Preface

I stood at a grade crossing in Del Mar, California, where I used to live. With me was cousin Ugo from Italy. The single-track line that runs along the Pacific Coast serves the local commuter trains between San Diego and the city of Oceanside, twenty miles north. It also serves Amtrak. If your eye follows the tracks south from the crossing, you can see almost nothing, for they bend sharply to the left and are immediately lost to view behind the steep bluffs over the beach. We stood silently, looking north. Past the abandoned beachside passenger station, a siding splits off from the main line, allowing one train to pull off while another one passes through. A half-mile or so from the split, the entire road bends to the left, once again out of sight. I waited for Ugo to speak, because I knew he would get it. "You see," he finally said, squinting into the distance, "the beauty is it can take you *anywhere*." Meaning *these rails*, right here, under our feet, in this crossing.

Just think: if I had a HiRail (one of those pickup trucks with both rubber tires and train wheels that servicemen use to perform track inspection and maintenance), and if I had the ability to throw switches wherever I wanted, I could start right here at the grade crossing in my hometown and head to Los Angeles. From Los Angeles, I could travel far north, to Vancouver, where my sister Amy lives. Or I could set out east for Chicago, go south, then east again toward Detroit. Until a few years ago, just west of the passenger station in Ann Arbor, Michigan, where I was an undergraduate in the early 1970s, I could back up and switch off the Amtrak line, onto the tracks of the Ann Arbor Railroad.

Following this line south, I could pass within a mile of where my daughter-in-law's parents live and, many miles later, end up in Toledo. Following it north, where it turns into the Great Lakes Central Railroad, I could switch off near Durand onto the Lapeer Industrial Railroad and cross over the rural highway we used to take through the town of Lapeer as we drove to a vacation spot on Lake Huron. The Lapeer Industrial would take me to Port Huron, way in the east of Michigan, across the Saint Clair River from Canada. From Port Huron, I could veer south and head to Detroit, where my wife, Patrice, grew up. Detroit is connected to Windsor, Ontario, via the Michigan Central Railway Tunnel (no longer used by passenger trains), and from Windsor it's an easy matter to cross through that tongue of Canada that protrudes downward from Toronto, separating Michigan and western New York, to Niagara Falls and Buffalo. From Buffalo, Amtrak runs on the tracks of the former New York Central, along the Mohawk River, to Albany. Until 1990, I could have taken a short jog north at the town of Fonda, up the tracks of the Fonda, Johnstown & Gloversville Railroad, to Gloversville, where both my paternal grandparents were born and raised. Returning from Gloversville to the main road, I could have followed the line to Schenectady, where my first cousin, father, grandfather, great uncle, and great-grandfather all attended Union College. From Schenectady, I would head to Albany, and from there I could follow the route that my grandmother Edna Muddle took when she traveled to Simmons College in 1917 to begin her college studies. In Boston, it would be an easy matter to make my way onto the tracks of the Commuter Rail and ride the Fitchburg/South Acton Line out to West Concord, passing through Waltham, where my daughter Eva attended college. There I would switch onto a lonely abandoned line running through wooded terrain and photographed in stunning black and white by Boston photographer Tony Rinaldo (my brother-in-law). The photo hangs by my desk. I'm looking at it right now, as I write this. In it, the solitary track recedes into an unseen, dimly lighted distance.

And then it would be back to the main Amtrak line that serves the Northeast corridor. It would be a straight shot through New York, past Baltimore, where I lived from the age of 2 till the age of 7, and down to Washington, D.C. There I could switch off to the Metropolitan Subdivision (formerly of the B & O) and pass through Silver Spring, Maryland, where my father grew up, not far from where I was born and not far from where my sisters Ellen and Susannah live. Before 1986, I could have switched off this line to a spur that would have taken me directly through a country club in exclusive Chevy

Chase, Maryland. In the late 1960s, Edward Spencer ("Mike") Cassedy (originally from Gloversville) attempted without success to teach his grandson to play golf there. I could then thread my way back up the Northeast Corridor, to New York, through Penn Station, and onto the tracks of the Long Island Railroad, Port Washington line. That would take me to Great Neck, where I lived from age 8 through high school. If I headed back toward the city, at Sunnyside Yards in Queens (just this side of the tunnel into Manhattan) I could switch onto the tracks of the New York & Atlantic Railway, a freight company, heading south and east toward the company's main yards in Glendale, Queens. Just before hitting the yards, I'd switch south onto the company's Bay Ridge branch. This would take me into Brooklyn. That's where my son Michael and his wife Meghan live, where my maternal grandparents lived, where my mother grew up, where my father spent his career as a professor, and where my Uncle David used to live. I would proceed to a spot where the tracks, above grade level, run parallel to an elevated stretch of the BMT Canarsie subway line (known nowadays as the L train) on the left and, on the right below, Junius Street, just south of Riverdale Avenue in Brooklyn's Brownsville neighborhood . . .

So, could I go *anywhere?* Not really: only anywhere the tracks go, as long as there are connections. *That's* the real essence: it can take you anywhere *it* goes, not just anywhere *you* want to go. It's not the same as a driveway or a dirt path. Sure, the driveway leads out onto a surface street, and the surface street leads to other surface streets, and those streets lead to interstate highways, and those interstate highways lead back to other surface streets, which lead to dirt paths and driveways. But with the proper vehicle, you can steer off the road and drive in open fields, through deserts, on the beach, across rocky flats. You can go pretty much *anywhere.*

But the tracks confine you. They have rules. The engineer never gets to steer the locomotive off them and keep traveling *ad libitum.* And yet the arbitrarily chosen entry point—a lonely, deserted line of track in the woods someplace, a pair of half-buried rails dug into the asphalt in some grubby urban wasteland—makes you potentially at one with any number of fabulously distant points, in the sense that all those points are accessible to you. If you connected light bulbs to them and touched a *very* high voltage cable to your entry point (while somehow forming a circuit, of course), those bulbs would light up—almost immediately.

So the tracks form a *network*, in the modern sense of the word. Networks consist of pathways and nodal points (switches, circuits, barriers). They can be entered from numerous places, and they offer both promise and constraint. Once you're in, you're potentially connected with all destinations in the system. At the same time, like me in my imaginary HiRail or a real engineer in a locomotive, you're confined to the pathways and nodal points. The route I described forms the network—or at least *one* network—of my own life.

By the end of the nineteenth century, if you were an American, you increasingly lived in networks, most of them the result of developments in science and technology. This world was staggeringly different from the one that your ancestors inhabited earlier in the century—that is, if you *had* ancestors that lived in the United States. Alexis de Tocqueville had brilliantly evoked what he regarded as an essential quality of the Americans he observed when he visited the young United States in the early 1830s. The quality, as he described it, was a capacity to overcome a lamentable tendency that he associated with fledgling democracies, a tendency that he called "individualism" (effectively introducing the word, in this sense, into the English lexicon through the translation of his work). He defined this novel concept as "a mature and calm feeling, which disposes each member of the community to sever himself from the mass of his fellows and to draw apart with his family and his friends, so that after he has thus formed a little circle of his own, he willingly leaves society at large to itself." Americans had defied the demon of individualism not only through their free institutions, which, as de Tocqueville wrote, "remind every citizen, and in a thousand ways, that he lives in society," but above all through a peculiar character trait: the natural inclination to form associations. "Americans of all ages, all conditions, and all dispositions, constantly form associations," he wrote. Civil associations, political associations—these are the stuff of American life and democracy.[1]

Of course, de Tocqueville was describing a *tension*, not a simple quality. The love for associations was there to counteract a native individualism, and each existed only in struggle with the other. The celebrated French traveler never really told us where the love for associations came from; it was just there, and he saw it. It functioned sometimes on an astonishingly grand scale, as when, by his report, a hundred thousand men joined up to forswear alcoholic beverages (he was referring to the American Temperance Society, which was founded in 1826 and which, by the early 1830s, had attracted an even higher number of followers than what de Tocqueville stated).[2] But, the temper-

ance movement notwithstanding, the associations de Tocqueville described (if you accepted his account), by later standards, were small and local. He was seeing what a much later historian would call "island communities," groups that were usually, of necessity, confined to towns.[3] After all, when de Tocqueville visited the United States, the telegraph did not exist and railroads elicited from him merely the comment that this nation had the longest ones in the world—not that they had transformed life by helping to join the citizens together in a giant network. How could they? By the time de Tocqueville went home, there were still only a handful of railroads: the Baltimore & Ohio, a couple in New York, and a few short lines in the South.

But by the end of the century, networks—and not just railroads—were everywhere. This was especially true if you lived in a town or city, which is why I'll speak mostly about town and city life in this book. It was also especially true if you had access to what we call "media" nowadays—which was very likely if you lived in a town or city. In the pre-radio and pre-television era we're looking at here, this means mostly books, newspapers, magazines, posters, lectures, and eventually movies. If you were an ordinary American with such access, you were exposed to conditions and ideas that placed you in networks. You did not need to be a member of the educated elite.

There were transportation networks, of course, such as railroads. There was the mass of pipes and wires that poked out through the bottom of your house or apartment building (especially if you lived in a city) and stretched into vast systems of commercial and municipal services. There was the array of consumer products—gastronomic, cultural, recreational—that, in order to reach you, had followed established routes from distant shores or from sources close to home. There was standard time, a network that swept into its structure everyone who owned a timepiece (as virtually everyone did) and even those who didn't. There were networks composed of other human beings, past and present. The Public Health Movement made you responsible for your own health so that you could also be responsible for the health of others. You carried the genes of your ancestors (as you began to learn sometime after 1900) and were connected with them in your appearance and even in your everyday actions. You were connected to yet more primitive forebears in your species but also, through your unconscious life, to your own primitive self. You were socially bound to your fellow human beings by a spirit of cooperation and collective action that you learned was a scientifically explicable fact of nature. As a religious believer, you heard you were

enjoined by God to act in that same spirit. The kingdom of God was here, right now, in your city, country, and world, and you were inextricably connected to it.

Not only that: by the end of the nineteenth century, you learned that *you yourself* were a network. Your body and mind were now so conceptualized. Your body was a network of cells, tissues, organs, and circulatory vessels. It dwelt in a world of predatory microscopic enemies that, in the absence of proper countermeasures, could invade it, travel its inner pathways, pass through critical nodal points, and carry it off to an early death. Your mind was a system of chemical and electrical impulses traveling along segmented filaments, through circuits and switches. Or it was simply an internally governed structure of thoughts, desires, and impulses that (investigation appeared to show) interacted in relatively predictable ways, traveling along established "pathways." Your entire conception of your individual self was something that earlier generations would have found incomprehensible. The more you thought about it (if you took the time to think about it), the more you realized that, if seen from above by some creature endowed with supernatural powers of vision, you would appear as a tiny network moving along the filaments of several dozen external networks that overlapped and intersected with each other in hopelessly complicated ways.

We can see how pervasive the concept was by how frequently the network of the human self was used as a metaphor for the network of the outside world—and vice versa. In explaining the latest dazzling discoveries in neurophysiology and biology to ordinary educated readers, popular science writers often used the image of a transportation network. Conversely, the celebrated high priest of electrical technology, Nikola Tesla, looking ahead as early as 1904 to "The Transmission of Electrical Energy without Wires" (that is, radio, as it would come to be called), fell back on neurophysiology and the integrated nervous system for his vision of the future: "Thus the entire earth will be converted into a huge brain, as it were, capable of response in every one of its parts."[1]

. . . But I stopped above Junius Street in Brooklyn. Here, as it happens, is a place where, via the tracks of the New York & Atlantic, the nation's larger rail system intersects with the New York City subway system—one of the *anywheres* that cousin Ugo spoke of. And so, in three switching maneuvers—from the main southbound track of the Bay Ridge line to a side track, from

the side track onto a connector track, from the connector track onto a track owned by the Metropolitan Transit Authority, which leads south into the Linden Shops (where they make switches and weld rails for the subways) or north, I could ride my HiRail north, onto the Wye trackage connecting the Linden Shops with the IRT New Lots line (today the 3 train).[5] Curving up and around to the west, in no time I'd merge onto that line (elevated here), heading into Manhattan. There, following the tracks of the 3 train, I'd proceed straight up Seventh Avenue and Broadway (staying under Broadway after 96th Street by following the tracks of the local 1 train, as the 3 train tracks veer off east toward Lenox Avenue).

Here is the nerve center of my adolescent adventures in New York City: 14th Street, where I used to surface from the underground station to wander the streets of Greenwich Village; 34th Street/Penn Station, my point of entry into the city from Long Island; 42nd Street/Times Square, where I would gawk at the seamy attractions of the city's illicit and semi-licit trades; 66th Street/Lincoln Center, where I spent much of my senior year of high school at the piano; and finally 116th Street/Columbia University. That's where, from 1965 to 1969, I used to get off the subway on Saturdays and walk up the west side of Broadway to 122nd Street for my trumpet and composition lessons.

Up 122nd Street to the left a couple of blocks was Riverside Park, where a fellow music student and I, between classes, would scramble down the steep slope toward the Henry Hudson Parkway, open an iron grating on the hillside, and crawl into an underground wonderland: here were the train tracks that (as I learned years later) hugged the west side of the island, peeking out from time to time between cross streets and then surfacing by Penn Station to proceed downtown to the city's meatpacking district as the famous High Line (now a park and major tourist attraction). Here was another *anywhere*, for if you went north along these tracks (today an Amtrak passenger line), you intersected with the New York Central on its way along the Hudson River to Albany—and thus destined for wherever trains or my imaginary HiRail could take you in the United States and Canada.

But back at the corner of 122nd Street and Broadway, if you crossed the street onto the Broadway median and faced north, you found yourself standing right over the place where the subway tracks (after the 116th Street station) emerge from underground onto a viaduct spanning Manhattan Valley. From this spot, with the smell of creosote and wooden railroad ties in your nostrils, you could peer up the tracks before they reenter the netherworld ten

blocks later. You could use your imagination to picture the lurid attractions and enticing dangers of precincts beyond, where, back then, a short, slight 14-year-old from the suburbs had never set foot.

But my story begins downtown, a short walk east (or a short ride on the Shuttle train) from the Times Square station . . .