projects such as that at Niagara, he had no existing models to guide him. Yet he undertook this risky experiment on a project that was in the public spotlight. In collaboration with the city’s engineer, he worked out a plan for the basin to receive rising floodwaters and a design for the tidal gate that would enhance water circulation and regulate water exchange between the Fens and the river. Olmsted engaged Charles Sprague Sargent, director of the Arnold Arboretum, to advise him on plant selection and methods for establishing the marsh. In the first phase, in 1883, more than 100,000 plants—grasses, flowers, shrubs, and vines—were planted in a space of two and a half acres. These included many species, both native and exotic, so that if some died, others would survive. Some plants were also intended as “nurses” to shelter more tender plants from sun and wind until they took hold. Securing the plants and finding a contractor capable of this novel construction proved difficult. Almost all the plants died before the end of the first year and had to be replaced. Furious and mortified, Olmsted wrote the contractor, “The mere loss of so many plants is the smallest part of the disaster. The whole plan is a wreck.” The Fens were replanted, and within ten years the marshy landscape looked as if it had always been there.

Not only the function but also the appearance of the Fens and Riverway were revolutionary; up to this time, urban parks had been designed mainly in the formal or pastoral styles. Olmsted introduced this “wild” appearance to bring the advantages of “natural scenery” found in places like Yosemite to “those who cannot travel”:

Cities are now grown so great that hours are consumed in gaining the “country,” and, when the fields are reached, entrance is forbidden. Accordingly, it becomes necessary to acquire, for the free use and enjoyment of all, such neighboring fields, woods, pond-sides, river-banks, valleys, or hills as may present, or may be made to present, fine scenery of one type or another.

The idea of constructing parks that imitated the appearance of the regional landscape of forest, prairie, and floodplain was pursued later in the early-twentieth-century work of Jens Jensen and the Prairie school. Superficially, Jensen’s “Prairie River” in Chicago looked very similar to the Fens, but the aims of the two projects, and the two men, were very different. Olmsted imitated “natural scenery” because he believed that contact with such scenery would improve human health. Jensen used native plants and imitated the scenery of the region for political reasons. Jensen’s “Prairie River” and other projects were ideological works with a chauvinistic agenda where “native” plants and the local landscape were seen as superior to “foreign” plants and places. In this they reflected contemporary ecological theories of plant “communities” as embodying similarities to human communities and, by extension, as justifying certain human activities as “natural.” It was the understanding of landscape processes applied to landscape restoration and human health, safety, and welfare that made the Fens and the Riv-
erway so significant. Olmsted imitated the local landscape in the service of these goals, and he often included hardy, exotic plants, along with native species. Jensen emphasized visual appearance and the use of native plants; there was no underlying function of reclamation, flood control, and health. The fact that Jensen's work and Olmsted's resemble each other in visual appearance has led many later designers to confuse and conflate the intentions of these two quite dissimilar men.

The Fens and the Riverway anticipated by nearly a century the introduction of "ecological" planning and design in landscape architecture in the 1960s, the recent appreciation of urban "wilds," and the "new" field of landscape restoration. In the 1970s eight thousand acres of freshwater marsh in Boston's Charles River watershed were purchased by the U.S. government to serve as "natural storage areas" for floodwaters. Heralding the project as revolutionary, the authors of the plan were unaware of the more radical precedent of the Fens, where wetlands were built, not preserved. Also in the 1970s the Woodlands, a new community for 150,000 people near Houston, was planned around a "natural drainage system" of preserved and constructed streams and swales. In the 1960s landscaped drainage channels and detention basins were built in Denver as parkland designed to prevent floods.

Why were Olmsted's landmark achievements in the Fens and the Riverway—projects that should have been widely replicated models—first forgotten and then repeatedly reinvented? The answer lies mainly in the cultural conception of nature and of city: on the one hand, their "natural" appearance concealed their construction; on the other, the persistent mental opposition of nature and city gradually eroded the memory of Olmsted's contribution. For several decades after Olmsted's death, his successors continued to propose this type of project. Landscape architects like Frederick Law Olmsted, Jr., and John Nolen were important figures in the development of city planning as a "new" profession in the early 1900s. They served as the first presidents of the American City Planning Institute, offered the first course in city planning, and founded the first departments of city planning in American universities. By the 1950s, however, city planning was emphasizing social and economic concerns over aesthetic and environmental issues and was moving increasingly away from "physical" planning, to a focus on the formulation of policies.

Disasters might have been avoided in other sections of Boston if projects similar to the Fens and the Riverway had been implemented. In Roxbury and Dorchester, for example, streams were buried in sewers and houses built on low-lying land in the 1880s and 1890s. Most of these houses have long since been abandoned and demolished, after leaky sewers saturated the soil and owners failed to maintain the buildings. In some areas 90 percent of the original floodplain is now vacant, open land once again. How paradoxical that people perceive these vacant lots on the floodplain as "unnatural" and the landscapes of the Fens and the Riverway as "natural"! Olmsted's
example has guided my own work on the reconstruction of these and other inner-city landscapes in Boston and Philadelphia. Boston’s combined sewers overflow after rainstorms, making Olmsted’s concept as appropriate as ever. Restored landscapes on low-lying vacant lands could be designed to serve as both parks and storm-water storage areas, as the Fens and Riverway once did and the parks in Denver now do, to prevent flooding and promote good water quality.

And the fate of the Fens itself? The Fens functioned as planned for only a short time. In 1910, just fifteen years after construction, the Charles River Dam was built, diminishing the importance of the Fens for flood control. Since the dam converted the Charles from a brackish into a freshwater river, many of the plants died, and then the site was used as a convenient dumping ground for dirt and debris from subway excavations. The Fens of today bears little resemblance to that of Olmsted. In the 1980s the Massachusetts Department of Environmental Management engaged consultants to prepare a plan for the “preservation” of the Fens because of its importance as a historic landscape. A team of historians, preservationists, and landscape architects proposed that the Fens be restored to their original appearance, thus treating them like an ornamental object, used solely for strolling, looking, and thinking. The plan to preserve the Fens is a pale imitation that mocks the meaning and misses the significance of the original. Its intended function could have been restored: a place where floodwaters, flowing off roofs and streets, course and pool, filling the basin, dropping their silty load
before entering the river, a place linked to the system of sewers that sustains the health and safety of Boston’s citizens. The restoration could have amended a sewer system that now pollutes the water it is meant to protect; this would have been a restoration effort in the spirit of the original.

How could the planners miss such an obvious idea in this “age of ecology”? What was the value the planners thought they were restoring—that of the scenery? Their proposal demonstrates a fundamental misunderstanding of the project’s significance: the comprehensive scope of its functions, the dialogue between cultural and natural processes, the relevance for present urban problems. Their failure to perceive this relevance is both amazing and sobering. Our short individual and collective memories present a major human conundrum. How can human communities manage landscape change that takes place over a hundred years or more, when people’s perceptions and priorities change from generation to generation, or even from election to election? What one generation starts, another may overturn or fail to finish. Humans may not have the right “attention span” to manage environmental change, and this may be the species’s fatal flaw.75 Perhaps this is the value of history—as an attempt to extend the time frame of our memory beyond the human lifetime. The only problem is that history represents selective memory.

Reclaiming Olmsted, Reconstructing Nature

In reclaiming and reoccupying lands laid waste by human improvidence or malice . . . the task is to become a co-worker with nature in the reconstruction of the damaged fabric.

—George Perkins Marsh, Man and Nature (1864)

Olmsted’s projects embody this principle. The marshes, meadows, and forests he conceived in Boston, Biltmore, and Niagara were built of materials that were both given and worked: earth, rock, water, and plants of the place; dredged mud, quarried stone, channeled water, and bred plants. His landscapes were constructed by human imagination, human labor, and processes of nonhuman nature. Olmsted’s drawn plans and on-site adjustments guided the labor of others—dredging, grading, planting, pruning, tending. He envisioned how the trees, shrubs, grasses, and flowers that he caused to be planted would grow, beget and nurture other plants, live, and die, and how water, flowing through the channels he molded, would modify further the shorelines he shaped. Olmsted shaped sites like Yosemite more indirectly through the influence of his writings on policy and through the application, after his death, of lessons learned from his work at Niagara. Olmsted’s values and ideas inspired the landscapes he conceived; but these were shaped in turn by the culture of his time, class, and gender.