

## Plant Life

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I still have the first tree I grafted, but I don't know for how much longer. It's a cherry tree, and when I look up through its branches, where there should be leaves I see a lot of sky. Some of it I see through neat oval holes punched in the leaves, so perforated they look like Swiss cheese. I should get rid of it. I will. Sooner or later.

As I stand here looking at my tree, wondering what to do for it now, three ants saunter single file down the wall of the garage. They hop aboard a shredded leaf brushing against the siding, where I have failed to get around to pruning the tree back from the house. They fan out to different stems, looking for something to eat and carrying tree diseases on their sticky little feet.

I'm a physician, but a lot of good that does me in the garden. The diseases I know have Greek and Latin names like *situs inversus*, *tinea versicolor*, and *diabetes insipidus*. Here in the garden, diseases have blunt Anglo-Saxon names, like rust, scab, canker, and dodder. I know the physics and biochemistry of congestive heart failure, liver failure, and kidney failure. I treat them essentially by adjusting the plumbing: more water here, less there; loosen the pipes here, tighten them there. That's no use with my cherry tree; plants have no internal organs. It's all dermatology.

My tree has been sick for three years. Something's chewing up the leaves, and the bark is cracking, oozing ribbons of clear yellow sap that dry hard like amber. Standing right in front of the garage, this tree looks more like a neighborhood eyesore every year, the gardening equivalent of a broken-down truck up on blocks in the driveway. Last year a young landscaper told me I should just take it out and put in a new tree, and I told him I wasn't ready to give up on it yet. He sighed and turned away, leaving unspoken his thoughts about clients. It wasn't his cherry tree, it's mine. I know it's not pretty. This year it looks even worse.

I don't know what's making my tree sick, and I'm not used to that. People need their diagnoses. For trees it doesn't matter as much—most sick trees get treated pretty much the same way. That's because most plant problems are infections with a whole gang of microscopic vandals—once one intruder cracks the barriers, others pile on. The defending gardener can prune off dead wood, and spray organic chemicals like sulfur that make life uncomfortable

for the hoodlums. I've done that. All I can do for this tree amounts to what doctors a hundred years ago could do for their patients: give water and soup, keep the sickroom clean, watch and wait. I can't say it's working for my tree.

Not all sick plants are terminal. I did save the raspberries. That's why I still have hope for the cherry tree, despite my landscaper's advice. One spring seven years ago, neon-yellow speckles suddenly covered the raspberry leaves like a highlighter pen run amuck. I urgently took specimens of sick leaves to garden stores, where no one could name what was happening to them. One wise old geezer at the Home Orchard Society—an organization of home fruit-tree growers—called it “shot-hole disease” and shook his head somberly. “Shot-hole disease” wasn't in my books either. Finally, at a weekend garden fair, a Master Gardener gave me an ID: my raspberries had either Yellow Rust or Orange Rust. He couldn't tell which, but I had better hope it was Yellow Rust, because Orange Rust was usually fatal.

The rusts are fungi. In the damp Northwest, anything alive sports a few fungus diseases. I realized that there was a fungal pattern to my raspberry's rash: the worst yellow-spotted leaves were in the interior of the thicket, protected from the breezes that might dry them off once in a while. The only hope if it was Orange Rust, the Master Gardener had said, was to amputate all diseased plant matter and keep the disease from spreading. Assuming the worst, I ripped out everything yellow. To ventilate the patient, I pruned back canes to open up a breezeway along the fence. I crawled among the scratchy canes on my aging knees to pull out tall grass and weeds that blocked air flow. The thicket survived, and even produced a handful of berries that year.

Now the soft yellow speckles appear every spring, and I watch them. If I let the thicket spread too far or get too thick, hoping for more fruit, there will be more disease and maybe less fruit. Or maybe more fruit—I might get away with it. If I don't get around to weeding or pruning or spraying because I'm busy with other things—like the rest of my non-gardening life and work—there will be more sick plants. Last summer was the summer after my father died and I didn't get much done in the garden. We had a dry spring and a hot summer, though, so the raspberries did all right. I know the bush is chronically ill, but it's healthy enough to produce gallons—gallons!—of raspberries each year. I can live with that. I still don't know whether I'm fighting Yellow Rust or Orange Rust.

Most of my patients, if I ask, don't want to die like this cherry tree is dying. My father sure didn't want to die like this, branch by branch. He didn't want to see himself oozing sap. He made that quite clear in his living will. The cherry tree doesn't seem to mind.

I do have patients who are dying this way, piece by piece, as their diseases disassemble them. They stop caring. They stop walking, or talking, or remembering. A lot of diseases do that. That's the kind of death that's hardest on the family and friends, seeing the person they still love in pieces. My patients, with each loss, count the branches they have left: Is this enough? Is this enough life to still be worth living? Plants don't ask those questions. They don't feel pain, and they don't measure their lives against their desires, as we do. They don't mind their persistent vegetative state.

The cherry tree doesn't have to make decisions about how it's going to die. I envy that. The hardest thing about my father's final illness was having to make decisions through all the ups and downs. He broke a hip and got pneumonia almost two years ago. He nearly died, and he wanted to die, then he got better, and accepted that he was going to live. Then, within days, he died of another pneumonia. Technology could have kept him alive, but not in any way he wanted to live. With every change, for better or worse, we—or mostly I, as the doctor in the family—had to decide how aggressively to treat, with what, and what to risk. It all took two months—which was both a long time and a short time.

There must be gardeners who keep their gardens in perfect health. The Home Orchard Society has a gathering every spring to which members bring cuttings from their own trees, hundreds of different kinds. One can pick up scions, twigs of fruitwood, to graft onto one's own trees. The trees that supply grafting scions have to be healthy, robust, and disease-free, like the organ donors they are. I have watched and envied these donor gardeners bringing fistfuls of vigorous twigs with lustrous bark up to the desk, to be sorted into coffee cans for "Apple, Gravenstein" or "Fig, Desert King." These owners of healthy gardens are all older than I am, some much older, which I take to mean that they have time on their hands. If I had more time, I think, I could spray sulfur every two weeks, too, and my trees would look like that. Are they giving their trees happier homes than I give mine? Am I a bad parent? Was I a bad daughter? Some of my patients are as healthy as their trees, but I don't take credit for that. What else should I do for my cherry tree? What should I have done differently for my father? Some of these happy gardeners don't look too healthy themselves, frankly, but their gardens are healthier than mine.

Grafting is funny because the fact that it works means that wood is intelligent. We all know that seeds are intelligent. Inside the seed are chromosomes that spell out, in code, the plant that will rise out of the seed. We think wood is stupid, just unthinking construction material that holds up the interesting parts that make fruit and flowers and seeds. But if I take a twig

from a tree that grows, say, green apples, and graft it onto a root that will pull water and nutrition up out of the earth, green apples will grow out of that length of wood. If I then take a twig from a tree that grows, say, red pears, and graft it onto the skyward end of the green-apple branch, red pears will grow out of that wood, right next to the green apples. The information—how to make an apple, or how to make a cherry—is in the wood.

I grafted this cherry tree twelve years ago, at a beginners' workshop. I grafted three different kinds of cherries onto it, took it home, and planted the baby tree. Weeks later leaves sprouted from all three scions. I felt like I had magic hands.

If I don't graft anything onto a root, it will still blindly pull water and nutrition out of the earth and feed it upwards. If the root has no stem or branch to feed, it will sprout one and push it up—as, for example, pulling out a dandelion but leaving any part of the root in the ground will soon produce another dandelion. Anyone who has left a garden untended for a while will recognize the power of this slow, blind, steady eruption.

My tree, as far as I know, does not feel pain. I certainly hope it is feeling no pain as its branches give up their ghosts. If plants felt pain, we would have an obligation to give them a good death—the same obligation that we have toward our pets, and our fellow human beings. Until then, the ethics of gardening remain simple: let a plant live until it dies.

Trees don't have a moment of death like we do. The tree is not dead until that slow upward force stops. I have known people who lost that force—people tired of fighting gravity. That's what depression looks like, and grief in old widows and widowers. I saw that look in my father. I have also taken care of people who tried to push the force that gave them life back into the ground—all the asthmatic smokers and cirrhotic drinkers. They come to clinic when they get sick, to ask me to fix them up. Sometimes they tell me what they think I want to hear about quitting their habits and taking care of themselves from now on. Sometimes I believe them. I have never known a plant to push its root away.

Some of the small branches of my tree are dead. Nothing is flowing in them; they snap off easily. The rest of the tree still pushes out green leaves despite its attackers. Which should I believe?

Today I clipped off the branches that brush the house and give the ants access to the tree. Tomorrow I will wrap a sticky ant barrier around the base of my tree—and spray more sulfur. ☸