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The Present

I

Catch it if you can.

It is early March. I am dazed from a long day of interstate driving homeward; I pull in at a gas station in Nowhere, Virginia, north of Lexington. The young boy in charge ("Chick 'at oll?") is offering a free cup of coffee with every gas purchase. We talk in the glass-walled office while my coffee cools enough to drink. He tells me, among other things, that the rival gas station down the road, whose FREE COFFEE sign is visible from the interstate, charges you fifteen cents if you want your coffee in a Styrofoam cup, as opposed, I guess, to your bare hands.

All the time we talk, the boy's new beagle puppy is skidding around the office, sniffing impartially at my shoes and at the wire rack of folded maps. The cheerful human conversation wakes me,

recalls me, not to a normal consciousness, but to a kind of energetic readiness. I step outside, followed by the puppy.

I am absolutely alone. There are no other customers. The road is vacant, the interstate is out of sight and earshot. I have hazarded into a new corner of the world, an unknown spot, a Brigadoon. Before me extends a low hill trembling in yellow brome, and behind the hill, filling the sky, rises an enormous mountain ridge, forested, alive and awesome with brilliant blown lights. I have never seen anything so tremulous and live. Overhead, great strips and chunks of cloud dash to the northwest in a gold rush. At my back the sun is setting—how can I not have noticed before that the sun is setting? My mind has been a blank slab of black asphalt for hours, but that doesn't stop the sun's wild wheel. I set my coffee beside me on the curb; I smell loam on the wind; I pat the puppy; I watch the mountain.

My hand works automatically over the puppy's fur, following the line of hair under his ears, down his neck, inside his forelegs, along his hot-skinned belly.

Shadows lope along the mountain's rumpled flanks; they elongate like root tips, like lobes of spilling water, faster and faster. A warm purple pigment pools in each ruck and tuck of the rock; it deepens and spreads, boring crevasses, canyons. As the purple vaults and slides, it tricks out the unleaved forest and rumpled rock in gilt, in shape-shifting patches of glow. These gold lights veer and retract, shatter and glide in a series of dazzling splashes, shrinking, leaking, exploding. The ridge's bosses and hummocks sprout bulging from its side; the whole mountain looms miles closer; the light warms and reddens; the bare forest folds and pleats itself like living protoplasm before my eyes, like a running chart, a wildly scrawling oscillograph on the present moment. The air cools; the puppy's skin is hot. I am more alive than all the world.

This is it, I think, this is it, right now, the present, this empty gas station, here, this western wind, this tang of coffee on the tongue, and I am patting the puppy, I am watching the mountain. And the second I verbalize this awareness in my brain, I cease to see the mountain or feel the puppy. I am opaque, so much black asphalt. But at the same second, the second I know I've lost it, I also realize that the puppy is still squirming on his back under my hand. Nothing has changed for him. He draws his legs down to stretch the skin taut so he feels every fingertip's stroke along his furred and arching side, his flank, his flung-back throat.

I sip my coffee. I look at the mountain, which is still doing its tricks, as you look at a still-beautiful face belonging to a person who was once your lover in another country years ago: with fond nostalgia, and recognition, but no real feeling save a secret astonishment that you are now strangers. Thanks. For the memories. It is ironic that the one thing that all religions recognize as separating us from our creator—our very self-consciousness—is also the one thing that divides us from our fellow creatures. It was a bitter birthday present from evolution, cutting us off at both ends. I get in the car and drive home.

Catch it if you can. The present is an invisible electron; its lightning path traced faintly on a blackened screen is fleet, and fleeing, and gone.

That I ended this experience prematurely for myself—that I drew scales over my eyes between me and the mountain and gloved my hand between me and the puppy—is not the only point. After all, it would have ended anyway. I've never seen a sunset or felt a wind that didn't. The levitating saints came down at last, and their two feet bore real weight. No, the point is that not only does time fly and do we die, but that in these

reckless conditions we live at all, and are vouchsafed, for the duration of certain inexplicable moments, to know it.

Stephen Graham startled me by describing this same gift in his antique and elegant book, *The Gentle Art of Tramping*. He wrote, "And as you sit on the hillside, or lie prone under the trees of the forest, or sprawl wet-legged on the shingly beach of a mountain stream, the great door, that does not look like a door, opens." That great door opens on the present, illuminates it as with a multitude of flashing torches.

I had thought, because I had seen the tree with the lights in it, that the great door, by definition, opens on eternity. Now that I have "patted the puppy"—now that I have experienced the present purely through my senses—I discover that, although the door to the tree with the lights in it was opened *from* eternity, as it were, and shone on that tree eternal lights, it nevertheless opened on the real and present cedar. It opened on time: Where else? That Christ's incarnation occurred improbably, ridiculously, at such-and-such a time, into such-and-such a place, is referred to—with great sincerity even among believers—as "the scandal of particularity." Well, the "scandal of particularity" is the only world that I, in particular, know. What use has eternity for light? We're all up to our necks in this particular scandal. Why, we might as well ask, not a plane tree, instead of a bo? I never saw a tree that was no tree in particular; I never met a man, not the greatest theologian, who filled infinity, or even whose hand, say, was undifferentiated, fingerless, like a griddle cake, and not lobed and split just so with the incursions of time.

I don't want to stress this too much. Seeing the tree with the lights in it was an experience vastly different in quality as well as in import from patting the puppy. On that cedar tree shone, however briefly, the steady, inward flames of eternity;

across the mountain by the gas station raced the familiar flames of the falling sun. But on both occasions I thought, with rising exultation, this is it, this is it; praise the lord; praise the land. Experiencing the present purely is being emptied and hollow; you catch grace as a man fills his cup under a waterfall.

Consciousness itself does not hinder living in the present. In fact, it is only to a heightened awareness that the great door to the present opens at all. Even a certain amount of interior verbalization is helpful to enforce the memory of whatever it is that is taking place. The gas station beagle puppy, after all, may have experienced those same moments more purely than I did, but he brought fewer instruments to bear on the same material, he had no data for comparison, and he profited only in the grossest of ways, by having an assortment of itches scratched.

Self-consciousness, however, does hinder the experience of the present. It is the one instrument that unplugs all the rest. So long as I lose myself in a tree, say, I can scent its leafy breath or estimate its board feet of lumber, I can draw its fruits or boil tea on its branches, and the tree stays tree. But the second I become aware of myself at any of these activities—looking over my own shoulder, as it were—the tree vanishes, uprooted from the spot and flung out of sight as if it had never grown. And time, which had flowed down into the tree bearing new revelations like floating leaves at every moment, ceases. It dams, stills, stagnates.

Self-consciousness is the curse of the city and all that sophistication implies. It is the glimpse of oneself in a storefront window, the unbidden awareness of reactions on the faces of other people—the novelist's world, not the poet's. I've lived there. I remember what the city has to offer: human companionship, major-league baseball, and a clatter of quickening stimulus like a rush from strong drugs that leaves you drained. I remember how

you bide your time in the city, and think, if you stop to think, "next year . . . I'll start living; next year . . . I'll start my life." Innocence is a better world.

Innocence sees that this is it, and finds it world enough, and time. Innocence is not the prerogative of infants and puppies, and far less of mountains and fixed stars, which have no prerogatives at all. It is not lost to us; the world is a better place than that. Like any other of the spirit's good gifts, it is there if you want it, free for the asking, as has been stressed by stronger words than mine. It is possible to pursue innocence as hounds pursue hares: singlemindedly, driven by a kind of love, crashing over creeks, keening and lost in fields and forests, circling, vaulting over hedges and hills wide-eyed, giving loud tongue all unawares to the deepest, most incomprehensible longing, a root-flame in the heart, and that warbling chorus resounding back from the mountains, hurling itself from ridge to ridge over the valley, now faint, now clear, ringing the air through which the hounds tear, open-mouthed, the echoes of their own wails dimly knocking in their lungs.

What I call innocence is the spirit's unself-conscious state at any moment of pure devotion to any object. It is at once a receptiveness and total concentration. One needn't be, shouldn't be, reduced to a puppy. If you wish to tell me that the city offers galleries, I'll pour you a drink and enjoy your company while it lasts; but I'll bear with me to my grave those pure moments at the Tate (was it the Tate?) where I stood planted, open-mouthed, born, before that one particular canvas, that river, up to my neck, gasping, lost, receding into watercolor depth and depth to the vanishing point, buoyant, awed, and had to be literally hauled away. These are our few live seasons. Let us live them as purely as we can, in the present.

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The color-patches of vision part, shift, and reform as I move through space in time. The present is the object of vision, and what I see before me at any given second is a full field of color patches scattered just so. The configuration will never be repeated. Living is moving; time is a live creek bearing changing lights. As I move, or as the world moves around me, the fullness of what I see shatters. This second of shattering is an *augenblick*, a particular configuration, a slant of light shot in the open eye. Goethe's Faust risks all if he should cry to the moment, the *augenblick*, "*Verweile doch!*" "Last forever!" Who hasn't prayed that prayer? But the *augenblick* isn't going to *verweile*. You were lucky to get it in the first place. The present is a freely given canvas. That it is constantly being ripped apart and washed downstream goes without saying; it is a canvas, nevertheless.

I like the slants of light; I'm a collector. That's a good one, I say, that bit of bank there, the snakeskin and the aquarium, that patch of light from the creek on bark. Sometimes I spread my fingers into a viewfinder; more often I peek through a tiny square or rectangle—a frame of shadow—formed by the tips of index fingers and thumbs held directly before my eye. Speaking of the development of *papier collé* in late Cubism, Picasso said, "We tried to get rid of *trompe-l'oeil* to find a *trompe-l'esprit*." Trompe-l'esprit! I don't know why the world didn't latch on to the phrase. Our whole life is a stroll—or a forced march—through a gallery hung in trompes-l'esprit.

Once I visited a great university and wandered, a stranger, into the subterranean halls of its famous biology department. I saw a sign on a door: ichthyology department. The door was open a crack, and as I walked past I glanced in. I saw just a flash. There were two white-coated men seated opposite each other on high lab stools at a hard-surfaced table. They bent over identical white enamel trays. On one side, one man, with a lancet, was just

cutting into an enormous preserved fish he'd taken from a jar. On the other side, the other man, with a silver spoon, was eating a grapefruit. I laughed all the way back to Virginia.

Michael Goldman wrote in a poem, "When the Muse comes She doesn't tell you to write; / She says get up for a minute, I've something to show you, stand here." What made me look up at that roadside tree?

The road to Grundy, Virginia, is, as you might expect, a narrow scrawl scribbled all over the most improbably peaked and hunched mountains you ever saw. The few people who live along the road also seem peaked and hunched. But what on earth—? It was hot, sunny summer. The road was just bending off sharply to the right. I hadn't seen a house in miles, and none was in sight. At the apogee of the road's curve grew an enormous oak, a massive bur oak two hundred years old, one hundred and fifty feet high, an oak whose lowest limb was beyond the span of the highest ladder. I looked up: there were clothes spread all over the tree. Red shirts, blue trousers, black pants, little baby smocks—they weren't hung from branches. They were outside, carefully spread, splayed as if to dry, on the outer leaves of the great oak's crown. Were there pillowcases, blankets? I can't remember. There was a gay assortment of cotton underwear, yellow dresses, children's green sweaters, plaid skirts. . . . You know roads. A bend comes and you take it, thoughtlessly, moving on. I looked behind me for another split second, astonished; both sides of the tree's canopy, clear to the top, bore clothes. Trompe!

But there is more to the present than a series of snapshots. We are not merely sensitized film; we have feelings, a memory for information and an eidetic memory for the imagery of our own pasts.

Our layered consciousness is a tiered track for an unmatched assortment of concentrically wound reels. Each one plays out for

all of life its dazzle and blur of translucent shadow-pictures; each one hums at every moment its own secret melody in its own unique key. We tune in and out. But moments are not lost. Time out of mind is time nevertheless, cumulative, informing the present. From even the deepest slumber you wake with a jolt—older, closer to death, and wiser, grateful for breath. You quit your seat in a darkened movie theater, walk past the empty lobby, out the double glass doors, and step like Orpheus into the street. And the cumulative force of the present you've forgotten sets you reeling, staggering, as if you'd been struck broadside by a plank. It all floods back to you. Yes, you say, as if you'd been asleep a hundred years, this is it, this is the real weather, the lavender light fading, the full moisture in your lungs, the heat from the pavement on your lips and palms—not the dry orange dust from horses' hooves, the salt sea, the sour Coke—but this solid air, the blood pumping up your thighs again, your fingers alive. And on the way home you drive exhilarated, energized, under scented, silhouetted trees.

II

I am sitting under a sycamore by Tinker Creek. It is early spring, the day after I patted the puppy. I have come to the creek—the backyard stretch of the creek—in the middle of the day, to feel the delicate gathering of heat, real sun's heat, in the air, and to watch new water come down the creek. Don't expect more than this, and a mental ramble. I'm in the market for some present tense; I'm on the lookout, shopping around, more so every year. It's a seller's market—do you think I won't sell all that I have to buy it? Thomas Merton wrote, in a light passage in one of his Gethsemane journals: "Suggested emendation in the Lord's Prayer: Take out 'Thy Kingdom come' and substitute

'Give us time!'" But time is the one thing we have been given, and we have been given to time. Time gives us a whirl. We keep waking from a dream we can't recall, looking around in surprise, and lapsing back, for years on end. All I want to do is stay awake, keep my head up, prop my eyes open, with toothpicks, with trees.

Before me the creek is seventeen feet wide, splashing over random sandstone outcroppings and scattered rocks. I'm lucky; the creek is loud here, because of the rocks, and wild. In the low water of summer and fall I can cross to the opposite bank by leaping from stone to stone. Upstream is a wall of light split into planks by smooth sandstone ledges that cross the creek evenly, like steps. Downstream the live water before me stills, dies suddenly as if extinguished, and vanishes around a bend shaded summer and winter by overarching tulips, locusts, and Osage orange. Everywhere I look are creekside trees whose ascending boles against water and grass accent the vertical thrust of the land in this spot. The creek rests the eye, a haven, a breast; the two steep banks vault from the creek like wings. Not even the sycamore's crown can peek over the land in any direction.

My friend Rosanne Coggeshall, the poet, says that "sycamore" is the most intrinsically beautiful word in English. This sycamore is old; its lower bark is always dusty from years of flood waters lapping up its trunk. Like many sycamores, too, it is quirky, given to flights and excursions. Its trunk lists over the creek at a dizzying angle, and from that trunk extends a long, skinny limb that spurts high over the opposite bank without branching. The creek reflects the speckled surface of this limb, pale even against the highest clouds, and that image pales whiter and thins as it crosses the creek, shatters in the ripples and melds together, quivering and mottled, like some enormous primeval reptile under the water.

I want to think about trees. Trees have a curious relationship to the subject of the present moment. There are many created things in the universe that outlive us, that outlive the sun, even, but I can't think about them. I live with trees. There are creatures under our feet, creatures that live over our heads, but trees live quite convincingly in the same filament of air we inhabit, and, in addition, they extend impressively in both directions, up and down, shearing rock and fanning air, doing their real business just out of reach. A blind man's idea of hugeness is a tree. They have their sturdy bodies and special skills; they garner fresh water; they abide. This sycamore above me, below me, by Tinker Creek, is a case in point; the sight of it crowds my brain with an assortment of diverting thoughts, all as present to me as these slivers of pressure from grass on my elbow's skin. I want to come at the subject of the present by showing how consciousness dashes and ambles around the labyrinthine tracks of the mind, returning again and again, however briefly, to the senses: "If there were but one erect and solid standing tree in the woods, all creatures would go to rub against it and make sure of their footing." But so long as I stay in my thoughts, my foot slides under trees; I fall, or I dance.

Sycamores are among the last trees to go into leaf; in the fall, they are the first to shed. They make sweet food in green broad leaves for a while—leaves wide as plates—and then go wild and wave their long white arms. In ancient Rome men honored the sycamore—in the form of its cousin, the Oriental plane—by watering its roots with wine. Xerxes, I read, "halted his unwieldy army for days that he might contemplate to his satisfaction" the beauty of a single sycamore.

You are Xerxes in Persia. Your army spreads on a vast and arid peneplain . . . you call to you all your sad captains, and give the

order to halt. You have seen the tree with the lights in it, haven't you? You must have. Xerxes buffeted on a plain, ambition drained in a puff. That fusillade halts any army in its tracks. Your men are bewildered; they lean on their spears, sucking the rinds of gourds. There is nothing to catch the eye in this flatness, nothing but a hollow, hammering sky, a waste of sedge in the lee of windblown rocks, a meager ribbon of scrub willow tracing a slumbering watercourse . . . and that sycamore. You saw it; you still stand rapt and mute, exalted, remembering or not remembering over a period of days to shade your head with your robe.

"He had its form wrought upon a medal of gold to help him remember it the rest of his life." Your teeth are chattering; it is just before dawn and you have started briefly from your daze. "Goldsmith!" The goldsmith is sodden with sleep, surly. He lights his forge, he unrolls the dusty cotton wrapping from his half-forgotten stylus and tongs, he waits for the sun. We all ought to have a goldsmith following us around. But it goes without saying, doesn't it, Xerxes, that no gold medal worn around your neck will bring back the glad hour, keep those lights kindled so long as you live, forever present? Pascal saw it. He grabbed pen and paper; he managed to scrawl the one word, FEU; he wore that scrap of paper sewn in his shirt the rest of his life. I don't know what Pascal saw. I saw a cedar. Xerxes saw a sycamore.

These trees stir me. The past inserts a finger into a slit in the skin of the present, and pulls. I remember how sycamores grew—and presumably still grow—in the city, in Pittsburgh, even along the busiest streets. I used to spend hours in the backyard, thinking God knows what, and peeling the mottled bark of a sycamore, idly, littering the grass with dried lappets and strips, leaving the tree's trunk at eye level moist, thin-skinned and yellow—until someone would catch me at it from the kitchen window, and I would awake,

and look at my work in astonishment, and think oh no, this time I've killed the sycamore for sure.

Here in Virginia the trees reach enormous proportions, especially in the lowlands on banksides. It is hard to understand how the same tree could thrive both choking along Pittsburgh's Penn Avenue and slogging knee-deep in Tinker Creek. Of course, come to think of it, I've done the same thing myself. Because a sycamore's primitive bark is not elastic but frangible, it sheds continuously as it grows; seen from a distance, a sycamore seems to grow in pallor and vulnerability as it grows in height; the bare uppermost branches are white against the sky.

The sky is deep and distant, laced with sycamore limbs like a hatching of crossed swords. I can scarcely see it; I'm not looking. I don't come to the creek for sky unmediated, but for shelter. My back rests on a steep bank under the sycamore; before me shines the creek—the creek which is about all the light I can stand—and beyond it rises the other bank, also steep, and planted in trees.

I have never understood why so many mystics of all creeds experience the presence of God on mountaintops. Aren't they afraid of being blown away? God said to Moses on Sinai that even the priests, who have access to the Lord, must hallow themselves, for fear that the Lord may break out against them. This is *the* fear. It often feels best to lay low, inconspicuous, instead of waving your spirit around from high places like a lightning rod. For if God is in one sense the igniter, a fireball that spins over the ground of continents, God is also in another sense the destroyer, lightning, blind power, impartial as the atmosphere. Or God is one "G." You get a comforting sense, in a curved, hollow place, of being vulnerable to only a relatively narrow column of God as air.

In the open, anything might happen. Dorothy Dunnnett, the great medievalist, states categorically: "There is no reply, in

clear terrain, to an archer in cover." Any copperhead anywhere is an archer in cover; how much more so is God! Invisibility is the all-time great "cover"; and that the one infinite power deals so extravagantly and unfathomably in death—death morning, noon, and night, all manner of death—makes that power an archer, there is no getting around it. And we the people are so vulnerable. Our bodies are shot with mortality. Our legs are fear and our arms are time. These chill humors seep through our capillaries, weighting each cell with an icy dab of nonbeing, and that dab grows and swells and sucks the cell dry. That is why physical courage is so important—it fills, as it were, the holes—and why it is so invigorating. The least brave act, chance taken and passage won, makes you feel loud as a child.

But it gets harder. The courage of children and beasts is a function of innocence. We let our bodies go the way of our fears. A teen-aged boy, king of the world, will spend weeks in front of a mirror perfecting some difficult trick with a lighter, a muscle, a tennis ball, a coin. Why do we lose interest in physical mastery? If I feel like turning cartwheels—and I do—why don't I learn to turn cartwheels, instead of regretting that I never learned as a child? We could all be aerialists like squirrels, divers like seals; we could be purely patient, perfectly fleet, walking on our hands even, if our living or stature required it. We can't even sit straight, or support our weary heads.

When we lose our innocence—when we start feeling the weight of the atmosphere and learn that there's death in the pot—we take leave of our senses. Only children can hear the song of the male house mouse. Only children keep their eyes open. The only thing they *have* got is sense; they have highly developed "input systems," admitting all data indiscriminately. Matt Spireng has collected thousands of arrowheads and spearheads; he says

that if you really want to find arrowheads, you must walk with a child—a child will pick up *everything*. All my adult life I have wished to see the cemented case of a caddisfly larva. It took Sally Moore, the young daughter of friends, to find one on the pebbled bottom of a shallow stream on whose bank we sat side by side. “What’s this?” she asked. That, I wanted to say as I recognized the prize she held, is a memento mori for people who read too much.

We found other caddisfly cases that day, Sally and I, after I had learned to focus so fine, and I saved one. It is a hollow cylinder three quarters of an inch long, a little masterpiece of masonry consisting entirely of cemented grains of coarse sand only one layer thick. Some of the sand grains are red, and it was by searching for this red that I learned to spot the cases. The caddisfly larva will use any bits it can find to fashion its house; in fact, entomologists have amused themselves by placing a naked larva in an aquarium furnished only with, say, red sand. When the larva has laid around its body several rows of red sand, the entomologist transfers it to another aquarium in which only white bits are available. The larva busily adds rows of white to the red wall, and then here comes the entomologist again, with a third and final aquarium full of blue sand. At any rate, the point I want to make is that this tiny immature creature responds to an instinct to put something between its flesh and a jagged world. If you give a “masonry mosaic” kind of caddisfly larva only large decayed leaves, that larva, confronted by something utterly novel, will nevertheless bite the leaves into shreds and rig those shreds into a case.

The general rule in nature is that live things are soft within and rigid without. We vertebrates are living dangerously, and we vertebrates are positively piteous, like so many peeled trees.

This oft was thought, but ne’er so well expressed as by Pliny, who writes of nature, “To all the rest, given she hath sufficient to clad them everyone according to their kind: as namely, shells, cods, hard hides, pricks, shags, bristles, hair, down feathers, quills, scales, and fleeces of wool. The very trunks and stems of trees and plants, she hath defended with bark and rind, yea and the same sometimes double, against the injuries both of heat and cold: man alone, poor wretch, she hath laid all naked upon the bare earth, even on his birthday, to cry and wraule presently from the very first hour that he is born into the world.”

I am sitting under a sycamore tree: I am soft-shell and peeled to the least puff of wind or smack of grit. The present of our life looks different under trees. Trees have dominion. I never killed that backyard sycamore; even its frailest inner bark was a shield. Trees do not accumulate life, but deadwood, like a thickening coat of mail. Their odds actually improve as they age. Some trees, like giant sequoias, are, practically speaking, immortal, vulnerable only to another ice age. They are not even susceptible to fire. Sequoia wood barely burns, and the bark is “nearly as fireproof as asbestos. The top of one sequoia, struck by lightning a few years ago during a July thunderstorm, smoldered quietly, without apparently damaging the tree, until it was put out by a snowstorm in October.” Some trees sink taproots to rock; some spread wide mats of roots clutching at acres. They will not be blown. We run around under these obelisk-creatures, teetering on our soft, small feet. We are out on a jaunt, picnicking, fattening like puppies for our deaths. Shall I carve a name on this trunk? What if I fell in a forest: Would a tree hear?

I am sitting under a bankside sycamore; my mind is a slope. Arthur Koestler wrote, “In his review of the literature on the

psychological present, Woodrow found that its maximum span is estimated to lie between 2.3 and 12 seconds." How did anyone measure that slide? As soon as you are conscious of it, it is gone. I repeat a phrase: the thin tops of mountains. Soon the thin tops of mountains erupt, as if volcanically, from my brain's core. I can see them; they are, surprisingly, serrate—scalloped like the blade of a kitchen knife—and brown as leaves. The serrated edges are so thin they are translucent; through the top of one side of the brown ridge I can see, in silhouette, a circling sharp-shinned hawk; through another, deep tenuous veins of metallic ore. This isn't Tinker Creek. Where do I live, anyway? I lose myself, I float. . . . I am in Persia, trying to order a watermelon in German. It's insane. The engineer has abandoned the control room, and an idiot is splicing the reels. What could I contribute to the "literature on the psychological present"? If I could remember to press the knob on the stopwatch, I wouldn't be in Persia. Before they invented the unit of the second, people used to time the lapse of short events on their pulses. Oh, but what about that heave in the wrist when I saw the tree with the lights in it, and my heart ceased, but I am still there?

Scenes drift across the screen from nowhere. I can never discover the connection between any one scene and what I am more consciously thinking, nor can I ever conjure the scene back in full vividness. It is like a ghost, in full-dress regalia, that wafts across the stage set unnoticed by the principle characters. It appears complete, in full color, wordless, though already receding: the tennis courts on Fifth Avenue in Pittsburgh, an equestrian statue in a Washington park, a basement dress shop in New York City—scenes that I thought meant nothing to me. These aren't still shots; the camera is always moving. And the scene is always just slipping out of sight, as if in spite of

myself I were always just descending a hill, rounding a corner, stepping into the street with a companion who urges me on, while I look back over my shoulder at the sight which recedes, vanishes. The present of my consciousness is itself a mystery which is also always just rounding a bend like a floating branch borne by a flood. Where am I? But I'm not. "I will overturn, overturn, overturn, it: and it shall be no more. . . ."

All right then. Pull yourself together. Is this where I'm spending my life, in the "reptile brain," this lamp at the top of the spine like a lighthouse flipping mad beams indiscriminately into the darkness, into the furred thoraxes of moths, onto the backs of leaping fishes and the wrecks of schooners? Come up a level; surface.

I am sitting under a sycamore by Tinker Creek. I am really here, alive on the intricate earth under trees. But under me, directly under the weight of my body on the grass, are other creatures, just as real, for whom also this moment, this tree, is "it." Take just the top inch of soil, the world squirming right under my palms. In the top inch of forest soil, biologists found "an average of 1,356 living creatures present in each square foot, including 865 mites, 265 spring tails, 22 millipedes, 19 adult beetles and various numbers of 12 other forms. . . . Had an estimate also been made of the microscopic population, it might have ranged up to two billion bacteria and many millions of fungi, protozoa and algae—in a mere *teaspoonful* of soil." The chrysalids of butterflies linger here too, folded, rigid, and dreamless. I might as well include these creatures in this moment, as best I can. My ignoring them won't strip them of their reality, and admitting them, one by one, into my consciousness might heighten mine, might add their dim awareness to my human consciousness, such

as it is, and set up a buzz, a vibration like the beating ripples a submerged muskrat makes on the water, from this particular moment, this tree. Hasidism has a tradition that one of man's purposes is to assist God in the work of redemption by "hallowing" the things of creation. By a tremendous heave of his spirit, the devout man frees the divine sparks trapped in the mute things of time; he uplifts the forms and moments of creation, bearing them aloft into that rare air and hallowing fire in which all clays must shatter and burst. Keeping the subsoil world under trees in mind, in intelligence, is the *least* I can do.

Earthworms in staggering processions lurch through the grit underfoot, gobbling downed leaves and spewing forth castings by the ton. Moles mine intricate tunnels in networks; there are often so many of these mole tunnels here by the creek that when I walk, every step is a letdown. A mole is almost entirely loose inside its skin, and enormously mighty. If you can catch a mole, it will, in addition to biting you memorably, leap from your hand in a single convulsive contraction and be gone as soon as you have it. You are never really able to see it; you only feel its surge and thrust against your palm, as if you held a beating heart in a paper bag. What could I not do if I had the power and will of a mole! But the mole churns earth.

Last summer some muskrats had a den under this tree's roots on the bank; I think they are still there now. Muskrats' wet fur rounds the domed clay walls of the den and slicks them smooth as any igloo. They strew the floor with plant husks and seeds, rut in repeated bursts, and sleep humped and soaking, huddled in balls. These, too, are part of what Buber calls "the infinite ethos of the moment."

I am not here yet; I can't shake that day on the interstate. My mind branches and shoots like a tree.

Under my spine, the sycamore roots suck watery salts.

Root tips thrust and squirm between particles of soil, probing minutely; from their roving, burgeoning tissues spring infinitesimal root hairs, transparent and hollow, which affix themselves to specks of grit and sip. These runnels run silent and deep; the whole earth trembles, rent and fissured, hurled and drained. I wonder what happens to root systems when trees die. Do those spread blind networks starve, starve in the midst of plenty, and desiccate, clawing at specks?

Under the world's conifers—under the creek side cedar behind where I sit—a mantle of fungus wraps the soil in a weft, shooting out blind thread after frail thread of palest dissolved white. From root tip to root tip, root hair to root hair, these filaments loop and wind; the thought of them always reminds me of Rimbaud's "I have stretched cords from steeple to steeple, garlands from window to window, chains of gold from star to star, and I dance." King David leaped and danced naked before the ark of the Lord in a barren desert. Here the very looped soil is an intricate throng of praise. Make connections; let rip; and dance where you can.

The insects and earthworms, moles, muskrats, roots and fungal strands are not all. An even frailer, dimmer movement, a pavane, is being performed deep under me now. The nymphs of cicadas are alive. You see their split skins, an inch long, brown, and translucent, curved and segmented like shrimp, stuck arching on the trunks of trees. And you see the adults occasionally, large and sturdy, with glittering black and green bodies, veined transparent wings folded over their backs, and artificial-looking, bright red eyes. But you never see the living nymphs. They are underground, clasping roots and sucking the sweet sap of trees.

In the South, the periodical cicada has a breeding cycle of thirteen years, instead of seventeen years as in the North. That a live creature spends thirteen consecutive years scrabbling

around in the root systems of trees in the dark and damp—thirteen years!—is amply boggling for me. Four more years—or four less—wouldn't alter the picture a jot. In the dark of an April night the nymphs emerge, all at once, as many as eighty-four of them digging into the air from every square foot of ground. They inch up trees and bushes, shed their skins, and begin that hollow, shrill grind that lasts all summer. I guess as nymphs they never see the sun. Adults lay eggs in slits along twig bark; the hatched nymphs drop to the ground and burrow, vanish from the face of the earth, biding their time, for thirteen years. How many are under me now, wishing what? What would I think about for thirteen years? They curl, crawl, clutch at roots and suck, suck blinded, suck trees, rain or shine, heat or frost, year after groping year.

And under the cicadas, deeper down than the longest taproot, between and beneath the rounded black rocks and slanting slabs of sandstone in the earth, ground water is creeping. Ground water seeps and slides, across and down, across and down, leaking from here to there minutely, at the rate of a mile a year. What a tug of waters goes on! There are flings and pulls in every direction at every moment. The world is a wild wrestle under the grass: earth shall be moved.

What else is going on right this minute while ground water creeps under my feet? The galaxy is careening in a slow, muffled widening. If a million solar systems are born every hour, then surely hundreds burst into being as I shift my weight to the other elbow. The sun's surface is now exploding; other stars implode and vanish, heavy and black, out of sight. Meteorites are arcing to earth invisibly all day long. On the planet the winds are blowing: the polar easterlies, the westerlies, the northeast and southeast trades. Somewhere, someone under

full sail is becalmed, in the horse latitudes, in the doldrums; in the northland, a trapper is maddened, crazed, by the eerie scent of the chinook, the sweater, a wind that can melt two feet of snow in a day. The pampero blows, and the tramontane, and the Boro, sirocco, levanter, mistral. Lick a finger: feel the now.

Spring is seeping north, towards me and away from me, at sixteen miles a day. Caribou straggle across the tundra from the spruce-fir forests of the south, first the pregnant does, hurried, then the old and unmated does, then suddenly a massing of bucks, and finally the diseased and injured, one by one. Somewhere, people in airplanes are watching the sun set and peering down at clustered house lights, stricken. In the montana in Peru, on the rain-forested slopes of the Andes, a woman kneels in a dust clearing before a dark shelter of overlapping broad leaves; between her breasts hangs a cross of smooth sticks she peeled with her teeth and lashed with twistings of vine. Along estuary banks of tidal rivers all over the world, snails in black clusters like currants are gliding up and down the stems of reed and sedge, migrating every moment with the dip and swing of tides. Behind me, Tinker Mountain, and to my left, Dead Man Mountain, are eroding one thousandth of an inch a year.

The tomcat that used to wake me is dead; he was long since grist for an earthworm's casting, and is now the clear sap of a Pittsburgh sycamore, or the honeydew of aphids sucked from that sycamore's high twigs and sprayed in sticky drops on a stranger's car. A steer across the road stumbles into the creek to drink; he blinks; he laps; a floating leaf in the current catches against his hock and wrenches away. The giant water bug I saw is dead, long dead, and its moist gut and rigid casing are both, like the empty skin of the frog it sucked, dissolved, spread, still spreading right now, in the steer's capillaries, in the windblown smatter of clouds overhead, in the Sargasso Sea. The mocking-

bird that dropped furred from a roof . . . but this is no time to count my dead. That is night work. The dead are staring, underground, their sleeping heels in the air.

The sharks I saw are roving up and down the coast. If the sharks cease roving, if they still their twist and rest for a moment, they die. They need new water pushed into their gills; they need dance. Somewhere east of me, on another continent, it is sunset, and starlings in breathtaking bands are winding high in the sky to their evening roost. Under the water just around the bend downstream, the coot feels with its foot in the creek, rolling its round red eyes. In the house a spider slumbers at her wheel like a spinster curled in a corner all day long. The mantis egg cases are tied to the mock-orange hedge; within each case, within each egg, cells elongate, narrow, and split; cells bubble and curve inward, align, harden or hollow or stretch. The Polyphemus moth, its wings crushed to its back, crawls down the driveway, crawls down the driveway, crawls. . . . The snake whose skin I tossed away, whose homemade, personal skin is now tangled at the county dump—that snake in the woods by the quarry stirs now, quickens now, prodded under the leaf mold by sunlight, by the probing root of May apple, the bud of bloodroot. And where are you now?

I stand. All the blood in my body crashes to my feet and instantly heaves to my head, so I blind and blush, as a tree blasts into leaf spouting water hurled up from roots. What happens to me? I stand before the sycamore dazed; I gaze at its giant trunk.

Big trees stir memories. You stand in their dimness, where the very light is blue, staring unfocused at the thickest part of the trunk as though it were a long, dim tunnel—the Squirrel Hill tunnel. You're gone. The egg-shaped patch of light at the end of the blackened tunnel swells and looms; the sing of tire tread

over brick reaches an ear-splitting crescendo; the light breaks over the hood, smack, and full on your face. You have achieved the past.

Eskimo shamans bound with sealskin thongs on the igloo floor used to leave their bodies, their skins, and swim "muscle-naked" like a flensed seal through the rock of continents, in order to placate an old woman who lived on the sea floor and sent or withheld game. When he fulfilled this excruciating mission, the Eskimo shaman would awake, returned to his skin exhausted from the dark ardors of flailing peeled through rock, and find himself in a lighted igloo, at a sort of party, among dear faces.

In the same way, having bored through a sycamore trunk and tunneled beneath a Pennsylvania mountain, I blink, awed by the yellow light, and find myself in a shady side of town, in a stripped dining room, dancing, years ago. There is a din of trumpets, upbeat and indistinct, like some movie score for a love scene played on a city balcony; there is an immeasurably distant light glowing from half-remembered faces. . . . I stir. The heave of my shoulders returns me to the present, to the tree, the sycamore, and I yank myself away, shove off and moving, seeking live water.

III

Live water heals memories. I look up the creek and here it comes, the future, being borne aloft as on a winding succession of laden trays. You may wake and look from the window and breathe the real air, and say, with satisfaction or with longing, "This is it." But if you look up the creek, if you look up the creek in any weather, your spirit fills, and you are saying, with an exulting rise of the lungs, "Here it comes!"

Here it comes. In the far distance I can see the concrete

bridge where the road crosses the creek. Under that bridge and beyond it the water is flat and silent, blued by distance and stilled by depth. It is so much sky, a fallen shred caught in the cleft of banks. But it pours. The channel here is straight as an arrow; grace itself is an archer. Between the dangling wands of bankside willows, beneath the overarching limbs of tulip, walnut, and Osage orange, I see the creek pour down. It spills toward me streaming over a series of sandstone tiers, down, and down, and down. I feel as though I stand at the foot of an infinitely high staircase, down which some exuberant spirit is flinging tennis ball after tennis ball, eternally, and the one thing I want in the world is a tennis ball.

There must be something wrong with a creekside person who, all things being equal, chooses to face downstream. It's like fouling your own nest. For this and a leather couch they pay fifty dollars an hour? Tinker Creek doesn't back up, pushed up its own craw, from the Roanoke River; it flows down, easing, from the northern, unseen side of Tinker Mountain. "Gravity, to Copernicus, is the nostalgia of things to become spheres." This is a curious, rugged version of the great chain of being. Ease is the way of perfection, letting fall. But, as in the classic version of the great chain, the pure trickle that leaks from the unfathomable heart of Tinker Mountain, this Tinker Creek, widens, taking shape and cleaving banks, weighted with the live and intricate impurities of time, as it descends to me, to where I happen to find myself, in this intermediate spot, halfway between here and there. Look upstream. Just simply turn around; have you no will? The future is a spirit, or a distillation of *the* spirit, heading my way. It is north. The future is the light on the water; it comes, mediated, only on the skin of the real and present creek. My eyes can stand no brighter light than this; nor can they see without it, if only the undersides of leaves.

Trees are tough. They last, taproot and bark, and we soften at their feet. "For we are strangers before thee, and sojourners, as were all our fathers: our days on the earth are as a shadow, and there is none abiding." We can't take the lightning, the scourge of high places and rare airs. But we can take the light, the reflected light that shines up the valleys on creeks. Trees stir memories; live waters heal them. The creek is the mediator, benevolent, impartial, subsuming my shabbiest evils and dissolving them, transforming them into live moles, and shiners, and sycamore leaves. It is a place even my faithlessness hasn't offended; it still flashes for me, now and tomorrow, that intricate, innocent face. It waters an undeserving world, saturating cells with lodes of light. I stand by the creek over rock under trees.

It is sheer coincidence that my hunk of the creek is strewn with boulders. I never merited this grace, that when I face upstream I scent the virgin breath of mountains, I feel a spray of mist on my cheeks and lips, I hear a ceaseless splash and susurrus, a sound of water not merely poured smoothly down air to fill a steady pool, but tumbling live about, over, under, around, between, through an intricate speckling of rock. It is sheer coincidence that upstream from me the creek's bed is ridged in horizontal croppings of sandstone. I never merited this grace, that when I face upstream I see the light on the water careening towards me, inevitably, freely, down a graded series of terraces like the balanced winged platforms on an infinite, inexhaustible font. "Ho, if you are thirsty, come down to the water; ho, if you are hungry, come and sit and eat." This is the present, at last. I can pat the puppy any time I want. This is the now, this flickering, broken light, this air that the wind of the future presses down my throat, pumping me buoyant and giddy with praise.

My God, I look at the creek. It is the answer to Merton's

prayer, "Give us time!" It never stops. If I seek the senses and skill of children, the information of a thousand books, the innocence of puppies, even the insights of my own city past, I do so only, solely, and entirely that I might look well at the creek. You don't run down the present, pursue it with baited hooks and nets. You wait for it, empty-handed, and you are filled. You'll have fish left over. The creek is the one great giver. It is, by definition, Christmas, the incarnation. This old rock planet gets the present for a present on its birthday every day.

Here is the word from a subatomic physicist: "Everything that has already happened is particles, everything in the future is waves." Let me twist his meaning. Here it comes. The particles are broken; the waves are translucent, laving, roiling with beauty like sharks. The present is the wave that explodes over my head, flinging the air with particles at the height of its breathless unroll; it is the live water and light that bears from undisclosed sources the freshest news, renewed and renewing, world without end.

7



Spring

I

When I was quite young I fondly imagined that all foreign languages were codes for English. I thought that "hat," say, was the real and actual name of the thing, but that people in other countries, who obstinately persisted in speaking the code of their forefathers, might use the word "ibu," say, to designate not merely the concept hat, but the English word "hat." I knew only one foreign word, "oui," and since it had three letters as did the word for which it was a code, it seemed, touchingly enough, to confirm my theory. Each foreign language was a different code, I figured, and at school I would eventually be given the keys to unlock some of the most important codes' systems. Of course I knew that it might take years before I became so fluent in another language that I could code and decode easily in my head, and make of gibberish a

nimble sense. On the first day of my first French course, however, things rapidly took on an entirely unexpected shape. I realized that I was going to have to learn speech all over again, word by word, one word at a time—and my dismay knew no bounds.

The birds have started singing in the valley. Their February squawks and naked chirps are fully fledged now, and long lyrics fly in the air. Birdsong catches in the mountains' rim and pools in the valley; it threads through forests, it slides down creeks. At the house a wonderful thing happens. The mockingbird that nests each year in the front-yard spruce strikes up his chant in high places, and one of those high places is my chimney. When he sings there, the hollow chimney acts as a sound box, like the careful emptiness inside a cello or violin, and the notes of the song gather fullness and reverberate through the house. He sings a phrase and repeats it exactly; then he sings another and repeats that, then another. The mockingbird's invention is limitless; he strews newness about as casually as a god. He is tireless, too; towards June he will begin his daily marathon at two in the morning and scarcely pause for breath until eleven at night. I don't know when he sleeps.

When I lose interest in a given bird, I try to renew it by looking at the bird in either of two ways. I imagine neutrinos passing through its feathers and into its heart and lungs, or I reverse its evolution and imagine it as a lizard. I see its scaled legs and that naked ring around a shiny eye; I shrink and deplume its feathers to lizard scales, unhorn its lipless mouth, and set it stalking dragonflies, cool-eyed, under a palmetto. Then I reverse the process once again, quickly; its forelegs unfurl, its scales hatch feathers and soften. It takes to the air seeking cool forests; it sings songs. This is what I have on my

chimney; it might as well keep me awake out of wonder as rage.

Some reputable scientists, even today, are not wholly satisfied with the notion that the song of birds is strictly and solely a territorial claim. It's an important point. We've been on earth all these years and we still don't know for certain why birds sing. We need someone to unlock the code to this foreign language and give us the key; we need a new Rosetta stone. Or should we learn, as I had to, each new word one by one? It could be that a bird sings I am sparrow, sparrow, sparrow, as Gerard Manley Hopkins suggests: "myself it speaks and spells, Crying *What I do is me: for that I came.*" Sometimes birdsong seems just like the garbled speech of infants. There is a certain age at which a child looks at you in all earnestness and delivers a long, pleased speech in all the true inflections of spoken English, but with not one recognizable syllable. There is no way you can tell the child that if language had been a melody, he had mastered it and done well, but that since it was in fact a sense, he had botched it utterly.

Today I watched and heard a wren, a sparrow, and the mocking-bird singing. My brain started to trill why why why, what is the meaning meaning meaning? It's not that they know something we don't; we know much more than they do, and surely they don't even know why they sing. No; we have been as usual asking the wrong question. It does not matter a hoot what the mockingbird on the chimney is singing. If the mockingbird were chirping to give us the long-sought formulae for a unified field theory, the point would be only slightly less irrelevant. The real and proper question is: Why is it beautiful? I hesitate to use the word so baldly, but the question is there. The question is there since I take it as given, as I have said, that beauty is something objectively performed—the tree that falls in the forest—

having being externally, stumbled across or missed, as real and present as both sides of the moon. This modified lizard's song welling out of the fireplace has a wild, utterly foreign music; it becomes more and more beautiful as it becomes more and more familiar. If the lyric is simply "mine mine mine," then why the extravagance of the score? It has the liquid, intricate sound of every creek's tumble over every configuration of rock creek-bottom in the country. Who, telegraphing a message, would trouble to transmit a five-act play, or Coleridge's "Kubla Khan," and who, receiving the message, could understand it? Beauty itself is the language to which we have no key; it is the mute cipher, the cryptogram, the uncracked, unbroken code. And it could be that for beauty, as it turned out to be for French, that there is no key, that "oui" will never make sense in our language but only in its own, and that we need to start all over again, on a new continent, learning the strange syllables one by one.

It is spring. I plan to try to control myself this year, to watch the progress of the season in a calm and orderly fashion. In spring I am prone to wretched excess. I abandon myself to flights and compulsions; I veer into various states of physical disarray. For the duration of one entire spring I played pinochle; another spring I played second base. One spring I missed because I had lobar pneumonia; one softball season I missed with bursitis; and every spring at just about the time the leaves first blur on the willows, I stop eating and pale, like a silver eel about to migrate. My mind wanders. Second base is a Broadway, a Hollywood and Vine; but oh, if I'm out in right field they can kiss me good-bye. As the sun sets, sundogs, which are mock suns—chunks of rainbow on either side of the sun but often very distant from it—appear over the pasture by Carvin's Creek. Wes Hillman is up in his biplane; the little Waco lords it over the stillness, cut-

ting a fine silhouette. It might rain tomorrow, if those ice crystals find business. I have no idea how many outs there are; I luck through the left-handers, staring at rainbows. The field looks to me as it must look to Wes Hillman up in the biplane: everyone is running, and I can't hear a sound. The players look so thin on the green, and the shadows so long, and the ball a mystic thing, pale to invisibility. . . . I'm better off in the infield.

In April I walked to the Adams' woods. The grass had greened one morning when I blinked; I missed it again. As I left the house I checked the praying mantis egg case. I had given all but one of the cases to friends for their gardens; now I saw that small black ants had discovered the one that was left, the one tied to the mock-orange hedge by my study window. One side of the case was chewed away, either by the ants or by something else, revealing a rigid froth slit by narrow cells. Over this protective layer the ants scrambled in a frenzy, unable to eat; the actual mantis eggs lay secure and unseen, waiting, deeper in.

The morning woods were utterly new. A strong yellow light pooled between the trees; my shadow appeared and vanished on the path, since a third of the trees I walked under were still bare, a third spread a luminous haze wherever they grew, and another third blocked the sun with new, whole leaves. The snakes were out—I saw a bright, smashed one on the path—and the butterflies were vaulting and furling about; the phlox was at its peak, and even the evergreens looked greener, newly created and washed.

Long racemes of white flowers hung from the locust trees. Last summer I heard a Cherokee legend about the locust tree and the moon. The moon goddess starts out with a big ball, the full moon, and she hurls it across the sky. She spends all day retrieving it; then she shaves a slice from it and hurls it again,

retrieving, shaving, hurling, and so on. She uses up a moon a month, all year. Then, the way Park Service geologist Bill Wellman tells it, "long about spring of course she's knee-deep in moon-shavings," so she finds her favorite tree, the locust, and hangs the slender shavings from its boughs. And there they were, the locust flowers, pale and clustered in crescents.

The newts were back. In the small forest pond they swam bright and quivering, or hung alertly near the water's surface. I discovered that if I poked my finger into the water and wagged it slowly, a newt would investigate; then if I held my finger still, it would nibble at my skin, softly, the way my goldfish does—and, also like my goldfish, it would swim off as if in disgust at a bad job. This is salamander metropolis. If you want to find a species wholly new to science and have your name inscribed Latinly in some secular version of an eternal rollbook, then your best bet is to come to the southern Appalachians, climb some obscure and snakey mountain where, as the saying goes, "the hand of man has never set foot," and start turning over rocks. The mountains act as islands; evolution does the rest, and there are scores of different salamanders all around. The Peaks of Otter on the Blue Ridge Parkway produce their own unique species, black and spotted in dark gold; the rangers there keep a live one handy by sticking it in a Baggie and stowing it in the refrigerator, like a piece of cheese.

Newts are the most common of salamanders. Their skin is a lighted green, like water in a sunlit pond, and rows of very bright red dots line their backs. They have gills as larvae; as they grow they turn a luminescent red, lose their gills, and walk out of the water to spend a few years padding around in damp places on the forest floor. Their feet look like fingered baby hands, and they walk in the same leg patterns as all four-footed creatures—dogs, mules, and, for that matter, lesser pan-

das. When they mature fully, they turn green again and stream to the water in droves. A newt can scent its way home from as far as eight miles away. They are altogether excellent creatures, if somewhat moist, but no one pays the least attention to them, except children.

Once I was camped "alone" at Douthat State Park in the Allegheny Mountains near here, and spent the greater part of one afternoon watching children and newts. There were many times more red-spotted newts at the edge of the lake than there were children; the supply exceeded even that very heavy demand. One child was collecting them in a Thermos mug to take home to Lancaster, Pennsylvania, to feed an ailing cayman. Other children ran to their mothers with squirming fistfuls. One boy was mistreating the newts spectacularly: he squeezed them by their tails and threw them at a shoreline stone, one by one. I tried to reason with him, but nothing worked. Finally he asked me, "Is this one a male?" and in a fit of inspiration I said, "No, it's a baby." He cried, "Oh, isn't he *cute!*" and cradled the newt carefully back into the water.

No one but me disturbed the newts here in the Adams' woods. They hung in the water as if suspended from strings. Their specific gravity put them just a jot below the water's surface, and they could apparently relax just as well with lowered heads as lowered tails; their tiny limbs hung limp in the water. One newt was sunning on a stick in such an extravagant posture I thought she was dead. She was half out of water, her front legs grasping the stick, her nose tilted back to the zenith and then some. The concave arch of her spine stretched her neck past believing; the thin ventral skin was a bright taut yellow. I should not have nudged her—it made her relax the angle of repose—but I had to see if she was dead. Medieval Europeans believed that salamanders were so cold they could put out fires and not be

burned themselves; ancient Romans thought that the poison of salamanders was so cold that if anyone ate the fruit of a tree that a salamander had merely touched, that person would die of a terrible coldness. But I survived these mild encounters—my being nibbled and my poking the salamander's neck—and stood up.

The woods were flush with flowers. The redbud trees were in flower, and the sassafras, dully; so also were the tulip trees, catawbas, and the weird pawpaw. On the floor of the little woods, hepatica and dogtooth violet had come and gone; now I saw the pink spring beauty here and there, and Solomon's seal with its pendant flowers, bloodroot, violets, trillium, and May apple in luxuriant stands. The mountains would be brilliant in mountain laurel, rhododendron, and flame azalea, and the Appalachian Trail was probably packed with picnickers. I had seen in the steers' pasture daisies, henbits, and yellow-flowering oxalis; sow thistle and sneeze weed shot up by the barbed-wire fence. Does anything eat flowers? I couldn't recall ever having seen anything actually eat a flower—are they nature's privileged pets?

But I was much more interested in the leafing of trees. By the path I discovered a wonderful tulip-tree sapling three feet tall. From its tip grew two thin slips of green tissue shaped like two tears; they enclosed, like cupped palms sheltering a flame, a tiny tulip leaf that was curled upon itself and bowed neatly at the middle. The leaf was so thin and etiolated it was translucent, but at the same time it was lambent, minutely, with a kind of pale and sufficient light. It was not wet, nor even damp, but it was clearly moist inside; the wrinkle where it folded in half looked less like a crease than a dimple, like the liquid dip a skater's leg makes on the surface film of still water. A barely concealed, powerful juice swelled its cells, and the leaf was uncurling and rising between the green slips of tissue. I looked around for more leaves like it—that

part of the Adams' woods seems to be almost solely tulip trees—but all the other leaves had just lately unfurled, and were waving on pale stalks like new small hands.

The tulip-tree leaf reminded me of a newborn mammal I'd seen the other day, one of the neighborhood children's gerbils. It was less than an inch long, with a piggish snout, clenched eyes, and swollen white knobs where its ears would grow. Its skin was hairless except for an infinitesimal set of whiskers; the skin seemed as thin as the membrane on an onion, tightly packed as a sausage casing, and bulging roundly with wet, bloody meat. It seemed near to bursting with possibilities, like the taut gum over a coming tooth. This three-foot sapling was going somewhere, too; it meant business.

There's a real power here. It is amazing that trees can turn gravel and bitter salts into these soft-lipped lobes, as if I were to bite down on a granite slab and start to swell, bud, and flower. Trees seem to do their feats so effortlessly. Every year a given tree creates absolutely from scratch ninety-nine percent of its living parts. Water lifting up tree trunks can climb one hundred and fifty feet an hour; in full summer a tree can, and does, heave a ton of water every day. A big elm in a single season might make as many as *six million* leaves, wholly intricate, without budging an inch; I couldn't make one. A tree stands there, accumulating deadwood, mute and rigid as an obelisk, but secretly it seethes; it splits, sucks, and stretches; it heaves up tons and hurls them out in a green, fringed fling. No person taps this free power; the dynamo in the tulip tree pumps out ever more tulip tree, and it runs on rain and air.

John Cowper Powys said, "We have no reason for denying to the world of plants a certain slow, dim, vague, large, leisurely semi-consciousness." He may not be right, but I like his adjectives. The patch of bluets in the grass may not be long on brains,

but it might be, at least in a very small way, awake. The trees especially seem to bespeak a generosity of spirit. I suspect that the real moral thinkers end up, wherever they may start, in botany. We know nothing for certain, but we seem to see that the world turns upon growing, grows towards growing, and growing green and clean.

I looked away from the tulip leaf at the tip of the sapling, and I looked back. I was trying to determine if I could actually see the bent leaf tip rise and shove against the enclosing flaps. I couldn't tell whether I was seeing or merely imagining progress, but I knew the leaf would be fully erect within the hour. I couldn't wait.

I left the woods, spreading silence before me in a wave, as though I'd stepped not through the forest, but on it. I left the wood silent, but I myself was stirred and quickened. I'll go to the Northwest Territories, I thought, Finland.

"Why leap ye, ye high hills?" The earth was an egg, freshened and splitting; a new pulse struck, and I resounded. Pliny, who, you remember, came up with the Portuguese wind-foals, must have kept his daughters in on windy days, for he also believed that plants conceive in the spring of the western wind Flavonius. In February the plants go into rut; the wind impregnates them, and their buds swell and burst in their time, bringing forth flowers and leaves and fruit. I could smell the loamy force in the wind. I'll go to Alaska, Greenland. I saw hundred of holes in the ground everywhere I looked; all kinds of creatures were popping out of the dim earth, some for the first time, to be lighted and warmed directly by the sun. It is a fact that the men and women all over the northern hemisphere who dream up new plans for a perpetual motion machine conceive their best ideas in the spring. If I swallowed a seed and some soil, could I grow grapes in my mouth? Once I dug a

hole to plant a pine, and found an old gold coin on a stone. Little America, the Yukon. . . . "Why leap ye, ye high hills?"

On my way home, every bird I saw had something in its mouth. A male English sparrow, his mouth stuffed, was hopping in and out of an old nest in a bare tree, and sloshing around in its bottom. A robin on red alert in the grass, trailing half a worm from its bill, bobbed three steps and straightened up, performing unawares the universal robin trick. A mocking-bird flew by with a red berry in its beak; the berry flashed in the sun and glowed like a coal from some forge or cauldron of the gods.

Finally I saw some very small children playing with a striped orange kitten, and overheard their mysterious conversation, which has since been ringing in my brain like a gong. The kitten ran into a garden, and the girl called after it, "Sweet Dreams! Sweet Dreams! Where are you?" And the boy said to her crossly, "Don't call Sweet Dreams *you*!"

II

Now it is May. The walrus are migrating; Diomed Island Eskimos follow them in boats through the Bering Strait. The Netsilik Eskimos hunt seal. According to Asen Balikci, a seal basks in the sun all day and slips into the water at midnight, to return at dawn to emerge from the same hole. In spring the sun, too, slips below the horizon for only a brief period, and the sky still glows. All the Netsilik hunter has to do in spring is go out at midnight, watch a seal disappear into a given hole, and wait there quietly in the brief twilight, on a spread piece of bearskin. The seal will be up soon, with the sun. The glaciers are calving; brash ice and grease ice clog the bays. From land you can see the widening of open leads on the distant pack ice by watching the "water sky"—the dark

patches and streaks on the glaring cloud cover that are breaks in the light reflected from the pack.

You might think the Eskimos would welcome the spring and the coming of summer; they did, but they looked forward more to the coming of winter. I'm talking as usual about the various Eskimo cultures as they were before modernization. Some Eskimos used to greet the sun on its first appearance at the horizon in stunned silence, and with raised arms. But in summer, they well knew, they would have to eat lean fish and birds. Winter's snow would melt to water and soak the thin thawed ground down to the permafrost; the water couldn't drain away, and it would turn the earth into a sop of puddles. Then the mosquitoes would come, the mosquitoes that could easily drive migrating caribou to a mad frenzy so that they trampled their newborn calves, the famous arctic mosquitoes of which it is said, "If there were any more of them, they'd have to be smaller."

In winter the Eskimos could travel with dog sleds and visit; with the coming of warm weather, their pathways, like mine in Virginia, closed. In interior Alaska and northern Canada, breakup is the big event. Old-timers and cheechakos alike lay wagers on the exact day and hour it will occur. For the ice on rivers there does not just simply melt; it rips out in a general holocaust. Upstream, thin ice breaks from its banks and races down river. Where it rams solid ice it punches it free and shoots it downstream, buckling and shearing: ice adds to ice, exploding a Juggernaut into motion. A grate and roar blast the air, the ice machine razes bridges and fences and trees, and the whole year's ice rushes out like a train in an hour. Breakup: I'd give anything to see it. Now for the people in the bush the waterways are open to navigation but closed to snowmobile and snowshoe, and it's harder for them, too, to get around.

Here in the May valley, fullness is at a peak. All the plants are fully leafed, but intensive insect damage hasn't begun. The leaves are fresh, whole, and perfect. Light in the sky is clear, unfiltered by haze, and the sun hasn't yet withered the grass.

Now the plants are closing in on me. The neighborhood children are growing up; they aren't keeping all the paths open. I feel like buying them all motorbikes. The woods are a clog of green, and I have to follow the manner of the North, or of the past, and take to the waterways to get around. But maybe I think things are more difficult than they are, because once, after I had waded and slogged in tennis shoes a quarter of a mile upstream in Tinker Creek, a boy hailed me from the tangled bank. He had followed me just to pass the time of day, and he was barefoot.

When I'm up to my knees in honeysuckle, I beat a retreat, and visit the duck pond. The duck pond is a small eutrophic pond on cleared land near Carvin's Creek. It is choked with algae and seething with frogs; when I see it, I always remember Jean White's horse.

Several years ago, Jean White's old mare, Nancy, died. It died on private property where it was pastured, and Jean couldn't get permission to bury the horse there. It was just as well, because we were in the middle of a July drought, and the clay ground was fired hard as rock. Anyway, the problem remained: What do you do with a dead horse? Another friend once tried to burn a dead horse, an experiment he never repeated. Jean White made phone calls and enlisted friends who made more phone calls. All experts offered the same suggestion: try the fox farm. The fox farm is south of here; it raises various animals to make into coats. It turned out that the fox farm readily accepts dead horses from far and wide to use as "fresh" meat for the foxes. But it also turned

out, oddly enough, that the fox farm was up to its hem in dead horses already, and had room for no more.

It was, as I say, July, and the problem of the dead mare's final resting place was gathering urgency. Finally someone suggested that Jean try the landfill down where the new interstate highway was being built. Certain key phone calls were made, and, to everybody's amazement, government officials accepted the dead horse. They even welcomed the dead horse, needed the dead horse, for its bulk, which, incidentally, was becoming greater each passing hour. A local dairy farmer donated his time; a crane hauled the dead horse into the farmer's truck, and he drove south. With precious little ceremony he dumped the mare into the landfill on which the new highway would rest—and that was the end of Jean White's horse. If you ever drive through Virginia on the new interstate highway between Christiansburg and Salem, and you feel a slight dip in the paving under your wheels, then loose thy shoe from off thy foot, for the place whereon thou drivest is Jean White's horse.

All this comes to mind at the duck pond, because the duck pond is rapidly turning into a landfill of its own, a landfill paved in frogs. There are a million frogs here, bullfrogs hopping all over each other on tangled mats of algae. And the pond is filling up. Small ponds don't live very long, especially in the South. Decaying matter piles up on the bottom, depleting oxygen, and the shore plants march to the middle. In another couple of centuries, if no one interferes, the duck pond will be a hickory forest.

On an evening in late May, a moist wind from Carvin's Cove shoots down the gap between Tinker and Brushy mountains, tears along Carvin's Creek valley, and buffets my face as I stand by the duck pond. The surface of the duck pond doesn't budge.

The algal layer is a rigid plating; if the wind blew hard enough, I imagine it might audibly creak. On warm days in February the primitive plants start creeping over the pond, filamentous green and blue-green algae in sopping strands. From a sunlit shallow edge they green and spread, thickening throughout the water like bright gelatin. When they smother the whole pond they block sunlight, strangle respiration, and snarl creatures in hopeless tangles. Dragonfly nymphs, for instance, are easily able to shed a leg or two to escape a tight spot, but even dragonfly nymphs get stuck in the algae strands and starve.

Several times I've seen a frog trapped under the algae. I would be staring at the pond when the green muck by my feet would suddenly leap into the air and then subside. It looked as though it had been jabbed from underneath by a broom handle. Then it would leap again, somewhere else, a jumping green flare, absolutely silently—this is a very disconcerting way to spend an evening. The frog would always find an open place at last, and break successfully onto the top of the heap, trailing long green slime from its back, and emitting a hollow sound like a pipe thrown into a cavern. Tonight I walked around the pond scaring frogs; a couple of them jumped off, going, in effect, eek, and most grunted, and the pond was still. But one big frog, bright green like a poster-paint frog, didn't jump, so I waved my arm and stamped to scare it, and it jumped suddenly, and I jumped, and then everything in the pond jumped, and I laughed and laughed.

There is a muscular energy in sunlight corresponding to the spiritual energy of wind. On a sunny day, sun's energy on a square acre of land or pond can equal 4500 horsepower. These "horses" heave in every direction, like slaves building pyramids, and fashion, from the bottom up, a new and sturdy world.

The pond is popping with life. Midges are swarming over the center, and the edges are clotted with the jellied egg masses of snails. One spring I saw a snapping turtle lumber from the pond to lay her eggs. Now a green heron picks around in the pond weed and bladderwort; two muskrats at the shallow end are stockpiling cattails. Diatoms, which are algae that look under a microscope like crystals, multiply so fast you can practically watch a submersed green leaf transform into a brown fuzz. In the plankton, single-cell algae, screw fungi, bacteria, and water mold abound. Insect larvae and nymphs carry on their eating business everywhere in the pond. Stillwater caddises, alderfly larvae, and damselfly and dragonfly nymphs stalk on the bottom debris; mayfly nymphs hide in the weeds, mosquito larvae wriggle near the surface, and red-tailed maggots stick their breathing tubes up from between decayed leaves along the shore. Also at the pond's muddy edges it is easy to see the tiny red tubifex worms and bloodworms; the convulsive jerking of hundreds and hundreds together catches my eye.

Once, when the pond was younger and the algae had not yet taken over, I saw an amazing creature. At first all I saw was a slender motion. Then I saw that it was a wormlike creature swimming in the water with a strong, whiplike thrust, and it was two feet long. It was also slender as a thread. It looked like an inked line someone was nervously drawing over and over. Later I learned that it was a horsehair worm. The larvae of horsehair worms live as parasites in land insects; the aquatic adults can get to be a yard long. I don't know how it gets from the insect to the pond, or from the pond to the insect, for that matter, or why on earth it needs such an extreme shape. If the one I saw had been so much as an inch longer or a shave thinner, I doubt if I would ever have come back.

The plankton bloom is what interests me. The plankton ani-

mals are all those microscopic drifting animals that so staggeringly outnumber us. In the spring they are said to "bloom," like so many poppies. There may be five times as many of these teeming creatures in spring as in summer. Among them are the protozoans—amoebae and other rhizopods, and millions of various flagellates and ciliates; gelatinous moss animalcules or byrzoans; rotifers—which wheel around either free or in colonies; and all the diverse crustacean minutiae—copepods, ostracods, and cladocerans like the abundant daphnias. All these drifting animals multiply in sundry bizarre fashions, eat tiny plants or each other, die, and drop to the pond's bottom. Many of them have quite refined means of locomotion—they whirl, paddle, swim, slog, whip, and sinuate—but since they are so small, they are no match against even the least current in the water. Even such a sober limnologist as Robert E. Coker characterizes the movement of plankton as "milling around."

A cup of duck-pond water looks like a seething broth. If I carry the cup home and let the sludge settle, the animalcules sort themselves out, and I can concentrate them further by dividing them into two clear glass bowls. One bowl I paint all black except for a single circle where the light shines through; I leave the other bowl clear except for a single black circle against the light. Given a few hours, the light-loving creatures make their feeble way to the clear circle, and the shade-loving creatures to the black. Then, if I want to, I can harvest them with a pipette and examine them under a microscope.

There they loom and disappear as I fiddle with the focus. I run the eyepiece around until I am seeing the drop magnified three hundred times, and I squint at the little rotifer called *monostyla*. It zooms around excitedly, crashing into strands of *spirgyra* alga or zipping around the frayed edge of a clump of debris. The creature is a flattened oval; at its "head" is a circular

fringe of whirling cilia, and at its “tail” a single long spike, so that it is shaped roughly like a horseshoe crab. But it is so incredibly small, as multicelled animals go, that it is translucent, even transparent, and I have a hard time telling if it is above or beneath a similarly transparent alga. Two monostyla drive into view from opposite directions; they meet, bump, reverse, part. I keep thinking that if I listen closely I will hear the high whine of tiny engines. As their drop heats from the light on the mirror, the rotifers skitter more and more frantically; as it dries, they pale and begin to stagger, and at last can muster only a halting twitch. Then I either wash the whole batch down the sink’s drain, or in a rush of sentiment walk out to the road by starlight and dump them in a puddle. Tinker Creek where I live is too fast and rough for most of them.

I don’t really look forward to these microscopic forays: I have been almost knocked off my kitchen chair on several occasions when, as I was following with strained eyes the tiny career of a monostyla rotifer, an enormous red roundworm whipped into the scene, blocking everything, and writhing in huge, flapping convulsions that seemed to sweep my face and fill the kitchen. I do it as a moral exercise; the microscope at my forehead is a kind of phylactery, a constant reminder of the facts of creation that I would just as soon forget. You can buy your child a microscope and say grandly, “Look, child, at the Jungle in a Little Drop.” The boy looks, plays around with pond water and bread mold and onion sprouts for a month or two, and then starts shooting baskets or racing cars, leaving the microscope on the basement table staring fixedly at its own mirror forever—and you say he’s growing up. But in the puddle or pond, in the city reservoir, ditch, or Atlantic Ocean, the rotifers still spin and munch, the daphnia still filter and are filtered, and the copepods still swarm hanging with clusters of eggs. These are real creatures with real

organs leading real lives, one by one. I can’t pretend they’re not there. If I have life, sense, energy, will, so does a rotifer. The monostyla goes to the dark spot on the bowl: To which circle am I heading? I can move around right smartly in a calm; but in a real wind, in a change of weather, in a riptide, am I really moving, or am I “milling around”?

I was created from a clot and set in proud, free motion: so were they. So was this rotifer created, this monostyla with its body like a lightbulb in which pale organs hang in loops; so was this paramecium created, with a thousand propulsive hairs jerking in unison, whipping it from here to there across a drop and back. *Ad majorem Dei gloriam?*

Somewhere, and I can’t find where, I read about an Eskimo hunter who asked the local missionary priest, “If I did not know about God and sin, would I go to hell?” “No,” said the priest, “not if you did not know.” “Then why,” asked the Eskimo earnestly, “did you tell me?” If I did not know about the rotifers and paramecia, and all the bloom of plankton clogging the dying pond, fine; but since I’ve seen it I must somehow deal with it, take it into account. “Never lose a holy curiosity,” Einstein said; and so I lift my microscope down from the shelf, spread a drop of duck pond on a glass slide, and try to look spring in the eye.

8



Intricacy

I

A rosy, complex light fills my kitchen at the end of these lengthening June days. From an explosion on a nearby star eight minutes ago, the light zips through space, particle-wave, strikes the planet, angles on the continent, and filters through a mesh of land dust: clay bits, sod bits, tiny wind-borne insects, bacteria, shreds of wing and leg, gravel dust, grits of carbon, and dried cells of grass, bark, and leaves. Reddened, the light inclines into this valley over the green western mountains; it sifts between pine needles on northern slopes, and through all the mountain black-jack oak and haw, whose leaves are unclenching, one by one, and making an intricate, toothed and lobed haze. The light crosses the valley, threads through the screen on my open kitchen window, and gilds the painted wall. A

plank of brightness bends from the wall and extends over the goldfish bowl on the table where I sit. The goldfish's side catches the light and bats it my way; I've an eye-ful of fish-scale and star.

This Ellery cost me twenty-five cents. He is a deep red-orange, darker than most goldfish. He steers short distances mainly with his slender red lateral fins; they seem to provide impetus for going backward, up, or down. It took me a few days to discover his ventral fins; they are completely transparent and all but invisible—dream fins. He also has a short anal fin, and a tail that is deeply notched and perfectly transparent at the two tapered tips. He can extend his mouth, so that it looks like a length of pipe; he can shift the angle of his eyes in his head so he can look before and behind himself, instead of simply out to his side. His belly, what there is of it, is white ventrally, and a patch of this white extends up his sides—the variegated Ellery. When he opens his gill slits he shows a thin crescent of silver where the flap overlapped—as though all his brightness were sunburn.

For this creature, as I said, I paid twenty-five cents. I had never bought an animal before. It was very simple; I went to a store in Roanoke called "Wet Pets"; I handed the man a quarter, and he handed me a knotted plastic bag bouncing with water in which a green plant floated and the goldfish swam. This fish, two bits' worth, has a coiled gut, a spine radiating fine bones, and a brain. Just before I sprinkle his food flakes into his bowl, I rap three times on the bowl's edge; now he is conditioned, and swims to the surface when I rap. And, he has a heart.

Once, years ago, I saw red blood cells whip, one by one, through the capillaries in a goldfish's transparent tail. The goldfish was etherized. Its head lay in a wad of wet cotton wool; its tail lay on a tray under a dissecting microscope, one of those wonderful light-gathering microscopes with two eye-

pieces like a stereoscope in which the world's fragments—even the skin on my finger—look brilliant with myriads of colored lights, and as deep as any alpine landscape. The red blood cells in the goldfish's tail streamed and coursed through narrow channels invisible save for glistening threads of thickness in the general translucency. They never wavered or slowed or ceased flowing, like the creek itself; they streamed redly around, up, and on, one by one, more, and more, without end. (The energy of that pulse reminds me of something about the human body: if you sit absolutely perfectly balanced on the end of your spine, with your legs either crossed tailor-fashion or drawn up together, and your arms forward on your legs, then even if you hold your breath, your body will rock with the energy of your heartbeat, forward and back, effortlessly, for as long as you want to remain balanced.) Those red blood cells are coursing in Ellery's tail now, too, in just that way, and through his mouth and eyes as well, and through mine. I've never forgotten the sight of those cells; I think of it when I see the fish in his bowl; I think of it lying in bed at night, imagining that if I concentrate enough I might be able to feel in my fingers' capillaries the small knockings and flow of those circular dots, like a string of beads drawn through my hand.

Something else is happening in the goldfish bowl. There on the kitchen table, nourished by the simple plank of complex light, the plankton is blooming. The water yellows and clouds; a transparent slime coats the leaves of the water plant, elodea; a blue-green film of single-celled algae clings to the glass. And I have to clean the doggone bowl. I'll spare you the details: it's the plant I'm interested in. While Ellery swims in the stoppered sink, I rinse the algae down the drain of another sink, wash the gravel, and rub the elodea's many ferny leaves under running water until they feel clean.

The elodea is not considered much of a plant. Aquarists use it because it's available and it gives off oxygen completely submersed; laboratories use it because its leaves are only two cells thick. It's plentiful, easy to grow, and cheap—like the goldfish. And, like the goldfish, its cells have unwittingly performed for me on a microscope's stage.

I was in a laboratory, using a very expensive microscope. I peered through the deep twin eyepieces and saw again that color-charged, glistening world. A thin, oblong leaf of elodea, a quarter of an inch long, lay on a glass slide sopping wet and flood-lighted brilliantly from below. In the circle of light formed by the two eyepieces trained at the translucent leaf, I saw a clean mosaic of almost colorless cells. The cells were large—eight or nine of them, magnified four hundred and fifty times, packed the circle—so that I could easily see what I had come to see: the streaming of chloroplasts.

Chloroplasts bear chlorophyll; they give the green world its color, and they carry out the business of photosynthesis. Around the inside perimeter of each gigantic cell trailed a continuous loop of these bright green dots. They spun like paramecia; they pulsed, pressed, and thronged. A change of focus suddenly revealed the eddying currents of the river of transparent cytoplasm, a sort of "ether" to the chloroplasts, or "space-time," in which they have their tiny being. Back to the green dots: they shone, they swarmed in ever-shifting files around and around the edge of the cell; they wandered, they charged, they milled, raced, and ran at the edge of apparent nothingness, the empty-looking inner cell; they flowed and trooped greenly, up against the vegetative wall.

All the green in the planted world consists of these whole, rounded chloroplasts wending their ways in water. If you analyze a molecule of chlorophyll itself, what you get is one hun-

dred thirty-six atoms of hydrogen, carbon, oxygen, and nitrogen arranged in an exact and complex relationship around a central ring. At the ring's center is a single atom of magnesium. Now: If you remove the atom of magnesium and in its exact place put an atom of iron, you get a molecule of hemoglobin. The iron atom combines with all the other atoms to make red blood, the streaming red dots in the goldfish's tail.

It is, then, a small world there in the goldfish bowl, and a very large one. Say the nucleus of any atom in the bowl were the size of a cherry pit: its nearest electron would revolve around it one hundred seventy-five yards away. A whirling air in his swim bladder balances the goldfish's weight in the water; his scales overlap, his feathery gills pump and filter; his eyes work, his heart beats, his liver absorbs, his muscles contract in a wave of extending ripples. The daphnias he eats have eyes and jointed legs. The algae the daphnias eat have green cells stacked like checkers or winding in narrow ribbons like spiral staircases up long columns of emptiness. And so on diminishingly down. We have not yet found the dot so small it is uncreated, as it were, like a metal blank, or merely roughed in—and we never shall. We go down landscape after mobile, sculpture after col-lage, down to molecular structures like a mob dance in Breughel, down to atoms airy and balanced as a canvas by Klee, down to atomic particles, the heart of the matter, as spirited and wild as any El Greco saints. And it all works. "Nature," said Thoreau in his journal, "is mythical and mystical always, and spends her whole genius on the least work." The creator, I would add, churns out the intricate texture of least works that is the world with a spendthrift genius and an extravagance of care. This is the point.

* * *

I am sitting here looking at a goldfish bowl and busting my brain. *Ich kann nicht anders.* I am sitting here, you are sitting there. Say even that you are sitting across this kitchen table from me right now. Our eyes meet; a consciousness snaps back and forth. What we know, at least for starters, is: here we—so incontrovertibly—are. This is our life, these are our lighted seasons, and then we die. (You die, you die; first you go wet, and then you go dry.) In the meantime, in between time, we can see. The scales are fallen from our eyes, the cataracts are cut away, and we can work at making sense of the color-patches we see in an effort to discover *where* we so incontrovertibly are. It's common sense: when you move in, you try to learn the neighborhood.

I am as passionately interested in where I am as is a lone sailor sans sextant in a ketch on the open ocean. What else is he supposed to be thinking about? Fortunately, like the sailor, I have at the moment a situation which allows me to devote considerable hunks of time to seeing what I can see, and trying to piece it together. I've learned the names of some color-patches, but not the meanings. I've read books. I've gathered statistics feverishly: The average temperature of our planet is 57° Fahrenheit. Of the 29% of all land that is above water, over a third is given to grazing. The average size of all living animals, including man, is almost that of a housefly. The earth is mostly granite, which in turn is mostly oxygen. The most numerous of animals big enough to see are the cope pods, the mites, and the springtails; of plants, the algae, the sedge. In these Appalachians we have found a coal bed with 120 seams, meaning 120 forests that just happened to fall into water, heaped like corpses in drawers. And so on. These statistics, and all the various facts about subatomic particles, quanta, neutrinos, and so forth, constitute in effect the infrared and ultraviolet light at either end of the spectrum. They are too big and too small to see, to understand; they are more or

less invisible to me though present, and peripheral to me in a real sense because I do not understand even what I can easily see. I would like to see it all, to understand it, but I must start somewhere, so I try to deal with the giant water bug in Tinker Creek and the flight of three hundred redwings from an Osage orange, with the goldfish bowl and the snakeskin, and let those who dare worry about the birthrate and population explosion among solar systems.

So I think about the valley. And it occurs to me more and more that everything I have seen is wholly gratuitous. The giant water bug's predations, the frog's croak, the tree with the lights in it are not in any real sense necessary per se to the world or to its creator. Nor am I. The creation in the first place, being itself, is the only necessity, for which I would die, and I shall. The point about that being, as I know it here and see it, is that, as I think about it, it accumulates in my mind as an extravagance of minutiae. The sheer fringe and network of detail assumes primary importance. That there are so many details seems to be the most important and visible fact about the creation. If you can't see the forest for the trees, then look at the trees; when you've looked at enough trees, you've seen a forest, you've got it. If the world is gratuitous, then the fringe of a goldfish's fin is a million times more so. The first question—the one crucial one—of the creation of the universe and the existence of something as a sign and an affront to nothing, is a blank one. I can't think about it. So it is to the fringe of that question that I affix my attention, the fringe of the fish's fin, the intricacy of the world's spotted and speckled detail.

The old Kabbalistic phrase is "the Mystery of the Splintering of the Vessels." The words refer to the shrinking or imprisonment of essences within the various husk-covered forms of emanation or time. The Vessels splintered and solar systems

spun; ciliated rotifers whirled in still water, and newts with gills laid tracks in the silt-bottomed creek. Not only did the Vessels splinter: they splintered exceeding fine. Intricacy, then, is the subject, the intricacy of the created world.

You are God. You want to make a forest, something to hold the soil, lock up solar energy, and give off oxygen. Wouldn't it be simpler just to rough in a slab of chemicals, a green acre of goo?

You are a man, a retired railroad worker who makes replicas as a hobby. You decide to make a replica of one tree, the longleaf pine your great-grandfather planted—just a replica—it doesn't have to work. How are you going to do it? How long do you think you might live, how good is your glue? For one thing, you are going to have to dig a hole and stick your replica trunk in the ground halfway to China if you want the thing to stand up. Because you will have to work fairly big; if your replica is too small, you'll be unable to handle the slender, three-sided needles, affix them in clusters of three in fascicles, and attach those laden fascicles to flexible twigs. The twigs themselves must be covered by "many silvery-white, fringed, long-spreading scales." Are your pine cones' scales "thin, flat, rounded at the apex, the exposed portions (closed cone) reddish brown, often wrinkled, armed on the back with a small, reflexed prickle, which curves toward the base of the scale"? When you loose the lashed copper wire trussing the replica limbs to the trunk, the whole tree collapses like an umbrella.

You are a starling. I've seen you fly through a longleaf pine without missing a beat.

* * *

You are a sculptor. You climb a great ladder; you pour grease all over a growing longleaf pine. Next, you build a hollow cylinder like a cofferdam around the entire pine, and grease its inside walls. You climb your ladder and spend the next week pouring wet plaster into the cofferdam, over and inside the pine. You wait; the plaster hardens. Now open the walls of the dam, split the plaster, saw down the tree, remove it, discard, and your intricate sculpture is ready: this is the shape of part of the air.

You are a chloroplast moving in water heaved one hundred feet above ground. Hydrogen, carbon, oxygen, nitrogen in a ring around magnesium. . . . You are evolution; you have only begun to make trees. You are God—are you tired? finished?

Intricacy means that there is a fluted fringe to the something that exists over against nothing, a fringe that rises and spreads, burgeoning in detail. Mentally reverse positive and negative space, as in the plaster cast of the pine, and imagine emptiness as a sort of person, a boundless person consisting of an elastic, unformed clay. (For the moment forget that the air in our atmosphere is “something,” and count it as “nothing,” the sculptor’s negative space.) The clay man completely surrounds the holes in him, which are galaxies and solar systems. The holes in him part, expand, shrink, veer, circle, spin. He gives like water, he spreads and fills unseeing. Here is a ragged hole, our earth, a hole that makes torn and frayed edges in his side, mountains and pines. And here is the shape of one swift, raveling edge, a feather-hole on a flying goose’s hollow wing extended over the planet. Five hundred barbs of emptiness prick into clay from either side of a central, flexible shaft. On each barb are two fringes of five hundred barbules apiece, making a million barbules on each feather, fluted and hooked in a matrix of clasped hollowness. Through

the fabric of this form the clay man shuttles unerringly, and through the other feather-holes, and the goose, the pine forest, the planet, and so on.

In other words, even on the perfectly ordinary and clearly visible level, creation carries on with an intricacy unfathomable and apparently uncalled for. The lone ping into being of the first hydrogen atom *ex nihilo* was so unthinkably, violently radical, that surely it ought to have been enough, more than enough. But look what happens. You open the door and all heaven and hell break loose.

Evolution, of course, is the vehicle of intricacy. The stability of simple forms is the sturdy base from which more complex stable forms might arise, forming in turn more complex forms, and so on. The stratified nature of this stability, like a house built on rock on rock on rock, performs, in Jacob Bronowski’s terms, as the “ratchet” that prevents the whole shebang from “slipping back.” Bring a feather into the house, and a piano; put a sculpture on the roof, sure, and fly banners from the lintels—the house will hold.

There are, for instance, two hundred twenty-eight separate and distinct muscles in the head of an ordinary caterpillar. Again, of an ostracod, a common fresh-water crustacean of the sort I crunch on by the thousands every time I set foot in Tinker Creek, I read, “There is one eye situated at the fore-end of the animal. The food canal lies just below the hinge, and around the mouth are the feathery feeding appendages which collect the food. . . . Behind them is a foot which is clawed and this is partly used for removing unwanted particles from the feeding appendages.” Or again, there are, as I have said, six million leaves on a big elm. All right . . . but they are toothed, and the teeth themselves are toothed. How many notches and

barbs is that to a world? In and out go the intricate leaf edges, and "don't nobody know why." All the theories botanists have devised to explain the functions of various leaf shapes tumble under an avalanche of inconsistencies. They simply don't know, can't imagine.

I have often noticed that these things, which obsess me, neither bother nor impress other people even slightly. I am horribly apt to approach some innocent at a gathering and, like the ancient mariner, fix him with a wild, glitt'ring eye and say, "Do you know that in the head of the caterpillar of the ordinary goat moth there are two hundred twenty-eight separate muscles?" The poor wretch flees. I am not making chatter; I mean to change his life. I seem to possess an organ that others lack, a sort of trivia machine.

When I was young I thought that all human beings had an organ inside each lower eyelid which caught things that got in the eye. I don't know where I imagined I'd learned this piece of anatomy. Things got in my eye, and then they went away, so I supposed that they had fallen into my eye-pouch. This eye-pouch was a slender, thin-walled purse, equipped with frail digestive powers that enabled it eventually to absorb eyelashes, strands of fabric, bits of grit, and anything else that might stray into the eye. Well, the existence of this eye-pouch, it turned out, was all in my mind, and, it turns out, it is apparently there still, a brain-pouch, catching and absorbing small bits that fall deeply into my open eye.

All I can remember from a required zoology course years ago, for instance, is a lasting impression that there is an item in the universe called a Henle's loop. Its terrestrial abode is in the human kidney. I just refreshed my memory on the subject. The Henle's loop is an attenuated oxbow or U-turn made by an

incredibly tiny tube in the nephron of the kidney. The nephron in turn is a filtering structure which produces urine and reabsorbs nutrients. This business is so important that one fifth of all the heart's pumped blood goes to the kidneys.

There is no way to describe a nephron; you might hazard into a fairly good approximation of its structure if you threw about fifteen yards of string on the floor. If half the string fell into a very narrow loop, that would be the Henle's loop. Two other bits of string that rumbled up and tangled would be the "proximal convoluted tubule" and the "distal convoluted tubule," shaped just so. But the heart of the matter would be a very snarled clump of string, "an almost spherical tuft of parallel capillaries," which is the glomerulus, or Malpighian body. This is the filter to end all filters, supplied with afferent and efferent arterioles and protected by a double-walled capsule. Compared to the glomerulus, the Henle's loop is rather unimportant. By going from here to there in such a roundabout way, the Henle's loop packs a great deal of filtering tubule into a very narrow space. But the delicate oxbow of tissue, looping down so far, and then up, is really a peripheral extravagance, which is why I remembered it, and a beautiful one, like a meander in a creek.

Now the point of all this is that there are a million nephrons in each human kidney. I've got two million glomeruli, two million Henle's loops, and I made them all myself, without the least effort. They're undoubtedly my finest work. What an elaboration, what an extravagance! The proximal segment of the tubule, for instance, "is composed of irregular cuboidal cells with characteristic brushlike striations (brush border) at the internal, or luminal, border." Here are my own fringed necessities, a veritable forest of pines.

* * *

Van Gogh, you remember, called the world a study that didn't come off. Whether it "came off" is a difficult question. The chloroplasts do stream in the leaf as if propelled by a mighty, invisible breath; but on the other hand, a certain sorrow arises, welling up in Shadow Creek, and from those lonely banks it appears that all our intricate fringes, however beautiful, are really the striations of a universal and undeserved flaying. But, Van Gogh: a *study* it is not. This is the truth of the pervading intricacy of the world's detail: the creation is not a study, a roughed-in sketch; it is supremely, meticulously created, created abundantly, extravagantly, and in fine.

Along with intricacy, there is another aspect of the creation that has impressed me in the course of my wanderings. Look again at the horsehair worm, a yard long and thin as a thread, whipping through the duck pond, or tangled with others of its kind in a slithering Gordian knot. Look at an overwintering ball of buzzing bees, or a turtle under ice breathing through its pumping cloaca. Look at the fruit of the Osage orange tree, big as a grapefruit, green, convoluted as any human brain. Or look at a rotifer's translucent gut: something orange and powerful is surging up and down like a piston, and something small and round is spinning in place like a flywheel. Look, in short, at practically anything—the coot's feet, the mantis's face, a banana, the human ear—and see that not only did the creator create everything, but that he is apt to create *anything*. He'll stop at nothing.

There is no one standing over evolution with a blue pencil to say, "Now that one, there, is absolutely ridiculous, and I won't have it." If the creature makes it, it gets a "stet." Is our taste so much better than the creator's? Utility to the creature is evolution's only aesthetic consideration. Form follows function in the

created world, so far as I know, and the creature that functions, however bizarre, survives to perpetuate its form. Of the intricacy of form, I know some answers and not others: I know why the barbules on a feather hook together, and why the Henle's loop loops, but not why the elm tree's leaves zigzag, or why butterfly scales and pollen are shaped just so. But of the *variety* of form itself, of the multiplicity of forms, I know nothing. Except that, apparently, anything goes. This holds for forms of behavior as well as design—the mantis munching her mate, the frog wintering in mud, the spider wrapping a hummingbird, the pine processionary straddling a thread. Welcome aboard. A generous spirit signs on this motley crew.

Take, for instance, the African Hercules beetle, which is so big, according to Edwin Way Teale, "it drones over the countryside at evening with a sound like an approaching airplane." Or, better, take to heart Teale's description of South American honey ants. These ants have abdomens that can stretch to enormous proportions. "Certain members of the colony act as storage vessels for the honeydew gathered by the workers. They never leave the nest. With abdomens so swollen they cannot walk, they cling to the roof of their underground chamber, regurgitating food to the workers when it is needed." I read these things, and those ants are as present to me as if they hung from my kitchen ceiling, or down the vaults of my skull, pulsing live jars, engorged vats, teats, with an eyed animal at the head thinking—what?

Blake said, "He who does not prefer Form to Color is a Coward!" I often wish the creator had been more of a coward, giving us many fewer forms and many more colors. Here is an interesting form, one closer to home. This is the larva, or nymph, of an ordinary dragonfly. The wingless nymphs are an inch long and fat as earthworms. They stalk everywhere on the

floors of valley ponds and creeks, sucking water into their gilled rectums. But it is their faces I'm interested in. According to Howard Ensign Evans, a dragonfly larva's "lower lip is enormously lengthened, and has a double hinge joint so that it can be pulled back beneath the body when not in use; the outer part is expanded and provided with stout hooks, and in resting position forms a 'mask' that covers much of the face of the larva. The lip is capable of being thrust forward suddenly, and the terminal hooks are capable of grasping prey well in front of the larva and pulling it back to the sharp, jagged mandibles. Dragonfly larvae prey on many kinds of small insects occurring in the water, and the larger ones are well able to handle small fish."

The world is full of creatures that for some reason seem stranger to us than others, and libraries are full of books describing them—hagfish, platypuses, lizardlike pangolins four feet long with bright green lapped scales like umbrella-tree leaves on a bush hut roof, butterflies emerging from anthills, spiderlings wafting through the air clutching tiny silken balloons, horseshoe crabs . . . the creator creates. Does he stoop, does he speak, does he save, succor, prevail? Maybe. But he creates; he creates everything and anything.

Of all known forms of life, only about ten percent are still living today. All other forms—fantastic plants, ordinary plants, living animals with unimaginably various wings, tails, teeth, brains—are utterly and forever gone. That is a great many forms that have been created. Multiplying ten times the number of living forms today yields a profusion that is quite beyond what I consider thinkable. Why so many forms? Why not just that one hydrogen atom? The creator goes off on one wild, specific tangent after another, or millions simultaneously, with an exuberance that would seem to be unwarranted, and with

an abandoned energy sprung from an unfathomable font. What is going on here? The point of the dragonfly's terrible lip, the giant water bug, birdsong, or the beautiful dazzle and flash of sunlighted minnows, is not that it all fits together like clockwork—for it doesn't, particularly, not even inside the goldfish bowl—but that it all flows so freely wild, like the creek, that it all surges in such a free, fringed tangle. Freedom is the world's water and weather, the world's nourishment freely given, its soil and sap: and the creator loves pizzazz.

II

What I aim to do is not so much learn the names of the shreds of creation that flourish in this valley, but to keep myself open to their meanings, which is to try to impress myself at all times with the fullest possible force of their very reality. I want to have things as multiply and intricately as possible present and visible in my mind. Then I might be able to sit on the hill by the burnt books where the starlings fly over, and see not only the starlings, the grass field, the quarried rock, the viney woods, Hollins Pond, and the mountains beyond, but also, and simultaneously, feathers' barbs, spring-tails in the soil, crystal in rock, chloroplasts streaming, rotifers pulsing, and the shape of the air in the pines. And, if I try to keep my eye on quantum physics, if I try to keep up with astronomy and cosmology, and really believe it all, I might ultimately be able to make out the landscape of the universe. Why not?

Landscape consists in the multiple, overlapping intricacies and forms that exist in a given space at a moment in time. Landscape is the texture of intricacy, and texture is my present subject. Intricacies of detail and varieties of form build up into textures. A bird's feather is an intricacy; the bird is a form; the bird in space in relation to air, forest, continent, and so on, is a

thread in a texture. The moon has its texture, too, its pitted and carved landscapes in even its flattest seas. The planets are more than smooth spheres; the galaxy itself is a fleck of texture, binding and bound. But here on earth texture interests us supremely. Wherever there is life, there is twist and mess: the frizz of an arctic lichen, the tangle of brush along a bank, the dogleg of a dog's leg, the way a line has got to curve, split, or knob. The planet is characterized by its very jaggedness, its random heaps of mountains, its frayed fringes of shore.

Think of a globe, a revolving globe on a stand. Think of a contour globe, whose mountain ranges cast shadows, whose continents rise in bas-relief above the oceans. But then: think of how it *really* is. These heights aren't just suggested; they're there. Pliny, who knew the world was round, figured that when it was all surveyed the earth would be seen to resemble in shape, not a sphere, but a pineapple, pricked by irregularities. When I think of walking across a continent I think of all the neighborhood hills, the tiny grades up which children drag their sleds. It is all so sculptured, three-dimensional, casting a shadow. What if you had an enormous globe in relief that was so huge it showed roads and houses—a geological survey globe, a quarter of a mile to an inch—of the whole world, and the ocean floor! Looking at it, you would know what had to be left out: the free-standing sculptural arrangement of furniture in rooms, the jumble of broken rocks in a creek bed, tools in a box, labyrinthine ocean liners, the shape of snapdragons, walrus. Where is the one thing you care about on earth, the molding of one face? The relief globe couldn't begin to show trees, between whose overlapping boughs birds raise broods, or the furrows in bark, where whole creatures, creatures easily visible, live out their lives and call it world enough.

What do I make of all this texture? What does it mean

about the kind of world in which I have been set down? The texture of the world, its filigree and scrollwork, means that there is the possibility for beauty here, a beauty inexhaustible in its complexity, which opens to my knock, which answers in me a call I do not remember calling, and which trains me to the wild and extravagant nature of the spirit I seek.

In the eighteenth century, when educated European tourists visited the Alps, they deliberately blindfolded their eyes to shield themselves from the evidence of the earth's horrid irregularity. It is hard to say if this was not merely affectation, for today, newborn infants, who have not yet been taught our ideas of beauty, repeatedly show in tests that they prefer complex to simple designs. At any rate, after the Romantic Revolution, and after Darwin, I might add, our conscious notions of beauty changed. Were the earth as smooth as a ball bearing, it might be beautiful seen from another planet, as the rings of Saturn are. But here we live and move; we wander up and down the banks of the creek, we ride a railway through the Alps, and the landscape shifts and changes. Were the earth smooth, our brains would be smooth as well; we would wake, blink, walk two steps to get the whole picture, and lapse into a dreamless sleep. Because we are living people, and because we are on the receiving end of beauty, another element necessarily enters the question. The texture of space is a condition of time. Time is the warp and matter the weft of the woven texture of beauty in space, and death is the hurtling shuttle. Did those eighteenth-century people think they were immortal? Or were their carriages stalled to rigidity, so that they knew they would never move again, and, panicked, they reached for their blindfolds?

What I want to do, then, is add time to the texture, paint the landscape on an unrolling scroll, and set the giant relief globe spinning on its stand.

Last year I had a very unusual experience. I was awake, with my eyes closed, when I had a dream. It was a small dream about time.

I was dead, I guess, in deep black space high up among many white stars. My own consciousness had been disclosed to me, and I was happy. Then I saw far below me a long, curved band of color. As I came closer, I saw that it stretched endlessly in either direction, and I understood that I was seeing all the time of the planet where I had lived. It looked like a woman's tweed scarf; the longer I studied any one spot, the more dots of color I saw. There was no end to the deepness and variety of the dots. At length I started to look for my time, but, although more and more specks of color and deeper and more intricate textures appeared in the fabric, I couldn't find my time, or any time at all that I recognized as being near my time. I couldn't make out so much as a pyramid. Yet as I looked at the band of time, all the individual people, I understood with special clarity, were living at that very moment with great emotion, in intricate detail, in their individual times and places, and they were dying and being replaced by ever more people, one by one, like stitches in which whole worlds of feeling and energy were wrapped, in a never-ending cloth. I remembered suddenly the color and texture of our life as we knew it—these things had been utterly forgotten—and I thought as I searched for it on the limitless band, "That was a good time then, a good time to be living." And I began to remember our time.

I recalled green fields with carrots growing, one by one, in slender rows. Men and women in bright vests and scarves came and pulled the carrots out of the soil and carried them in baskets to shaded kitchens, where they scrubbed them with yellow brushes under running water. I saw white-faced cattle lowing and wading in creeks, with dust on the whorled and curly

white hair between their ears. I saw May apples in forests, erupting through leaf-strewn paths. Cells on the root hairs of sycamores split and divided, and apples grew spotted and striped in the fall. Mountains kept their cool caves, and squirrels raced home to their nests through sunlight and shade.

I remembered the ocean, and I seemed to be in the ocean myself, swimming over orange crabs that looked like coral, or off the deep Atlantic banks where whitefish school. Or again I saw the tops of poplars, and the whole sky brushed with clouds in pallid streaks, under which wild ducks flew with outstretched necks, and called, one by one, and flew on.

All these things I saw. Scenes grew in depth and sunlit detail before my eyes, and were replaced by ever more scenes, as I remembered the life of my time with increasing feeling.

At last I saw the earth as a globe in space, and I recalled the ocean's shape and the form of continents, saying to myself with surprise as I looked at the planet, "Yes, that's how it was then; that part there we called. . . 'France.'" I was filled with the deep affection of nostalgia—and then I opened my eyes.

We all ought to be able to conjure up sights like these at will, so that we can keep in mind the scope of texture's motion in time. It is a pity we can't watch it on a screen. John Dee, the Elizabethan geographer and mathematician, dreamed up a great idea, which is just what we need. You shoot a mirror up into space so that it is traveling faster than the speed of light (there's the rub). Then you can look in the mirror and watch all the earth's previous history unfolding as on a movie screen. Those people who shoot endless time-lapse films of unfurling roses and tulips have the wrong idea. They should train their cameras instead on the melting of pack ice, the green filling of ponds, the tidal swing of the Severn Bore. They should film

the glaciers of Greenland, some of which creak along at such a fast clip that even the dogs bark at them. They should film the invasion of the southernmost Canadian tundra by the northernmost spruce-fir-forest, which is happening right now at the rate of a mile every ten years. When the last ice sheet receded from the North American continent, the earth rebounded ten feet. Wouldn't that have been a sight to see?

People say that a good seat in the backyard affords as accurate and inspiring a vantage point on the planet earth as any observation tower on Alpha Centauri. They are wrong. We see through a glass darkly. We find ourselves in the middle of a movie, or, God help us, a take for a movie, and we don't know what's on the rest of the film.

Say you could look through John Dee's mirror whizzing through space; say you could heave our relief globe into motion like a giant top and breathe life on its surface; say you could view a time-lapse film of our planet: What would you see? Transparent images moving through light, "an infinite storm of beauty."

The beginning is swaddled in mists, blasted by random blinding flashes. Lava pours and cools; seas boil and flood. Clouds materialize and shift; now you can see the earth's face through only random patches of clarity. The land shudders and splits, like pack ice rent by a widening lead. Mountains burst up, jutting, and dull and soften before your eyes, clothed in forests like felt. The ice rolls up, grinding green land under water forever; the ice rolls back. Forests erupt and disappear like fairy rings. The ice rolls up—mountains are mowed into lakes, land rises wet from the sea like a surfacing whale—the ice rolls back.

A blue-green streaks the highest ridges, a yellow-green spreads from the south like a wave up a strand. A red dye seems to leak from the north down the ridges and into the valleys,

seeping south; a white follows the red, then yellow-green washes north, then red spreads again, then white, over and over, making patterns of color too swift and intricate to follow. Slow the film. You see dust storms, locusts, floods, in dizzying flash-frames.

Zero in on a well-watered shore and see smoke from fires drifting. Stone cities rise, spread, and crumble, like patches of alpine blossoms that flourish for a day an inch above the permafrost, that iced earth no root can suck, and wither in an hour. New cities appear, and rivers sift silt onto their rooftops; more cities emerge and spread in lobes like lichen on rock. The great human figures of history, those intricate, spirited tissues that roamed the earth's surface, are a wavering blur whose split second in the light was too brief an exposure to yield any image but the hunched, shadowless figures of ghosts. The great herds of caribou pour into the valleys like slag, and trickle back, and pour, a brown fluid.

Slow it down more, come closer still. A dot appears, a flesh-flake. It swells like a balloon; it moves, circles, slows, and vanishes. This is your life.

Our life is a faint tracing on the surface of mystery. The surface of mystery is not smooth, any more than the planet is smooth; not even a single hydrogen atom is smooth, let alone a pine. Nor does it fit together; not even the chlorophyll and hemoglobin molecules are a perfect match, for, even after the atom of iron replaces the magnesium, long streamers of disparate atoms trail disjointedly from the rims of the molecules' loops. Freedom cuts both ways. Mystery itself is as fringed and intricate as the shape of the air in time. Forays into mystery cut bays and fine fiords, but the forested mainland itself is implacable both in its bulk and in its most filigreed fringe of detail.

"Every religion that does not affirm that God is hidden," said Pascal flatly, "is not true."

What is man, that thou art mindful of him? This is where the great modern religions are so unthinkable radical: the love of God! For we can see that we are as many as the leaves of trees. But it could be that our faithlessness is a cowering cowardice born of our very smallness, a massive failure of imagination. Certainly nature seems to exult in abounding radicality, extremism, anarchy. If we were to judge nature by its common sense or likelihood, we wouldn't believe the world existed. In nature, improbabilities are the one stock in trade. The whole creation is one lunatic fringe. If creation had been left up to me, I'm sure I wouldn't have had the imagination or courage to do more than shape a single, reasonably sized atom, smooth as a snowball, and let it go at that. No claims of any and all revelations could be so far-fetched as a single giraffe.

The question from agnosticism is, Who turned on the lights? The question from faith is, Whatever for? Thoreau climbs Mount Katahdin and gives vent to an almost outraged sense of the reality of the things of this world: "I fear bodies, I tremble to meet them. What is this Titan that has possession of me? Talk of mysteries!—Think of our life in nature,—daily to be shown matter, to come in contact with it,—rocks, trees, wind on our cheeks! the *solid* earth! the *actual* world! the *common* sense! *Contact! Contact!* Who are we? *where* are we?" The Lord God of gods, the Lord God of gods, he knoweth. . . .

Sir James Jeans, British astronomer and physicist, suggested that the universe was beginning to look more like a great thought than a great machine. Humanists seized on the expression, but it was hardly news. We knew, looking around, that a thought branches and leafs, a tree comes to a conclusion. But the question of who is thinking the thought is more fruit-

ful than the question of who made the machine, for a machinist can of course wipe his hands and leave, and his simple machine still hums; but if the thinker's attention strays for a minute, his simplest thought ceases altogether. And, as I have stressed, the place where we so incontrovertibly find ourselves, whether thought or machine, is at least not in any way simple.

Instead, the landscape of the world is "ring-streaked, speckled, and spotted," like Jacob's cattle culled from Laban's herd. Laban had been hard, making Jacob serve seven years in his fields for Rachel, and then giving him instead Rachel's sister, Leah, withholding Rachel until he had served another seven years. When Laban finally sent Jacob on his way, he agreed that Jacob could have all those cattle, sheep, and goats from the herd that were ring-streaked, speckled, and spotted. Jacob pulled some tricks of his own, and soon the strongest and hardiest of Laban's fecund flocks were born ring-streaked, speckled, and spotted. Jacob set out for Canaan with his wives and twelve sons, the fathers of the twelve tribes of Israel, and with these cattle that are Israel's heritage, into Egypt and out of Egypt, just as the intricate speckled and spotted world is ours.

Intricacy is that which is given from the beginning, the birth-right, and in intricacy is the hardness of complexity that ensures against the failure of all life. This is our heritage, the piebald landscape of time. We walk around; we see a shred of the infinite possible combinations of an infinite variety of forms.

Anything can happen; any pattern of speckles may appear in a world ceaselessly bawling with newness. I see red blood stream in shimmering dots inside a goldfish's tail; I see the stout, extensible lip of a dragonfly nymph that can pierce and clasp a goldfish; and I see the clotted snarls of bright algae that snare and starve the nymph. I see engorged, motionless ants

regurgitate pap to a colony of pawing workers, and I see sharks limned in light twist in a raised and emerald wave.

The wonder is—given the errant nature of freedom and the burgeoning of texture in time—the wonder is that all the forms are not monsters, that there is beauty at all, grace gratuitous, pennies found, like mockingbird's free fall. Beauty itself is the fruit of the creator's exuberance that grew such a tangle, and the grotesques and horrors bloom from that same free growth, that intricate scramble and twine up and down the conditions of time.

This, then, is the extravagant landscape of the world, given, given with pizzazz, given in good measure, pressed down, shaken together, and running over.

9



Flood

It's summer. We had some deep spring sunshine about a month ago, in a drought; the nights were cold. It's been gray sporadically, but not oppressively, and rainy for a week, and I would think: When is the real hot stuff coming, the mind-melting weeding weather? It was rainy again this morning, the same spring rain, and then this afternoon a different rain came: a pounding, three-minute shower. And when it was over, the cloud dissolved to haze. I can't see Tinker Mountain. It's summer now: the heat is on. It's summer now all summer long.

The season changed two hours ago. Will my life change as well? This is a time for resolutions, revolutions. The animals are going wild. I must have seen ten rabbits in as many minutes. Baltimore orioles are here; brown thrashers seem to be nesting down by Tinker Creek across the road. The coot is still around, big as a Thanksgiving turkey, and as careless; it doesn't even glance at a barking dog.

The creek's up. When the rain stopped today I walked across the road to the downed log by the steer crossing. The steers were across the creek, a black clot on a distant hill. High water had touched my log, the log I sit on, and dumped a smooth slope of muck in its lee. The water itself was an opaque pale green, like pulverized jade, still high and very fast, lightless, like no earthly water. A dog I've never seen before, thin as death, was flushing rabbits.

A knot of yellow, fleshy somethings had grown up by the log. They didn't seem to have either proper stems or proper flowers, but instead only blind, featureless growth, like etiolated potato sprouts in a root cellar. I tried to dig one up from the crumbly soil, but they all apparently grew from a single, well-rooted corm, so I let them go.

Still, the day had an air of menace. A broken whiskey bottle by the log, the brown tip of a snake's tail disappearing between two rocks on the hill at my back, the rabbit the dog nearly caught, the rabies I knew was in the county, the bees who kept unaccountably fumbling at my forehead with their furred feet . . .

I headed over to the new woods by the creek, the motorbike woods. They were strangely empty. The air was so steamy I could barely see. The ravine separating the woods from the field had filled during high water, and a dead tan mud clogged it now. The horny orange roots of one tree on the ravine's jagged bank had been stripped of soil; now the roots hung, an empty net in the air, clutching an incongruous light bulb stranded by receding waters. For the entire time that I walked in the woods, four jays flew around me very slowly, acting generally odd, and screaming on two held notes. There wasn't a breath of wind.

Coming out of the woods, I heard loud shots; they reverberated ominously in the damp air. But when I walked up the

road, I saw what it was, and the dread quality of the whole afternoon vanished at once. It was a couple of garbage trucks, huge trash compactors humped like armadillos, and they were making their engines backfire to impress my neighbors' pretty daughters, high school girls who had just been let off the school bus. The long-haired girls strayed into giggling clumps at the corner of the road; the garbage trucks sped away gloriously, as if they had been the Tarleton twins on thoroughbreds cantering away from the gates of Tara. In the distance a white vapor was rising from the waters of Carvin's Cove and catching in trailing tufts in the mountains' sides. I stood on my own porch, exhilarated, unwilling to go indoors.

It was just this time last year that we had the flood. It was Hurricane Agnes, really, but by the time it got here, the weather bureau had demoted it to a tropical storm. I see by a clipping I saved that the date was June twenty-first, the solstice, midsummer's night, the longest daylight of the year; but I didn't notice it at the time. Everything was so exciting, and so very dark.

All it did was rain. It rained, and the creek started to rise. The creek, naturally, rises every time it rains; this didn't seem any different. But it kept raining, and, that morning of the twenty-first, the creek kept rising.

That morning I'm standing at my kitchen window. Tinker Creek is out of its four-foot banks, way out, and it's still coming. The high creek doesn't look like our creek. Our creek splashes transparently over a jumble of rocks; the high creek obliterates everything in flat opacity. It looks like somebody else's creek that has usurped or eaten our creek and is roving frantically to escape, big and ugly, like a blacksnake caught in a kitchen drawer. The color is foul, a rusty cream. Water that has picked up clay soils

looks worse than other muddy waters, because the particles of clay are so fine; they spread out and cloud the water so that you can't see light through even an inch of it in a drinking glass.

Everything looks different. Where my eye is used to depth, I see the flat water, near, too near. I see trees I never noticed before, the black verticals of their rain-soaked trunks standing out of the pale water like pilings for a rotted dock. The stillness of grassy banks and stony ledges is gone; I see rushing, a wild sweep and hurry in one direction, as swift and compelling as a waterfall. The Atkins kids are out in their tiny rain gear, staring at the monster creek. It's risen up to their gates; the neighbors are gathering; I go out.

I hear a roar, a high windy sound more like air than like water, like the run-together whaps of a helicopter's propeller after the engine is off, a high million rushings. The air smells damp and acrid, like fuel oil, or insecticide. It's raining.

I'm in no danger; my house is high. I hurry down the road to the bridge. Neighbors who have barely seen each other all winter are there, shaking their heads. Few have ever seen it before: the water is *over* the bridge. Even when I see the bridge now, which I do every day, I still can't believe it: the water was *over* the bridge, a foot or two over the bridge, which at normal times is eleven feet above the surface of the creek.

Now the water is receding slightly; someone has produced empty metal drums, which we roll to the bridge and set up in a square to keep cars from trying to cross. It takes a bit of nerve even to stand on the bridge; the flood has ripped away a wedge of concrete that buttressed the bridge on the bank. Now one corner of the bridge hangs apparently unsupported while water hurls in an arch just inches below.

It's hard to take it all in, it's all so new. I look at the creek at my feet. It smashes under the bridge like a fist, but there is

no end to its force; it hurtles down as far as I can see till it lurches round the bend, filling the valley, flattening, mashing, pushed, wider and faster, till it fills my brain.

It's like a dragon. Maybe it's because the bridge we are on is chancy, but I notice that no one can help imagining himself washed overboard, and gauging his chances for survival. You couldn't live. Mark Spitz couldn't live. The water arches where the bridge's supports at the banks prevent its enormous volume from going wide, forcing it to go high; that arch drives down like a diving whale, and would butt you on the bottom. "You'd never know what hit you," one of the men says. But if you survived that part and managed to surface . . . ? How fast can you live? You'd need a windshield. You couldn't keep your head up; the water under the surface is fastest. You'd spin around like a sock in a clothes dryer. You couldn't grab onto a tree trunk without leaving that arm behind. No, you couldn't live. And if they ever found you, your gut would be solid red clay.

It's all I can do to stand. I feel dizzy, drawn, mauled. Below me the floodwater roils to a violent froth that looks like dirty lace, a lace that continuously explodes before my eyes. If I look away, the earth moves backwards, rises and swells, from the fixing of my eyes at one spot against the motion of the flood. All the familiar land looks as though it were not solid and real at all, but painted on a scroll like a backdrop, and that unrolled scroll has been shaken, so the earth sways and the air roars.

Everything imaginable is zipping by, almost too fast to see. If I stand on the bridge and look downstream, I get dizzy; but if I look upstream, I feel as though I am looking up the business end of an avalanche. There are dolls, split wood and kindling, dead fledgling songbirds, bottles, whole bushes and trees, rakes and garden gloves. Wooden, rough-hewn railroad ties charge by faster than any express. Lattice fencing bobs along, and a wooden

picket gate. There are so many white plastic gallon milk jugs that when the flood ultimately recedes, they are left on the grassy banks looking from a distance like a flock of white geese.

I expect to see anything at all. In this one way, the creek is more like itself when it floods than at any other time: mediating, bringing things down. I wouldn't be at all surprised to see John Paul Jones coming round the bend, standing on the deck of the *Bon Homme Richard*, or Amelia Earhart waving gaily from the cockpit of her floating Lockheed. Why not a cello, a basket of breadfruit, a casket of antique coins? Here comes the Franklin expedition on snowshoes, and the three magi, plus camels, afloat on a canopied barge!

The whole world is in flood, the land as well as the water. Water streams down the trunks of trees, drips from hat-brims, courses across roads. The whole earth seems to slide like sand down a chute; water pouring over the least slope leaves the grass flattened, silver side up, pointing downstream. Everywhere windfall and flotsam twigs and leafy boughs, wood from woodpiles, bottles, and saturated straw spatter the ground or streak it in curving windrows. Tomatoes in flat gardens are literally floating in mud; they look as though they have been dropped whole into a boiling, brown-gravy stew. The level of the water table is at the top of the toe of my shoes. Pale muddy water lies on the flat so that it all but drowns the grass; it looks like a hideous parody of a light snow on the field, with only the dark tips of the grass blades visible.

When I look across the street, I can't believe my eyes. Right behind the road's shoulder are waves, waves whipped in rhythmically peaking scallops, racing downstream. The hill where I watched the praying mantis lay her eggs is a waterfall that splashes into a brown ocean. I can't even remember where the creek usually runs—it is everywhere now. My log is gone

for sure, I think—but in fact, I discover later, it holds, rammed between growing trees. Only the cable suspending the steers' fence is visible, and not the fence itself; the steers' pasture is entirely in flood, a brown river. The river leaps its banks and smashes into the woods where the motorbikes go, devastating all but the sturdiest trees. The water is so deep and wide it seems as though you could navigate the *Queen Mary* in it, clear to Tinker Mountain.

What do animals do in these floods? I see a drowned muskrat go by like he's flying, but they all couldn't die; the water rises after every hard rain, and the creek is still full of muskrats. This flood is higher than their raised sleeping platforms in the banks; they must just race for high ground and hold on. Where do the fish go, and what do they do? Presumably their gills can filter oxygen out of this muck, but I don't know how. They must hide from the current behind any barriers they can find, and fast for a few days. They must: otherwise we'd have no fish; they'd all be in the Atlantic Ocean. What about herons and kingfishers, say? They can't see to eat. It usually seems to me that when I see any animal, its business is urgent enough that it couldn't easily be suspended for forty-eight hours. Crayfish, frogs, snails, rotifers? Most things must simply die. They couldn't live. Then I suppose that when the water goes down and clears, the survivors have a field day with no competition. But you'd think the bottom would be knocked out of the food chain—the whole pyramid would have no base plankton, and it would crumble, or crash with a thud. Maybe enough spores and larvae and eggs are constantly being borne down from slower upstream waters to repopulate . . . I don't know.

Some little children have discovered a snapping turtle as big as a tray. It's hard to believe that this creek could support a predator that size: its shell is a foot and a half across, and its

head extends a good seven inches beyond the shell. When the children—in the company of a shrunken terrier—approach it on the bank, the snapper rears up on its thick front legs and hisses very impressively. I had read earlier that since turtles' shells are rigid, they don't have bellows lungs; they have to gulp for air. And, also since their shells are rigid, there's only room for so much inside, so when they are frightened and planning a retreat, they have to expel air from their lungs to make room for head and feet—hence the malevolent hiss.

The next time I look, I see that the children have somehow maneuvered the snapper into a washtub. They're waving a broom handle at it in hopes that it will snap the wood like a matchstick, but the creature will not deign to oblige. The kids are crushed; all their lives they've heard that this is the one thing you do with a snapping turtle—you shove a broom handle near it, and it "snaps it like a matchstick." It's nature's way; it's sure-fire. But the turtle is having none of it. It avoids the broom handle with an air of patiently repressed rage. They let it go, and it beelines down the bank, dives unhesitatingly into the swirling floodwater, and that's the last we see of it.

A cheer comes up from the crowd on the bridge. The truck is here with a pump for the Bowers' basement, hooray! We roll away the metal drums, the truck makes it over the bridge, to my amazement—the crowd cheers again. State police cruise by; everything's fine here; downstream people are in trouble. The bridge over by the Bings' on Tinker Creek looks like it's about to go. There's tree trunk wedged against its railing, and a section of concrete is out. The Bings are away, and a young couple is living there, "taking care of the house." What can they do? The husband drove to work that morning as usual; a few hours later, his wife was evacuated from the front door in a *motorboat*.

I walk to the Bings'. Most of the people who are on our bridge eventually end up over there; it's just down the road. We straggle along in the rain, gathering a crowd. The men who work away from home are here, too; their wives have telephoned them at work this morning to say that the creek is rising fast, and they'd better get home while the getting's good.

There's a big crowd already there; everybody knows that the Bings' is low. The creek is coming in the recreation-room windows; it's halfway up the garage door. Later that day people will haul out everything salvageable and try to dry it: books, rugs, furniture—the lower level was filled from floor to ceiling. Now on this bridge a road crew is trying to chop away the wedged tree trunk with a long-handled ax. The handle isn't so long that they don't have to stand on the bridge, in Tinker Creek. I walk along a low brick wall that was built to retain the creek away from the house at high water. The wall holds just fine, but now that the creek's receding, it's retaining water around the house. On the wall I can walk right out into the flood and stand in the middle of it. Now on the return trip I meet a young man who's going in the opposite direction. The wall is one brick wide; we can't pass. So we clasp hands and lean out backward over the turbulent water; our feet interlace like teeth on a zipper, we pull together, stand, and continue on our ways. The kids have spotted a rattlesnake draping itself out of harm's way in a bush; now they all want to walk over the brick wall to the bush, to get bitten by the snake.

The little Atkins kids are here, and they are hopping up and down. I wonder if I hopped up and down, would the bridge go? I could stand at the railing as at the railing of a steamboat, shouting deliriously, "Mark three! Quarter-less-three! Half twain! Quarter twain! . . ." as the current bore the broken bridge out of sight around the bend before she sank. . . .

Everyone else is standing around. Some of the women are carrying curious plastic umbrellas that look like diving bells—umbrellas they don't put up, but on; they don't get under, but in. They can see out dimly, like goldfish in bowls. Their voices from within sound distant, but with an underlying cheerfulness that plainly acknowledges, "Isn't this ridiculous?" Some of the men are wearing their fishing hats. Others duck their heads under folded newspapers held not very high in an effort to compromise between keeping their heads dry and letting rain run up their sleeves. Following some form of courtesy, I guess, they lower these newspapers when they speak with you, and squint politely into the rain.

Women are bringing coffee in mugs to the road crew. They've barely made a dent in the tree trunk, and they're giving up. It's a job for power tools; the water's going down anyway, and the danger is past. Some kid starts doing tricks on a skateboard; I head home.

On the same day that I was standing on bridges here over Tinker Creek, a friend, Lee Zacharias, was standing on a bridge in Richmond over the James River. It was a calm day there, with not a cloud in the skies. The James River was up a mere nine feet, which didn't look too unusual. But floating in the river was everything under the bright sun. As Lee watched, chicken coops raced by, chunks of houses, porches, stairs, whole uprooted trees—and finally a bloated dead horse. Lee knew, all of Richmond knew: it was coming.

There the James ultimately rose thirty-two feet. The whole town was under water, and all the electrical power was out. When Governor Holton signed the emergency relief bill—which listed our county among the federal disaster areas—he had to do it by candlelight.

That night a curious thing happened in the blacked-out Governor's mansion. Governor Holton walked down an upstairs hall and saw, to his disbelief, a light bulb glowing in a ceiling fixture. It was one of three bulbs, all dead—the whole city was dead—but that one bulb was giving off a faint electrical light. He stared at the thing, scratched his head, and summoned an electrician. The electrician stared at the thing, scratched his head, and announced, "Impossible." The governor went back to bed, and the electrician went home. No explanation has ever been found.

Later Agnes would move on up into Maryland, Pennsylvania, and New York, killing people and doing hundreds of millions of dollars worth of damage. Here in Virginia alone it killed twelve people and ruined 166 million dollars worth of property. But it hit Pennsylvania twice, coming and going. I talked to one of the helicopter pilots who had helped airlift ancient corpses from a flooded cemetery in Wilkes-Barre, Pennsylvania. The flood left the bodies stranded on housetops, in trees; the pilots, sickened, had to be relieved every few hours. The one I talked to, in a little sandwich shop at the Peaks of Otter on the Blue Ridge Parkway, preferred Vietnam. We were lucky here.

This winter I heard a final flood story, about an extra dividend that the flood left the Bings, a surprise as unexpected as a baby in a basket on a stoop.

The Bings came home and their house was ruined, but somehow they managed to salvage almost everything, and live as before. One afternoon in the fall a friend went to visit them; as he was coming in, he met a man coming out, a professor with a large volume under his arm. The Bings led my friend inside and into the kitchen, where they proudly opened the oven door and

showed him a giant mushroom—which they were baking to serve to guests the following day. The professor with the book had just been verifying its edibility. I imagined the mushroom, wrinkled, black, and big as a dinner plate, erupting overnight mysteriously in the Bings' living room—from the back of an upholstered couch, say, or from a still-damp rug under an armchair.

Alas, the story as I had fixed it in my mind proved to be only partly true. The Bings often cook wild mushrooms, and they know what they're doing. This particular mushroom had grown outside, under a sycamore, on high ground that the flood hadn't touched. So the flood had nothing to do with it. But it's still a good story, and I like to think that the flood left them a gift, a consolation prize, so that for years to come they will be finding edible mushrooms here and there about the house, dinner on the bookshelf, hors d'oeuvres in the piano. It would have been nice.

10



Fecundity

I

I wakened myself last night with my own shouting. It must have been that terrible yellow plant I saw pushing through the flood-damp soil near the log by Tinker Creek, the plant as fleshy and featureless as a slug, that erupted through the floor of my brain as I slept, and burgeoned into the dream of fecundity that woke me up.

I was watching two huge luna moths mate. Luna moths are those fragile ghost moths, fairy moths, whose five-inch wings are swallow-tailed, a pastel green bordered in silken lavender. From the hairy head of the male sprouted two enormous, furry antennae that trailed down past his ethereal wings. He was on top of the female, hunching repeatedly with a horrible animal vigor.

It was the perfect picture of utter spirituality and utter degradation. I was fascinated and could not turn away my eyes. By

watching them I in effect permitted their mating to take place and so committed myself to accepting the consequences—all because I wanted to see what would happen. I wanted in on a secret.

And then the eggs hatched and the bed was full of fish. I was standing across the room in the doorway, staring at the bed. The eggs hatched before my eyes, on my bed, and a thousand chunky fish swarmed there in a viscid slime. The fish were firm and fat, black and white, with triangular bodies and bulging eyes. I watched in horror as they squirmed three feet deep, swimming and oozing about in the glistening, transparent slime. Fish in the bed!—and I awoke. My ears still rang with the foreign cry that had been my own voice.

For nightmare you eat wild carrot, which is Queen Anne's lace, or you chew the black stamens of the male peony. But it was too late for prevention, and there is no cure. What root or seed will erase that scene from my mind? Fool, I thought: child, you child, you ignorant, innocent fool. What did you expect to see—angels? For it was understood in the dream that the bed full of fish was my own fault, that if I had turned away from the mating moths the hatching of their eggs wouldn't have happened, or at least would have happened in secret, elsewhere. I brought it upon myself, this slither, this swarm.

I don't know what it is about fecundity that so appalls. I suppose it is the teeming evidence that birth and growth, which we value, are ubiquitous and blind, that life itself is so astonishingly cheap, that nature is as careless as it is bountiful, and that with extravagance goes a crushing waste that will one day include our own cheap lives, Henle's loops and all. Every glistening egg is a memento mori.

After a natural disaster such as a flood, nature "stages a come-

back." People use the optimistic expression without any real idea of the pressures and waste the comeback involves. Now, in late June, things are popping outside. Creatures extrude or vent eggs; larvae fatten, split their shells, and eat them; spores dissolve or explode; root hairs multiply, corn puffs on the stalk, grass yields seed, shoots erupt from the earth turgid and sheathed; wet muskrats, rabbits, and squirrels slide into the sunlight, mewling and blind; and everywhere watery cells divide and swell, swell and divide. I can like it and call it birth and regeneration, or I can play the devil's advocate and call it rank fecundity—and say that it's hell that's a-poppin'.

This is what I plan to do. Partly as a result of my terrible dream, I have been thinking that the landscape of the intricate world that I have painted is inaccurate and lopsided. It is too optimistic. For the notion of the infinite variety of detail and the multiplicity of forms is a pleasing one; in complexity are the fringes of beauty, and in variety are generosity and exuberance. But all this leaves something vital out of the picture. It is not one pine I see, but a thousand. I myself am not one, but legion. And we are all going to die.

In this repetition of individuals is a mindless stutter, an imbecilic fixedness that must be taken into account. The driving force behind all this fecundity is a terrible pressure I also must consider, the pressure of birth and growth, the pressure that splits the bark of trees and shoots out seeds, that squeezes out the egg and bursts the pupa, that hungers and lusts and drives the creature relentlessly towards its own death. Fecundity, then, is what I have been thinking about, fecundity and the pressure of growth. Fecundity is an ugly word for an ugly subject. It is ugly, at least, in the eggy animal world. I don't think it is for plants.

I never met a man who was shaken by a field of identical

blades of grass. An acre of poppies and a forest of spruce boggle no one's mind. Even ten square miles of wheat gladdens the hearts of most people, although it is really as unnatural and freakish as the Frankenstein monster; if man were to die, I read, wheat wouldn't survive him more than three years. No, in the plant world, and especially among the flowering plants, fecundity is not an assault on human values. Plants are not our competitors; they are our prey and our nesting materials. We are no more distressed at their proliferation than an owl is at a population explosion among field mice.

After the flood last year I found a big tulip-tree limb that had been wind-thrown into Tinker Creek. The current dragged it up on some rocks on the bank, where receding waters stranded it. A month after the flood I discovered that it was growing new leaves. Both ends of the branch were completely exposed and dried. I was amazed. It was like the old fable about the corpse's growing a beard; it was as if the woodpile in my garage were suddenly to burst greenly into leaf. The way plants persevere in the bitterest of circumstances is utterly heartening. I can barely keep from unconsciously ascribing a will to these plants, a do-or-die courage, and I have to remind myself that coded cells and mute water pressure have no idea how grandly they are flying in the teeth of it all.

In the lower Bronx, for example, enthusiasts found an ailanthus tree that was fifteen feet long growing from the corner of a garage roof. It was rooted in and living on "dust and roofing cinders." Even more spectacular is a desert plant, *Ibervillea sonorae*—a member of the gourd family—that Joseph Wood Krutch describes. If you see this plant in the desert, you see only a dried chunk of loose wood. It has neither roots nor stems; it's like an old gray knothole. But it is alive. Each year before the rainy season comes, it sends out a few roots and

shoots. If the rain arrives, it grows flowers and fruits; these soon wither away, and it reverts to a state as quiet as driftwood.

Well, the New York Botanical Garden put a dried *Ibervillea sonorae* on display in a glass case. "For seven years," says Joseph Wood Krutch, "without soil or water, simply lying in the case, it put forth a few anticipatory shoots and then, when no rainy season arrived, dried up again, hoping for better luck next year." That's what I call flying in the teeth of it all.

(It's hard to understand why no one at the New York Botanical Garden had the grace to splash a glass of water on the thing. Then they could say on their display case label, "This is a live plant." But by the eighth year what they had was a dead plant, which is precisely what it had looked like all along. The sight of it, reinforced by the label "*Dead Ibervillea sonorae*," would have been most melancholy to visitors to the botanical garden. I suppose they just threw it away.)

The growth pressure of plants can do an impressive variety of tricks. Bamboo can grow three feet in twenty-four hours, an accomplishment that is capitalized upon, *legendarily*, in that exquisite Asian torture in which a victim is strapped to a mesh bunk a mere foot above a bed of healthy bamboo plants whose woodlike tips have been sharpened. For the first eight hours he is fine, if jittery; then he starts turning into a colander, by degrees.

Down at the root end of things, blind growth reaches astonishing proportions. So far as I know, only one real experiment has ever been performed to determine the extent and rate of root growth, and when you read the figures, you see why. I have run into various accounts of this experiment, and the only thing they don't tell you is how many lab assistants were blinded for life.

The experimenters studied a single grass plant, winter rye. They let it grow in a greenhouse for four months; then they

gingerly spirited away the soil—under microscopes, I imagine—and counted and measured all the roots and root hairs. In four months the plant had set forth 378 miles of roots—that’s about three miles a day—in 14 million distinct roots. This is mighty impressive, but when they get down to the root hairs, I boggle completely. In those same four months the rye plant created 14 *billion* root hairs, and those little strands placed end-to-end just about wouldn’t quit. In a single *cubic inch* of soil, the length of the root hairs totaled 6000 miles.

Other plants use the same water power to heave the rock earth around as though they were merely shrugging off a silken cape. Rutherford Platt tells about a larch tree whose root had cleft a one-and-one-half ton boulder and hoisted it a foot into the air. Everyone knows how a sycamore root will buckle a sidewalk, a mushroom will shatter a cement basement floor. But when the first real measurements of this awesome pressure were taken, nobody could believe the figures.

Rutherford Platt tells the story in *The Great American Forest*, one of the most interesting books ever written: “In 1875, a Massachusetts farmer, curious about the growing power of expanding apples, melons and squashes, harnessed a squash to a weight-lifting device which had a dial like a grocer’s scale to indicate the pressure exerted by the expanding fruit. As the days passed, he kept piling on counterbalancing weight; he could hardly believe his eyes when he saw his vegetables quietly exerting a lifting force of 5 thousand pounds per square inch. When nobody believed him, he set up exhibits of harnessed squashes and invited the public to come and see. The *Annual Report of the Massachusetts Board of Agriculture*, 1875, reported: ‘Many thousands of men, women, and children of all classes of society visited it. *Mr. Penlow* watched it day and night, making hourly observations; *Professor Parker* was moved

to write a poem about it; *Professor Seelye* declared that he positively stood in awe of it.’”

All this is very jolly. Unless perhaps I were strapped down above a stand of growing, sharpened bamboo, I am unlikely to feel the faintest queasiness either about the growth pressure of plants, or their fecundity. Even when the plants get in the way of human “culture,” I don’t mind. When I read how many thousands of dollars a city like New York has to spend to keep underground water pipes free of ailanthus, ginko, and sycamore roots, I cannot help but give a little cheer. After all, water pipes are almost always an excellent source of water. In a town where resourcefulness and beating the system are highly prized, these primitive trees can fight city hall and win.

But in the animal world things are different, and human feelings are different. While we’re in New York, consider the cockroaches under the bed and the rats in the early morning clustered on the porch stoop. Apartment houses are hives of swarming roaches. Or again: in one sense you could think of Manhattan’s land as high-rent, high-rise real estate; in another sense you could see it as an enormous breeding ground for rats, acres and acres of rats. I suppose that the rats and the cockroaches don’t do so much actual damage as the roots do; nevertheless, the prospect does not please. Fecundity is anathema only in the animal. “Acres and acres of rats” has a suitably chilling ring to it that is decidedly lacking if I say, instead, “acres and acres of tulips.”

The landscape of earth is dotted and smeared with masses of apparently identical individual animals, from the great Pleistocene herds that blanketed grasslands to the gluey gobs of bacteria that clog the lobes of lungs. The oceanic breeding grounds of pelagic birds are as teeming and cluttered as any

human Calcutta. Lemmings blacken the earth and locusts the air. Grunion run thick in the ocean, corals pile on pile, and protozoans explode in a red tide stain. Ants take to the skies in swarms, mayflies hatch by the millions, and molting cicadas coat the trunks of trees. Have you seen the rivers run red and lumpy with salmon?

Consider the ordinary barnacle, the rock barnacle. Inside every one of those millions of hard white cones on the rocks—the kind that bruises your heel as you bruise its head—is of course a creature as alive as you or I. Its business in life is this: when a wave washes over it, it sticks out twelve feathery feeding appendages and filters the plankton for food. As it grows, it sheds its skin like a lobster, enlarges its shell, and reproduces itself without end. The larvae “hatch into the sea in milky clouds.” The barnacles encrusting a single half mile of shore can leak into the water a million million larvae. How many is that to a human mouthful? In sea water they grow, molt, change shape wildly, and eventually, after several months, settle on the rocks, turn into adults, and build shells. Inside the shells they have to shed their skins. Rachel Carson was always finding the old skins; she reported: “Almost every container of sea water that I bring up from the shore is flecked with white, semitransparent objects. . . . Seen under the microscope, every detail of structure is perfectly represented. . . . In the little cellophane-like replicas I can count the joints of the appendages; even the bristles, growing at the bases of the joints, seem to have been slipped intact out of their casings.” All in all, rock barnacles may live four years.

My point about rock barnacles is those million million larvae “in milky clouds” and those shed flecks of skin. Sea water seems suddenly to be but a broth of barnacle bits. Can I fancy that a million million human infants are more real?

What if God has the same affectionate disregard for us that we have for barnacles? I don't know if each barnacle larva is of itself unique and special, or if we the people are essentially as interchangeable as bricks. My brain is full of numbers; they swell and would split my skull like a shell. I examine the trapezoids of skin covering the back of my hands like blown dust motes moistened to clay. I have hatched, too, with millions of my kind, into a milky way that spreads from an unknown shore.

I have seen the mantis's abdomen dribbling out eggs in wet bubbles like tapioca pudding glued to a thorn. I have seen a film of a termite queen as big as my face, dead white and featureless, glistening with slime, throbbing and pulsing out rivers of globular eggs. Termite workers, who looked like tiny longshoremen unloading the *Queen Mary*, licked each egg as fast as it was extruded to prevent mold. The whole world is an incubator for incalculable numbers of eggs, each one coded minutely and ready to burst.

The egg of a parasite chalcid wasp, a common small wasp, multiplies unassisted, making ever more identical eggs. The female lays a single fertilized egg in the flaccid tissues of its live prey, and that one egg divides and divides. As many as two thousand new parasitic wasps will hatch to feed on the host's body with identical hunger. Similarly—only more so—Edwin Way Teale reports that a lone aphid, without a partner, breeding “unmolested” for one year, would produce so many living aphids that, although they are only a tenth of an inch long, together they would extend into space twenty-five hundred *light-years*. Even the average goldfish lays five thousand eggs, which she will eat as fast as she lays, if permitted. The sales manager of Ozark Fisheries in Missouri, which raises commercial goldfish for the likes of me, said, “We produce, measure,

and sell our product by the ton." The intricacy of Ellery and aphids multiplied mindlessly into tons and light-years is more than extravagance; it is holocaust, parody, glut.

The pressure of growth among animals is a kind of terrible hunger. These billions must eat in order to fuel their surge to sexual maturity so that they may pump out more billions of eggs. And what are the fish on the bed going to eat, or the hatched mantises in the Mason jar going to eat, but each other? There is a terrible innocence in the benumbed world of the lower animals, reducing life there to a universal chomp. Edwin Way Teale, in *The Strange Lives of Familiar Insects*—a book I couldn't live without—describes several occasions of meals mouthed under the pressure of a hunger that knew no bounds.

You remember the dragonfly nymph, for instance, which stalks the bottom of the creek and the pond in search of live prey to snare with its hooked, unfolding lip. Dragonfly nymphs are insatiable and mighty. They clasp and devour whole minnows and fat tadpoles. Well, a dragonfly nymph, says Teale, "has even been seen climbing up out of the water on a plant to attack a helpless dragonfly emerging, soft and rumped, from its nymphal skin." Is this where I draw the line?

It is between mothers and their offspring that these feedings have truly macabre overtones. Look at lacewings. Lacewings are those fragile green insects with large, rounded transparent wings. The larvae eat enormous numbers of aphids, the adults mate in a fluttering rush of instinct, lay eggs, and die by the millions in the first cold snap of fall. Sometimes, when a female lays her fertile eggs on a green leaf atop a slender stalked thread, she is hungry. She pauses in her laying, turns around, and eats her eggs one by one, then lays some more, and eats them, too.

Anything can happen, and anything does; what's it all

about? Valerie Eliot, T. S. Eliot's widow, wrote in a letter to the London *Times*: "My husband, T. S. Eliot, loved to recount how late one evening he stopped a taxi. As he got in the driver said: 'You're T. S. Eliot.' When asked how he knew, he replied: 'Ah, I've got an eye for a celebrity. Only the other evening I picked up Bertrand Russell, and I said to him, "Well, Lord Russell, what's it all about," and, do you know, he couldn't tell me.'" Well, Lord God, asks the delicate, dying lacewing whose mandibles are wet with the juice secreted by her own ovipositor, what's it all about? ("And do you know . . .")

Planarians, which live in the duck pond, behave similarly. They are those dark laboratory flatworms that can regenerate themselves from almost any severed part. Arthur Koestler writes, "During the mating season the worms become cannibals, devouring everything alive that comes their way, including their own previously discarded tails which were in the process of growing a new head." Even such sophisticated mammals as the great predator cats occasionally eat their cubs. A mother cat will be observed licking the area around the umbilical cord of the helpless newborn. She licks, she licks, she licks until something snaps in her brain, and she begins eating, starting there, at the vulnerable belly.

Although mothers devouring their own offspring is patently the more senseless, somehow the reverse behavior is the more appalling. In the death of the parent in the jaws of its offspring I recognize a universal drama that chance occurrence has merely telescoped, so that I can see all the players at once. Gall gnats, for instance, are common small flies. Sometimes, according to Teale, a gall gnat larva, which does not resemble the adult in the least, and which has certainly not mated, nevertheless produces within its body eggs, live eggs, which then hatch within its soft tissues. Sometimes the eggs hatch alive even within the quiescent body of

the pupa. The same incredible thing occasionally occurs within the fly genus *Miastor*, again to both larvae and pupae. "These eggs hatch within their bodies and the ravenous larvae which emerge immediately begin devouring their parents." In this case, I know what it's all about, and I wish I didn't. The parents die, the next generation lives, *ad majorem gloriam*, and so it goes. If the new generation hastens the death of the old, it scarcely matters; the old has served its one purpose, and the direct processing of proteins is tidily all in the family. But think of the invisible swelling of ripe eggs inside the pupa as wrapped and rigid as a mummified Egyptian queen! The eggs burst, shatter her belly, and emerge alive, awake, and hungry from a mummy case which they crawl over like worms and feed on till its gone. And then they turn to the world.

"To prevent a like fate," Teale continues, "some of the ichneumon flies, those wasplike parasites which deposit their eggs in the body tissues of caterpillars, have to scatter their eggs while in flight at times when they are unable to find their prey and the eggs are ready to hatch within their bodies."

You are an ichneumon. You mated and your eggs are fertile. If you can't find a caterpillar on which to lay your eggs, your young will starve. When the eggs hatch, the young will eat any body in which they find themselves, so if you don't kill them by emitting them broadcast over the landscape, they'll eat you alive. But if you let them drop over the fields you will probably be dead yourself, of old age, before they even hatch to starve, and the whole show will be over and done, and a wretched one it was. You feel them coming, and coming, and you struggle to rise. . . .

Not that the ichneumon is making any conscious choice. If she were, her dilemma would be truly the stuff of tragedy;

Aeschylus need have looked no further than the ichneumon. That is, it would be the stuff of real tragedy if only Aeschylus and I could convince you that the ichneumon is really and truly as alive as we are, and that what happens to it matters. Will you take it on faith?

Here is one last story. It shows that the pressures of growth gang aft a-gley. The clothes moth, whose caterpillar eats wool, sometimes goes into a molting frenzy which Teale blandly describes as "curious": "A curious paradox in molting is the action of a clothes-moth larva with insufficient food. It sometimes goes into a 'molting frenzy,' changing its skin repeatedly and getting smaller and smaller with each change." Smaller and smaller . . . can you imagine the frenzy? Where shall we send our sweaters? The diminution process could, in imagination, extend to infinity, as the creature frantically shrinks and shrinks and shrinks to the size of a molecule, then an electron, but never can shrink to absolute nothing and end its terrible hunger. I feel like Ezra: "And when I heard this thing, I rent my garment and my mantle, and plucked off the hair of my head and of my beard, and sat down astonished."

II

I am not kidding anyone if I pretend that these awesome pressures to eat and breed are wholly mystifying. The million million barnacle larvae in a half mile of shore water, the rivers of termite eggs, and the light-years of aphids ensure the living presence, in a scarcely concerned world, of ever more rock barnacles, termites, and aphids.

It's chancy out there. Dog whelks eat rock barnacles, worms invade their shells, shore ice razes them from the rocks and grinds them to a powder. Can you lay aphid eggs faster

than chickadees can eat them? Can you find a caterpillar, can you beat the killing frost?

As far as lower animals go, if you lead a simple life you probably face a boring death. Some animals, however, lead such complicated lives that not only do the chances for any one animal's death at any minute multiply greatly, but so also do the *varieties* of the deaths it might die. The ordained paths of some animals are so rocky they are preposterous. The horsehair worm in the duck pond, for instance, wriggling so serenely near the surface, is the survivor of an impossible series of squeaky escapes. I did a bit of research into the life cycles of these worms, which are shaped exactly like hairs from a horse's tail, and learned that although scientists are not exactly sure what happens to any one species of them, they think it might go something like this:

You start with long strands of eggs wrapped around vegetation in the duck pond. The eggs hatch, the larvae emerge, and each seeks an aquatic host, say a dragonfly nymph. The larva bores into the nymph's body, where it feeds and grows and somehow escapes. Then if it doesn't get eaten it swims over to the shore where it encysts on submersed plants. This is all fairly improbable, but not impossibly so.

Now the coincidences begin. First, presumably, the water level of the duck pond has to drop. This exposes the vegetation so that the land host organism can get at it without drowning. Horsehair worms have various land hosts, such as crickets, beetles, and grasshoppers. Let's say ours can only make it if a grasshopper comes along. Fine. But the grasshopper had best hurry, for there is only so much fat stored in the encysted worm, and it might starve. Well, here comes just the right species of grasshopper, and it is obligingly feeding on shore vegetation. Now I have not observed any extensive grazing of grasshoppers

on any grassy shores, but obviously it must occur. Bingo, then, the grasshopper just happens to eat the encysted worm.

The cyst bursts. The worm emerges in all its hideous length, up to thirty-six inches, inside the body of the grasshopper, on which it feeds. I presume that the worm must eat enough of its host to stay alive, but not so much that the grasshopper will keel over dead far from water. Entomologists have found tiger beetles dead and dying on the water whose insides were almost perfectly empty except for the white coiled bodies of horsehair worms. At any rate, now the worm is almost an adult, ready to reproduce. But first it's got to get out of this grasshopper.

Biologists don't know what happens next. If at the critical stage the grasshopper is hopping in a sunny meadow away from a duck pond or ditch, which is entirely likely, then the story is over. But say it happens to be feeding near the duck pond. The worm perhaps bores its way out of the grasshopper's body, or perhaps is excreted. At any rate, there it is on the grass, drying out. Now the biologists have to go so far as to invoke a "heavy rain," falling from heaven at this fortuitous moment, in order to get the horsehair worm back into the water where it can mate and lay more seemingly doomed eggs. You'd be thin, too.

Other creatures have it just about as easy. A blood fluke starts out as an egg in human feces. If it happens to fall into fresh water it will live only if it happens to encounter a certain species of snail. It changes in the snail, swims out, and now needs to find a human being in the water in order to bore through his skin. It travels around in the man's blood, settles down in the blood vessels of his intestine, and turns into a sexually mature blood fluke, either male or female. Now it has to find another fluke, of the opposite sex, who also just happens to have traveled the same circuitous

route and landed in the same unfortunate man's intestinal blood vessels. Other flukes lead similarly improbable lives, some passing through as many as four hosts.

But it is for gooseneck barnacles that I reserve the largest measure of awe. Recently I saw photographs taken by members of the *Ra* expedition. One showed a glob of tar as big as a softball, jetsam from a larger craft, which Heyerdahl and his crew spotted in the middle of the Atlantic Ocean. The tar had been in the sea for a long time; it was overgrown with gooseneck barnacles. The gooseneck barnacles were entirely incidental, but for me they were the most interesting thing about the whole expedition. How many gooseneck barnacle larvae must be dying out there in the middle of vast oceans for every one that finds a glob of tar to fasten to? You've seen gooseneck barnacles washed up on the beach; they grow on old ship's timber, driftwood, strips of rubber—anything that's been afloat in the sea long enough. They do not resemble rock barnacles in the least, although the two are closely related. They have pinkish shells extending in a flattened oval from a flexible bit of "gooseneck" tissue that secures them to the substratum.

I have always had a fancy for these creatures, but I'd always assumed that they lived near shores, where chance floating holdfasts are more likely to occur. What are they doing—what are the larvae doing—out there in the middle of the ocean? They drift and perish, or, by some freak accident in a world where anything can happen, they latch and flourish. If I dangled my hand from the deck of the *Ra* into the sea, could a gooseneck barnacle fasten there? If I gathered a cup of ocean water, would I be holding a score of dying and dead barnacle larvae? Should I throw them a chip? What kind of a world is this, anyway? Why not make fewer barnacle larvae and give them a decent chance? Are we dealing in life, or in death?

* * *

I have to look at the landscape of the blue-green world again. Just think: in all the clean beautiful reaches of the solar system, our planet alone is a blot; our planet alone has death. I have to acknowledge that the sea is a cup of death and the land is a stained altar stone. We the living are survivors huddled on flotsam, living on jetsam. We are escapees. We wake in terror, eat in hunger, sleep with a mouthful of blood.

Death: W. C. Fields called death "the Fellow in the Bright Nightgown." He shuffles around the house in all the corners I've forgotten, all the halls I dare not call to mind or visit for fear I'll glimpse the hem of his shabby, dazzling gown disappearing around a turn. This is the monster evolution loves. How could it be?

The faster death goes, the faster evolution goes. If an aphid lays a million eggs, several might survive. Now, my right hand, in all its human cunning, could not make one aphid in a thousand years. But these aphid eggs—which run less than a dime a dozen, which run absolutely free—can make aphids as effortlessly as the sea makes waves. Wonderful things, wasted. It's a wretched system. Arthur Stanley Eddington, the British physicist and astronomer who died in 1944, suggested that all of "Nature" could conceivably run on the same deranged scheme. "If indeed she has no greater aim than to provide a home for her greatest experiment, Man, it would be just like her methods to scatter a million stars whereof one might haply achieve her purpose." I doubt very much that this is the aim, but it seems clear on all fronts that this is the method.

Say you are the manager of the Southern Railroad. You figure that you need three engines for a stretch of track between Lynchburg and Danville. It's a mighty steep grade. So at fantastic effort and expense you have your shops make nine thou-

sand engines. Each engine must be fashioned just so, every rivet and bolt secure, every wire twisted and wrapped, every needle on every indicator sensitive and accurate.

You send all nine thousand of them out on the runs. Although there are engineers at the throttles, no one is manning the switches. The engines crash, collide, derail, jump, jam, burn. . . . At the end of the massacre you have three engines, which is what the run could support in the first place. There are few enough of them that they can stay out of each others' paths.

You go to your board of directors and show them what you've done. And what are they going to say? You know what they're going to say. They're going to say: It's a hell of a way to run a railroad.

Is it a better way to run a universe?

Evolution loves death more than it loves you or me. This is easy to write, easy to read, and hard to believe. The words are simple, the concept clear—but you don't believe it, do you? Nor do I. How could I, when we're both so lovable? Are my values then so diametrically opposed to those that nature preserves? This is the key point.

Must I then part ways with the only world I know? I had thought to live by the side of the creek in order to shape my life to its free flow. But I seem to have reached a point where I must draw the line. It looks as though the creek is not buoying me up but dragging me down. Look: Cock Robin may die the most gruesome of slow deaths, and nature is no less pleased; the sun comes up, the creek rolls on, the survivors still sing. I cannot feel that way about your death, nor you about mine, nor either of us about the robin's—or even the barnacles'. We value the individual supremely, and nature values him not a whit. It looks for the moment as though I might have to reject

this creek life unless I want to be utterly brutalized. Is human culture with its values my only real home after all? Can it possibly be that I should move my anchor-hold to the side of a library? This direction of thought brings me abruptly to a fork in the road where I stand paralyzed, unwilling to go on, for both ways lead to madness.

Either this world, my mother, is a monster, or I myself am a freak.

Consider the former: the world is a monster. Any three-year-old can see how unsatisfactory and clumsy is this whole business of reproducing and dying by the billions. We have not yet encountered any god who is as merciful as a man who flicks a beetle over on its feet. There is not a people in the world who behaves as badly as praying mantises. But wait, you say, there is no right and wrong in nature; right and wrong is a human concept. Precisely: we are moral creatures, then, in an amoral world. The universe that suckled us is a monster that does not care if we live or die—does not care if it itself grinds to a halt. It is fixed and blind, a robot programmed to kill. We are free and seeing; we can only try to outwit it at every turn to save our skins.

This view requires that a monstrous world running on chance and death, careening blindly from nowhere to nowhere, somehow produced wonderful us. I came from the world, I crawled out of a sea of amino acids, and now I must whirl around and shake my fist at that sea and cry Shame! If I value anything at all, then I must blindfold my eyes when I near the Swiss Alps. We must as a culture disassemble our telescopes and settle down to backslapping. We little blobs of soft tissue crawling around on this one planet's skin are right, and the whole universe is wrong.

Or consider the alternative.

Julian of Norwich, the great English anchorite and theolo-

gian, cited, in the manner of the prophets, these words from God: "See, I am God: see, I am in all things: see, I never lift my hands off my works, nor ever shall, without end. . . . How should anything be amiss?" But now not even the simplest and best of us sees things the way Julian did. It seems to us that plenty is amiss. So much is amiss that I must consider the second fork in the road, that creation itself is blamelessly, benevolently askew by its very free nature, and that it is only human feeling that is freakishly amiss. The frog that the giant water bug sucked had, presumably, a rush of pure feeling for about a second, before its brain turned to broth. I, however, have been sapped by various strong feelings about the incident almost daily for several years.

Do the barnacle larvae care? Does the lacewing who eats her eggs care? If they do not care, then why am I making all this fuss? If I am a freak, then why don't I hush?

Our excessive emotions are so patently painful and harmful to us as a species that I can hardly believe that they evolved. Other creatures manage to have effective matings and even stable societies without great emotions, and they have a bonus in that they need not ever mourn. (But some higher animals have emotions that we think are similar to ours: dogs, elephants, otters, and the sea mammals mourn their dead. Why do that to an otter? What creator could be so cruel, not to kill otters, but to let them care?) It would seem that emotions are the curse, not death—emotions that appear to have devolved upon a few freaks as a special curse from Malevolence.

All right then. It is our emotions that are amiss. We are freaks, the world is fine, and let us all go have lobotomies to restore us to a natural state. We can leave the library then, go back to the creek lobotomized, and live on its banks as untroubled as any muskrat or reed. You first.

* * *

Of the two ridiculous alternatives, I rather favor the second. Although it is true that we are moral creatures in an amoral world, the world's amorality does not make it a monster. Rather, I am the freak. Perhaps I don't need a lobotomy, but I could use some calming down, and the creek is just the place for it. I must go down to the creek again. It is where I belong, although as I become closer to it, my fellows appear more and more freakish, and my home in the library more and more limited. Imperceptibly at first, and now consciously, I shy away from the arts, from the human emotional stew. I read what the men with telescopes and microscopes have to say about the landscape. I read about the polar ice, and I drive myself deeper and deeper into exile from my own kind. But, since I cannot avoid the library altogether—the human culture that taught me to speak in its tongue—I bring human values to the creek, and so save myself from being brutalized.

What I have been after all along is not an explanation but a picture. This is the way the world is, altar and cup, lit by the fire from a star that has only begun to die. My rage and shock at the pain and death of individuals of my kind is the old, old mystery, as old as man, but forever fresh, and completely unanswerable. My reservations about the fecundity and waste of life among other creatures is, however, mere squeamishness. After all, I'm the one having the nightmares. It is true that many of the creatures live and die abominably, but I am not called upon to pass judgment. Nor am I called upon to live in that same way, and those creatures who are are mercifully unconscious.

I don't want to cut this too short. Let me pull the camera back and look at that fork in the road from a distance, in the larger context of the speckled and twining world. It could be that the fork will disappear, or that I will see it to be but one of

many interstices in a network, so that it is impossible to say which line is the main part and which is the fork.

The picture of fecundity and its excesses and of the pressures of growth and its accidents is of course no different from the picture I painted before of the world as an intricate texture of a bizarre variety of forms. Only now the shadows are deeper. Extravagance takes on a sinister, wastrel air, and exuberance blithers. When I added the dimension of time to the landscape of the world, I saw how freedom grew the beauties and horrors from the same live branch. This landscape is the same as that one, with a few more details added, and a different emphasis. I see squashes expanding with pressure and a hunk of wood rapt on the desert floor. The rye plant and the Bronx ailanthus are literally killing themselves to make seeds, and the animals to lay eggs. Instead of one goldfish swimming in its intricate bowl, I see tons and tons of goldfish laying and eating billions and billions of eggs. The point of all the eggs is of course to make goldfish one by one—nature loves the *idea* of the individual, if not the individual himself—and the point of a goldfish is pizzazz. This is familiar ground. I merely failed to mention that it is death that is spinning the globe.

It is harder to take, but surely it's been thought about. I cannot really get very exercised over the hideous appearance and habits of some deep-sea jellies and fishes, and I exercise easy. But about the topic of my own death I am decidedly touchy. Nevertheless, the two phenomena are two branches of the same creek, the creek that waters the world. Its source is freedom, and its network of branches is infinite. The graceful mockingbird that falls drinks there and sips in the same drop a beauty that waters its eyes and a death that fledges and flies. The petals of tulips are flaps of the same doomed water that swells and hatches in the ichneumon's gut.

That something is everywhere and always amiss is part of the very stuff of creation. It is as though each clay form had baked into it, fired into it, a blue streak of nonbeing, a shaded emptiness like a bubble that not only shapes its very structure but that also causes it to list and ultimately explode. We could have planned things more mercifully, perhaps, but our plan would never get off the drawing board until we agreed to the very compromising terms that are the only ones that being offers.

The world has signed a pact with the devil; it had to. It is a covenant to which every thing, even every hydrogen atom, is bound. The terms are clear: if you want to live, you have to die; you cannot have mountains and creeks without space, and space is a beauty married to a blind man. The blind man is Freedom, or Time, and he does not go anywhere without his great dog Death. The world came into being with the signing of the contract. A scientist calls it the Second Law of Thermodynamics. A poet says, "The force that through the green fuse drives the flower/Drives my green age." This is what we know. The rest is gravy.