The day I taught my last class was the same day I met Aviva. It was late August, and I decided to walk the two miles to campus. The summer had been hot and still like a clamped lid trapping my anxiety beneath it, but I felt good that morning. I liked the urgent way the air billowed up the steps to meet me, liked it as it rushed over my bare arms, liked the way I looked in my sleeveless tank top, which I'd started wearing more often, no longer caring about whatever raised eyebrows or questions my few visible scars might have prompted.

By then, it had been weeks since I'd received official communication from the college. As with most everyone else, my teaching hours had been whittled to almost nothing, and I felt certain *actual* nothing lay one meeting away. The dean finally cut Arthur's Subversive Tech course last year. That was a job *I'd* gotten him and the first firing to really hit home. "Shake the dead leaves off the tree," Arthur said, twisting up one shoulder in resignation.

Nobody had responded to my question about the proposed room change for the seminar, which I hoped was going to be in 203 this semester. "Seminar"—an old, ugly word. Like "diphtheria" or "carbuncle."

I'd entertained myself during the long sleepless night prior with Gothic visions of morning disasters. My hand would pass over the door sensor, and instead of the pinging green light and *whoosh* of the doors, there'd be a harsh buzz and a red flash—then, why not, a blank-faced security detail appearing to escort me off premises, perhaps even a mortifying chase into the bushes. I'd twist an ankle on some branch, then six months of physical rehab—with no access to pain meds, of course.

All this vigorous, wasted effort redounded in my skull as I circled two blocks out of my way to buy a coffee and an orange, prolonging my last moment alone before arriving on campus. Putting the orange in my bag, I spotted the little vial that Arthur had given me and remembered I hadn't taken my supplement today. I took it out, unscrewed the dropper, filled it with the silvery liquid to the lowest line, tipped my head back, and emptied the bulb. I was still getting used to the taste—the metallic flavor recalled the illicit childhood pleasure of touching a battery to my tongue.

Arthur had given me the dropper along with his homemade biomechanical chip to swallow and a series of amusingly strict instructions. The drops keep your body receptive, he told me, and if you just swallow the chip and forget the drops, it won't replicate. You won't find anyone, he warned, and to add to that, you might wind up with inflammation in your joints. I was to avoid eating high-mercury foods.

When I stifled a laugh, he frowned. I'm serious, Cath. Mercury in the blood interferes with the chip's sensors. It could get lost and start to replicate itself in a blood vessel somewhere. If I wake up tomorrow and find out you've had a cerebral artery stenosis because you had sushi, I'll be really mad.

The biomechanical chip and dropper supplements were all a part of a grand experiment of mine—engineering a meeting with an emancipated upload. I'd studied upload personhood for ten years, which was about as long as the concept existed. It didn't look too much like freedom to me, this new state of being: conventional uploads could vote on behalf of their human counterparts, but they couldn't vote once they left their tethers. "One body, one vote" went the logic and the rallying cry. We didn't so much set them free as snip their tethers and let them float free like balloons snagged on tree branches. Something in me related to that, or at least I imagined so.

Every time I swallowed the drops, I felt like a woman from some nineteenth-century salon, holding séances and communing with the imagined dead. My life, up until now, resembled a series of torched bridges, with all the people left behind on each island coughing and spluttering, never to see me again. I'd been settled on this particular island for a decade, which, I see now, is right about when the old demons start reawakening.

At the time, I thought of it as a simple, old-fashioned midlife crisis, the kind enjoyed by civilians. I even saw it as a sort of victory—having spent my twenties falling into a deep hole and the ensuing two decades climbing out, it felt

touchingly normal to be dealing with the ordinary set of things: advanced middle age, the world beginning to turn its disinterested eye away from me. Mentally, I had reverted to a sort of second adolescence—or third, depending on who was counting—closing my eyes and waiting for something or someone else to happen to me.

What form did I imagine her presence would take? Some kind of unearthly visitation, a disembodied tap on the shoulder. I knew only I was waiting to meet her. That morning, the liquid tingling under my tongue, I looked up at the trees, the footpaths running under them, trying to determine if they looked different. They might have.

I snuck in the side entrance to the Transhumanities Building, unsure if the door would open when I passed my hand over it. I felt relief when it went green, then wondered if I'd been fired and someone had simply forgotten to deactivate me. The halls were still empty at this hour, and as I scuttled past the dean's open office door, I was relieved to see it was still unoccupied. The sign I'd taped on the door from last term was still on room 203, so I walked in to find a few students waiting. I checked the time; I was five minutes late.

Suddenly brisk, I strode to the front. A kid in the back slumped in green pajama bottoms, his brown hair piled on his head. A girl with curly hair sat at the opposite end, tucking one strand behind an ear and looking at something under her desk. A blond boy sat up straight, in the front row, in a clean white T-shirt and green shorts. His calves were hairless; he looked ready to high-step through a field of tires at the blow of a whistle. I took my seat and won-

dered if we were waiting for anyone else. The dean had to walk right past this sad scene to get to his office.

Just as I gave up and started to clear my throat, a girl in a black hoodie and black jeans ducked into a seat, mouthing, *I'm sorry.* I nodded at her, then welcomed them to Applied Personhood Theory and reminded them there was no personhood studies major anywhere in the country yet, "which means you're here only because you want to be."

The truth was probably sadder: A lot of kids came to this class because, thanks to federal age restrictions, uploads still had that forbidden-fruit tang. Once they realized this was a seminar where we talked about things like "the logics of embodiment" and "embedded intelligences," a third of them usually dropped out.

For the first ten minutes, nothing really happened. I started by tracing some of the broad strokes of the reading—the human fear of the automata, the golem, Descartes's "prison of the body," the dissociation of the body from the self—and was addressing some fundamental personhood questions when the kid in front raised his hand. He cleared his throat, a theatrical touch. "I have your answer," he said.

His face was smug, but his foot jogged nervously under his desk. I was piqued by the bright blue hardness of those eyes, challenging me from such a little-boy face. He hadn't devised that look; he had almost certainly inherited it. He still had years either to grow out of that arrogance or into it. I didn't usually indulge performative interruptions from students, but I stopped. "Well, I was hoping to get through the syllabus first, but I appreciate you leaping right in. What do you have the answer to?"

"To what uploads are."

"What do you think they are?"

"We know what they are," he said. "Stockpiles of personal data programmed into a neural net. Just because they're designed to talk like you doesn't mean they're real, you know?"

The boy in the back and the curly-haired girl glared—this kid had trained the spotlight on himself, which meant it would probably land on them, too. I picked up the orange from my desk, pierced it with my thumb, and began working back one long peel. Then I nodded, slowly. "That's a pretty common view on— What did you say your name was?"

"Mark."

"On upload sentience, Mark." I looked over his head. "Since we're such a small group here. Show of hands: Who has uploaded themselves?"

Three of four hands went up, and the girl who came in late fidgeted. If this informal census of mine had taught me anything, it was that soon it would be everyone. "So almost all of you who came today. Let's keep going. Tell me, what do you call your upload? Do any of you imagine where they go when you are not talking to them?"

"You can't say that!" Mark twisted around in his chair. "Don't answer. It's a trap. She's anthropomorphizing."

I tried to keep my voice light. "What do you mean by that, Mark?"

"I mean data doesn't care where it 'goes.'" His voice carried even when he wasn't straining to raise it. "You're anthropomorphizing. Making it human, I mean."

"I know what 'anthropomorphizing' means," I said. "I meant why is my question a trap?"

"I just call mine Rupa." The girl in the back held her hand up as she spoke, making an apologetic face. "My name."

Wonders never cease, I thought. "You speak to your upload as if you're speaking to yourself?"

Rupa made a so-so gesture. "Like I'm talking to myself, but more than that. I'm also listening."

"Mine's an anagram," the pajama-bottoms kid volunteered. "I'm Jason, and I call my upload Jonas."

Mark muttered something, which prompted Jason to ask him, "What do you call yours?"

"I call it Mark, but that's a prompt, not a name," he said, contemptuous. "Is this entire class going to be a flimsy excuse to promote an anthropomorphic agenda?"

"You really like that word," Rupa interjected.

It was glorious—the slow explosion of that class. Part of it might have just been Mark, deeply interested and hostile. He hadn't just chosen his seat way up front; he had installed himself. How could we ever let ourselves be so fooled by such rudimentary programming tricks, he wanted to know. Mind, thoughts—we were like the primitives who thought photographs stole their souls. He even referenced Narcissus, though he called him "the guy who drowned himself." Someone had clearly fed him all these lines. In the haughtiness of his inflections, I heard a father, an older version of Mark, leaning forward and finding his son's eyes to make sure he understood him. But the boy wasn't a parrot, either; it was clear that he believed these things, deeply, or why

would he come to debunk the theories of an adjunct at nine in the morning?

Rupa asked Mark what would happen if uploads never synced. Who would they become, over time? Wouldn't that make them their own entities? Mark sneered at her. Did she treat all out-of-date software like a lost dog? Jason sat forward, pushing his hair out of his eyes and argued with Mark about minds and brains; Rupa admitted she synced with hers every night before she went to bed. I can't sleep without it, she said. Mark stopped fidgeting and recited his arguments while sitting rock still, as if getting too flustered was to admit some defeat.

I pushed them to consider the implications of a human mind freed from the burdens of storage space; I asked what might happen to empathy when it was no longer rooted in a body. I asked them so many questions, and with such purpose. At that hour of that day, I still knew everything I thought I needed to know. Even when Mark insulted Rupa, and Rupa told him tightly, "I feel sorry for your upload," and I had to intervene, I never once questioned my control of the class. They were flailing in choppy waters, and I threw out the strong ropes that would pull them, gasping, ashore.

I was so profoundly stupid, but I didn't know it. I had about half an hour left before the ropes disappeared in my hands, before I fell into the raging sea.

As I walked out the same side door that afternoon, I found my mind lingering on the late arrival: the dark-

haired girl in the black hoodie. She never spoke, and when class ended, she slung her backpack over one shoulder and ducked out, visibly upset, strap trailing. I wondered distantly what had upset her, but in truth I was too excited, and the new energy coursing through me made unpleasant thoughts impossible. My arms swung at my sides and my feet hit the sidewalk like I was spinning a globe. I imagined each step pulling the path behind me, revealing the trees, the outskirts of town. Even the sweat pooling at my back encouraged me, a reminder of my body's continued possibility for vitality.

Coming up on the clump of markets, where the cars thinned out and the town started back up, I caught myself humming a tune that I turned to sometimes. It wasn't much of a tune, really, just a shapeless rising and falling thing that seized me when I was anxious or upset. It came to me now unbidden, like a birdcall. In my mind, I rehearsed my inevitable meeting with the dean, saving my class—*You've never seen a nineteen-year-old this fired up at nine in the morning over upload rights; I'm telling you, this stuff is only getting more relevant*—when something made me slow my walk. The shape of my feet and hands, and how they looked against the sidewalk, suddenly caught my attention, and then I wondered why I was noticing them. My tune tapered to two notes, and I stopped, closing my eyes and listening to them rumble in my chest, like a foghorn. I opened my eyes.

Something was off.

My perspective had shifted. I tried to understand. The

red oak tree next to me suddenly seemed urgent; an exposed root at its base curled like a knuckle before disappearing beneath the concrete. The sidewalk square canted gently upward, and I had the queer sense that I might be tossed from the pavement as if from the side of a boat. At the end of the block, the smiling man at the fruit market where I bought the orange stacked two black plastic crates and carried them inside; when he passed under the green awning, its shadow touched his back like a hand.

Clearly, my senses were altered—the drops, the biomechanical. Everyone knew this stuff was dicey: swallowing homemade chips, working with unregulated algorithms. Along with the nausea that buckled me and the tightening of fear, I felt a dull embarrassment. I was going to be found dead on a sidewalk three blocks from my home, and when the autopsy was performed, it would reveal that I had poisoned myself out of stupidity, out of loneliness.

I rested my hands on my knees until the queasiness passed, and then I looked up without straightening. The block appeared the same—quaint brick storefronts, sparse foot traffic, slightly weedy—but the angles on the buildings felt sharper, and my eyes seemed to interact with the walls as roughly as if I had touched them with my palm. I stood, and it was then that I heard it—a high whine, shrill but tolerable, similar to tinnitus but more variable, as if there were an insect near my head. I turned my head from side to side, but it seemed to have no effect. Slowly, I placed two hands on my temples and slid them back over my ears until they blotted out street noise and all I heard was the muffle

of my blood passing through. I could still hear the whining noise—or, I realized, noises.

Keeping my hands over my ears, I turned in a slow circle, taking in the parking meters, the cars and storefronts. I became newly aware of something: Every surface around me was coated with sensors. They were everywhere. Everything was alive to the touch, every formerly inanimate surface peered at me with interest, collecting some kind of data. Every object I beheld suddenly looked back at me—the store window observed the changes in my face, the parking meters watched the movement of my hands. Some people might have been horrified by this surveillance, but to me, it didn't feel like invasion. It felt like acknowledgment. It felt like a million caressing hands, loving gazes. I thought I might lift off the ground.

I don't know where she came from. She could have traveled from the bank machine on the corner, a neural-linked phone, or from the operating system of one of the cars droning past. I'd read that emancipated uploads tended to flit freely between systems. There wasn't much in the way of digital infrastructure set up for them, so even the legally emancipated ones often wound up living a rogue existence, hiding in tethered homes and rewriting their code to evade detection from other AIs.

My first impression of her, as I stood on that nearly empty block, was of a sad smile. A hint of playfulness, a well of pain. I saw cheekbones, high ones, and a thin mouth. I didn't know if my mind simply supplied those images from my subconscious memory bank to match

those sensations—some severe great-aunt of mine from an old family photo, maybe. Or were they memories of hers?

"Hello," she said. The voice tickled my ear and made me jump, and for just a moment, everyone's medieval fears about uploads made visceral sense to me. I resisted the impulse to swat at my ear, distracting myself instead by moving my big toes up and down in my shoes. My feet felt a continent away. My hand stayed at my side.

"Who are you?"

"My name is . . . ," she said, then stopped. "Call me Aviva."

"How did you find me, Aviva?" I tried to keep my voice curious, conversational.

"You've been looking for a while," she responded, and I marveled again at the sensation of her speaking voice. The intimacy of it astonished me, and there was also a peculiar echo sensation. No, that isn't quite right. It was like I heard her a half second before she spoke, a constant low-grade déjà vu.

That's probably why I'm having a hard time recalling exactly how she phrased it, but she told me something about being alone for a long time. "The good news is I'm free, but I'm a little lost now," she said. I remember that. "I could really use a friend. I hope this isn't too forward, but it seems like you could, too."

I supposed I could. But—and I hoped this wasn't too forward, either—where was she, exactly?

She hadn't settled yet. It'd been a few months since she left her tether, and she was still "getting used to things

out here." What to do, where to be. "I never really know if someone wants to talk to me, or if they'd be afraid, or hostile. Or try to report me. I'm legal," she added, sounding nervous. But she didn't have a home server anymore. "I noticed you had a high concentration of metal in your blood, so I guessed you might have taken some kind of biomechanical. I figured that meant you were friendly, or at least curious." Then, almost shyly: "I thought I would take a chance on you."

"I'm so glad you did," I said, spreading my arms in a ridiculous gesture I couldn't suppress. Who I imagined I was at that moment, what role I was playing, whether I was hallucinating in the middle of the street—in my mind, all of this was dim noise. What I felt was an overwhelming warmth, a desire to move toward her, even if I had no idea how. I told her I was just on my way home, and she asked if I had any hardware in my house. "Is there a place for me?"

I looked down, my arms still spread. "Just whatever's in me right now. My body."

I perceived a lightening that once again felt like a smile, warmer this time. "That will do for now."

We were both silent as I walked the last two blocks to my apartment. I tried feigning calm, but maddening jolts of electricity coursing down my arms and nibbling like little fishes at my fingers betrayed me and then, mortifyingly, a ferocious kick of longing between my legs that reverberated to my pinkie toes. Jesus, did I have to