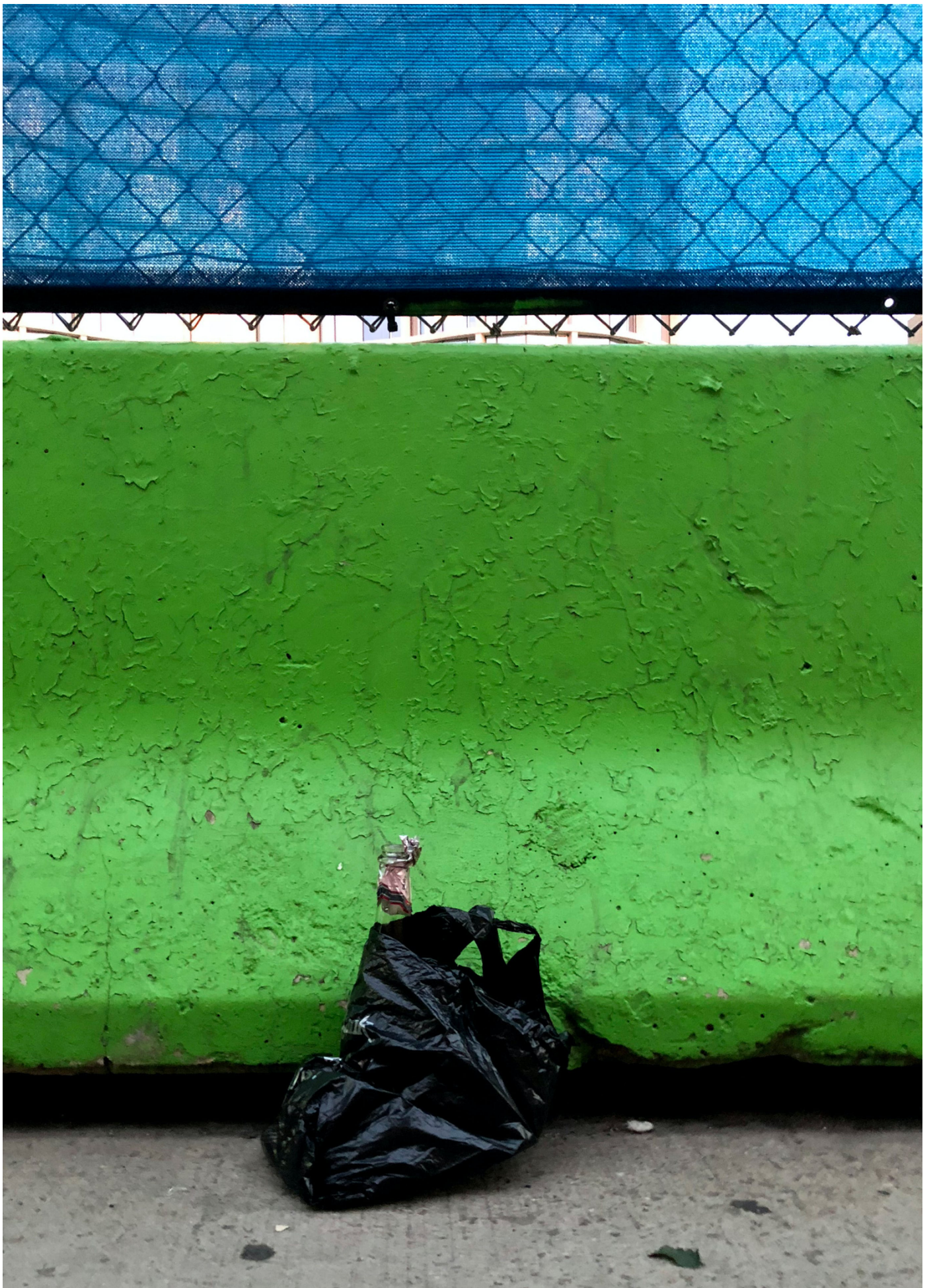
They catch in the wind, gather on the street, and clog our trash cans. How plastic bags came to rule our lives, and why we can't quit them.

The story of the plastic bag—the kind that is so ubiquitous in grocery stores, in gutters, in the branches of trees—is a story of persuasion, one that began with a battle between paper and plastic in the hearts of the American people.

"People are fond of the old paper bag," Peter Buntin explained to the *New York Times* in 1984. "It's as American as the flag and apple pie and all those other red, white, and blue clichés." At the time, Buntin worked for American Paper Institute, and the plastic bag, first introduced to grocery stores in 1979, was ready to challenge the paper bag's supremacy over how people carted home groceries—a \$600 million market at the time.

To the plastics industry, the grocery bag was “the last stronghold” of the American supermarket, Ronald Schneider, marketing manager at Mobil Chemical, a subsidiary of what is now ExxonMobil, told the *Los Angeles Times* in 1986. Plastics already had conquered the meat tray, the egg carton, and the produce and bread bag, jobs previously performed by paper. But the paper grocery bag proved harder to supplant.





The first plastic bags were introduced to consumers in the 1950s to collect trash and carry home dry cleaning. This kind of bag, it must be noted, had had a troubling start. Early on, there had been a series of suicides-by-bag and child suffocations, as the material strangely stuck to skin. In 1959, *Life* magazine featured a story cautioning parents about bags. It was accompanied by an image of Dr. Leona Baumgartner, commissioner of the New York City Department of Health gasping for breath, an impermeable bag over her head, the film stretched taut over her mouth. The Society of the Plastics Industry pledged to educate everyone about “what a plastic bag is for ... and what it is not for.” *This bag is not a toy.*

Mobil Chemical began a trial run of its version of the plastic grocery bag in US stores in 1976. The bag seemed primed to become its own kind of Americana—printed for the bicentennial in red, white, and blue. (Though, in fact, the plastic-handled carrier bag had been invented by a Swedish company, which filed a patent for the simple, handled sack in 1962, more than a decade earlier.) Mobil’s bags made a poor first showing in their US test market: store clerks had to lick their fingers to work open the bags, and they were easily overfilled and either ripped or fell over in the back of a car.

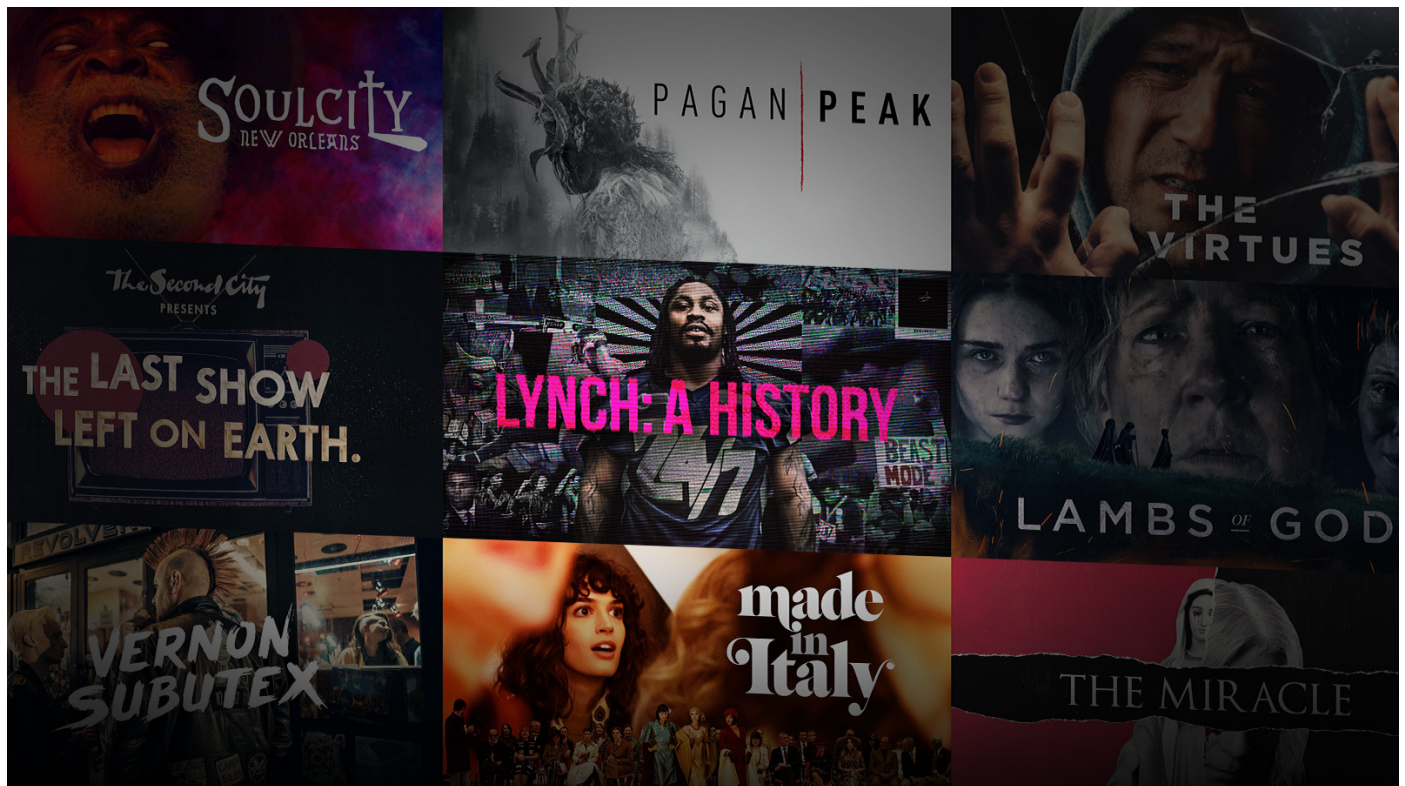
To promote the plastic sack—different, its makers claimed, from the *bag* in cost, strength, and name—the Flexible Packaging Association (FPA) founded an ad hoc Plastic Grocery Sack Council in 1985, and formalized it a year later. The council then developed a public relations strategy “to facilitate supermarkets’ move toward plastic sacks.” Their inaugural marketing campaign—called [“Check Out the Sack. It’s Coming on Strong”](#)—sent press kits to 100 trade and 600 general-consumer publications. Trainings were held to teach baggers how to best use the bag-dispensing system and to efficiently pack groceries in plastic.

The general public, however, was sold the sack on the prospects for reuse. “The Plastic Grocery Sack Council says plastic bags can be reused in more than 17 different ways,” the *Los Angeles Times* reported in 1986, “including

as a wrap for frozen foods, a jogger's wind breaker or a beach bag." By 1988, about 40 percent of US grocery bags were plastic. By 2003, the American Plastics Council estimated plastic's market share was close to 80 percent. Estimates made over a decade ago suggest somewhere between 500 billion and 1.5 trillion plastic bags are consumed globally each year at a rate of more than a million a minute.

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While the plastic sack was designed to carry goods, I've come to think that what the bag does best is collect.

They collect in cars and cabinets and closets, in cities and storm drains and in the "waste lonely places," in the wilds beside highways and parking lots. You might assume bags like these are "litter" and that their backstory involves a careless or callous human. But most bags enter the waste stream

exactly as waste systems were planned and as plastic makers wanted: through the trash.

“The future of plastics is in the trash can,” the editor of *Modern Packaging* magazine, Lloyd Stouffer, argued in the mid-1950s to a group of industry insiders. Stouffer had advocated for the industry “to stop thinking about ‘reuse’ packages and concentrate on *single* use.” If the plastics industry wants to drive sales, he argued, it must teach customers how to waste.

Disposability was still a new idea, born during the Great Depression and at odds with the frugality of the World War II years. It is a social innovation, and it took time to take hold—a systematic rerouting of human behavior and norms. Laying waste to a manufactured item was made possible by cheap plastics, and it was taught (through advertising) to seem conceivable, then acceptable, and eventually (in some cases) unavoidable. Today, obsolescence and disposability are features that have been intentionally built into products by industrial designers.

Stouffer circled back to these themes in 1963, when he congratulated the Society of the Plastics Industry for now “filling the trash cans, the rubbish dumps and the incinerators with literally billions of plastic bottles, plastic jugs, plastic tubes, blisters and skin packs, plastic bags and films and sheet packages.”

“The happy day has arrived,” he concluded, “when nobody any longer considers the plastics package too good to throw away.”

Technically, plastic bags don’t need to be tossed. They are recyclable, though few are recycled. They’re collected separately from other recyclables, typically at supermarkets, and are incompatible with comingled, curbside recycling, which rely on automated sorting machines. Bags are in fact the bane of the sorting process. They jam and clog the works. And so wish-cycled bags—those tossed into the recycling in hopes they’ll be recovered—often wind up in the waste stream, and in trucks

bound for transfer stations and landfills. All it takes is a swift breeze to lift and liberate bags from dumpsters and dumps. In this way, they dodge all human designs for their discard.

Once in the wild, bags circulate and congregate with a logic all their own. They drip “like flesh” from the limbs of trees, hook fencing, or drift in the currents offshore. Ted Kooser, a former US poet laureate, tells a version of this story in *Bag in the Wind*, a 2010 book he wrote for children. It begins with a “puff of wind,” which helps a bag clear the landfill fence. Then the bag rides the open road, and runs the rivulets that trickle down roadside ditches. Along the way, it encounters branches and blackbirds and razor wire and even the occasional pocket. The bag eventually travels a circle, twice coming into the possession of the same little girl. Through the circular shape of his story, Kooser hints it is just a chapter in an ongoing drama. The life of a plastic bag is really an endless series of entanglements.

Polyethylene was first made industrially in England in the 1930s at Imperial Chemical Industries (ICI), a large chemical outfit that manufactured dyes, explosives, fertilizers, paints, and eventually plastics. It had an unplanned and rather inauspicious beginning, something of a “fluke,” as one lab assistant described it.

As historian Stephen Fenichell tells it in *Plastic: The Making of a Synthetic Century*, polyethylene was the byproduct of ICI chemists' curiosity and their willingness to endure possible explosions. The chemists had been experimenting with ethylene in their new, high-pressure reaction chamber, and in the process they'd also created a white flaky residue. It looked “like a lump of sugar,” one ICI scientist later told *Women's Own*. But “in fact, that ‘sugar’ was ‘polythene.’” (In England, polyethylene was called polythene, thus Polythene Pam, for the Beatles fans among you.) Through trial and error, ICI chemists learned how to trigger polymerization in order to avoid explosions, making polyethylene on purpose and at scale.

Industrial production of polyethylene commenced in England on September 1, 1939, just as Nazi tanks breached Poland's border. The plastic was sent to the front, where it was used to insulate radar systems, making them finally light enough to be installed in aircraft, allowing the British to better anticipate attack. If polyethylene was seed, World War II was its seedbed, the fertile ground in which to grow the infrastructure to make the new plastic.

"Not for nothing," wrote Primo Levi in *The Periodic Table*, his 1975 memoir about chemistry and the Holocaust, "the Heavenly Father Himself, who, though a master of polymerization, refrained from patenting [polyethylene]." This line appears in the essay "Cerium," where Levi reflects on his internment in Auschwitz in Nazi-occupied Poland. There, he labored at a chemical and rubber plant, built by forced labor supplied to the plant's owners, the German chemical conglomerate I.G. Farben, by the SS. "Cerium" tells the story of how Levi would pocket lab supplies from Farben and barter them as a means for his survival.

What a difference such a package might have made in helping Levi secret away the laboratory's most lucrative liquids, a little gasoline or alcohol. ("The price was high and so was the risk," he explained.) If only polyethylene packaging had existed! It was part of the Allied war machine, but wouldn't move into the consumer market until after the war had ended.

It is "flexible, light, and splendidly impermeable," Levi explained in "Cerium." Yet it couldn't compare to the way nature contained and carried what's precious. Polyethylene, to Levi, had nothing on the "multipart peel of the orange," the eggshell, the cellular membrane, and the most dynamic packaging of all, skin. It is "a little too incorruptible"—by which he meant, *not subject to death*.

The polyethylene bag doesn't so much carry as it does *carry on*.

In 1962, the same year Celloplast patented their plastic-handled sack in Sweden, my father started making plastics for Union Carbide at their Piscataway, New Jersey, plant.

My father mostly made polystyrene, and sometimes Bakelite. But once, when the union went on strike, he and other low-level engineers were transferred to work the 12-hour graveyard shift in the polyethylene plant.

During the overnight hours, he'd operate the unit's air conveyers, loading a long line of rail cars with polyethylene pellets—tiny, round grains of plastic bound for other factories, where they'd be melted, molded, extruded, rolled. From the air conveyors, pellets of polyethylene roared forth with the force of a fire hose, in an incessant, thunderous torrent. To miss the mouth of the rail car, or worse, to overfill one, was to risk clogging the system or spraying pellets everywhere. It was work carried out at a scale almost beyond his comprehension, at speeds that frayed his nerves.

My father was only in his 20s when he held the hose through which thousands of pounds of plastic poured. He was witness to what social scientists call the Great Acceleration, as plastics production started to climb. By then both polyethylene and polystyrene had become bulk, commodity plastics—manufactured in high volumes at low cost, owing to how oil (then plastics' principal substrate) was priced, manufactured continuously in plants, that once running at a steady pace, as my father remembered, could take a day or longer to shut down.

It was the late 1960s—the era of *The Graduate*, the film known for its ironic, oft-quoted line about plastic and the “great future” that lay in its making—but my father was already thinking about changing careers. And while plastics remained a growing sector, and would continue to grow in the years to come, he saw no room for personal growth within it. So my father left the plastic factory, went to night school, studied public administration, and became a civil servant instead.

I recently reread the children's book *Bag in the Wind* to my younger son, and was reminded of an interview I'd heard on *All Things Considered*. It featured a woman named Kathy Frederick who, in 2008, began blogging about a bag trapped in a tree outside her office.

She gendered the bag—female—and named her Windy. The blog garnered a “legion of followers” over three years, signaling how feral bags have become something of a cultural phenomenon, something to be captured on film and contemplated.

The baleful bag in the 1999 film *American Beauty*, tumbling in the breeze among the leaf litter of late fall, popularized a trend of philosophizing about the plastic bag. (“That’s the day I realized that there was this entire life behind things,” says the reclusive teen who videotapes the bag in the film.) It was followed in 2010 by a short film from the PBS series *Futurestates*, which anthropomorphizes a bag in search of its purpose and its maker by giving it the voice of Werner Herzog. Now there are Instagram accounts about bags in the wild, for example, [@ISpyABag](#), and hashtags to track bags’ migrations, e.g., [#hookedplastic](#), [#bagsintrees](#), and [#witchesknickers](#).

The latter, I discovered, is an Irish term for bags strung up in trees. Other names include: “shoppers’ kites,” “retailed hawks,” and, curiously, “the state bird of Wyoming.” In Kenya, where the plastic bag was banned in 2017 because of environmental concerns, balled-up, blown-around bags have even been called the “flowers of Africa.”

My favorite term comes from Ian Frazier, staff writer at *The New Yorker*, who has called them the “flag of chaos.” He’s written a couple of pieces about bags in trees and his misadventures pulling them down with a bag snagger, a multistoried reacher his friend invented based on the fruit-harvesting pole. (In 2014, the New York Restoration Project used the tool to remove some 1,500 bags from among the city’s 5.2 million trees.)

Of course, time untangles bags, too, which is what happened to Windy.

Eventually she grew too tattered to hold fast—a storm loosed her, and she was gone. But of course, she was gone and not gone.

When I see a bag trapped high in a tree, what comes to mind is a stand of sugar maples I read about in the news two years ago.

The trees, part of a family maple farm in New Milford, Pennsylvania, had stood in the right-of-way of the Constitution Pipeline, now on hold, but which had been intended to convey natural gas from Pennsylvania to New York as part of growing network of pipelines planned to develop the region's natural gas deposits for energy, ethylene, and, by extension, plastics. Hundreds of these trees were taken by eminent domain, felled under the armed guard of US marshals. Their trunks, painted in protest with the Stars and Stripes, lay red, white, and blue on the ground.

Trees break and remake carbon-based molecules, too, wrote Levi in "Carbon," one of his most beloved essays and his tribute to the elemental basis of all earthly life. The chemistry of trees (he focused on photosynthesis) is both silent and ancient, "refined, minute, and quick-witted"; nothing like human-designed plants, "cumbersome, slow, and ponderous." The essay might have had its genesis at Auschwitz, where Levi described a "literary dream" about carbon, the carbon cycle, and carbon's cycling through trees.

While ethylene is a high volume commodity chemical, it is also a plant hormone made by trees. Ethylene helps trees regulate their growth and development, like when to bud, to set fruit, to drop leaves.

It is also how trees warn each other: when a tree is wounded, when it senses flood or fire or infestation, it will release ethylene, which the wind circulates to caution others. We are surrounded by these silent, sylvan messages, uttered in a language too few humans understand. I've taken to thinking about the bag in this way, like Frazier's flag of chaos, an aggregate

of ethylene, an amplified distress signal carried by the wind, a forewarning in a form humankind can sense.

In the years since its introduction, trillions of polyethylene bags have been made to haul home groceries, dog poop, a child's soiled clothes, and more. But whatever a bag carries, wherever it travels, however tattered it becomes, even when it is no longer recognizably bag-like, it still contains the ambitions of its makers, and its uncertain legacy left to unknown generations, a load many orders of magnitude greater than any bag can bear.