

# Weeds Are Us

Michael Pollan

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Ralph Waldo Emerson, who as a gardener really should have known better, once said that a weed is simply a plant whose virtues we haven't yet discovered. "Weed," that is, is not a category of nature but a human construct, a defect of our perception. This kind of attitude, which draws on an old American strain of romantic thinking about wild nature, can get you into trouble. At least it did me. For I had Emerson's pretty conceit in mind when I planted my first flower bed, and the result was not a pretty thing.

Having read perhaps too much Emerson, and too many of the sort of gardening book that advocates "wild gardens," and nails a pair of knowing quotation marks around the word weed (a sure sign of ecological sophistication), I sought to make a flower bed that was as "natural" as possible. Rejecting all geometry (too artificial!), I cut a kind of kidney-shaped bed in the lawn, pulled out the sod, and divided the bare ground into irregular patches that I roughly outlined with a bit of ground limestone. Then I took packets of annual seeds—bachelor's buttons, nasturtiums, nicotianas, cosmos, poppies (California and Shirley), cleomes, zinnias and sunflowers—and broadcast a handful of each into the irregular patches, letting the seeds fall where nature dictated. No rows: the bed's arrangement would be natural. I sprinkled the seeds with loose soil, then water, and waited for them to sprout.

That first summer, my little annual meadow thrived, more or less conforming to the picture I'd had in mind when I planted it. Sky-blue drifts of bachelor's buttons flowed seamlessly into hot spots thick with hunter-orange and fire-engine poppies, behind which rose great sunflower towers. The nasturtiums poured out their sand-dollar leaves into neat, low mounds dabbed with crimson and lemon, and the cleomes worked out their intricate architectures high in the air.

Weeding this dense, rowless tangle was soon all but impossible, but that didn't matter, because I had adopted a *laissez-faire* policy toward the uninvited. The weeds that moved in were ones I was willing to live with: jewelweed (a gangly orange-flowered relative of *impatiens*), foxtail grass, clover, shepherd's purse, inconspicuous *Galinsoga*, and Queen Anne's lace, the sort of weed Emerson must have had in mind, with its ivory lace flowers (as beautiful as anything you might plant) and its edible, carrotlike root.

That first year a pretty vine also crept in, a refugee from the surrounding lawn. It twined its way up the sunflower stalks and in August unfurled white, trumpet-shaped flowers reminiscent of morning glory. What right had I to oust this delicate vine? To decide that the flowers I planted were more beautiful than ones the wind had sown? I liked how wild my garden was, how peaceably my cultivars seemed to get along with their wild relatives. And I liked how unneurotic I was being about "weeds." Call me Ecology Boy.

"Weeds," I decided that summer, did indeed have a bad rap. I thought back to my grandfather's garden, to his unenlightened, totalitarian approach toward weeds. Each day, he patrolled his pristine rows, beheading the merest smudge of green with his vigilant hoe. Hippies, unions and weeds: all three made him crazy then, an old man

in the late 1960's, and all three called forth his reactionary wrath. Perhaps because there was little he could do to stop the march of hippies and organized labor, he attacked weeds all the more zealously. He was one of those gardeners who would pull weeds anywhere—not just in his own or other people's gardens, but in parking lots and storefront window boxes, too. His world was under siege, and weeds to him represented the advance guard of the forces of chaos. Had he lived to see it, my little wild garden—this rowless plant be-in, this horticultural Haight-Ashbury—would have broken his heart.

MY GRANDFATHER wasn't the first man to sense a social or political threat in the growth of weeds. Whenever Shakespeare tells us that "darnel, hemlock, and rank fumitory" or "hateful docks, rough thistles, kecksies, burrs" are growing unchecked, we may assume a monarchy is about to fall. Until the romantics, the hierarchy of plants was generally thought to mirror that of human society. Common people, one writer held in 1700, may be "looked upon as trashy weeds or nettles."

The garden world even today organizes itself into one great hierarchy. At the top stand the hypercivilized hybrids—the rose, "queen of the garden"—and at the bottom skulk the weeds, the plant world's proletariat, furiously reproducing and threatening to usurp the position of their more refined horticultural betters.

The 19<sup>th</sup>-century romantics, who looked more kindly on the common man, also looked kindly on the weed. By the time they wrote, the English countryside had been so thoroughly dominated, every acre cleared of trees and bisected by hedgerows, that the idea of a wild landscape acquired a strong appeal, perhaps for the first time in European history. (Nostalgia for wilderness comes easy once it no longer poses a threat.) Ruskin wrote enthusiastically of the wildflower, and deplored the garden as "an assembly of unfortunate beings, pampered and bloated above their natural size..."

If garden flowers were slaves to men, then weeds were emblems of freedom and wildness. "Better to me the meanest weed," wrote Tennyson in the early 1830's. "Weed," soon became a standard synecdoche for wilderness, as in this stanza of Gerard Manley Hopkins:

*What would the world be, once bereft  
Of wet and wildness? Let them be left,  
O let them be left, wildness and wet;  
Long live the weeds and the wilderness yet.*

Predictably, the romance of the weed gained a ready purchase on the American mind, which has always been disposed to regard the works of nature as superior to those of men, and to resist hierarchies wherever they might be found. The weed supplies Emerson, Whitman, Thoreau and generations of American naturalists with a favorite trope—for unfettered wildness, for the beauty of the unimproved landscape, and of course, when in quotes, for the benightedness of those fellow countrymen who fail to perceive nature as acutely and sympathetically as they do. Weed worship continues

to flower periodically in America, most recently in the 1960's. "Weed" became a fond nickname for marijuana, and millions of us consulted our tattered copies of Euell Gibbons's "Stalking the Wild Asparagus," an improbable best seller that, essentially, proposed weeds as the basis of a wonderful new American cuisine. No doubt today's rising alarm about the fate of nature will bring a resurgence of pro-weed sentiment. Whenever civilization seems stifling, weeds begin to look pretty good.

MY OWN ROMANCE of the weed did not survive a second summer. The annuals, which I had allowed to set seed the previous year, did come back, but they proved a poor match for the weeds, which returned heavily reinforced. It was as though news of this sweet deal (this chump gardener!) had spread through the neighborhood over the winter, for the weed population burgeoned, both in number and kind. Feeling that a gardener should know the name of every plant in his care, I consulted a few field guides and drew up an inventory of my collection. In addition to the species I've already mentioned, I had milkweed, pokeweed, smartweed, St. Johnswort, quack grass, crabgrass, plantain, dandelion, bladder campion, fleabane, butter-and-eggs, timothy, mallow, bird's-foot trefoil, lamb's-quarters, chickweed, purslane, curly dock, goldenrod, sheep sorrel, burdock, Canada thistle and stinging nettle. What had begun as an idealized wildflower meadow now looked like a roadside tangle and, if I let it go another year, would probably pass for a vacant lot.

That had not been my esthetic aim, so I set about reclaiming the garden—to arrest the process at "country roadside," before it degenerated to "abandoned railroad siding." But I would be enlightened about it: I was prepared to tolerate the fleabane, holding aloft its sunny clouds of tiny aster-like flowers, or the milkweed, with its interesting seedpods, but burdock, Canada thistle and stinging nettle had to go.

Unfortunately, the weeds I liked least proved to be the best armed and most recalcitrant. Burdock, whose giant clubfoot leaves hog a garden's sunlight, holds the earth in a death grip. Straining to yank out its long taproot, you feel like a boy trying to arm-wrestle a man. Invariably the root breaks before it yields, with the result that, in a few days' time, you have two tough burdocks where before there had been one.

That pretty vine with the morning glory blossoms turned out to be another hydra-headed monster. Bindweed, as it's called, can grow only a foot or so without support, so it casts about like a blind man, lurching this way, then that, until it finds a suitable plant to lean on and eventually smother. Here, too, my efforts at eradication proved counterproductive. For bindweed's root is as brittle as a fresh snapbean; put a hoe to it and it breaks into a dozen pieces, each of *which will sprout an entire new plant*. It is as though bindweed's evolution took the hoe into account. By attacking it at the root I played right into its insidious strategy for world domination.

Have I mentioned my annuals? A few managed to hang on gamely, counting themselves lucky to serve as underplanting for the triumphant weeds. But whatever niches remained for them the grasses seemed bent on erasing.

Stealthy quack grass moved in, spreading its intrepid rhizomes to every corner of the bed. Quack grass roots can travel laterally as much as 50 feet, moving an inch

or two beneath the surface and pushing up a blade (or 10) wherever the opportunity arises. You pull a fistful of this grass thinking you've doomed an isolated tuft, only to find you've grabbed hold of a rope that reaches clear into the next county—where it is no doubt tied by a very good knot to an oak.

Now what would Emerson have to say about my weeds? I had given them the benefit of the doubt, acknowledged their virtues and allotted them each a place. I had treated them, in other words, as garden plants. But they did not behave as garden plants. They differed from my cultivated varieties not merely by a factor of human esteem. No, they seemed truly a different order of being, more versatile, better equipped, craftier and more ruthless.

What garden plant can germinate in 36 minutes, as a tumbleweed can? What cultivar can produce 250,000 seeds on a single flower stalk, as the mullein does? Or travel a foot each day, as kudzu can? Or, like the bindweed, clone new editions of itself in direct proportion to the effort spent trying to eradicate it? According to Sara B. Stein's excellent botany, "My Weeds," Japanese knotweed can penetrate four inches of asphalt, no problem. Lamb's-quarter seeds recovered from an archeological site germinated after spending 1,700 years in storage, patiently awaiting their shot. The roots of the witchweed emit a poison that can kill other plants in its vicinity.

No, it isn't just our lack of imagination that gives the nettle its sting. SO WHAT IS A WEED? I consulted several field guides and botany books hoping to find a workable definition. Instead of one, however, I found dozens, though almost all could be divided into two main camps. "A weed is any plant in the wrong place" fairly summarizes the first camp. The second maintains, essentially, that "a weed is an especially aggressive plant that competes successfully against cultivated plants." In the first, Emersonian definition, the weed is a human construct; in the second, weeds possess certain inherent traits we do not impose. The metaphysical problem of weeds is not unlike the metaphysical problem of evil: Is it an abiding property of the universe, or an invention of humanity? Weeds, I'm convinced, are really out there. But I am prepared to concede the existence of a gray area inhabited by Emerson's weeds, plants upon which we have imposed weediness simply because we can find no utility or beauty in them. One man's flowers may indeed be another's weeds. Purple loosestrife, which I planted in my perennial border, has been outlawed in Illinois, where it has escaped gardens and now threatens the wetland flora. Likewise, I pull easily enough dandelions and purslanes from my vegetable garden every day to make a tasty salad for Euell Gibbons. What I call weeds he might well call lunch.

Now ordinarily I am perfectly comfortable with this sort of relativistic thinking, but experience tells me it is shallow here in the garden. And not only my experience: Emerson's own student, Henry David Thoreau, comes to struggle with his teacher's romantic notion when he plants his bean field at Walden. As an observer and naturalist, Thoreau consistently refuses to make "invidious distinctions" between different orders of nature; sworn enemy of hierarchy, the man boasts of the fact that he loves swamps more than gardens. But as soon as he determines to make "the earth say beans instead

of grass” he discovers he has made enemies in nature. Thoreau is obliged to wage a long and decidedly uncharacteristic war, “filling up trenches with the weedy dead.” He finds himself “making such invidious distinctions with his hoe, leveling whole ranks of one species, and sedulously cultivating another.”

Thoreau is gardening here, of course, and this forces him at least for a time to lay aside his romanticism about nature—what some naturalists today hail as his precocious “biocentrism.” But by the end of the chapter, his bean field having fulfilled its purpose, Thoreau trudges back—lamely, it seems to me—to the Emersonian fold: “The sun looks on our cultivated fields and on the prairies and forests without distinction ... do [these beans] not grow for woodchucks partly? ... How then can our harvest fail? Shall I not rejoice also at the abundance of the weeds whose seeds are the granary of the birds?”

Sure, Henry, rejoice. And starve.

MY OWN TRIALS IN THE garden have convinced me “absolute weediness” exists—that weeds represent a different order of being, and the fact that Thoreau’s beans were no match for his weeds does not mean the weeds have a higher claim to the earth, as Thoreau seems to think. I found support for this conviction in the field guides and botany books I consulted when I was trying to identify my weeds. As I searched these volumes for the noms de bloom of my marauders, I jotted down each species’ preferred habitats. Here are a few of the most typical: “waste places and roadsides”; “open sites”; “old fields, waste places”; “cultivated and waste ground”; “old fields, roadsides, lawns, gardens”; “lawns, gardens, disturbed sites.”

This list suggests that weeds are not superplants: they don’t grow everywhere, which explains why, for all their vigor, they haven’t covered the globe entirely. Weeds, as the field guides indicate, are plants particularly well-adapted to man-made places. They don’t grow in forests or prairies—in “the wild.” Weeds thrive in gardens, meadows, lawns, vacant lots, railroad sidings, hard by dumpsters and in the cracks of sidewalks. They grow where we live, in other words, and hardly anywhere else.

Weeds, contrary to what the romantics assumed, are not wild. They are as much a product of civilization as the hybrid tea rose, or Thoreau’s bean plants. They do better than garden plants for the simple reason that they are better adapted to life in a garden. For where garden plants have been bred for a variety of traits (tastiness, size, esthetic appeal), weeds have evolved with just one end in view: the ability to thrive in ground that man has disturbed. And at this they are very accomplished indeed.

Standing at the forefront of evolution, weeds are nature’s ambulance chasers, carpet-baggers and confidence men. Virtually every crop in general cultivation has its weed impostor, a kind of botanical doppelganger that has evolved to mimic the appearance as well as the growth rate of the cultivated crop and so insure its survival. Some of these impostors, like wild oats, are so versatile that they can alter their appearance depending on the crop they are imitating—an agricultural fifth column.

And yet as resourceful and aggressive as weeds may be, they cannot survive without us any more than a garden plant can. Without man to create cropland and lawns and

vacant lots, most weeds would soon vanish. Bindweed, which seems so formidable in the field and garden, can grow nowhere else. It lives by the plow as much as we do.

To learn all this was somehow liberating. My weeds were no more natural than my plants, had no higher claim to the space they were vying for. Battling weeds did not bespeak alienation from nature, or some irresponsible drive to dominate it. Had Thoreau known this, perhaps he would not have troubled himself so about “what right had I to oust St. Johnswort, and the rest, and break up their ancient herb garden?”

Had Thoreau brought a field guide with him to Walden, he might have noted that most of the weeds that came up in his garden were alien species, brought to America by the colonists. St. Johnswort, far from being an ancient Walden resident, was brought to America in 1696 by a fanatic band of Rosicrucians who claimed the herb had the power to exorcise evil spirits. You want to privilege this over beans?

It's hard to imagine the American landscape without St. Johnswort, daisies, dandelions, crabgrass, timothy, clover, lamb's-quarters, buttercup, mullein, Queen Anne's lace, plantain, or deadly nightshade, but not one of these species grew here before the Puritans landed. America in fact had few indigenous weeds, for the simple reason that it had little disturbed land. The Indians lived so lightly on the land that they created few habitats in which weeds might take hold. No plow, no bindweed. But as early as 1663, when John Josselyn compiled a list “of such plants as have sprung up since the English planted and kept cattle in New England,” he found, among others, couch grass, dandelion, sow-thistle, shepherd's purse, groundsel, dock, mullein, plantain and chickweed.

Some of these weeds were brought over deliberately: the colonists prized dandelion as a salad green, and used plantain (which is millet) to make bread. The seeds of other weeds, though, came by accident—in forage, in the earth used as shipboard ballast, even in pant cuffs and cracked boot soles.

Once here, the weeds spread like wildfire. According to Alfred W. Crosby, the ecological historian, the Indians considered the Englishman a botanical Midas, able to change the flora with his touch; they called plantain “Englishman's foot” because it seemed to spring up wherever the white man stepped. Though most weeds traveled with white men, some, like the dandelion, raced west of their own accord (or possibly with the help of the Indians, who quickly discovered the plant's virtues), arriving well ahead of the pioneers. Thus the supposedly virgin landscape upon which the Western settlers gazed had already been marked by their civilization.

Those same pioneers, however, did not gaze out on tumbleweed, that familiar emblem of the untamed Western landscape. Tumbleweed did not arrive in America until the 1870's, when a group of Russian immigrants settled in Bon Homme County, S.D., intending to grow flax. Mixed in with their flax seeds were a few seeds of a weed well known on the steppes of the Ukraine: tumbleweed.

European weeds thrived here, in a matter of years changing the face of the American landscape and helping to create what we now take to be our country's abiding “nature.” Why should these species have prospered so? Probably because the Europeans who

brought them got busy making the earth safe for weeds, razing the forests, plowing fields, burning prairies and keeping grazing animals. And just as the Europeans helped clear the way for their weeds, weeds helped clear the way for Europeans: Old World livestock fared poorly here until the European grasses they were accustomed to eating conquered American meadows. Today, most of the native grasses have vanished.

Working in concert, European weeds and European humans proved formidable ecological imperialists, driving out native species and altering the land to suit themselves. The new species thrived because they were consummate cosmopolitans, opportunists superbly adapted to travel and change. In a sense, the invading weeds had less in common with the retiring, provincial plants they ousted than with the Europeans themselves.

Or perhaps that should be put the other way around. “If we confine the concept of weeds to species adapted to human disturbance,” writes Jack R. Harlan in “Crops and Man,” “then man is by definition the first and primary weed under whose influence all other weeds have evolved.”

Weeds are not the Other. Weeds are us.

A PEDESTRIAN STANDING at the corner of Houston Street and La Guardia Place in Manhattan might think that the wilderness had reclaimed a tiny corner of the city’s grid here. Ten years ago, an environmental artist persuaded the city to allow him to create on this site a “Time Landscape” showing New Yorkers what Manhattan looked like before the white man arrived. On a small hummock he planted oak, hickory, maples, junipers, and sassafras, and they’ve grown up to form a nearly impenetrable tangle, which is protected from New Yorkers by a steel fence now thickly embroidered with vines. It’s exactly the sort of “garden” of which Emerson and Thoreau would have approved—for the very reason that it’s not a garden. Or at least that’s the conceit.

I walk by this antigarden most mornings on my way to work, and for some reason it has always irritated me. It adjoins a lively community garden, where any summer evening will find a handful of neighborhood people busy cultivating their little patches of flowers and vegetables. Next to this display of enterprise, the untended “Time Landscape” makes an interesting foil. But the juxtaposition has always seemed a bit pat to me, a shade too righteous, and walking by one day last summer I figured out why.

My mind fixed on the weeds just then hoisting victory flags over my own garden, I recognized one of the vines twining along the fence from the field guides I’d been consulting. It was deadly nightshade, a species, I recalled—and not without my own sweet pang of righteousness—that is not indigenous: it came to America with the white man. Ah ha! This smug little wilderness was in fact a garden after all. Unless somebody weeds it, assiduously and knowledgeably, it will be overrun with alien species. This “Time Landscape” is in perpetual danger of degenerating into an everyday vacant lot; only a gardener, armed with a hoe and a set of “invidious distinctions,” can save it.

Once, of course, this would not have been the case. But by now, we have made so many changes in the land that some form of gardening has become unavoidable, even in those places we wish to preserve as a monument to our absence.

This, it seems to me, is one of the lessons of last summer's massive fires in Yellowstone. At a certain point in history, doing nothing is not necessarily benign. Since 1972, park management in Yellowstone has followed a policy called "natural burn," under which most naturally occurring fires are allowed to burn freely. All those previous years of firefighting, however, had left an abundance of unburned dead wood on the forest floor—and this is why, when the fires finally came in the drought year of 1988, they proved catastrophic. Yellowstone's eco-system having already been altered by the earlier policy of fire suppression, the new policy could not in any real sense be "natural," nor were the fires it fostered.

There's no going back. Even Yellowstone, our country's greatest "wilderness," stands in need of careful management—it's too late in the day simply to "leave it alone." I have no idea what the best fire policy for Yellowstone might be, but I do know that men and women, armed with scientific knowledge and acting through human institutions, will have to choose one. They will also have to decide how many tourists Yellowstone can support, whether wolves should be reintroduced to help keep the elk population from exploding, and a host of other complicated questions. Today, even Yellowstone must be "gardenized."

A century after Thoreau wrote, "In wildness is the preservation of the world," Wendell Berry, the Kentucky poet and farmer, added a corollary that probably would have made no sense to Thoreau: "In human culture is the preservation of wildness."

Thoreau, and his many descendants among contemporary naturalists and radical environmentalists, assume that human culture is the problem, not the solution. So they urge us to shed our anthropocentrism and learn to live among other species as equals. This sounds like a nice, ecological idea, until you realize that the earth would be even worse off than it is if we started behaving any more like animals than we already do. The survival strategy of most species is to extend their dominion as far and as brutally as they can, until they run up against some equally brutal natural limit that checks their progress. Isn't this precisely the course we've been on?

What sets us apart from other species is culture, and what is culture but forbearance? Conscience, ethical choice, discrimination: surely it is these very human, and decidedly unecological, principles that offer the planet its last best hope. It is true that, historically, we've concentrated on exercising these faculties in the human rather than the natural estate, but that doesn't mean they cannot be exercised there.

If I seem to have wandered far afield of my topic, consider what weeding is: the process by which we make informed choices in nature, discriminate between good and bad, apply our intelligence and sweat to the earth. To weed is to apply culture to nature—which is why we say, when we are weeding, that we are cultivating the soil. Weeding, in this sense, is not a nuisance that follows from gardening, but its very essence.

We cannot live in the world without changing nature irrevocably; having done so, we're obliged to tend to the consequences, which is to say, to weed. "Weeding" is what can save places like Yellowstone, but only if we recognize that weeding is not just something we do to the land—only if we recognize the need to cultivate our own nature, too. For though we may be the earth's gardeners, we are also its weeds. And we won't get anywhere until we come to terms with this ambiguity—that we are at once the problem and its only possible solution.

EVENTUALLY I CAME to see that my weed-choked garden was ridiculous, even irresponsible. The garden plants had thrown in their lot with me, and I had failed to protect them from the weeds. So I ripped out the garden and began anew.

This time, I cut a perfect rectangle in the grass, and planted my flower seeds in scrupulous rows, 18 inches apart and as straight as a plumb line could make them. As the seedlings came up, I cultivated assiduously between the rows, using the dutch hoe that my grandfather had given me. I didn't worry too much about epistemology: whatever came up between the rows I judged a weed and cut it down.

The rows began as a convenience—but I've gotten to like the way they look; I guess by now I am more turned off by romantic conceits about nature than by a little artifice in the garden. Geometry is man's language, Le Corbusier said, and I am glad to have a garden that speaks in that tongue. I know better than to think a less-tended garden is any more natural; weeds are our words, too.

As I see it, the day I decided to disturb the soil, I undertook an obligation to weed. For this soil is not virgin, and hasn't been for centuries. It teems with millions of weed seeds for whom the thrust of my spade represents the knock of opportunity.

Not "nature," strictly speaking, these seeds are really the descendants of earlier gardeners. To let them grow, to do nothing, is tantamount to letting those gardeners plant my garden: to letting all those superstitious Rosicrucians and Puritans and Russian immigrants have their way here. To do nothing, in other words, would be no favor to me, or my plants, or nature.

So, I weed.

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