

Revised 2005 version of “Watershed,”
from *Angela The Upside Down Girl
And Other Domestic Travels*
by Emily Hiestand

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Watershed

An Excursion in Four Parts

By Emily Hiestand

The idea of nature as a well-balanced machine has been replaced by complicated talk of dynamic and multiple equilibriums, chaotic systems, and other unsettling notions that undermine all the conditioning we received at the hands of Disney nature films and Mark Trail comic strips. Nature, we are learning, is enormously untidy and rarely predictable. Change is the rule, stability the exception.

—Paul Schullery, *Searching for Yellowstone*

Part One // Street

Like travelers who want to keep some favorite place from being discovered, the residents of our neighborhood sometimes confide to one another in a near-whisper, "There's no other place like this in the city." It's not a grand neighborhood, only a modest enclave on the fringe of the Boston metropolis, but visitors who chance upon our streets are routinely surprised. They remark on the quiet; on the colonnade of maples whose canopies have grown together into a leafy arch over the street; on the many front porches (which older residents call their *piazzas*), and on the overall sense of being in a little village.

This small urban village is situated in the territory long represented by the late Thomas P. "Tip" O'Neill, who served in the U.S. Congress for thirty-four years, nine of them as Speaker of the House. Our streets are part of his "lunch-bucket liberal" district, a working class neighborhood located on land that formerly held such things as the city's poorhouse, its blacksmith shops, and tanneries. The earliest inhabitants of our streets were predominantly French-Canadians, families and young men fleeing British persecution, streaming south from Nova Scotia, Quebec, and the Iles de la Madeleine. That early history explains why our inland houses and streets feel curiously like a small fishing village; the architecture, exterior stairs and porches, even the way the houses are sited—close to the sidewalks with miniature front yards—are transplants from the maritime villages of Acadia.

Immigrants from several other countries were also lightly represented in the early history of this neighborhood. The streets immediately surrounding the

French-Canadian enclave were home to Irish, Italian, and West Indian immigrants, and to African-Americans migrated and escaped from the South. From the beginning the neighborhood was a diverse population; universally, older residents who grew up here recall that the area was not contested territory, something of a rarity, then and now.

Together, the varied people of this end of town created a way of life based on dogged work and devotion, donuts from Verna's coffee shop, tolerance, fraternal clubs, church and church bingo. The early neighborhood tone can be gleaned from one widely observed tradition, a principal entertainment on summer evenings. The activity consisted of residents sitting on their front porches after supper and talking to one another and to passersby. "Sitting out," they called it. The close-set houses with facing porches, rows of shade trees, and the intimate scale of the streets all contributed to making this neighborly activity possible. [These physical conditions are among those championed by the New Urbanists, the movement of architects and urban planners whose recipe for reviving community life calls for porches, trees, density, and services within walking distance.]

At the end of a road, on the edge of town, our neighborhood was long a modest backwater, not so much geographically, as sociologically, remote from other parts of Cambridge. As our neighbor Alice, who has been living here for seventy-eight years, puts it: "No one came down this way unless they lived here." But Speaker O'Neill, a pure product of these streets, took the local, big-hearted ethos national, where it made a difference across the length and breadth of the land.

The bones of the early demographics of this street are still visible where the names on scattered mailboxes still read Beauchemin, Arsenault, and Ouellette. In keeping with its original character as a portal into the city, our neighborhood has more recently become home to new citizens from India, Haiti, China, and Cape Verde, as well as writers and artists seeking affordable housing. It is also a quiet place to work, the quiet engineered by a rabbit warren of one-way streets that deters incidental traffic from attempting the neighborhood, creating a precinct that is, by city standards, serene.

By day you can hear the tinkle of a small brass bell tied to the door of the mom & pop across the street; by night, the lightly syncopated jazz of crickets and katydids rises from our small yards. Not too quiet, though. The bells of St. John the Evangelist peel on the quarter hour, and Notre Dame de Pitié rings its three great Belgian-made *cloches*—bells named Marie, Joseph and Jesus. At Christmastime Notre Dame plays the carols "*Venez Divin Messie*" and "*Dans Cette Étable*." Several times a day, a train hurtles through the crossing, blowing a classic lonesome whistle; and at night teenagers sometimes roil along our sidewalks, releasing barbaric yawps.

Oh, way beyond yawps, my husband Peter reminds me. Completely over the top in the case of the five teenage girls with boom boxes who brought many sleepy citizens onto our balconies one morning at 3 a.m. In the late afternoons, younger children come by our house: the girls wearing plaid skirts and singing; the boys bouncing basketballs en route to the hoop in the corner park, where on any given summer day the wading pool is full of toddlers whose sleep-deprived parents sit conferring on nearby benches. Recently, we have also experienced a brand new sound.

The new sound arrives about nine o'clock on summer evenings. It is audible first as a low rumble several blocks away, more a feeling than a sound. You might think it is the beginning of a minor earthquake, a temblor, or a volcano.

Slowly, the sound grows louder, coming closer, until as it passes our house, it has grown into a glass-rattling, rhythmic, ultra-low-frequency pulse; it's not an earthquake, it's a car. Peter, who is a musician, explains the phenomenon to me. "It's kind of a guy thing," he says—which much I had guessed. To achieve the effect, young men retrofit automobiles with high-powered amplifiers—one for treble, one for bass, and several additional ones for each channel. They also install a couple of very large Bazooka brand loudspeakers, and then hook the assembly up to a CD player. The resulting system is intended for a kind of music called "house music," a subset of rap.

"House music," Peter continues, "is made up of long dance jams of sampled loops and effects. It's heavily percussive, with huge bass sounds created by combined synthesized and electric bass, and drum machines. A common technique is to have two or three drum sounds all hitting at the same time, which gives a fatter, chord-like sound. What these guys have learned is that if you take a plain eighty- or one-hundred-cycle tone, and hook it up so that it triggers simultaneously with a kick drum, it gives a massive low end."

"Are they doing this to attract girls?" I ask. "Well, sure," Peter replies. "But on some level they're doing it to try to impress everybody. They want people to notice, to say 'There goes Ron, he's got the loudest car in the neighborhood.' It's like hot-rodding a car, only instead of speed you're looking for more noise, more bass. They like to stop at lights, meet at certain places, sort of joust to see who can make the most booming sound."

Does such loud rumbling sound actually appeal to girls? Hmmmm, hard to say. But something like it does appeal to female katydids. The journal *Nature* has reported that the rhythmic night chirruping of male katydids—the resonant sound which the males accomplish by rubbing their front wings together—is not a cooperative effort. Though it sounds like one of nature's most harmonious sing-alongs, the katydid nocturne in our summer grasses is the by-product of intense competition. Researchers have found that male katydids who can chirp only a few thousandths of a second ahead of others attract "most of the females."

Some of the sounds that most appeal to me are my husband's voice reading Wodehouse's pitch-perfect comedy, Alberta Hunter singing on Amtrak Blues, and Schubert's E-flat Trio. Although I am not the most likely fan of the rumbling vehicles, it sends me to realize what is happening: as the gear and recordings cause the metallic car body to vibrate, the whole vehicle becomes a resonating shell for sound. These young men are not merely installing a musical device in a car; they are transforming the car itself into an instrument.

Not far from our street there is a lumberyard, a Big & Tall men's shop, two grand churches, the best Greek restaurant in town, and two fortune-telling parlors. There is a genetics lab in our neighborhood, close to a Tex-Mex bar and grill where any escaping DNA on the lam could probably hide for days. There are fishmongers, lobster tanks, and think tanks here, and a storefront dental office with a neon molar in the window. There is a candy jobber and the Free Romania Foundation. There used to be a fast-food shack, named Babo's, that had a sweeping modernist roof designed by the young Saarinen. There are sushi bars with sandalwood counters, pizza parlors, and, recently, several nail salons. It is a dense, urban neighborhood, baroque with energies, more than

anyone could ever say. Just last year we were all stunned to hear that a call-girl ring was operating on a block not too far from ours. According to the immensely surprised neighbors, the people who ran it were "very polite." Even more surprising, to me, was the discovery that most of our neighborhood exists on land that was—not so very long ago—a vast and ancient swamp.

Part Two // Swamp

The vast wetland began just north of the clam-flats along the Charles River, and lay about nine miles inland from the coast. The Great Swamp it was called by the earliest English settlers who inked its features on their maps. It was not a very imaginative name, but an accurate one for the acres of glacially sculpted swampland, a place laced with meandering slow streams and ponds, humpbacked islands that rose from shallow pools fringed by reeds, and brackish marshes home to heron rookeries, wild rice, fish, and pied-billed grebes. For some ten thousand years, the swamp had been evolving, preening and humming.

The conditions for a swamp of such magnitude emerged as the last North American glacier melted and retreated, and the bowl-like shape of our region (the Boston Basin) became a shallow inland lake, an embayment contained by surrounding drumlin hills. Most locally, the waters were corralled by a recessional moraine, whose gentle bulk still slants across our city, and by beds of impervious blue clays under layers of gravel and the watery surface. The first human beings to arrive in this watershed would have found the vegetated marshes and swampland sprawling around two largish bodies of water, one of which is the amoeba-shaped pond known today as Fresh Pond.

I have lived close to Fresh Pond for most my adult life, and had frequented its shores for years before I came to know about the former swamp. If pressed, I suppose I would have realized that *something* must have formerly existed in the place where there is now a megaplex cinema and an organic market where the cheese department carries small, ripe reblochons that delight my husband.

I don't think that I would ever have guessed that the shopping plaza was formerly a red maple swamp, a distinctive area within the larger swamp, with smatterings of rum cherries and tupelo trees, with water lilies, pickerel weed, and high-bush blueberries "overrun," said one habitu , in vines of flowering clematis.

I first learned about this former reality from the journals of William Brewster, a late 19th century Cambridge native and ornithologist, and curator of birds at the Museum of Comparative Zoology at Harvard. Not long after learning about the swamp, which Brewster explored throughout his life, I had occasion to drive to the Staples store in the Fresh Pond Shopping Mall. There, walking across the parking lot, I noticed my mind half trying to believe that if we could jackhammer up the acres of asphalt, underneath we would find—oh, not entire squashed red maples and blueberry bushes, but some incipient elements of a swamp, some slough or quagmire or marshy sponge—something of the liquid world lost to the single, dry word *mall*.

In truth, I like the mall, or at least I don't stay away. Its designers thought too little about the pleasures of shadow, light, and coincidence, and visually, this standard shopping center seems unworthy of replacing a notable red maple swamp. But the mall faithfully serves up shelves of many excellent goods: pens and paper, goat's milk soap, native corn, good running shoes, French wine, and radio batteries. There are birds-of-paradise flowers at this mall, and a newspaper-vending box whose door opens on papers resting inside in a trusting stack. I also am glad for the adjacent utility station whose gray transformer towers carry the cables that step down voltage from the Northeast grid to a pulse our local wires can handle. There is a word to be said for the cement-block home of Intermetrix, and the eight gold ballroom-dancing trophies on the

sill of one of the company's windows, and another word for the restaurant that squats over a one-time rookery serving desserts named Starstruck Sundae and Chaos Pie.

Certainly by middle age one knows that ours is a paradoxical paradise, that all times, all lands, all selves are an alloy of scar and grace, that blight may turn to beauty and beauty to blight, like mischievous changelings teasing the stolid. Certainly we all know that our land is one supple carnival of misrule, a mesh of redemptive improbability and change. Still, this particular news—a whole gorgeous swamp gone missing—hit me hard. I am very fond of swamps. My mother was conceived in one, and I inherited the gene for liking to spend time in marshes and estuaries, floodplain forests and cypress swamps. The Great Swamp of this region had the usual wetland virtues (functioning as a nursery for life, an aeration, and a sponge that prevented flooding), and it presents my mind with a nice conundrum to realize that the construction of our neighborhood contributed to the demise of this wonder.

Perhaps I brooded over the great lost swamp because I had attained an age when sympathy for vanished things comes easily, when we are aware of mortality as real and not some absurd concept that has, in any event, nothing to do with ourselves, our only parents, our irreplaceable friend. Certainly I was beginning to like the past more as people, places, and ambitions receded into it and became its populace. And perhaps that is why I began to go on long walks around the former contours of the swamp, seeking its traces and remnants.

As it turns out, a glacial work is impossible to eradicate entirely. It is true that we are not going to find any quick phosphorescence of life under the asphalt

that covers so much of the former swampland. But vestiges of the swamp survive in a brook trickling through a maintenance yard, in slippery gully of jewelweed, a patch of marsh, in many wet basements, and small stands of yellow-limbed willows. Great blue herons spend weeks on the river that runs alongside a local think tank, and there is still a lek ground where woodcocks perform their spiraling courtship flights. Wild Saint-John's-wort, healer of melancholy, grows here, also tansy and yarrow, *Achillea millefolium*, the spicy-smelling plant that soothes wounds—recently introduced species mingling with older ones. Killdeer, muskrat, and ring-necked pheasant (the last a twentieth-century arrival) have been seen in a small floodplain forest not far from the commuter trains, and against all odds, alewife fish run in the spring as they have for millennia, coming upriver from the ocean to spawn in the dwindling freshwater streams. Here and there, in a secluded patch of these old wilds, it is possible to get lost.

One afternoon as I was driving home along a road that passes a mucky pond behind the Pepperidge Farm outlet, something huge began to lumber across the road. I stopped my car and watched a low, round, dark creature, a snapping turtle, walking slowly across the road, going directly toward a roadside barbershop. The turtle was so large, with a shell easily four feet around, that it seemed to belong in a more exotic habitat, in a place like the Galapagos. Concerned about what a highway and a trip to the barbershop could hold for an old turtle, I was even more astounded to discover that our present-day city contained such a being. It walked deliberately, unaware of the dangers on every side, huge and unassimilated, a tragic-comic amalgam: Mr. Magoo and Oedipus at Colonus. As one by one the cars on that road came to a halt, and all the drivers got out, we stared together as the creature crawled across the macadam, lumbering like memory out of an unseen quarter.

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"We will never know," says Professor Karl Teeter, a linguistic anthropologist who lives across the avenue, and next door to our friend, the historian Judith Nies. It's an early fall afternoon and I am talking with Professor Teeter about our pre-European predecessors on this watershed, the Pawtuckeog tribe. For many thousands of years, the Pawtuckeogs migrated annually between the inland forests and the coasts of an area they called Menotomet. Their sensible, appealing seasonal rhythm was to spend winters sheltered in the forest, then move to set up summer camps close to the clam-flats and the swamp that provided fish and fowl, waterways, and silt-rich land for corn and beans. Karl Teeter has spent his adult life studying the Algonquian family of languages, to which the Pawtuckeog language, Massachusett, belonged. Sadly, no living speakers of Massachusett survive, but Karl explains that the language is similar to the one spoken by the Maliseet-Passamaquoddy of Nova Scotia. He shows me how close the Massachusett word for "my friend," *neetomp*, is to the Maliseet word *nitap*. When I ask my learned neighbor if he knows any native Massachusett names for the Great Swamp or its features, he says, "Place-names are the hardest to recover, and the swamp landscape has changed so much now that I cannot even speculate." We sit for a while turning the pages of a large green book that holds the Pawtuckeog vocabulary. Karl says some words, and I pronounce them after him: *kushka* (it is wide), *(nu)keteahoum* (we cured him), *kohchukkoonnog* (great snows).

As the native Pawtuckeog culture reeled and collapsed in response to European diseases and violence, the swampland lay shimmery and resistant to the colonizing touch for another century. European settlers were revolted by the

miasmatic terrain, and their disdain made the swamp a natural ally in the cause of American independence. It was on the swampy outskirts of the Newtowne settlement, safe from the Royalists who lived on high ground, that the patriots could meet to plan their revolution. The gift of protection was not returned however; as soon as technology permitted, the victorious Americans began to eradicate the wetlands. Handsome orchards were the first incursions, then a single road built through the marshes—the "lonely road," one writer called it, "with a double row of pollard willows causewayed above the bog." Shortly before the it began to disappear in earnest, the swamp found its poet in William Brewster, a shy boy who grew into one of America's finest field ornithologists, and taught himself to write a liquid prose:

When there was a moon, we often struck directly across the open fields, skirting the marshy spots. . . . Invisible and for the most part nameless creatures, moving among the half-submerged reeds close by the boat, or in the grass or leaves on shore, were making all manner of mysterious and often uncanny rustling, whispering, murmuring, grating, gurgling and plashing sounds.

In that passage, Brewster was remembering his boyhood days. Later, just after the turn of the century, when the wide river that had drained the swamp was narrowed and straightened, and began to receive the discharge of a city sewer, Brewster had to write: "Thus has [the Menotomy] become changed from the broad, fair stream . . . to the insignificant and hideous ditch with nameless filth which now befouls the greater part of the swampy region through which it flows."

Only naturalists like Brewster and the rare person not enamored of the industrial adventure sorrowed when a stand of pines and beeches was cut to make way for an abattoir, and again when Fresh Pond was surrounded by icehouses and machinery, when ice was cut in blocks and sailed in sawdust to

Calcutta, Martinique, and Southern plantations. Rail lines appeared just before mid-century, and the story goes quickly then: more swamp drained for cattle yards and carriage factories, and after vast beds of clay were discovered, acres covered in the pugging-mills, chimneys, and kilns of a brickworks that turned out most of the bricks that built red-brick Boston. Close by the brickyards, workers constructed modest wooden cottages on the edge of the dry, sandy plain adjacent to the swamp. The malarial epidemic of 1904, and its many small caskets, aroused the Commonwealth to civil engineering projects designed to eliminate what remained of a wetland then commonly referred to as "the menacing lowlands" and the area of "nakedness and desolation." Streams were channeled and sunk into culverts; one large area was dredged and filled to make the site for a tuberculosis sanitarium. Over the next decades, the ever-dwindling wetlands were filled for pumping stations, suburban subdivisions and veteran's housing, for chemical plants, office parks and playing fields, a golf course, a gas storage depot and a major subway terminal. In a nod to an earlier incarnation, the terminal is named "Alewife," for the small, blear-eyed herring that was the fertilizer for the cornfields that sustained both native and European settlements.

Laying a modern map of our part of the city on Brewster's ink map, I can cobble together an overlay. Where the older map reads "large oaks & willows" is the site of Porter Chevrolet. Where it says "muskrat pond" is the Fresh Pond Fish store. Where it says "heronry of night herons" is the Bertucci's Pizza parlor in the Alewife T-Station complex. "Pine swamp" is a grid of two-family houses. Each change was welcomed, was cheered, by the bulk of the population in a country where land seemed unlimited, where swamps were vile and filling them an act of civic heroism.

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Once people hear that you are out walking around the neighborhood, nosing into the past, they send you pieces of folded, yellowed paper, copies of photographs and letters, and bits of stories. "I'm not a historian," I had to say, "I'm not writing a proper history." But people are generous; they want to help make your picture clearer, and they want a repository for memory. I also received an old, red brick stamped with the letters NEBCO, which stands for New England Brick Company, and one of the horseshoes that my neighbors Toni and John found while digging in their garden. The day they gave it to me we stood passing around the piece of rough iron, turning it over in our hands as Toni told me they had learned there was once a blacksmith shop on the site of their house. I learned about a great-uncle from Barbados who had worked at the rubber factory. At the pizza parlor an elderly diner told me, "This was Lynch's Drugstore. You could get a lime rickey." At the electrician's office, where a neon fist holds a bolt of blue lightning, the polite young electrician who is not one bit afraid of electricity but terrified of flying, says, "This was the Sunshine Movie Theatre."

One day the mail brought a photocopy of a newspaper clipping from 1908. The headline read: "Famous Horses Raced Here." And that is how I came to know the names Flora Temple, Black Hawk, and Trustee—some of the great trotting race horses of their day—and the greatest of them, Lady Suffolk, a horse descended from the legendary Messenger. Trotting horses are the kind whose jockeys ride in the small, light vehicles called sulkies. Lady Suffolk, was also apparently a saddle racer because the article mentions that her time for a mile "under the saddle" was 2:26, a time then considered so fast that the reporter

gushed it made her name "imperishable." I mention her story to do my part to make that so.

My neighbor Joan, a woman who is a candidate for the Society of Those Still Living in the House in Which They Were Born, remembers other now-vanished features of our landscape, including swimming ponds. "We used to swim in one of the clay pits after it flooded," Joan tells me. "The one along Rindge Avenue, we called Jerry's Pit. I remember my father sitting on the beach of Jerry's Pit, bare-chested and showing off his tattoos. He had an Indian maiden on his shoulder, a goddess jumping rope on his arm, and a navigational star just above his thumb. By the time I was girl, all of the brickyards but one had closed, and there was trash and white powdery stuff lying around the yards. One summer, in the place where the apartment towers are now, the owners put up a sign that read 'Clean Fill Wanted.'" Later that week, at night, someone dumped a dead horse in the pit. I can remember my mother and her friends laughing at that joke until they cried. There was not much sympathy for the owners of the pits because of the trash and the chemicals they left on the place. Then there came the year the city closed our swimming pond because chemicals had leaked into it. The last clay pit closed in 1952, after it collapsed on a man. The collapse took the whole steam shovel that the man was operating, and the man himself. They could not rescue him. And that was the end of the clay pits. Later that pit became the town dump."

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By the 1970s, when I arrived in Cambridge, the dump has been operating for several decades, and had grown rolling foothills of unwanted material, dunes of newspapers and old appliances. Many of the trash hummocks smoldered with fires and all them were circled by scavenging gulls. There were sometimes

human gleaners at the dump, a man or woman salvaging a child's highchair or a table. In the 1980s, after years of behind the scenes planning, the landscape began to change again, this time into a city park with playing fields, hills covered in wildflowers, a restored wetland swale, and paths made of a sparkling, recycled material called glassphalt. On a recent Sunday, a croquet match was underway—older couples in traditional whites, younger players in flowered shorts and retro Hush Puppy shoes. Not far under the decorous lawn and the wickets lies the refuse of four decades, capped and monitored, and threaded with pipes that allow gases to vent.

On contemporary planning documents the former great swamp is now called the Alewife Area. It is a place where a modern land-use opera continues to rage, a public policy drama complete with mercantile princes, dueling experts, public officials, citizens for whom the natural world is a form of authentic wealth, and at least one man who sits with binoculars, at a high window of the apartment towers, scanning the landscape for barred owls.

The other day I went to the site of the former muskrat pond to rent Bertrand Tavernier's brooding 1986 film "Round Midnight," in which jazz great Dexter Gordon plays the role of saxophonist Dale Turner, a fictional character based on Bud Powell and Lester Young, and their years at the Blue Note. The center of gravity may be the scene in which Gordon stands by his Paris hotel window talking to a young fan and aspiring musician. In a voice gravelly with age and hard living, Gordon tells the young man about the essence of creativity: "You don't just go out and pick a style off a tree one day," he says, "The tree is already inside you. It is growing, naturally, inside you." Isn't that always the hope: that the things we make and build will be as right as rain, as a tree, or a glacier coming, gouging, then melting into something great.

Part Three // Alluvial Fan

By far the largest feature of the Great Swamp to remain is Fresh Pond itself, a 55-acre kettle hole lake surrounded by 160 acres of land. For more than twenty years I have circumnavigated Fresh Pond in all seasons, weathers, and moods, running or walking the serpentine path that winds around the water. I have run with various companions: an energetic Dalmatian named Gus; Anne, who was shedding weight and the wrong husband; and Jim, who joined me on night runs during which we admired how Porter Chevrolet's sign laid streamers of color over the black sheen of the pond. Recently, I walked around the pond with my husband, Peter, and smiled to hear him use the word "rip-rap," a word that public works *cognoscenti* use to describe the rocks placed along a shore. Hearing Peter use that word, casually, reminds me that he is still something of a public works hound, having started his career as a reporter covering a suburban public works department. During those years he often returned home from embattled, all-volunteer board meetings exhausted but enthralled by some exotica of the municipal infrastructure. The word also transports me again to the places Peter arranged to take me during our courtship: tours of waste-water filter systems for the whey runoff from ice cream factories; state-of-the-art silicon chip factories; the power station at Niagara Falls. At the Niagara facility, we were given hardhats to wear, and I was allowed to touch one of the three-story-high steel cylinder turbines that generate the power for the northeast corridor. (Talk about romance.)

Most often my companion on walks at Fresh Pond has been the surrounding land—filled with deciduous woodlands, a stand of white pines, and a small bog with yellow-limbed willows—and of course, the pond itself, on which ice sheets

rumble against the shore in winter and canvasbacks bob for their favorite food, wild celery, in fall. From time to time I exchange rambles at Fresh Pond for lap swimming, weight training, and a sauna. The health club in which these activities are accomplished has a skylight over the pool through which a backstroker can admire moons, clouds, pigeons, and falling snow. Handsome palms surround the aqua water. A nice person at the desk gives you a piece of fresh fruit. Driving away from these rituals, I have but a single thought (if you can call it a thought), namely, "Everything is fine." The effect is testimony to the health club's powers, and bringing any calm into this society is good, but the influence of Fresh Pond is even more salutary.

Circling Fresh Pond in all seasons has immersed me in a nuanced portrait of the year, and the pond's fable of constant change within continuity has voided several slings and arrows of outrageous fortune. You can never predict what you will find: a sprawl of tree limbs after a storm; white cattail seeds streaming on a breeze; a sodden creature darting from the pond into the woods; crows cawing over glare ice. A place like Fresh Pond schools the eye, teaches one to expect surprise, and to rely on minute things—a dark red leaf encased in ice—to unlock meaning for the metaphor-loving mind. The patterns of light and shadow, thickets and tangles into which we can see but partially, the unspoken-for patches, the water surface that skates toward the horizon—all these are forms and shapes that offer possibilities for mind, for ways of being.

Technically however, Fresh Pond is a terminal reservoir and purification plant for the city water supply, and that is why it survives. A greensward at the entrance is named Kingsley Park for a famous Victorian president of the Cambridge Water Board. The Honorable Chester W. Kingsley tells his story of the Fresh Pond water works somewhat wistfully, as a man who loves his work

and finds few souls able to appreciate the grandeur of an infrastructure: "I have never before had a chance to inform so many on this subject," he writes, "and never expect another such opportunity." Kingsley was president of the Water Board for fourteen years; during his tenure, in 1888, Fresh Pond was ceded to Cambridge by the Commonwealth, the surrounding land included in order to preserve the purity of the water. "The City," writes Kingsley, "has taken about 170 acres, and removed all buildings therefrom. The pond contains 160 acres, and a fine driveway has been constructed all around its borders, nearly three miles long. With the water area and the land taken, this makes a fine water park of 330 acres. The surroundings of the park are being graded and laid out in an artistic way, beautifying the whole region and making it one of the most attractive places in the suburbs of Boston." He continues, "It will thus be seen that in an abundant supply of excellent water...Cambridge presents one of the strongest inducements...for any who may be looking for a home where good water and good morals prevail."

A water park. The phrase conveys the Victorian confidence and expansive gesture of a people for whom civic works embodied the democratic ideals: proper compartments of land and water would invite city dwellers into vital and uplifting pleasures, even moral life. It is not hard to imagine Chester Kingsley, bewhiskered, appearing at civic parades in a Water Board Officer's jacket. Kingsley's comrades in civic proclamations sound the same pleased, confident note: of one scheme for a riverside esplanade, the Cambridge park commissioner envisions that "launches may run from city to city" that "men [may benefit from] this little breathing-space . . . among beautiful surroundings." It was not only a sweet boosterism that led to these claims. The Victorian planners, guided by Frederick Law Olmsted, had noticed the link between qualities of landscape and human well-being.

Reading the Victorian's plans, their bursting pride and energetic efforts, one cannot but feel a tender spot for these city-builders who were helping to finish off the exquisite meadows and wetlands. It is hard to fault them when even today many seem not to have understood that only an astonishing one percent of the earth's water is fresh. As the original wetland filtering system was destroyed, modern water planners turned to extraordinary engineering to deliver safe and plentiful water to the city.

One day in the winter of 1995, I visited Mr. Chip Norton, the Watershed Manager of Cambridge, in his offices on the east side of Fresh Pond. [Note that this passage refers to a building and facility that has since been updated and replaced.] The Water Department building is a fine old thing from the 1920s. It has Palladian windows and a lobby that is a near-museum. The space is untended and empty save for a large yellow map of the reservoir mounted on the wall above a fading, dusty model of same, and a very dead rainforest plant near a peeling radiator. The floor is swaddled in brown linoleum, the walls painted pale pink with aqua trim, the effect one of bleak assurance that not one dime of tax money has been wasted here. From the back of the lobby comes a luxurious sound—the rush of fast water spilling from three holding basins over aerating tiles.

To be greeted by the roar and rush of water is the most brilliant possible entrance to a water department. In the upstairs rooms, city servants are outfitted with carpets, recessed lighting, and the hum of computers, which is well and good, but one prays that the city will have the sense to keep the aura of faded sanitarium that it has going downstairs in the lobby. (At least if this treasure has to yield to renovation, move it to the Smithsonian as Calvin

Trillin's entire writing office was moved when *The New Yorker* moved from one side of 43rd Street to the other.)

As I pore over the dizzying engineering and planning reports that Mr. Norton has placed on a table in a small reading nook near the reception area, a woman behind the partition is talking on the telephone about where to get some chicken salad sandwiches for lunch. She recommends Armando's Pizza. Long silence. Next she offers to go to Sage's Market, where, she says, they make a delicious chicken salad. Another long silence. Armando's comes up again; the deliberations continue. From behind the other side of the nook a youngish woman sasses a walrus of a man who has apparently asked her to do some extra task. She replies that she has much more work to do than he does, and besides she has housework on top of that. "Peg always does your housework, I'm sure," she says tartly. The man agrees, takes the comments in stride, sighs, says that it's going to be that kind of day, and then, after a long awkward silence, that it's time for a cigarette.

Other than these essential bureaucratic activities, the municipal water system seems to work by such devices as: having bought water rights a hundred years ago to sources in outlying suburbs; an underground eight-mile-long pipe; gravity; the chemicals alum and chlorine; testing; sedimentation beds and flocculation chambers; sand and charcoal filtration; monster pumps; holding tanks in Belmont; shut-off valves; and more gravity. Mr. Norton lucidly explained all the workings in front of an enormous, wall-size hand painted map of the twenty-three-square-mile watershed for which he is responsible. Merely to gaze on the territory gives one a feeling of expansiveness and excitement—like that associated with mounting a campaign or planning an adventure meant to prove something. The watershed is twice the size of the city it serves, and

the wall map reaches well beyond the city, north to the Middlesex Fells, where Mr. Norton used to work and upon which he looks wistfully, recalling how peaceful life was in that rural outpost. In its scale and precision, the map gives the Water Department antechamber the air of a war room, the territories of conquest displayed in crystalline detail. But what makes this map wonderful is that its mission is the peaceful delivery of water for washing babies and boiling potatoes—well, for MIT's little nuclear reactor, too, but mainly for aiding the daily lives of citizens.

Perhaps a woman who considers her bathtub the single most important device in the home, whose favorite work is watering plants, and whose day begins with cups of Darjeeling can be forgiven for looking on Mr. Norton a bit dreamily as he pours forth the story of our city's water. Like Mr. Kingsley before him, Mr. Norton's chief responsibility is to protect the water quality within his watershed; at Fresh Pond, every use of the land must, he emphasized, be compatible with this goal. Once, while explaining that Fresh Pond is the only place in the state ("maybe in the world, save for the Ganges," his look implied) where dogs are allowed to range freely near a public water supply (thus, swim in and befoul it), the watershed manager let a wry look stroll across his face as he added, "But this is Cambridge." He said this with a complex tone that bodes well for his tenure. As we spoke about the reservoir, I was also impressed by Mr. Norton's crisp analysis of what we can and cannot control. "We cannot," he said, "control the past, or birds, for instance. But we can control dogs."

This seemed as he said it like a gnomic reduction of wisdom, and I felt immediately relieved by the idea that the past can be let go of (as far as we can control it), and also by the clear, calm way he said it. That's right, I thought, admiringly, the past is over. What's done is done. Later I recalled

fiction, Proust and Nabokov, and the fact that modulating our idea of the past alters the present. But I know perfectly well what Mr. Norton means. He means, rightly, that he's got a dealt hand. And he is especially not going to be able to control what happened to his watershed and Fresh Pond during the Pleistocene. It was while sitting quietly at the metal table in the Water Department office, studying a heap of maps and surprisingly passionate master plans, with talk of chicken salad sandwiches in the air, that I suddenly, unexpectedly found myself descending again on the plumb line of time, plummeting far past the Great Swamp and its lost heronries to arrive in an entirely other incarnation of our neighborhood.

One Newton Chute provided the geology for the 1944 surficial geologic map of our area. Glancing back and forth between Chute's map and his report, I slowly grasp that Fresh Pond exists, and that Peter and I make our home on what was the eastern slope of a river valley. That is: where now exists the ground on which have variously stood drugstores, dray horses pulling blades, and apples in blossom was once merely a volume of air above an enormous river valley that ran southward from present-day Wilmington to the Charles River (which had not yet come into being). A rock terrace at about eighty feet below present sea level was the bottom of this deep, broad valley; the valley also held an inner gorge that cut down another ninety feet. The presence of the inner gorge indicates to Chute and his colleagues that "at least one important uplift of the land or lowering of sea level occurred during the formation of the valley."

In part, it may be a recent appointment with my dentist, Dr. Guerrara, in which he filled an unusually deep cavity—first boring it out, then filling it in discrete stages with various substances—that makes me riveted by the geological process by which glaciers filled the deep valley. As you may know,

the modern human tooth cavity is filled first by a layer of calcium hydroxide, a liquidy paste like Elmer's glue that hardens quickly on the floor of the prepared cavity; then with a thin, cool varnish, painted on to seal the tuvuals; finally with the silver amalgam (copper, silver, tin, mercury) that is tamped in, carved, and burnished. The gorge in one's mouth—as these minute spaces feel to the tongue—is topped up. This is very like what happened all over New England about twenty thousand years ago, in the Pleistocene.

Chute identifies ten principal events in the centuries-long process by which an old valley was filled with successive layers of till, clay, peat, and gravel—materials pushed, trailed, and extruded by a glacier advancing and retreating over the land, moving south and east, a chthonic grading of the surface. Chute accompanies his glacial geology with a map that shows which of these glacial fill events figure on the current surface, and where. With mounting excitement, I locate the area of our street on the map: our home ground is Outwash 4, the eighth event, an outwash of sand and pebble-sized gravel that occurred as a large alluvial fan spread southward over the "rock-flour" clays deposited in the exciting seventh event, the clays that would have such consequences for our neighborhood. A small ridge two blocks away, which we now know as Massachusetts Avenue, is thought to be "too high to be part of the fan" and probably was overlaid by its powerful flowing outwash.

I sit back in the Water Department's chair, nearly faint from the morning's events, and my idea of home rearranges itself once more, assimilating the knowledge that we live not only atop a lost swamp but also over a buried river valley and on an alluvial fan. It changes things—everything somehow—to know that during all the years I have yearned for life in a bucolic valley my wish has, if prehistorically, been true. And what shall we make of the news that we

dwell on an alluvial fan—of all geological events, the one with the prettiest name. While the fine sandy fan was spreading out, Fresh Pond must have still been entirely occupied by a stagnant ice block, for, as Chute reasons, "if the fan had been deposited after the ice block had melted, the depression occupied by the pond would have been filled."

Even the alluvial fan does not prepare me, though, for the fact that our neighborhood, our city, indeed the Eastern Seaboard from Virginia to Nova Scotia, takes place on a crust of earth that was once the west coast of Africa. The crust is named Avalon, and it arrived when a piece of Gondwana, ancient continent, broke away, swept across the ocean (not the Atlantic yet, but Iapetus), and collided with the old North American continent. Our most local crust came from the part of the earth that is today Morocco (and which shares with the Boston Basin the lumpy-looking rock we call puddingstone). It has been quite a long while since these mighty things took place, and it is hard to say what, if anything, they have to do with the realpolitik taking place on the underlying Avalon. But, as always, the familiar when closely observed reveals itself as an exotic.

Beyond its transforming information, a U.S. Geological Survey report entralls because of the language scientists use to convey glacial events: here there are "geophysical raverses," "thrust faults in overridden sand," "uplift of the land," and "marine embayments." The souls who spin off these phrases in longish sentences that describe—calmly—seismic events that rumbled over millennia, sound as if they know what they are talking about, as if they know what is going on under there down deep, at the level of *accurate subsurface information* where knowledge is grounded.

Although I was born decades after early twentieth-century physicists had their near-nervous breakdowns at the implications of relativity, the fluid epistemology implied has come only slowly and imperfectly into my psyche, which seems to cling to a pre-modern, limbic hope for solidity. As my life's education has proceeded, each new knowledge gradually reveals that it too rests on gossamer metaphor. Reading the geologists, I feel the tantalizing hope that with this vocabulary I might grasp the real nature of things. Perhaps here are the minds and ways of talking that take one through loose gravel, till and sand, through bands of clay, to bedrock. And if it all be gossamer, what better gossamer than bedrock?

Part Four // Navigable

One afternoon, circumnavigating Fresh Pond with a photocopy of an 18th century map in hand, I see that our local pond was once linked by a series of rivers to the Atlantic Ocean, that for all but the last hundred years of its existence our inland region had a direct channel to the sea. On the old map, the river Menotomy rises out of Fresh Pond, winds through the Swamp, joins the Little River and flows into the Mystic, which empties into the Atlantic. I also see that some vestige of that former water route would still be navigable by canoe. The Little River is extant, and flows into a stream called Alewife Brook, formerly the last stretch of the Menotomy. A present-day river guidebook tersely describes Alewife Brook as "not recommended," but Peter and I cannot resist taking our canoe down the pungent, olive-brown stream. As we float past half-submerged shopping carts and debris, we will be moving along the oldest artery of our watershed.

The route will take us through a lock at the Amelia Earhart Dam on the Mystic River. Studying the route, Peter says, "We should get an air horn to signal the lock keeper." I say, "Great," because I have learned that Peter is always right about gear. There was the time in the Everglades with the maglight, the extra bike tire that saved the day, the boxes of Happy Lamp fireworks. Many times I have owed my happiness—and once my life—to Peter's gear and his skill with it. He selected an air horn at the sporting goods store and together we read the instructions, which were very explicit, saying in essence: Do Not Ever Use Your New Air Horn. It Will Destroy Your Ear Drums, So Do Not Use Under Any Conditions. "Oh, they have to say that," Peter said, hefting the little horn. "Some rude people take them to sporting events."

The only other special thing we will need for this journey is an idea about where to land a canoe in a big-city working harbor. The canoe is seventeen feet of a dull green material called Royalex, a stable boat with a low-slung profile, named in honor of the Victorian traveler *Mary Kingsley*, who liked to paddle in African swamps. We want to land *Mary Kingsley* somewhere along the banks of the inner harbor, near the Tobin Bridge. On the early summer evening that Peter and I prowl the harbor, we discover not a single take-out site for a canoe, but many other interesting things, including a marine shipping terminal, the titanic legs of the Tobin Bridge, a burned-out pier, the U.S. Gypsum Company, and a mountain of road salt recently offloaded from an Asian freighter. Near sundown, an oblique red light slants over pools of steamy gypsum tailings. This extravagant light and the sheer muscle of the place make for a romantic landscape. As is often the case, Mr. Emerson has been this way before, admiring the potentially fine face of industry:

It is vain that we look for genius to reiterate its miracles in the old arts; it is its instinct to find beauty and holiness in new and necessary facts, in the field and road-side, in the shop and mill. Proceeding from a religious heart it will raise to a divine use the railroad, the insurance office, the joint-stock company; our law, our primary assemblies, our commerce, the galvanic battery, the electric jar, the prism, and the chemist's retort . . . The boat at St. Petersburg, which plies along the Lena by magnetism, needs little to make it sublime.

On the other side of the river lies the city of Chelsea, nearly all galvanic battery, a welter of scrap metal yards, weigh stations, warehouses, sugar refineries, gas yards—the last a sinuous complex of pastel pipes almost equal in convolution to that wonder of nature, a Jamesian sentence. As night comes, and a hazy fog begins to materialize, we happen on the Evergood Meat Packing Company, where beams of light from mercury vapor arc lamps rain down on a parking lot, carving the lot out of the night and lighting up this scene: three

meat packers in long white butchers' coats, the men running through the lot passing a soccer ball back and forth expertly. The ball bounces from a corrugated wall, skims under the axles of a fleet of trucks. The long white coats are brilliant in the vapor arc light, the fabric flowing, flapping like wings. It is the quickest glimpse, and now the road climbs a dark hill. From the summit, the city's financial district is visible across the river, its lights flickering, cleaning crews at work. Down the hill, on the river itself, and moored to the bank, we see the object of our search: a small pavilion and public dock.

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The most succinct account of our river journey is that we launched a canoe amongst somnolent lily pads and took it out near a Brazilian cargo tanker. Our paddle begins on the Little River, where, passing the mouth of a narrow, brown ditch full of appliances and engine parts, a sodden teddy bear, we are passing the paltry remains of the wide Menotomy. Along one stretch, the Little River is so shallow that it is more a skim-coat of water than a channel; the dorsal spines of carp crest the waterline, giving the river the eerie appearance of being alive with silver grey eels.

As it deepens again, the Little River becomes Alewife Brook, and when we pass the gas station near Meineke Muffler, we are at the old site of a basketry weir, a spot that both native Americans and settlers used for harvesting shad and alewives—the latter plentiful still enough in the nineteenth century to move one observer to write, "I have seen two or three hundred taken at a single cast of a small seine." Up to the present day, new citizens come to this watershed in spring to catch alewives. On another day at the Mystic Dam, we meet three

delicate Cambodian men whose fishing gear consists of a box of large pink garbage bags. The men are barefoot, wearing dated bell-bottoms and white dress shirts (vintage Goodwill), and they fish from slippery rocks, dipping the pink plastic bags into the causeway spill. Although the numbers of the fish are greatly diminished, at this dam in spring they look abundant, flowing over the spill into the thin plastic bags like grains of rice from a bulk bin.

An alewife is an *anadromous* fish ("running upward"), and its presence in our watershed is known as *ephemeral*. The fishes are seasonal transients, coming from the ocean to freshwater to spawn. Continuing south now on the Mystic River, we are following the young alewives' fall route back to sea. They would pass, as we do now, backyard barbeques and hammocks, and then the backside of a downtown, where retaining walls read "Sally luvs Rick," and "Dragons Rule," where a crumbling infrastructure crawls with organic patterns, subtle grays and browns, white encrustations—a spectacular topography of decay and struggle.

Here and there, trees overhang the river, dappling its surface of lily pads and oily gloves. As the river widens the tree break disappears. We pass by an Edison power plant, and under a bridge that bears eight lanes of interstate traffic. The Amelia Earhart Dam comes into view. Peter readies the air horn, and when the dam is close, he presses the small button. It delivers one of the loudest bursts of sound I have ever heard—next to the time a lightning bolt hit the house and made me wonder, for a second, if I had been shot. The lock keeper likes the air horn, likes being hailed in the proper nautical way, and gives Peter a crisp salute. As *Mary Kingsley* glides into the narrow chamber, two powerboats hurry in behind us. The doors of the lock slide closed, the water rises, and when the lock opens again, the still, olive river water has vanished and we are in an ocean-blue chop with whitecaps.

The powerboats take off like rodeo cowboys on broncos, and I am wishing that we had something with a throttle too. As the wind picks up, first tugboats, then small freighters appear. Conveyor belts, rigs, and tall booms are cantilevered over the water; an inverted silver dome built to cover twenty tons of unrefined sugar glints on the bank. By the time the big bridge looms into view, our canoe has shrunk to a bobbin—a bit of flotsam below the gantry cranes. We are gawking at the cranes like rubes on Broadway when a rogue ocean swell rises out of nowhere, tosses the canoe four feet into the air, spins us a little, breaks across the side, slaps us full-face with salty water. The pavilion and dock are just visible now on the other side of the river, and as we struggle toward the landing in the chop, we marvel at the people who took their thinner, lighter canoes out much farther, into Open Ocean, and up and down the Atlantic coast.

At the dock we are met by two small boys, brothers, who shyly stare and beam at the canoe, and within seconds of our invitation are in it, are touching its sides, are gripping the paddles, are putting on lifejackets, are not sitting too still but gently rocking the boat to get a feel for it. Their names, the boys tell us, are Ulysses and Erik.

I wouldn't dream of making that up, and where else but a big-city waterfront would you expect, these days, to be met by the two chief heroes of epic seafaring? True to their names, the boys cannot take their eyes off our boat. They are intrigued by paddles. Fascinated by the weight and color of life jackets. Overjoyed by ropes, by tying knots. Desirous to know what the canoe is made of. Running their hands over the cane seats and wooden thwarts. In love with all things nautical. Beside themselves with happiness when their

father says, yes, they can take a short ride with us, just around the perimeter of the dock, not far. And when at last we must head home, the legends (as bold, as clever as ever) cajole us, insist on hauling some of the gear up the slight incline to our waiting car, where they are further enthralled by the every detail of mounting a canoe on a Subaru coupe: how the canoe is lifted up by two people, how it is strapped onto the roof of the car, how foam clips are slipped over the gunnels, how ropes are laced and tightened.

Ulysses and Erik tell us that, yes, they were born here, in this city, but home is an island far from here, somewhere over the water. They each point out to sea, not exactly in the same direction. When the canoe has been secured in place, and all the gear stowed, the hero-boys shimmer away, are last seen lying flat on their stomachs, their arms submerged in water up to the shoulder blades—as close to being in the ocean as boys on dry land can be.