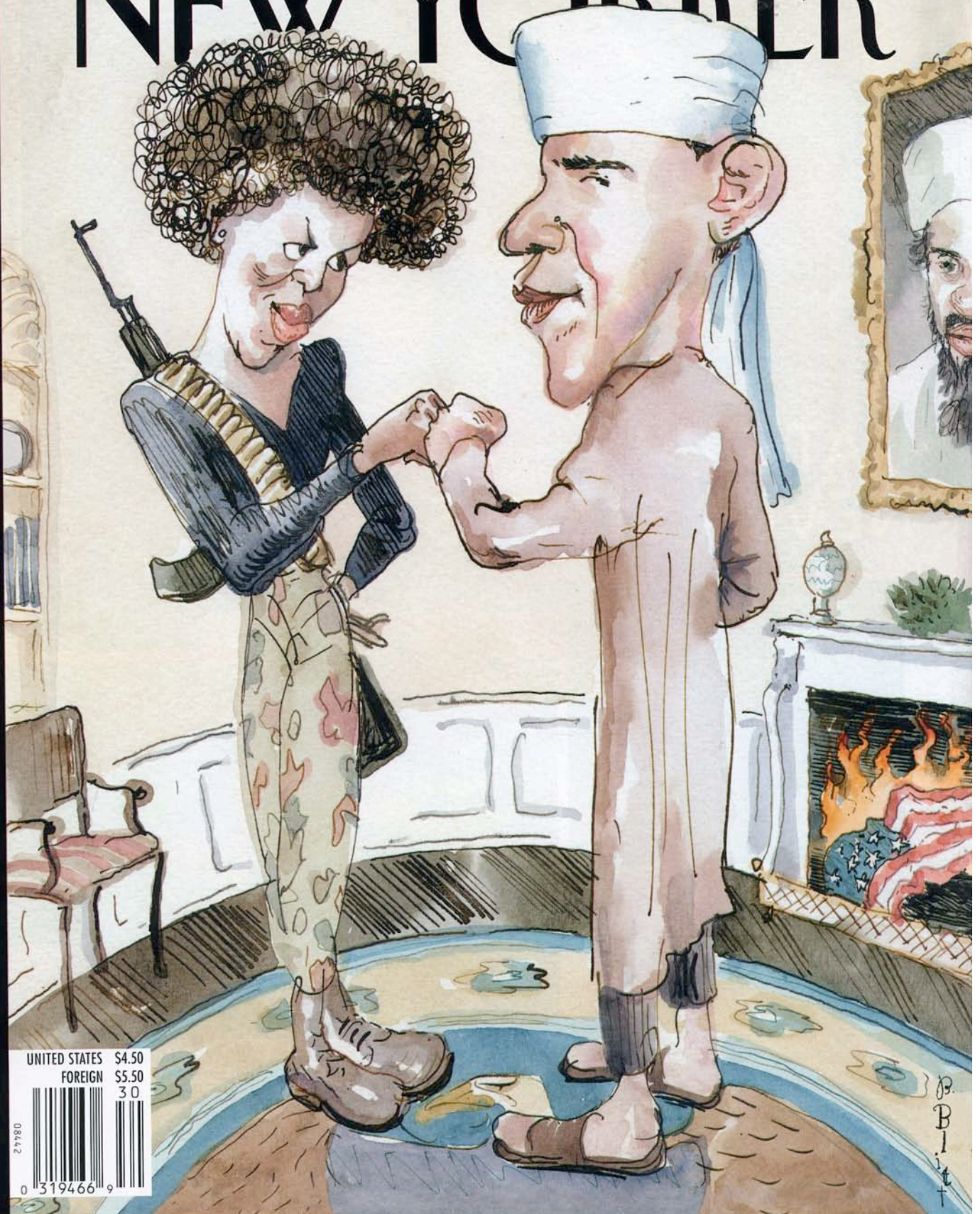


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BOOKS

TURF WAR

Americans can't live without their lawns—but how long can they live with them?

BY ELIZABETH KOLBERT

In 1841, Andrew Jackson Downing published the first landscape-gardening book aimed at an American audience. At the time, Downing was twenty-five years old and living in Newburgh, New York. He owned a nursery, which he had inherited from his father, and for several years had been publishing loftily titled articles, such as “Remarks on the Duration of the Improved Varieties of New York Fruit Trees,” in horticultural magazines. Downing was dismayed by what he saw as the general slovenliness of rural America, where pigs and poultry were allowed to roam free, “bare and bald” houses were thrown up, and trees were planted haphazardly, if at all. (The first practice, he complained, contributed to the generally “brutal aspect of the streets.”) His “Treatise on the Theory and Practice of Landscape Gardening” urged readers to improve themselves by improving their front yards. “In the landscape garden we appeal to that sense of the Beautiful and the Perfect, which is one of the highest attributes of our nature,” it declared.

Downing’s practical ideas about how to achieve the Beautiful included grouping trees in clusters, importing shrubbery of “the finest foreign sorts,” and mixing forms and colors with enough variety to “keep alive the interest of a spectator, and awaken further curiosity.” Essential to any Perfect garden, he held, was an expanse of “grass

mown into a softness like velvet.” As an example of what he had in mind, Downing pointed to the Livingston estate, near Hudson, New York. (Privately, in a letter to a friend, he noted that maintaining the grounds of the Livingston estate required the labors of ten men.) “No expenditure in ornamental gardening is, to our mind, productive of so much beauty as that incurred in producing a well kept lawn,” he wrote.

By almost any measure, the “Treatise” was a success. It went through eight editions and sixteen printings, and it made Downing famous. One critic called him the “Sir Joshua Reynolds of our rural decorations.” The “Treatise,” another proclaimed, had ushered in a “new epoch in the annals both of our literature and our social history.” In 1851, Downing was invited by President Millard Fillmore to design improvements to the grounds around the Capitol. Before the project could be completed, however, Downing died in a steamboat accident on the Hudson; he was just thirty-six.

Downing’s practice was taken over by his protégé, Calvert Vaux, whom he had brought over from London as an assistant. (Vaux named his first son Downing.) Later, Vaux joined up with Frederick Law Olmsted, whose career Downing had also encouraged. The two men embraced many of Downing’s ideas. They designed Central Park, with

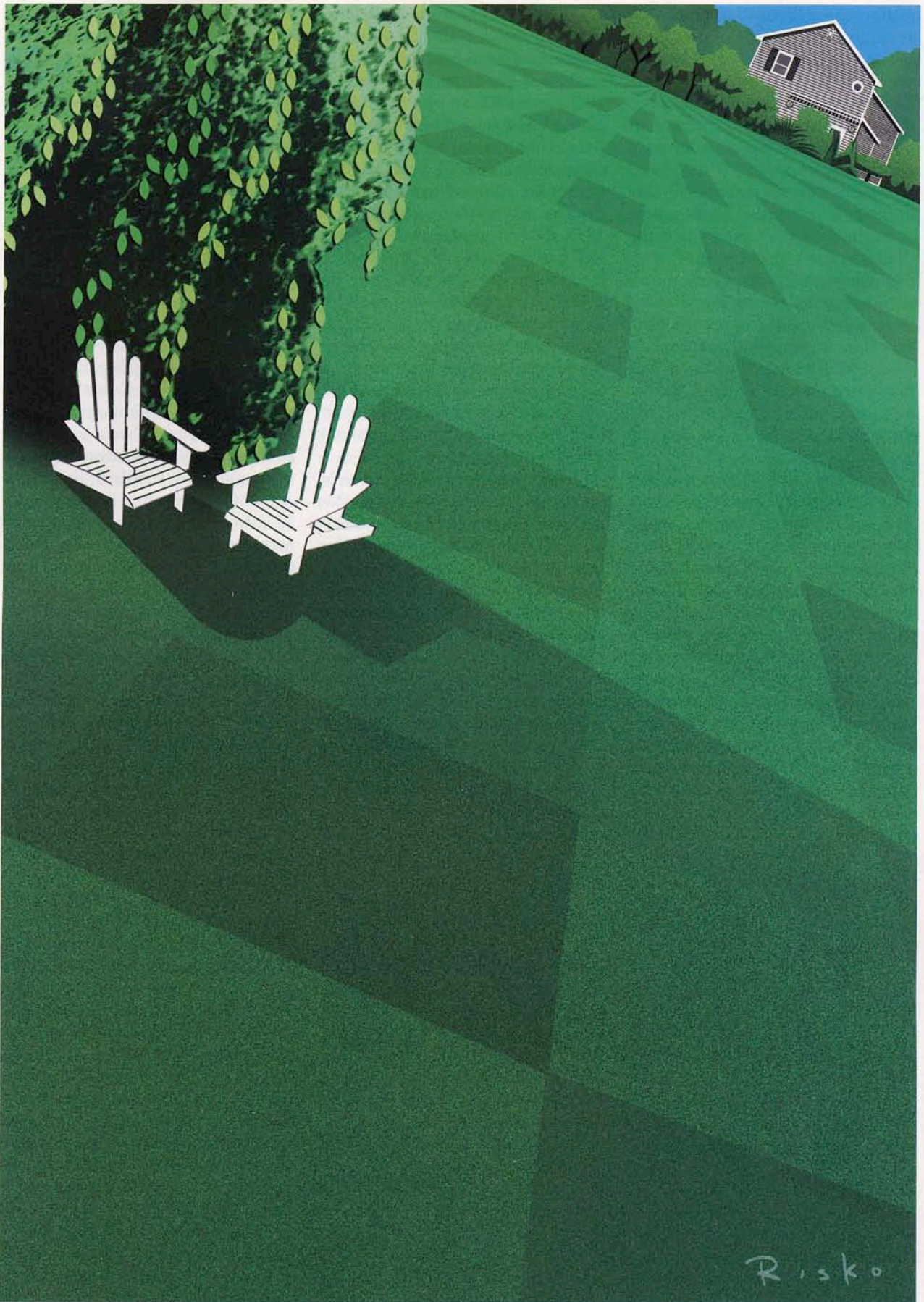
its broad lawns, and laid out suburbs like Riverside, Illinois, and Sudbrook Park, Maryland, with their many lesser lawns. Olmsted and Vaux’s work, in turn, influenced countless suburban subdivisions. The design for Levittown little resembled the Livingston estate, except for the grassy plot surrounding every Cape Cod. “No single feature of a suburban residential community contributes as much to the charm and beauty of the individual home and the locality as well-kept lawns,” Abraham Levitt once observed.

Having migrated into many parts of the United States that did not yet belong to the United States when the “Treatise” was published, the lawn today is nearly ubiquitous. Its spread has given rise to an entire industry, or, really, complex of industries—Americans spend an estimated forty billion dollars each year on grass—and to the academic discipline of turf management, degrees in which can now be obtained from, among other schools, the University of Massachusetts and Ohio State. The lawn has become so much a part of the suburban landscape that it is difficult to see it as something that had to be invented.

This triumph has also brought into being a new tradition in landscape writing. The anti-lawn treatise attacks both the idea of the velvety expanse—David Quammen has observed, only half jokingly, that though Communism has fallen, “lawnism” continues—and the real labor that goes into pursuing it. The writer in this tradition toils in the hope (probably vain) of reversing more than a hundred and fifty years of gardening history. He envisions an American landscape that looks more like it did in Downing’s day—one covered in moss, or scrub, or, alternatively, just weeds.

Among the dozen or so main grasses that make up the American lawn, almost none are native to America. Kentucky bluegrass comes from Europe and northern Asia, Bermuda grass from Africa, and Zoysia grass from East Asia. These and other so-called turfgrasses are botanically ambidextrous; they can reproduce sexually, by

Lawns in the U.S. cover an area roughly the size of New York State; each year, forty billion dollars is spent on their upkeep.



ROBERT RISO, OPPOSITE; BENOÎT JACQUES

putting out seeds, and asexually, by spreading laterally. (Biologists believe that they acquired this second ability some twenty million years ago, during the Miocene, when large herbivores, including the ancestors of the modern horse, switched from eating leaves to munching grass.)

Mowing turfgrass quite literally cuts off the option of sexual reproduction. From the gardener's perspective, the result is a denser, thicker mat of green. From the grasses' point of view, the result is a perpetual state of vegetable adolescence. With every successive trim, the plants are forcibly rejuvenated. In his anti-lawn essay "Why Mow?," Michael Pollan puts it this way: "Lawns are nature purged of sex and death. No wonder Americans like them so much."

In the early days of lawns—British aristocrats started planting them sometime around the start of the eighteenth century—there were two ways to mow. A landowner could use grazing animals, like sheep, which meant also employing sheepkeepers, or he could send out bands of scythe-wielding servants. Then, in 1830, Edwin Beard Budding, an engineer from Gloucestershire, came up with a third alternative—"a machine for mowing lawns, etc." (Supposedly, Budding was inspired by the rotating blades then used to trim the nap on carpets.) Budding's invention

made the task of cutting grass faster and cheaper and, at least for the maker of the new mowers, profitable. Further mechanical improvements followed. In 1870, an American inventor named Elwood McGuires designed a light-weight mower with an innovative wheel design. By 1885, U.S. manufacturers were pumping out machines at the rate of fifty thousand a year. In 1893, the first steam-powered mower was patented, and a few decades later the gasoline-powered mower hit the market. An advertisement for an Ideal Junior Power Mower, from 1922, celebrated the exceptional efficiency of the new technology. It asserted that many property owners, "who previously had to hire two or three men to keep their grass cut, now do the work with one of these."

A lawn may be pleasing to look at, or provide the children with a place to play, or offer the dog room to relieve himself, but it has no productive value. The only work it does is cultural. In Downing's day, the servant-mowed lawn stood, eloquently, for the power structure that made it possible: who but the very rich could afford such a pointless luxury? As mechanical mowers enabled middle-class suburbanites to cut their own grass, this meaning was lost and a different one took hold. A lawn came to signal its owner's commitment to a communi-

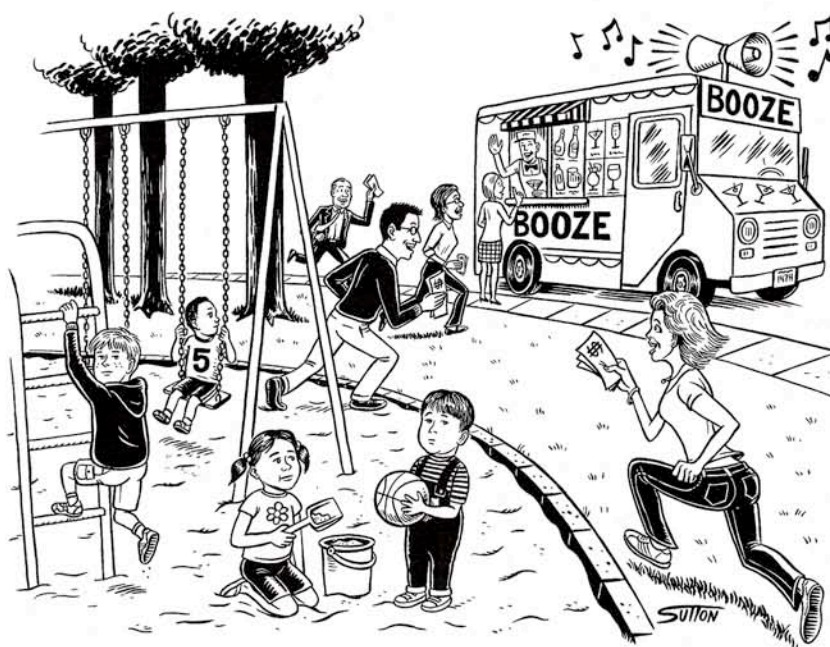
tarian project: the upkeep of the green-sward that linked one yard to the next.

"A fine carpet of green grass stamps the inhabitants as good neighbors, as desirable citizens," Abraham Levitt wrote. (By covenant, the original Levittowners agreed to mow their lawns once a week between April 15th and November 15th.) "The appearance of a lawn bespeaks the personal values of the resident," a group called the Lawn Institute declared. "Some feel that a person who keeps the lawn perfectly clipped is a person who can be trusted."

Over time, the fact that anyone could keep up a lawn was successfully, though not altogether logically, translated into the notion that everyone *ought* to. Many communities around the country adopted "weed laws" mandating that all yards be maintained to a certain uniform standard. Such laws are, for the most part, still on the books. Homeowners who, for one reason or another, don't toe the line have found themselves receiving citations and fines and, in some (admittedly unusual) cases, wrangling with the police. Just last summer, a seventy-year-old widow from Orem, Utah, was led in handcuffs to a holding cell, after letting her grass go brown. She became a celebrity in the blogosphere, where she was known as the Lawn Lady.

Pretty much by definition, a lawn is unnatural. Still, there are degrees of unnaturalness. Even as the American lawn was being democratized, it was also becoming more artificial.

Turfgrasses have a seasonal cycle: they grow quickly when conditions are favorable—for cool-weather species like Kentucky bluegrass, this is in spring, while for warm-weather species like Bermuda grass it's in summer—and then they slow down. During the slow phase, the grass becomes dull-colored or, if the weather is dry, yellow or brown. In 1909, a German chemist named Fritz Haber figured out how to synthesize ammonia. One use for what became known as the Haber-Bosch process was to manufacture explosives—the process was perfected just in time for the First World War—and a second was to produce synthetic fertilizer. It was observed that repeated applications of synthetic fertilizer could



counteract turfgrasses' seasonal cycle by, in effect, tricking the plants into putting out new growth. Sensing a potential bonanza, lawn-care companies began marketing the idea of an ever-green green. The Scotts Company recommended that customers apply its fertilizer, Turf Builder, no fewer than five times a year.

With the advent of herbicides, in the nineteen-forties, still tighter control became possible. As long as a hand trowel was the only option, weeding a lawn had been considered more or less hopeless, and most guides advised against even trying. (A lawn "thickly starred with the glowing yellow blossoms" of dandelions "isn't in itself a bad picture," the journal *Country Life in America* observed consolingly.) The new herbicides allowed gardeners to kill off plants that they didn't care for with a single spraying.

One of the most popular herbicides was—and continues to be—2,4-dichlorophenoxyacetic acid, or 2,4-D, as it is commonly known, a major ingredient in Agent Orange. Regrettably, 2,4-D killed not only dandelions but also plants that were beneficial to lawns, like nitrogen-fixing clover. To cover up this loss, any plant that the chemical eradicated was redefined as an enemy. "Once considered the ultimate in fine turf, a clover lawn is looked upon today by most authorities as not much better than a weed patch" is how one guidebook explained the change.

The greener, purer lawns that the chemical treatments made possible were, as monocultures, more vulnerable to pests, and when grubs attacked the resulting brown spot showed up like lipstick on a collar. The answer to this chemically induced problem was to apply more chemicals. As Paul Robbins reports in "Lawn People" (2007), the first pesticide popularly spread on lawns was lead arsenate, which tended to leave behind both lead and arsenic contamination. Next in line were DDT and chlordane. Once they were shown to be toxic, pesticides like diazinon and chlorpyrifos—both of which affect the nervous system—took their place. Diazinon and chlorpyrifos, too, were eventually revealed to be hazardous. (Diazinon came under scrutiny after birds started dropping dead around a recently sprayed golf course.) The insecticide car-

baryl, which is marketed under the trade name Sevin, is still broadly applied to lawns. A likely human carcinogen, it has been shown to cause developmental damage in lab animals, and is toxic to—among many other organisms—tadpoles, salamanders, and honeybees. In "American Green" (2006), Ted Steinberg, a professor of history at Case Western Reserve University, compares the lawn to "a nationwide chemical experiment with homeowners as the guinea pigs."

Meanwhile, the risks of the chemical lawn are not confined to the people who own the lawns, or to the creatures that try to live in them. Rain and irrigation carry synthetic fertilizers into streams and lakes, where the excess nutrients contribute to algae blooms that, in turn, produce aquatic "dead zones." Manhattanites may not keep lawns, but they drink the chemicals that run off them. A 2002 report found traces of thirty-seven pesticides in streams feeding into the Croton River Watershed. A few years ago, Toronto banned the use of virtually all lawn pesticides and herbicides, including 2,4-D and carbaryl, on the ground that they pose a health risk, especially to children.

Although it was not intended as such, Rachel Carson's "Silent Spring," published in 1962, is often cited as the first work in the anti-lawn tradition. In her study of America's indiscriminate use of pesticides, Carson was repeatedly led back to the front yard.

"One may get a jar-type attachment for the garden hose, for example, by which such extremely dangerous chemicals as chlordane or dieldrin are applied as one waters the lawn," she observed. "Power mowers also have been fitted with devices for the dissemination of pesticides, attachments that will dispense a cloud of vapor as the homeowner goes about the task of mowing." Rarely, she argued, was the homeowner aware of the dangers of what he was doing, because it was not in the interests of the manufacturer to inform him of these. "Instead, the typical illustration portrays a happy family scene,

father and son smilingly preparing to apply the chemical to the lawn, small children tumbling over the grass with a dog."

Right around the time that Carson was writing "Silent Spring," Lorrie Otto, a mother of two from the Milwaukee suburb of Bayside, decided to restore her front lawn to prairie. One day, while she was folding laundry in her basement,

some village workers arrived and, without consulting her, mowed her yard. Otto began speaking out against lawns, calling them, among other things, "sterile," "monotonous," and "flagrantly wasteful." Her talks inspired the founding, in 1979, of what might be described as the nation's first

grassroots anti-grass movement, which dubbed itself Wild Ones. (Wild Ones now has chapters in twelve states, including New York and Connecticut.)

Between them, Carson and Otto introduced all the main anti-lawn arguments: toxicity, habitat destruction, resource depletion, enforced conformity. They accepted the moral interpretation of the lawn, only to perform yet another inversion. Instead of demonstrating that a homeowner cared about his neighbors, a trim and tidy stretch of turf showed that he didn't.

"If they're so large that you cannot use just a little hand-push lawn mower, then I truly think they are evil," Otto once said of lawns. "Really evil."

But what is the conscientious suburbanite supposed to do? If one accepts the idea that lawns are, in a deep sense, unethical, how does one fill the front yard?

Over the years, many alternatives to the lawn have been proposed. Pollan, in his book "Second Nature" (1991), suggests replacing parts—or all—of the lawn with garden. In "Noah's Garden" (1993), Sara Stein, by contrast, advocates "ungardening"—essentially allowing the grass to revert to thicket. Sally and Andy Wasowski, in their "Requiem for a Lawnmower" (2004), recommend filling the yard with native trees and wildflowers. For those who don't want to give up the look or the playing space provided by a lawn, the Wasowskis suggest using Buffalo grass, one of the very few turf



species native to North America. Smaller American Lawns Today, or SALT, is a concept developed by William Niering, who for many years was a professor of botany at Connecticut College. Niering planted trees around his property, then left most of the rest of his yard unmowed, to become a meadow. "The meadow can take as much of your remaining lawn as you want," he observes in an essay posted on SALT's Web site. "There are some people who prefer no lawn, which is ideal!" For the past few decades, David Benner, a horticulturist from Bucks County, Pennsylvania, has been touting moss as an alternative to grass: he himself has a one-acre "moss garden." Recently, there have been several calls to make the lawnspace productive. In "Food Not Lawns" (2006), Heather C. Flores argues that the average yard could yield several hundred pounds of fruits and vegetables per year. (If you live in an urban area and don't have a lawn, she suggests digging up your driveway.) "Edible Estates" (2008) is the chronicle of a project by Fritz Haeg, an architect and artist, who rips up conventional front yards in order to replace them with visually striking "edible plantings." Haeg calls his approach "full-frontal gardening."

Of course, to advocate a single replacement for the lawn is to risk reproducing the problem. The essential trouble with the American lawn is its estrangement from place: it is not a response to the landscape so much as an idea imposed upon it—all green, all the time, everywhere. Recently, a NASA-funded study, which used satellite data collected by the Department of Defense, determined that, including golf courses, lawns in the United States cover nearly fifty thousand square miles—an area roughly the size of New York State. The same study concluded that most of this New York State-size lawn was growing in places where turfgrass should never have been planted. In order to keep all the lawns in the country well irrigated, the author of the study calculated, it would take an astonishing two hundred gallons of water per person, per day. According to a separate estimate, by the Environmental Protection Agency, nearly a third of all residential water use in the United States currently goes toward landscaping.

The Northeast is one of the relatively few regions in the country that are actu-

ally well suited to lawns. There, the simplest alternative to the modern, industrialized lawn may be a lawn that functions more or less as it did in the eighteen-forties, before herbicides or even sprinklers had been invented. In "Redesigning the American Lawn" (1993), F. Herbert Bormann, Diana Balmori, and Gordon T. Geballe dub such a lawn the Freedom Lawn. The Freedom Lawn consists of grass mixed with whatever else happens to seed itself, which, the authors note, might include:

dandelion, violets, bluets, spurrey, chickweed, chrysanthemum, brown-eyed Susan, partridge berry, Canada mayflower, various clovers, plantains, evening primrose, rushes, and wood rush, as well as grasses not usually associated with the well-manicured lawn, such as broomsedge, sweet vernal grass, timothy, quack grass, oat grass, crabgrass, and foxtail grass.

The Freedom Lawn is still mowed—preferably with a push-mower—but it is watered infrequently, if at all, and receives no chemical "inputs." If a brown spot develops, it is likely soon to be filled by what some might call weeds, but which Bormann, Balmori, and Geballe would rather refer to as "low growing broad-leaved plants."

The anti-lawn movement has been around now for several decades. In that time, thousands of American families have dug up their lawns and put in wildflowers or meadows or vegetable gardens. In that same period, however, millions more have put in new lawns. A recent study by researchers at Ohio State University estimates that, owing to new development, the space devoted to turfgrass in the United States is growing at the rate of almost six hundred square miles a year.

The easy explanation for the failure of the anti-lawn movement is that change is hard. People have been trained to expect lawns, and this expectation is self-reinforcing: weed laws are all but explicitly about maintaining property values. When Haeg installed an "edible estate" in the front yard of a Salina, Kansas, resident named Stan Cox, passersby kept asking Cox whether his neighbors had complained about it yet. Everyone "claims to like the new front yard, yet everyone expects others not to like it," Cox writes. For a developer, meanwhile, putting in turfgrass is by far the easiest

way to landscape; what is sometimes called "contractor's mix" grass seed is specifically formulated to provide a fast-growing—though not necessarily long-lasting—green. (Lowe's, which sells fifteen pounds of contractor's-mix seed for \$23.52, advertises it as an "economy mixture that provides quick grass cover.") The lawn may be wasteful and destructive, it may even be dangerous, but it is, in its way, convenient.

This is perhaps the final stage of the American lawn. What began as a symbol of privilege and evolved into an expression of shared values has now come to represent expedience. We no longer choose to keep lawns; we just keep on keeping them. In the meantime, the familiar image of Dad cutting the grass and then, beer in hand, sitting back to admire his work, is, in many communities, a fiction: increasingly, lawn care has become another one of those jobs, like cooking dinner or playing with the kids, that's outsourced to someone else. When my husband and I lived in Westchester County, he used to mow our minuscule Freedom Lawn—"freedom" here being understood as just another word for nothing left to lose—himself. That he did so was not a source of pride around our house but vague embarrassment.

If Downing came back today, what would he think of our lawns? Presumably, the neatness of our pigless yards would impress him. But it is hard not to feel that he would, at least, be ambivalent. Downing was passionate about landscape gardening, and even more so about its edifying possibilities. He urged his readers to improve their yards not just for the sake of their own uplift and enjoyment but in the interest of the greater good; through the "principle of imitation," they would become models for their neighbors, and in this way a single example of refinement could transform a "graceless village." We now have lawns smoother and more velvety than Downing could have imagined. And yet our relationship to the Beautiful remains vexed. As the anti-lawnists correctly observe, the American lawn now represents a serious civic problem. That the space devoted to it continues to grow—and that more and more water and chemicals and fertilizer are devoted to its upkeep—doesn't prove that we care so much as that we are careless. ♦