



opponents of the institution of slavery; Washington Roebling had served valiantly as a volunteer, at least once on the same battlefield—Gettysburg—where Olmsted, as Executive Secretary of the United States Sanitary Commission, supervised the care of the wounded and the evacuation of the dead. The spirit of the times emerged most clearly in the written plans for the Bridge and the Park, both completed within two years of the fall of the Confederacy.<sup>3</sup>

The designers shared other sources of influence: ideas of various utopian theorists, model communities, and an urban planning tradition brought by Europeans. Inherent in utopian thought was a commitment to social change through physical planning. Significantly, the communities admired were small in scale and exhibited careful attention to basic details of civic design. Many of these settlements were founded by German immigrants adapting a planning and design experience that could be nurtured in cities like New York and Brooklyn, which had large and growing German populations.<sup>4</sup>

John Roebling, born and educated in Germany, and Frederick Olmsted, a Connecticut Yankee, were influenced by these antecedents, which balanced careful attention to the social quality of life with a regard for technology and scale. Saxonburg, the agricultural community Roebling founded in Pennsylvania, probably emulated the very successful utopian community of the United Society of Germans in nearby Harmony, Pennsylvania. As Washington Roebling recalled, the planning of Saxonburg streets and homes “was done in true German style.”<sup>5</sup> Olmsted wrote admiringly of the “ideal” free-labor communities established by German utopian settlers in West Texas, which he visited in the 1850s. For him as well as for Roebling, physical form was an international expression of social and design influence.<sup>6</sup>

The most complete statement of aesthetic thought summarizing this meaning of design was penned by Leopold Eidlitz, a Prague-born American architect who appreciated the significance of the Bridge and the Park as public architecture. In his book *The Nature and Function of Art, More Especially of Architecture* (1881), Eidlitz explained the importance of functionalism to a post-Civil War generation. He believed that the medieval period provided the fullest range of building types adaptable to the needs of the time.<sup>7</sup>

Ideas, however, could not have been effective without political leadership. Fortunately, the growing metropolis had such notable citizens as James S.T. Stranahan, who understood Brooklyn to be part of a region requiring large-scale planning. He led the movement for a nationally innovative park system while contributing to the completion of the Bridge, serving as President of the Brooklyn Park Commission (1860–1882) and as a trustee of the Bridge (1869–1885). His final years were devoted to the political unification of the city of New York.<sup>8</sup>

Few could appreciate the interconnection between the Bridge, the Park, and Brooklyn’s social and economic development as well as Stranahan, who was responsible for the design of the Atlantic Dock Company’s waterfront property

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and manager of the Union Ferry Company, which operated all five lines connecting Brooklyn with New York. He understood that notwithstanding growth in population and industry Brooklyn could not compete commercially with New York. It was also losing its attraction as a residential area; an East River bridge and open space were needed to draw homeowners.<sup>9</sup> Stranahan fostered high levels of performance from the designers. Hoping to make Brooklyn an effective link within a national transportation system, he sought to have the Bridge reinforced to bear the weight of Pullman cars and freight trains; he encouraged the builders of the Park to plan for more diverse uses.<sup>10</sup>

Such a supportive atmosphere helps us to understand why these projects reflected similar ideals—construction, function, form—and collaboration in design. The technological achievement of the Bridge, the dramatic use of steel, was uniformly acclaimed. The noted architectural critic Montgomery Schuyler, who had reservations about the form of the Bridge’s towers, nonetheless declared it “one of the mechanical wonders of the world.” An admirer of Olmsted, Schuyler probably also recognized the Park’s modernity of construction; there was constant experimentation with materials and machinery to improve park drives.<sup>11</sup>

Both projects incorporated meticulous study of environmental factors such as soil composition, movement of water, and topography. Washington Roebling understood, as had his father, that the success of the Bridge would depend on the location of the caissons supporting the towers and that these had to conform to a topographical analysis of the riverbed. Similarly, Prospect Park’s topography guided the designers in devising a drainage and water system, and in utilizing geological features to create functional and attractive spaces for recreation.<sup>12</sup>

The wellbeing of the pedestrian was another shared objective. The Bridge walkway, separate and above the roads for trains and carriages, was a safe area for crossing the river and viewing the city. In organizing the Bridge to accommodate three separated systems of transportation the Roeblings were adapting one of Olmsted and Vaux’s most influential urban design features, first introduced in Central Park and applied in Prospect Park. In addition, these public walks contained amenities conspicuously absent from most city streets. The Bridge’s elevated promenade, planned as a modern street, had benches, lighting, and even ice water in summer. The Park, almost from the day construction commenced, had seats, drinking water, and toilets.<sup>13</sup>

Planners of both projects were aware that success would be affected by the conditions at the entrances to their work. Adequate space was needed to accommodate thousands of anticipated users. The Bridge’s Manhattan terminus was placed opposite City Hall Park. In Brooklyn a handsome public square was planned but never built. Olmsted and Vaux constructed Brooklyn’s only “plaza,” a large oval space serving as an entranceway to the Park and as a site for civic celebrations such as the one that took place on the opening day of the Bridge.<sup>14</sup>

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Urban design also included concern for the kinds of land use that would occur at the edges of these projects. In stark contrast to many of the bridges and highways of the twentieth century, Brooklyn's Bridge, Park, and parkways were planned as urban complexes, not as isolated structures. Stores and a marketplace were proposed as component parts of the Bridge's New York approach. These amenities were fronted by a street facilitating access to the Bridge and improving the view from below. Since Prospect Park was planned as the center of new communities, the contiguous land was integral to the design. As the Park was deemed unsafe after dark, wide sidewalks—promenades—were constructed for nighttime use. Walks and seating were also planned within the nation's first parkways—Eastern and Ocean—patterned after the boulevards of Paris. Designed as linear parks and as a new type of avenue, they became the spines along which neighborhoods have developed.<sup>15</sup>

Both projects conformed to an aesthetic of functionalism best captured in Leopold Eidlitz's treatise on architecture. There is, however, a major difference in the application of functionalism to land design, which sets it off from that which relates to architecture and engineering. In landscape architecture the form of the land guides planning more so than in architecture or engineering.

As a result, there are obvious differences between the towers of the Bridge and the arches in the Park. The height of the towers was dictated by engineering requirements, their form by a desire to create monumental entranceways into a metropolis. Prospect Park's first arches—Endale and Meadowport—were built to separate traffic and were designed to be low and partially hidden by overhanging shrubs, blending into the landscape even as they served as passageways into Brooklyn's largest public common—the Long Meadow. Other features of the Park's architecture, designed by Vaux in stone and wood, embody a concern with romantic and picturesque details that would be irrelevant in the Bridge.

The similarities, however, also are apparent. The towers of the Bridge and the arches over the pathways of the Park were meant to appear solid and permanent, symbolizing the strength of the democratic society that produced them. American designers were sensitive to the criticism often made by European visitors that their heterogeneous, changeable nation was incapable of such achievements; further, some of the European intellectuals most respected in this country, such as the English aesthete John Ruskin, had been extremely critical of the Civil War, viewing it as a failure of the democratic system. Yet, Ruskin's design influence, like that of the American sculptor Horatio Greenough, was reflected in the choice of materials. Democratic ornament was to be shaped out of indigenous stone, carved to emphasize its lithic and tonal qualities. The towers soaring skyward and the arches framing the ground below symbolized a deep-rooted Transcendentalist ideal: to live harmoniously with Nature's elements.<sup>16</sup>

The designers of the Bridge and the Park knew that their work would be subject to public review. Washington Roebling invited a committee of three prominent

architects—Joseph M. Wilson, George B. Post, and Napoleon LeBrun—to examine the design of the Bridge, giving special attention to the towers; their general approval was quickly forthcoming. Olmsted and Vaux saw no need for such a formal critique. Nevertheless, like Roebling, they did seek appreciation of their work as art. In 1866 a handsomely-colored map of the Park was part of a major art show at the Brooklyn Academy of Music, and in 1876 a huge drawing of the Bridge was exhibited at the Philadelphia Centennial.<sup>17</sup>

There were less visible similarities basic to the construction of the Bridge and the Park. Both projects issued from much careful pre-construction study, a general plan, and a very disciplined system of work in which the chief designers were concerned with every aspect of construction. This system, while clearly hierarchical, depended to a great extent on a collaborative process of adaptation and invention as a means of solving unique problems. The Roeblings's work relationship had been such that after the father's death, the son could fully carry out the plans as conceived. A creative partnership existed between Olmsted and Vaux, who during the period they were working on Prospect Park established a new profession of landscape architecture, reflected in their designs for park systems in Buffalo and Chicago.

While it is customary to attribute the success of such complex projects to the chief designers, the reality is that all such undertakings rely on a system that utilizes diverse talents and skills, and, of course, labor. In this regard, the efforts of Charles Cyril Martin, an experienced engineer, are most instructive since he contributed to both ventures. Martin supervised the initial engineering of the Park (1867–70) and moved on to become one of Washington Roebling's very able group of assistants. He oversaw the construction of Prospect Park's most important and unique technological invention, a great well capable of supplying all of the Park's water needs. During Roebling's long illness, it was Martin who managed the daily work on the Bridge, succeeding him as Chief Engineer and Superintendent in 1883.<sup>18</sup>

Such a system of cooperation was not permanent. Like all other aspects of the design process, it depended on the complex interplay of individuals within the historical circumstances of a given period. By 1883, when the Bridge was completed, it was clear that the particular amalgam of factors that led to its creation no longer existed. Much of the idealism of the post-Civil War period had diminished. Stranahan's political influence was on the wane. In 1882 he was removed as President of the Park Commission and his position as a trustee of the Bridge was threatened.<sup>19</sup> At the same time, a new set of aesthetic postulates was beginning to gain force: a Neoclassical Renaissance style would become dominant in many aspects of urban design.

Still, the Bridge and the Park have achieved a permanency in the social and physical life of the city that even time and changing taste have not easily affected. They continue to serve millions in essential ways. In recent years, a

fuller appreciation of the creativity of both projects has emerged.<sup>20</sup> In the context of this awareness, which is part of a new historical condition, the Bridge and the Park may again be viewed as parallel symbols of a social process in which political leadership was able to support creative design talent in response to needs as compelling a century ago as they are today.

## Notes

<sup>1</sup> Bibliography ref. 8; *Annual Reports of the Brooklyn Park Commissioners, 1861–1873* (Brooklyn, 1873); bibliography ref. 16; bibliography ref. 26; Clay Lancaster, *Prospect Park Handbook* (New York: Long Island University Press, 1972); Albert Fein, “Historical Research and Analysis,” in Anthony Walmsley, *The First Historic Landscape Report for the “Ravine District,” Prospect Park, Brooklyn, New York* (unpublished report, New York City Department of Parks and Recreation, 1982); bibliography ref. 19; John David Sigle, “Bibliography of the Life and Works of Calvert Vaux,” in the *American Association of Architectural Bibliographers: Papers*, Volume 5, 1968, ed. William B. O’Neal (Charlottesville: University of Virginia Press, 1968), pp. 69–93; Laura W. Roper, *FLO: A Biography of Frederick Law Olmsted* (Baltimore: Johns Hopkins University Press, 1973); Elizabeth Stevenson, *Park Maker: A Life of Frederick Law Olmsted* (New York: Macmillan Publishing, 1977); Albert Fein, *Frederick Law Olmsted and the American Environmental Tradition* (New York: George Braziller, 1972); “Charles Cyril Martin,” *Appleton’s Cyclopaedia of American Biography*, ed. James Grant Wilson and John Fiske, vol. 4 (New York, 1900), p. 229.

<sup>2</sup> Bibliography ref. 16, pp. 25–27; bibliography ref. 8, “Report of J. A. Roebling,” p. 31; Frederick Law Olmsted and Calvert Vaux, “Report of the Landscape Architects and Superintendents to the President of the Board of Commissioners of Prospect Park, Brooklyn (1868)” in Albert Fein, ed., *Landscape into Cityscape: Frederick Law Olmsted’s Plans for a Greater New York City* (New York: Van Nostrand Reinhold Co., 1981), *passim*.

<sup>3</sup> Johann August Roebling, *Diary of My Journey from Muehlhausen in Thuringia via Bremen to the United States of North America in the Year 1831*, trans. by Edward Underwood (Trenton, N.J.: Roebling Press, 1931), pp. 115–118; for Olmsted’s views on slavery and his part in the Civil War, see Roper, *FLO*, pp. 84–91, 156–232; Stevenson, *Park Maker*, pp. 124–125, 195–246; Fein, *Frederick Law Olmsted*, pp. 17, 24, 48. Bibliography ref. 16, pp. 157–163; bibliography ref. 21, pp. 188–197.

<sup>4</sup> Charles Nordhoff, *Communitic Societies of America* (New York: Harper & Bros., 1875); Dolores Hayden, *Seven American Utopias. The Architecture of Communitarian Socialism, 1790–1975* (Cambridge, MA: M.I.T. Press, 1975); Ira

Rosenwaik, *Population History of New York City* (Syracuse, NY: Syracuse Univ. Press, 1972), pp. 67, 70.

<sup>5</sup> Bibliography ref. 26, pp. 46-48; Chester Hale Sipe, *History of Butler County, Pennsylvania* (Indianapolis: Historical Publishing Company, 1927), vol I, pp. 40, 404-407, 411.

<sup>6</sup> Albert Fein, "Fourierism in Nineteenth-Century America: A Social and Environmental Perspective," in Mathé Allain, ed., *France and North America: Utopia and Utopians* (Lafayette, LA: University of Southwest Louisiana, 1979), pp. 138-148; Frederick Law Olmsted, *A Journey through Texas: or, a Saddle-Trip on the Southwestern Frontier* (New York: Dix, Edwards & Co., 1857), pp. 142-143.

<sup>7</sup> Biruta Erdmann, *Leopold Eidlitz's Architectural Theories and American Transcendentalism*, doctoral dissertation (Ann Arbor: Univ. of Michigan, 1978).

<sup>8</sup> Henry Isham Hazelton, *The Boroughs of Brooklyn and Queens, Counties of Nassau and Suffolk, Long Island, New York, 1909-1924* (New York: Lewis Historical Publishing Co., Inc., 1925), vol I, pp. 1-8.

<sup>9</sup> *Annual Reports 1861-73*, p. 346.

<sup>10</sup> Bibliography ref. 16, p. 482; Fein in Walmsley, *The First Historic Landscape Report*, pp. 16-19.

<sup>11</sup> Bibliography ref. 21, p. 332; Roper, *FLO*, p. 368; Charles C. Martin to Olmsted and Vaux in *Annual Reports, 1861-73*, pp. 204, 287.

<sup>12</sup> Bibliography ref. 8, "Report of J. A. Roebling," pp. 22-23; *Annual Reports, 1861-73*, p. 210.

<sup>13</sup> Bibliography ref. 16, p. 32; *Annual Reports, 1861-73*, pp. 282-283, 289, 304, 424-425, 486; bibliography ref. 8, Charles C. Martin, "Report of the Chief Engineer and Superintendent," pp. 5, 8.

<sup>14</sup> Bibliography ref. 8, "Report of J. A. Roebling," pp. 7-8; bibliography ref. 3, p. 14; *Annual Reports, 1861-73*, p. 280; *Twenty-third Annual Report of the Brooklyn Park Commissioners for the Year 1883* (Brooklyn, 1884), p. 35.

<sup>15</sup> Bibliography ref. 8, "Report of J. A. Roebling," pp. 28-29; *Annual Reports, 1861-73*, p. 435; Fein, ed., *Landscape into Cityscape*, pp. 121, 159-164.

<sup>16</sup> Sara Norton and M. A. DeWolfe Howe, eds., *Letters of Charles Eliot Norton I* (Boston: Houghton Mifflin Co., 1913), pp. 284-285; Roger B. Stein, *John Ruskin and Aesthetic Thought in America, 1840-1900* (Cambridge, MA: Harvard University Press, 1967); James T. Callow, *Kindred Spirits: Knickerbocker Writers*

*and American Artists, 1807–1855* (Chapel Hill: University of North Carolina, 1967), pp. 212–213.

<sup>17</sup> Washington A. Roebling to Napoleon LeBrun, 17 May 1877, and Joseph M. Wilson, George B. Post, and Napoleon LeBrun to Colonel W.A. Roebling, 27 June 1877, in bibliography ref. 8, pp. 3–7; Alfred J. Bloor Diary, *The New-York Historical Society*, 17, 20 March 1866; bibliography ref. 16, p. 350.

<sup>18</sup> Fein, ed., *Landscape into Cityscape*, pp. 114–115; *Annual Reports, 1861–73*, pp. 354–355, 362–370; bibliography ref. 16, pp. 146, 224, 329.

<sup>19</sup> Stranahan to Olmsted, 7 July 1882; John Y. Culyer to Olmsted, 29 January 1882; Stranahan to Olmsted, 16 March 1882—in Frederick Law Olmsted Papers, Manuscript Division, Library of Congress; Leland M. Roth, *A Concise History of American Architecture* (New York: Harper & Row, 1979), ch. 6.

<sup>20</sup> I am referring to publications such as McCullough's and Trachtenberg's as well as to the current efforts to restore Prospect Park, which reflect a growing popular appreciation of the diverse ways in which history has become part of American culture.