

Chapter 1

How We Lost Sustainability

Once upon a time, Glens Falls, New York, was among the wealthiest cities in the United States. Standing on the banks of the Hudson as the river arcs from its nursery in the nearby Adirondack Mountains, it was home to numerous sawmills and papermaking plants. Ancient trees cut from the mountains were floated downriver in huge “rafts” to be processed into wallpaper and toilet paper, the stuff of prosperity, transforming the little town above the cave that James Fennimore Cooper made famous in *Last of the Mohicans*¹ into the locus of immense wealth.

Today, few of us can locate Glens Falls on a map. Its lone paper mill employs fewer than six hundred blue collar workers, down from the “five thousand honest hands” about whom Pete Seeger once rhapsodized.² Between Glens Falls and New York City, two hundred river miles south, similar stories abound: General Electric’s factories dotted the river’s shore but now are all but gone. RCA once built stereos in Albany, and General Motors manufactured cars in Sleepy Hollow, yet no more. While IBM remains a presence in Poughkeepsie and Dutchess County, where it long has made some of its most powerful computers, since the 1990s it has shed thousands of employees.

Of course, the region’s economic story is not completely bleak. Far from it. New York Harbor—the mouth of the Hudson—was and is home to massive ports on both the New York and New Jersey sides of the river. For more than four hundred years the great city first known as New Amsterdam has been an economic growth machine, and Wall Street—one of the oldest tracks in Manhattan—is synonymous with capitalism’s potential and its pitfalls.

In this chapter I trace our economic system's role in transforming the region's Landscape over the four centuries since Henry Hudson sailed up the river that would take his name. I then discuss the work of scholars who have implicated business in the creation of the unsustainable social and ecological worlds we know so well—and others who insist that same force can be a driver of sustainability.

My goals here are, first, to demonstrate that Landscape transformation is a historical process. The destruction so many bemoan did not occur overnight; by the same token, the construction of a new Hudson region Landscape is possible . . . and likely will take decades to create. Second, I want to establish the causal foundation for the ecological challenges facing the region that I discuss in chapter 2, some of the community-based social problems that emerge in chapter 5, and even the potential for a planet-friendly capitalism like that advocated for in chapter 7.

Third, it is important to acknowledge the dominant forces that confront sustainability advocates; every individual in the region—to say nothing of the corporations, think tanks, and governments—is invested in our current economic system, making its alteration a challenge fraught with pitfalls. Finally, from Henry Hudson's time this region's Landscape has been in a constant state of flux—change is, after all, endemic to our economic system. Here, I hope to show how, even though this place has been ceaselessly remade, that very renovation process may in the end lead us to a stable Landscape where revision is replaced by simple vision.

A Landscape Overturned

At the heart of our economic system—at least in its classical form, the view that dominates even today—lies exploitation. Trees, soil, oil, minerals, air, water, wildlife, and workers are all used in the creation of profit, and few natural resources were more sought after in the early seventeenth century than beaver.

To say beaver were exploited is to understate the case by a fair bit. As early as the 1500s beaver felt hats were all the rage in Europe, status indicators of such lasting power that, though the styles varied, nations were formed and dissolved, and wars fought, for three centuries beaver remained the choice for headwear among elites on both sides of the Atlantic (Abraham Lincoln's famous stovepipe hats were beaver).³ So, after their 1609 voyage, when Henry Hudson and his crew reported to their Dutch sponsors that many of the natives they encountered wore furs,

it prompted competing trading companies to scramble to stake a claim to this New World territory.

Contemplating the plunder that followed, journalist Robert Boyle wrote, "Of all the mammals of New York, the beaver has the most checkered history. Beavers, of course, were the main object of the Dutch fur trade. They were trapped by the hundreds of thousands and their pelts shipped to Europe for the making of hats."⁴ The Dutch did little or no trapping themselves, since beaver were found in the interior, away from the Hudson River, where it was forbidding and even forbidden to them.

That work was left to aboriginal peoples. In his environmental history of New York, David Stradling wrote, "The fur trade gave Native Americans their first exposure to the profit motive and thus initiated a changing relationship with nature. Never before had native peoples hunted so completely for trade."⁵ Previously, the first Americans' interactions with other species had been mediated by their strong cultural ties to nonhumans, which required reflective ceremonies and effectively restricted overhunting. Not so with the fur trade.

In asking how it was that acquisitive economics trumped established relations between aboriginal peoples and the beaver, Stradling poses a question that remains relevant today. For those first Americans, perhaps a "spiritual crisis" prompted by increasing disease (transmitted to them, unbeknownst to either group, through contact with the Europeans) compelled them to violate norms that had emerged over millennia living on this continent, or maybe "they simply found the market too alluring, the guns and gunpowder too useful to pass up. For most tribes the fur trade constituted their first prolonged interactions with Europeans, and through increasingly regularized trading, natives purchased a variety of goods, including cloth, tools, and metal pots, all of which they quickly wove into the fabric of their culture."⁶

In 1655, the year of his death, early Dutch settler Adriaen van der Donck's account of life in "New Netherland" was published. Written decades earlier, his memoir recounted a time that was already passing. "We also frequently trade with the Indians," he wrote, "who come more than ten and twenty days' journey from the interior, and who have been farther off to catch beavers, and they know of no limits to the country, and when spoken to on the subject, they deem such enquiries to be strange and singular."⁷

Having all but extirpated beaver on their home continent, Europeans knew from experience that the exploitation could not go on forever, but it was an inconceivable notion to Native Americans. Indeed, by the

time van der Donck's book was published, the region's beaver numbers already had crashed. While the fur trade with Europe was over, European economics nevertheless held sway—no other source existed for the goods that native people found so alluring. In Stradling's account, the first great re-meaning of the Hudson region's Landscape occurred rapidly and, in terms of the triple bottom line of ecology, economy, and equality, the new Landscape was complete: ecosystems were fundamentally altered, and powerful dependencies between aboriginal people and capitalism were created.

Graham Hodges, a Colgate University history professor, observes, "It's important for Dutch strategic and diplomatic interests to have a colony along the Atlantic. The English control everything from present-day Maine down to South Carolina. So this is the only point where there is a non-English entryway along the Atlantic coast." Those "strategic" efforts were first and foremost economic. So while the Dutch primarily sought to enrich corporations in the home country, when the British bloodlessly wrested control of the Hudson region in 1664, they were more bent on colonization—control of the land for both political and economic purposes. The British wanted a northern foothold to ward off the French, who controlled Canada south to the Adirondacks (their sweeping presence ran west and farther south, down the Ohio and Mississippi river valleys to the Gulf of Mexico).

The British undertook a subjugation process of land and people that was central to the creation of the continent's third Landscape. The first emerged from native people's manipulation of the ecology after their arrival, most significantly through the use of fire,⁸ and the second was the Dutch plunder of fur-bearing animals. In all three, people, ecology, and economy were intimately connected, but the character of those relationships varied in fundamental ways.

The region's native peoples actively observed topography, plant and animal behavior, seasonal signs, and the like—practices long since forgotten. Tom Lake, a New York State naturalist, notes, "Native people employed what we would consider modern concepts of ecology thousands of years ago. . . . They understood that you can control nature in a way, but it's a symbiosis. You're actually helping by fostering new growth and at the same time you're helping yourself because it's going to attract different kinds of animals."

Native people's cosmology, too, contrasted profoundly with today's dominant understandings. For aboriginal Americans "the whole world is alive," observes Vassar College anthropologist Lucille Johnson. "You are

in a living universe. You are also a part of that universe, not apart from that universe, as we tend to be. . . . For the Native Americans, people are of the world just as a deer is of the world, just as an ant is of the world, just as an oak tree is of the world.”

Those first Hudson peoples invested “natural” entities (their language included no such word as our *nature*) with respect and transcendental importance. The same was true for their fellow tribe members. Most native cultures were highly egalitarian, and when their economies were not entirely subsistence-based (the Lenni Lenape were major traders, and many tribes were known for their special talents in, for example, pottery or canoe building) profit never entered the picture. The people of the region farmed, but one early American estimate was they cleared only about 1 percent of the land, so light was their ecological footprint.⁹

The Dutch Landscape introduced a thoroughly European, anthropocentric understanding of relations between humans and the land in which economics was privileged over all else in social life save, perhaps, religion—although, as Max Weber argued, early Protestantism like that practiced in Holland can be seen as providing higher justification for capitalist business practices.¹⁰ “[F]or all their intensity in pursuit of the pelts given up by the Indians for mere trinkets,” writes the eloquent Vernon Benjamin, “the details of this New World, like the trees of the forest, hid an even larger reality that diminished these men and the grand ego of a world they came from. . . . [T]he Europeans who were so intensely focused on the profits of the pelt trade did not see the integrated, natural reality that loomed all around them.” He adds, “They were not ‘discovering’ a New World; they were dismembering an old one.”¹¹ Nature was God’s gift for humans to use—not to contemplate, appreciate, live harmoniously with, or worship—creating an unmistakable hierarchy not only of being but of cultures as well. Europeans felt free to break apart nature, whether for profit or science, their outlook privileging their desires over all others’.

In key respects, the particulars of the Landscape imposed by the English differed little from Dutch beliefs and behaviors. Humans continued to be the measure of all things, and under God’s direction the land was to be subjugated. However, there were important distinctions between the culture-ecology nexuses created by the two rivals. For one, in their best moments the British respected native people’s rights such that London restricted westward expansion of European settlement, something the Dutch, who were almost continuously at war with aboriginal peoples, likely would never have done.

Tragically, the other side of the coin was the British promotion of slavery, including the opening of a slave market in New York City in 1711. To economically and politically powerful New Yorkers—like, before them, Dutch New Amsterdamians—slaves and near-slaves, such as indentured servants and tenant farmers, were necessary for clearing the massive tracts of land that were fundamental to securing British claims to this part of the continent.¹² While native peoples, particularly the Lenni Lenape, had practiced fire-based swidden horticulture in the region for centuries (clearing land using fire, then farming it for two or three years before moving on), the English encouraged extensive land clearing for settled agriculture, a technology practiced on a scale unknown to the natives, remaking the Hudson Landscape on a thoroughly European model. The land was opened for continental animals to graze and European crops to be planted, and those tenant farmers, indentured servants, and outright slaves were compelled to work the land without being allowed to share in their labor's financial fruits.

Industrializing the Hudson River Region

During the summer and fall of 1777, little more than a year after the colonies declared their independence from Great Britain, what many historians consider the turning point of the American Revolution took place in the Hudson region, concluding on the Hudson River shore with the surrender of an entire British army. The battles of Bennington and Saratoga ended an English effort to sever New England from the ostensibly less rebellious colonies to the south, greatly improving the revolutionaries' prospects.

In the early years following independence, economically the United States remained as it had been under the king's rule, agrarian. But the turn of the nineteenth century brought major changes. In 1807, Robert Fulton sailed the world's first viable steamship up the Hudson from Manhattan to Albany and back. And as the years passed, important aspects of American industrialism began and thrived along the Hudson, giving rise to the fourth major Landscape the region has witnessed since *Homo sapiens* arrived on the scene.

Canals constructed by the Dutch in lower Manhattan presaged the Erie Canal, arguably the continent's greatest such system, which ran along the Hudson and Mohawk rivers hundreds of miles west and ultimately out of the Hudson River drainage to Lake Erie. Governor DeWitt Clinton's

“ditch,” as the Erie Canal was derisively labeled by those who considered it a waste of taxpayer dollars, proved to be more economic boom than boondoggle, and it spurred the arrival of the Industrial Revolution on this continent.

At its peak, the canal floated ten thousand boats and more, and thirty thousand people’s livelihoods were directly linked to it.¹³ Much of the work was physical, not mechanical, performed by men and horses. Towns and cities sprang up to support first the canal’s construction and then its commerce, and what once was three hundred miles of dense forest dotted with the odd clearing for native farms and villages rapidly became a deforested water-borne highway linking one rapidly growing community after another. Farmland worked by thousands of eager settlers spread for tens of miles on either side of the canal, the whites’ presence made possible by the ongoing subjugation of the native people, who were killed off, driven westward, pacified, forced onto reservations, or assimilated.

The canal’s economic success—in the fifty-eight years it operated as a paying concern, beginning in 1825, revenues exceeded the state’s initial \$7.5 million investment by roughly fifteen times—prompted the development of others. A privately owned canal, the Delaware and Hudson, was completed in 1828 and allowed massive shipments of comparatively clean-burning coal from Pennsylvania to power the nascent steam-driven industry in New York City and smaller but burgeoning upriver towns such as Newburgh.¹⁴ Soon enough, railroads surpassed the canals as the primary mode of commercial transport in the region, but it was decades before they rendered defunct the canal trade.

Fresh, clean water is as integral to nearly every industry as it is to life, and as mechanization increased, so did pressure on the region’s rivers and streams. Some was benign, such as the ice harvesting that enabled city residents to preserve food through the warm months. Perhaps the first industry to dramatically affect stream quality was leather tanning. The Dutch operated a tannery in New Amsterdam as early as 1635, and as the tannin-rich bark of hemlock trees there was used up, the industry moved north.¹⁵ Hemlocks grow tall and graceful, their branches dipping and then sweeping upward as they stretch from their trunks. Living 250 years or more, and growing up to one hundred feet tall, mature hemlock groves block enough sun to create an open forest floor unusual in the Northeast.

It took two hundred years from Henry Hudson’s arrival for tanners to find their way to the steep Catskill slopes. In the five decades that followed, up until roughly 1870, they cut down seventy million hemlocks, fundamentally altering the Catskill Landscape. A new economy

was introduced to the mountains, a new ecology was carved out of it, and new social inequalities resulted. “Life in a tannery town was tough,” wrote forestry professor Hugh O. Canham.

The work was hard manual labor. Living next to a tannery meant the constant stench of curing leather and stagnant pools of waste material. Streams became heavily polluted as tanning liquors, lime solutions, flesh, and hair were discharged directly into them. Hillsides were stripped of hemlock. On the other hand, the tanneries provided a livelihood, often for immigrants, and gave local farmers a market for the hides of slaughtered animals. Some of the tannery workers owned farms and worked in the tanneries part time or seasonally. Others lived in boardinghouses at the tanneries, where they worked 12-hour days with only Sundays off.¹⁶

People such as Rufus Palen and Zadock Pratt, whose names live on in the Catskill towns of Palenville and Prattsville (there’s also Tannersville), made fortunes off of the devastation and others’ labor, leaving those who worked for them to live in squalor amid the blighted, barren hills.

However, the Catskill tanning, and the clearcutting of much of the easily accessible timber in the Hudson River’s Adirondack Mountain headwaters for lumber, charcoal, and papermaking at Corinth and Glens Falls, produced a backlash. In retrospect we can see the creation of, first, the New York State Forest Preserve system and, later, state parks in the Catskills and Adirondacks as among the nation’s initial acknowledgments that unrestrained ecological destruction for corporate gain could not be permitted. In the limits set on development—such as the famous “Blue Line” demarcating both Adirondack and Catskill state parks—were glimmers of the sustainability ethos blossoming so noticeably in the region today. As well, they foreshadowed the new Landscape that sustainability advocates espouse.

Most of the preservation impetus focused on the Adirondacks, convinced as scientists and policymakers then were that the headwaters of rivers should be protected against development. Then—in the 1870s—as now, economy trumped ecology at nearly every turn. But in this instance the two proved compatible. David Stradling points out that “downstate economic interests . . . argued that despite the growing importance of railroads, New York City’s commercial status still relied upon the easy and inexpensive access to interior markets afforded by the Hudson River

and the Erie Canal, both of which required the consistent flow of water out of the Adirondacks.”¹⁷ Timbering Mt. Marcy, New York’s highest peak and the home of the Hudson’s source waters, threatened to dry up the mighty river’s flow—and the almighty dollar’s as well.

After years of squabbling, in 1885 the state legislature was convinced. It set aside 681,000 acres in the Adirondacks, and nearly 34,000 acres in the Catskills, as off limits to logging. Nine years later those lands became constitutionally protected when New York’s voters directed, “The lands of the state, now owned or hereafter acquired, constituting the forest preserve as now fixed by law, shall be forever kept as wild forest lands.”¹⁸ That “forever wild” clause remains a precious one, particularly because both parks, now totaling 5.86 million acres in the Adirondacks and 707,000 acres in the Catskills, include substantial tracts of privately owned land: 50 and 53 percent, respectively. The parks have long embodied the tension between development and preservation increasingly commonplace throughout the region.

Tanneries were probably the first major source of water pollution, along with the untreated sewage that was dumped into every stream, river, lake, pond, and swamp for centuries. Industrialization increased the quantity and types of pollutants to . . . well, an industrial scale. In his detailed history of the Hudson River published in 1969, Robert Boyle wrote that almost immediately as the river tumbled out of its mountain birthing rounds, it was “greatly despoiled and disfigured by pollution, much of which is from pulp and paper mills grinding up Adirondack wood for greeting cards, stationery, cartons, and, fittingly, toilet paper. . . . At Corinth, a plant of the International Paper Company sucks up eighteen million gallons of river water a day and in return spews raw pulp and paper wastes back into the Hudson through an open ditch and two outfall troughs.”¹⁹

The pollutants built up with each of the 220 miles from Corinth to Manhattan. In *The Big Oyster*, Mark Kurlansky reflects on the situation at the Hudson’s mouth near the turn of the twentieth century, writing, “Sturgeon catches, which had been more than one million pounds a year, giving the fish the nickname Albany beef, started to dramatically drop from pollution, which also ended the caviar industry. Fish trapped in shallow water found themselves suffocated in oil spills. . . . Lobster and bluefish started disappearing. Those that survived, including some oysters, were too contaminated to eat. The sharks stayed off of Sandy Hook to avoid the city’s foul waters.”²⁰ Sewage, dye waste, oil, garbage, industrial effluent of all manner: the region’s booming economy, spurred by the burgeoning population industrialism attracted, was killing the river.

Boyle paints a chilling picture of the Hudson at mid-century, pre-Clean Water Act. Cities all along the Mohawk—the Hudson’s primary tributary—and upper Hudson continued to dump untreated sewage into the rivers, and factories poured unknown chemicals into the mix, creating the “Albany Pool,” a thirty to forty mile long stretch of filth so fetid that no dissolved oxygen could be found in the water during hot, dry periods. And, thus, no aquatic organisms could survive there: a riverine dead zone.

Even “clean” uses of the river posed profound challenges to it. Boyle led the opposition to a 1963 Consolidated Edison scheme that would have defaced the 1,380-foot Storm King Mountain to provide power for New York City. Con Ed planned to pump river water to the top of Storm King, the Hudson’s most iconic fixture, then release it during times of peak energy demand to turn electricity-producing turbines at the mountain’s base. The plan, examined in more detail in chapter 8, would have destroyed a protected state forest and killed untold thousands of organisms daily as pumps sucked them up the mountain or sent the survivors down through the powerhouse, with its spinning turbines and immense pressures. Con Ed pulled its proposal in 1980 under relentless pressure from environmentalists.

Upland, away from the rivers and streams, nineteenth- and twentieth-century industry profoundly affected the look and quality of the land. Early in the industrial era there was the deforesting of the Catskills and Adirondacks, and virtually everywhere in between topsoil erosion was extreme when the land wasn’t quickly planted in crops after the forests were felled. Air pollution from coal and wood burning power plants, and from vehicle emissions as the internal combustion engine took hold, fouled the air in cities and towns; one estimate said one and one-half tons of soot was falling on each Manhattan block *each month* in the 1950s.²¹

Industries also polluted soil and groundwater. For instance, daily as I head into work at Skidmore College in Saratoga Springs, New York, I pass a bizarre sight. A couple of old brick structures surrounded by an expanse of asphalt stand behind a high fence, the enclosed area totaling seven acres. It is a Superfund site, by definition one of the most toxic locations in the nation, where, beginning in 1853, coal was processed into gas for streetlamps. The uses changed from gasification to vehicle maintenance over more than ninety years, the contamination building to the point that “coal tar” and a long list of other toxins poisoned the soil and groundwater, posing a threat to ten thousand residents living within a mile of the site.²² “Cleanup” of the area—including paving over

all exposed surfaces—was completed several years ago, but it appears the tourist mecca of Saratoga is permanently scarred.

Even the literal headwaters of the Hudson were tarnished by industrialism. A short walk from the confluence of the aptly named Calamity Brook and Indian Pass Brook (the outflow of dammed Henderson Lake), where cartographers say the Hudson begins, stands an abandoned mine in the ghost town of Tahawus. Deep ponds have filled the huge old pits, and mountainous tailing piles left behind when the mine closed for good in 1989 loom over the infant Hudson. The Adirondack Iron Works mine first shut down in 1857 because the iron was so difficult to separate from impurities. Those contaminants turned out to be the really valuable stuff, and National Lead Industries reopened the mine in 1940 to extract the titanium dioxide, forty million tons all told, for use in warplanes. In 2003, the Open Space Institute purchased ten thousand acres, including the historic mine site, for \$8.5 million, and today it jointly oversees the area with the State of New York.

Like the Tahawus Tract, much has changed for the better since Robert Boyle's book was published, thanks to it and to the environmental organization Riverkeeper, which he co-founded. But at times it seems that every positive carries a negative. Some of the worst polluters—the Corinth paper plant among them—have closed down, a good thing for the ecology but a nightmare for dependent one-horse communities.

New laws curb the disposition of industry to treat waterways as dumping grounds, but some businesses were grandfathered into the Clean Water Act, and to this day the Finch, Pruyn paper mill in Glens Falls is the worst Hudson River polluter.²³ The Albany Pool is no more; however, throughout the region “combined sewage overflow,” a result of water from streetside gutters being channeled into the same pipes as human waste, finds the river inundated with filth during every rainstorm or snowmelt.

Environmental insults to the region never seem to end, nearly all tied to industrialism. In 1963, around the time that activists started opposing Con Ed's Storm King plans, just upriver it opened Indian Point Nuclear Power Plant. Its reactors supply a quarter of the New York City region's power, using Hudson River water to provide cooling. But in the process, an estimated one billion organisms—“fish and crabs, but mostly larvae”²⁴—are killed each year, radioactive elements leak into the Hudson, and radioactive steam is vented into the air around the plant. And as a result of decades of releases of polychlorinated biphenyls (PCBs), in 2002 General Electric accepted responsibility for the largest Superfund site in

the nation—all two hundred miles of the Hudson River from Hudson Falls to the Battery in Manhattan (see chapter 2).

Understanding Unsustainability

America's first great painters were landscape artists. Emerging as the group did in the Hudson region, it took the label Hudson River School. Their first works date to 1825, and art historians say the school "closed" fifty years later—a period spanning the early industrialization of the region. Hudson River School artists were known to extoll the promise of industrialism, sometimes portraying the heavy black smoke from factories' stacks as wisps of white. Reflecting the social consensus, in those painters' view industrialism was exhilarating, the potential for economic growth and the resulting social good seemingly endless.

But not all of them accepted the received view of manufacturing as beneficent. Hudson River School painter Samuel Gifford's *Storm King on the Hudson*, for example, depicts a gale lashing the Hudson at the feet of the Highlands.²⁵ In the foreground, white-capped waves threaten to swamp an old wind-powered Dutch sloop, to the horror of onlookers standing on a hillside. In the far distance a steamship billowing black waste coldly powers away from the tumult. Harshly simple in its rendering, with a rectangle for a hull and another for its smokestack, the "unnatural" steamboat ominously heralds a new era in which nature itself has been conquered.

The region's legacy of unsustainability is a history no different than that endured by most other places in the United States, except the trajectory here was complete—from early, trade-based capitalism to emergent manufacturing to full-scale industrialism and today's "late" capitalism, with its synthetic chemicals and high technologies—while in others industrial capitalism arrived more rapidly or more fully formed. Regardless, a sustainable Hudson region economy was lost as soon as the Dutch began shipping vast numbers of pelts to Europe to stoke the beaver hat craze, fundamentally altering the region's ecology and native peoples' relationship with it.

Now as then, our economic system's obsession with growth breeds dangerous, often tragic outcomes ranging from massive wealth inequality to environmental destruction to the false beliefs that it can all continue forever and that we all will be rich someday. An essential tenet of sustainability holds that economic growth as we have traditionally understood it cannot persist indefinitely: ecologists have never identified a species

immune from ecological limits, and there is no evidence *Homo sapiens* is any different from the rest except for our remarkable ability to stave off the inevitable—which may well mean our demise, as it already has that of thousands of other species.

Two divergent social science perspectives are especially helpful as guides for understanding the economy-ecology-society relationships so integral to sustainable futures: critical theory and ecological modernization.

Critical Environmental Theory

Critical environmental theory's roots extend back to Karl Marx's trenchant critiques of capitalism. Its scholars expand the connections he occasionally made between business, labor, and the environment and build on Marx's extensive exploration of the logic of capitalism. Such "ecological socialism," writes James O'Connor, "is concerned, for example, with the health problems of particular groups of workers, pollution problems in certain communities, zoning problems in certain districts, and so on."²⁶ O'Connor's evaluation of our economic system is direct: "the short answer to the question 'Is sustainable capitalism possible?' is 'No,' while the longer answer is 'Probably not.'"²⁷

Why not? John Bellamy Foster argues that, "while we can envision more sustainable forms of technology that would solve much of the environmental problem, the development and implementation of these technologies is blocked by the mode of production—by capitalism and capitalists. Large corporations make the major decisions about the technology we use, and the sole lens that they consider in arriving at their decisions is profitability."²⁸ Even recycling keeps the "treadmill of production"—the profit-creating process dependent on new technologies and ever-increasing ecological destruction—turning over and over. From a business perspective, its aim is simply to make a profit from others' waste, and doing so inheres yet more wastes, such as water to clean recyclables and pollution-generating energy to transport and process them.²⁹

But perhaps capitalism's greatest fault is its unaccountability. It imposes on nature the dual meaning of "source" and "sink": the locus both of raw materials and the dumping ground of that which is no longer usable or needed. Critical theorists insist that businesses never pay the full costs of doing what they do. Drilling for oil, for example, often creates air and water pollution, the price tag for which drilling companies get to ignore; paper companies along the Hudson dump wastes into the river without charge, and the coal-fired power plants along its shores did

not have to pay for their carbon emissions until the last few years despite the costs of carbon-induced climate change to society (the Northeast's innovative carbon payment system is discussed in the Conclusion). "Capitalism," summarizes one ecological economist, "must be regarded as an economy of unpaid costs,"³⁰ the bill ultimately coming due in the form of damaged ecosystems, diseased humans, and the social ills emanating from rampant inequalities.

Critical ecological theory paints a picture of capitalism as an unsustainable economic system fundamentally at odds with both ecosystem health and human equality. Through that filter we see the Hudson region and its people as victimized the moment the Dutch arrived. From fur trapping to PCB contamination, the region's animals, trees, soils, minerals, and waters were stripped or dumped on for profits. Native peoples, and, later, the workers who toiled in tanneries and factories, became unwitting and poorly paid (or unpaid) accomplices in creating an unsustainable, inequitable Landscape.

As for the future, what is inevitable, according to critical ecologists, is social conflict. Following Marx, they argue that powerful business interests and their political allies will not go quietly when confronted by sustainability advocates hell-bent on creating a lasting world. But those advocates, weary though they may be from an economic system that leaps from crisis to crisis and wary of an uncertain ecological future, are increasingly boisterous and demanding. Change is on its way; its extent, and how orderly it will be, is the only question.

Ecological Modernization

One key shortcoming of critical ecology theory is it loses sight of the creativity fostered by capitalism. That's the view of "ecological modernization" scholars. Capitalism's responsiveness to "demand" is one of its great advantages (never mind that it *creates* demand far more often than it responds to it). Ecological modernists argue that the only realistic path to a livable future is through a reformation of our economic system that they insist is already under way, a process of finding a new direction driven by sustainability ideology and not narrowly by the compulsion to make a buck.

Ecological modernization began in the 1980s with a debate over whether policy changes of the sort devised by lawmakers and regulators were capable of adequately addressing environmental ills. "State actors," according to the perspective's foremost advocates, "lacked the knowledge,

capacity and legitimacy to intervene in and control market actors and processes.”³¹ Regulation tends to exacerbate environmental problems, eco-modernists insist, because it puts businesses on the defensive and because regulators do not understand the corporate world.

On their face, arguments like that aren’t much different than neo-liberal economists’ assertions that virtually all regulation is anathema. But eco-modernists’ views are more nuanced. Government needs to be involved in corporate behaviors affecting the environment—unrestrained capitalism creates more problems than it solves—but it doesn’t have to exist in conflict with business. “What economic actors want is a more flexible, transparent, predictable, and tailor-made approach to environmental governance,” not none at all, explain Gert Spaargaren and Arthur Mol. “Therefore, the state administration should be ‘politically modernised’ [to promote] more flexible, horizontal, network-like and participatory relationships between state and market actors.”³²

How can corporations be trusted to do right by the environment? Eco-modernists’ response to that question is perhaps the most surprising and controversial of all their assumptions: because business, like every other aspect of society, has come to understand the centrality of ecological concerns. In fact, ecology stands on par with economy as essential to social stability, even survival, in our times. Ecological concern has developed “into an autonomous, independent factor which has to be taken into account and to be dealt with in the restructuring of production and consumption”; indeed, “the ecological sphere . . . is no longer ‘contained’ or ‘enclosed’ by the economic sphere,”³³ a reversal of the historical relationship between ecology and economy.

Business must respond to this new sphere of influence—this new reality that informs, even directs all else in society. Sustainability, from this perspective, *is* the new Landscape. It is already with us, not simply on the rise; of course it is far from complete, but what’s key is there is no turning back. Using economic rationality and market dynamics as a guide, in the short run environmental destruction makes no sense because market share may be lost.

It’s the long run that’s really important, however. “[A]s nations develop and become technologically sophisticated,” explains John P. Hoffmann, “they begin to improve their environmental conditions. . . . Technological sophistication permits more efficient conversion of raw products into finished materials and promotes more efficient use of agricultural, forest, and other types of land.”³⁴ So thoroughgoing is the new ecological mindset that “institutions and social actors attempt to integrate environmental

concerns into their everyday functioning, development, and relationships with others, including their relation with the natural world.”³⁵ Business, ecological modernists insist, is rapidly becoming ecology’s strongest ally.

Ecological modernization is appealing on multiple levels. Unlike critical ecology theory, it argues that social and ecological change need not be conflict-filled. Nor must change result in social structures—particularly an economic system—radically different from those we know today. And the notion that ecological realities stand on their own as the dominant force to be reckoned with is music to sustainability advocates’ ears.

As such, eco-modernization’s view of the Hudson region’s history acknowledges the extraordinary environmental damage this place has endured at capitalism’s hands, but it reads the trajectory of technology, policy, and activism optimistically. The River Observatory Network, a partnership between IBM and the nonprofit environmental advocacy organization Beacon Institute to monitor Hudson River water quality using a network of sensors,³⁶ and even environmental pariah GE’s emphasis on promoting wind power, are indicative of ways that major corporations have begun to take seriously the imperatives of the ecological sphere. Eco-modernists insist there is more in the offing.

A Different Kind of Capitalism

It is not clear whether either of these theoretical perspectives will prove, over time, to be the better at interpreting our era.³⁷ My own view is that it would be foolish to suggest that we will arrive at sustainability tomorrow by eliminating capitalism. It won’t happen, of course, and given the disruption to people’s lives that precipitous economic change would prompt, it shouldn’t. But our economic system must undergo extensive reform, and soon, if we are to rectify the nightmares of ecological damage and social inequality already with us—nightmares that, in the Hudson River region, began with the arrival of those earliest capitalists, the Dutch, and that have proceeded relentlessly until now. Gus Speth put it well when he wrote of his hope of transforming “the market into a benign and restorative force.”³⁸

This book is about the pragmatic: real-life people and organizations that are actually doing things differently in their communities, for their cities, on their farms. None of them have walked away from capitalism, and nearly all actively embrace it. But implicit in their words and deeds is that a different kind of capitalist economy is in the making, one skept-

tical of the endless growth mantra and that takes seriously the need to resolve the human-created tensions between economics, ecology, and one another. Band-Aids and easy-to-swallow solutions won't do.

Like everywhere else, what the Hudson region needs is a serious conversation about its future and a commitment on the part of policymakers, businesses, activists from numerous causes, and the general public to conscientiously pursue a different collective vision for this precious place. Perhaps the stories that follow, which sketch out the next—and perhaps last—Landscape shift in the region, can serve as a starting point for such a discussion.