The Forest Hills Experiment: Philanthropy, Urbanism, Design, and Technology

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THE RUSSELL SAGE FOUNDATION

Russell Sage, a tycoon in the railroad, telegraph, and lumber industries (and a successfbl investor of his accumulated profits), died in 1906 leaving his widow, Margaret Olivia Sage, an inheritance of $65 million. At the time of her husband's death, Mrs. Sage was 78 years old. The couple had been childless. During his life, Mr. Sage had opposed philanthropic giving; following his death, Mrs. Sage distributed the bulk of his fortune to charitable causes, including a $10 million endowment to establish the Russell Sage Foundation.' In her letter of gift, dated April 19, 1907, Mrs. Sage stated that the income from the fund was to be directed toward "the improvement of social and living conditions in the United States."[2]

Although Mrs. Sage's generosity was acclaimed by society and the press,[3] in many ways her actions were a natural outgrowth of the culture in which she lived. The industrial revolution had matured throughout the nineteenth century. Despite the existence of a solid middle class, a profound division, exacerbated by foreign immigration, had developed between rich and poor. A few individuals had attained enormous wealth — there was no income tax. The environment in which Mrs. Sage made her decisions was characterized by the emergence of "a new wave of American philanthropist~."Donors may have been motivated by fear that unalleviated poverty would threaten social and economic stability; less cynical observers have claimed, it was "an era of enormous optimism about the power of social research to transform social life."[5]

At the time of the creation of the Sage trust, several charity groups were already in existence. These ranged in size, scope, and focus. The international Charity Organization Society was considered a movement;[6] agencies such as the Red Cross, Salvation Army, and YMCA were acknowledged as well-established institutions. Likewise, the legal technique of providing support through an endowment was not new. Nevertheless, the Sage proposal of a "general purpose" foundation whose focus and activities would be directed through the deliberations of its trustees was viewed as innovative. The charter for the Sage Foundation, which received legislative sanction from the State of New York in 1907, ultimately served as a model for the creation of the Carnegie Corporation in 1911 and the Rockefeller Foundation in 1913.[7]

The stipulations of its charter, combined with Mrs. Sage's letter of gift, enabled the Sage Foundation to use income from the trust to hire staff to develop projects internally or, alternately, fund proposals by individuals or groups outside the organization. There was a third possibility: the foundation could invest principal in companies created for the purpose of executing a project sponsored by the Foundation, provided the company returned a minimum profit of 3%. It was through this method that Forest Hills Gardens was financed.[8]

SMALL HOUSES OR TENEMENTS

In instructing the trustees that the Foundation should "preferably not undertake to do that which is now being done or is likely to be effectively done by other individuals or agencies," and urging them "to take up larger and more difficult problems, and to take them up so far as possible in such a manner as to secure co-operation and aid in their solution,"Mrs. Sage used her letter of gift to reiterate advice she had earlier received from her attorney, Robert de Forest.[9] Her authorization to direct capital toward the formation of profit-seeking enterprises, however, went further. The type of company she described, known as a "limited dividend company," had already been used by philanthropists to support experiments in housing construction. In her reference to "investments for social betterment..., as for instance small houses or tenements," Mrs. Sage left no doubt of her meaning.[10]

Despite the clarity of Mrs. Sage's intentions, no specific explanation of how the Forest Hills project was conceived or proposed is readily apparent. To some extent, the rationale for choosing this particular housing experiment can be inferred from the context within which the decision was made.

Industrialization and urbanization during the nineteenth century had created pressure to incorporate new housing forms within the city. Because the working poor did not wield enough power to insure that attention was paid to their needs, urban housing conditions were often appalling. By the turn of the century, charity groups had identified the issue of housing as a worthy focus for their efforts. Within the city, the housing problem was defined in terms of improving building codes, developing zoning laws, and designing model "tenements" — the word used to describe the walk-up apartment buildings of the poor.[11]

By contrast, beginning in the early decades of the nineteenth century and intensifying after mid-century, British efforts had concentrated on the design of model towns. Located principally in the industrial areas of the north, these towns were generally associated with a mill or factory and created for the workers of a specific company. The situation changed in 1898, when a court reporter from London, Ebenezer Howard, published a theoretical treatise, laying out the parameters for what he called "Garden Cities." The Garden City, as Howard conceived it, would house a diverse population within a safe and healthy environment that reconciled modem technology with the traditional qualities of the English rural village. Essential to the Garden City was its location along a rail line linking it to a larger metropolitan center. In 1903, land was purchased 35 miles north of London for the first Garden City, Letchworth.[12]

Experiments in town planning were not entirely lacking in the United States. Most completed projects — such as Pullman in Chicago, Kohler in Wisconsin, and Steinway in New York — were undertaken as philanthropic gestures by company owners. American results were often tainted by paternalism, a desire to control the workers, or concern about profit related to land speculation;" as communities they tended to be less successful than their British counterparts in forwarding an ideal.

In 1869, Olmsted and Vaux, the firm of landscape architects who had designed Central Park in New York City, were hired to lay out a subdivision along the rail line extending west from Chicago. The resulting town, Riverside, was promoted by its developers as a suburban haven for professional workers commuting into the city. Olmsted and Vaux subsequently platted other sites for residential developers, notably Roland Park outside Baltimore in 1891.[14] With or without assistance of this calibre, the end of the century continued to witness an increase in the number of developers seeking to plat suburban sites. The availability of lots in turn gave rise to a growing interest in efforts to devise new, affordable methods of construction for moderately-scaled homes.[15]

Thus, Mrs. Sage's reference to "small houses or tenements" reflected an emerging dichotomy between the established New York emphasis on urban housing and a gathering American trend, reinforced ideologically by Howard's 1898 formulation of the Garden City, to look beyond the metropolitan center. The trustees may have been influenced by a practical co-incidence, the completion of a tunnel under the East River linking the Long Island Railroad with Manhattan.[16] Whatever their internal discussions, they chose a suburban site for their housing experiment. The decision is described in the official history of the Russell Sage Foundation, published in 1947:

> Early in 1909 a tract of land was bought at Forest Hills Gardens in Queens Borough of New York City, nine miles from the Pennsylvania Railroad Station, and in the summer the Sage Foundation Homes Company was incorporated to create on the site a suburban community that would exemplify some of the possibilities of intelligent town planning, with the hope of encouraging similar ventures elsewhere."

FOREST HILLS GARDENS

Although the Sage Foundation Homes Company was formed as a separate entity entrusted with the planning and realization of the Forest Hills project, it functioned essentially as a sub-committee of the foundation. The developer of Roland Park in Baltimore, Edward H. Bouton, was appointed general manager of the company in July 1909. After serving for nearly two years on a part-time basis, he resigned in April 1911 and was succeeded by John M. Demarest.[18] At the time Forest Hills Gardens was conceived, neither urban planning nor urban design existed as professions: a landscape architect, if retained, or an architect were expected to fulfill these functions. In the case of Forest Hills Gardens, the firm of Olmsted Brothers was chosen as landscape architects. Grosvenor Atterbury was appointed as architect.

Site development for the project was supervised by the younger of the two Olmsteds — FrederickLaw, Jr. The work of the firm, which the Olmsteds had inherited from their father, maintained the traditions established by the elder Olmsted.[19] At Forest Hills, an effort was made to confirm the site's boundaries and establish a sense of enclosure; different locations along the perimeter posed both opportunities and challenges. The rail embankment formed a barrier running from the northern tip of the bell-shaped property along its eastern diagonal. Curving beside the southern edge was "Forest Park," Union Turnpike delineates its separation from the site. From the southwestern corner, travelling along the western diagonal, a connection with adjoining farmland obscured the boundary, although Continental Avenue merges with the site in time to give closure to the northern tip. The plan was drawn so that a park of trees planted along Continental Avenue would allow the border to recede inward. It seems likely that Olmsted chose this movement to compensate for the loss of definition along the western boundary. Backing residential lots into the farm area further concealed this troublesome edge. Two city streets traverse the project: Continental Avenue, which enters Station Square and exits immediately, and Ascan Avenue. Ascan Avenue passes through a tunnel in the rail embankment, asymmetrically bisecting the site.[20] The disposition of programmatic func-

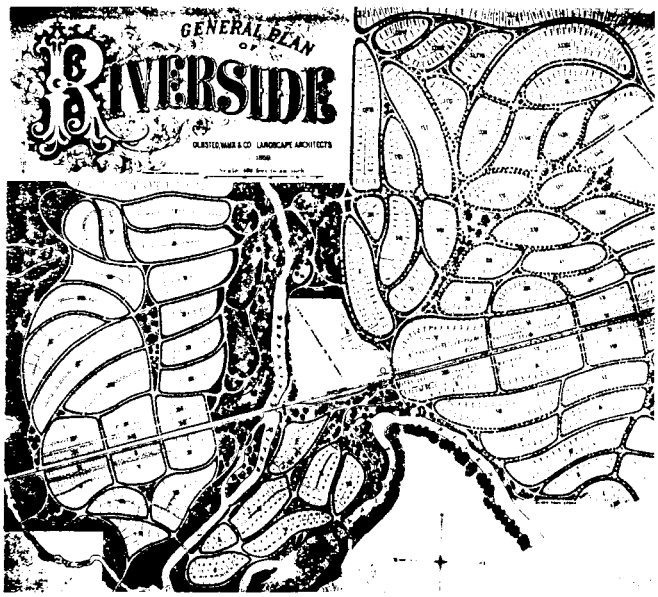

Fig. 1. Riverside, Illinois. Plan by Olmsted, Vaux & Co., 1869. Source: Norman T. Newton, *Design on the Land: The Development of Landscape Architecture* (Cambridge, Harvard University Press, 1971), p. 466.

tions, such as entry, and progressive movement into the site recall patterns found in Prospect Park (1869) in Brooklyn and Franklin Park (1886) in Boston. In terms of its sympathy toward existing topology, the platting demonstrates strengths evident in Riverside and Roland Park.

Station Square — the public area anchoring the community — occurs at the juncture of Continental Avenue and the rail embankment. Entry into the square is provided by a conspicuously arched tunnel; the position of a tower, housing a commercial hotel, causes an immediate visual shift, diagonally, into the square. The train station, located on the embankment above the square, is connected to the street by set of stairs; a leisurely view unfolds in the process of descent. Bridges connecting the commercial buildings enhance the sense of enclosure within the square and simultaneously serve as arched gates to the residential streets beyond. The site progresses along the original diagonal, opening on the "The Greenway." Flanked by rows of townhouses, The Greenway acts as an extended gateway into the residential core of the site.

The integration of building elements around the station required a formal treatment that the elder Olmsted had

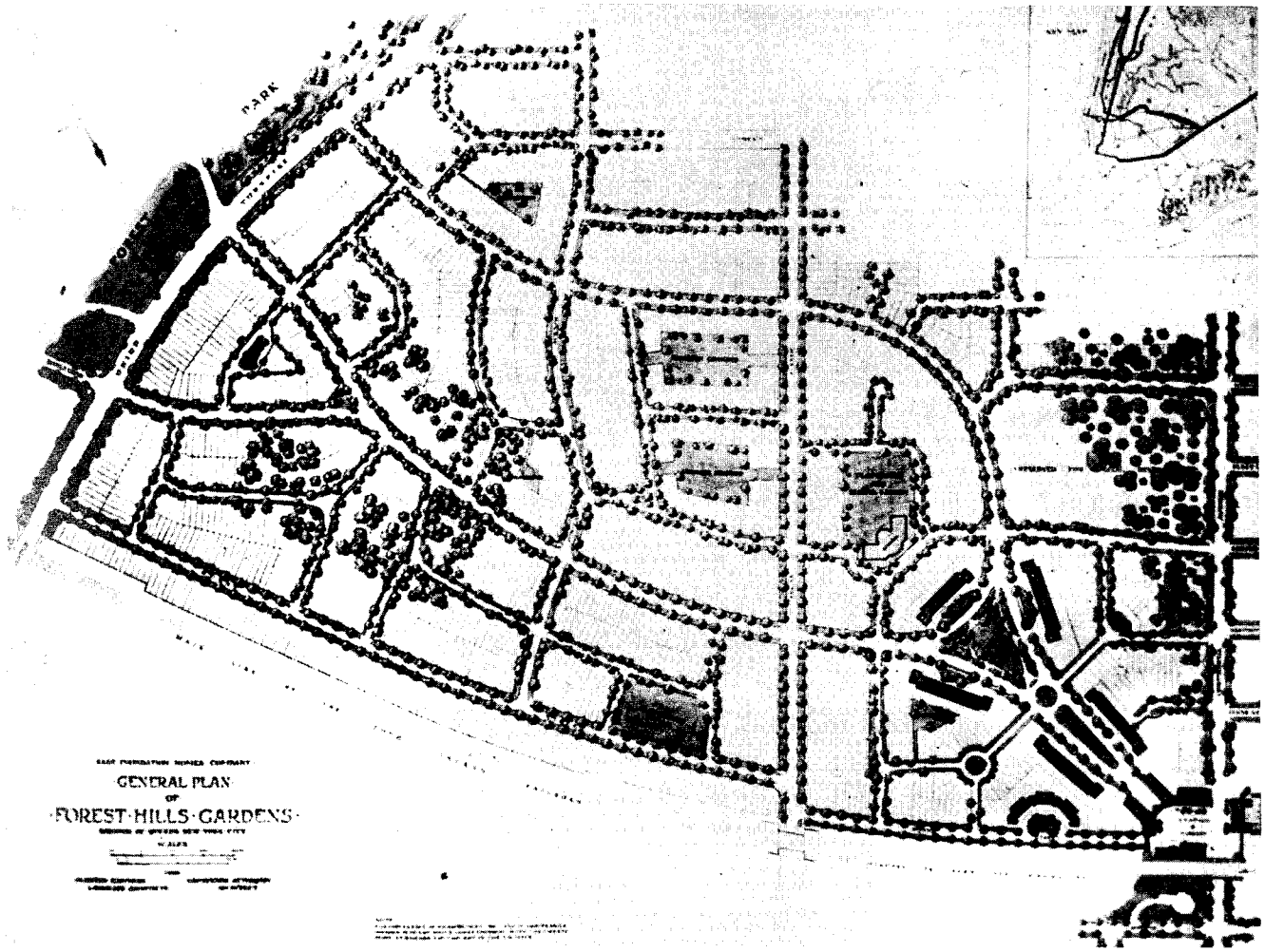

Fig. 2. Forest Hills Gardens, Queens. Plan by Olmsted Bros., 1909. Source: Norman T. Newton, *Design on the Land: The Development of Landscape Architecture* (Cambridge, Harvard University Press, 1971), p. 475.

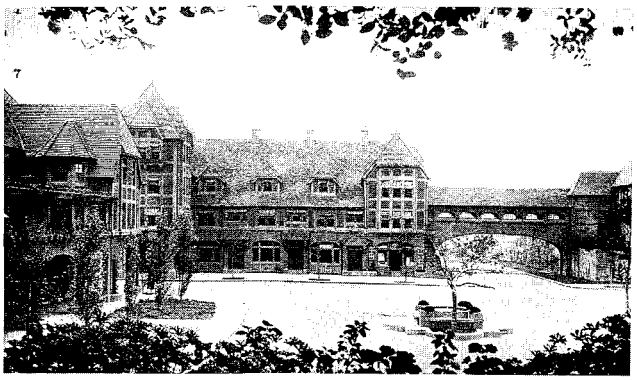

Fig. 3. Forest Hills Gardens. Looking into the Square, 1912. Source: ***The Brickbuilder*** 21, n. 12 (December 1912), Pl. 155.

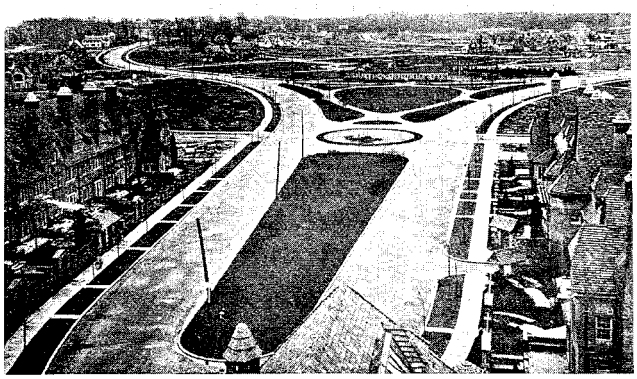

Fig. 4. Forest Hills Gardens. The Greenway from the Tower, 1912. Source: ***Forest Hills Gardens*** (New York: Sage Homes Company, 1913).

always resisted. Frederick Law, Jr. appears to have sought resolution by reference to Barry Parker and Raymond Unwin's 1904 plan for the Garden City of Letchworth.[21] The result is a layering of formality over the earlier Olmsted style; the influence of the "City Beautiful Movement" promoted by Daniel Burnham and others and particularly popular during the first decade of this century is also reflected in the scheme.[22]

Despite the allusion in its title, a desire to emulate Howard's Garden City was never explicitly part of the agenda planned for Forest Hills Gardens. Yet, because of this contradiction in terms, and insofar as the project sought to incorporate the most advanced thinking on "town planning" current at the time, it is worth noting the dissenting character of the Sage Foundation's undertaking.[23] The Garden City, as Howard conceived it, was supposed to incorporate all the functions of a self-sufficient community. The purpose of its connection to a larger metropolis was to ensure a cultural ebb and flow, buttressed by the import and export of various supplies and resources. By contrast, Forest Hills Gardens, beyond its concentrated commercial center, was from the beginning a residential enclave dependent on the city for economic and institutional support.

DESIGN AND TECHNOLOGY

As the first phase of construction ended in 1912, and the project was exposed to review, it became clear that attributes of the development pertaining to urban planning were poorly understood both by the professional community and the press.

Beyond the commercial center, the residential scheme at Forest Hills called for a gradation of housing types, beginning with the hotel complex in the commercial area and culminating in large single-family houses at the farthest reaches of the site. Included in the middle of this continuum were several sets of parti-wall townhouses, some as narrow as 13 feet in width (although most were 17 feet), and various small groupings that combined attached units, duplexes, and "semi-detached" houses. Up to 1912, efforts concentrated on the commercial area and rowhouses flanking The Greenway. At least one other set of townhouses and several multi-family groupings, as well as a few single-family dwellings, indicated the scope of what was intended.

Two separate articles in the December 1912 issue of ***The Brickbuilder*** featured the ongoing progress at the site. The author of the first review, entitled "Forest Hills Gardens: An Example of Collective Planning, Development, and Control," expresses concern with "the apparent anomaly...that a supposedly model town is being built largely of contiguous houses in more or less continuous rows directly adjoining plowed fields...,"[24] but his argument, lacking a set of principles that could structure a meaningful critique, ultimately flounders. The Olmsted firm is not credited or even mentioned. Reference to the article's opening quotation only serves to heighten confusion. The person chosen to speak is the architect himself, Grosvenor Atterbury:

> It is unfortunate that the somewhat misleading term "model" must be applied to such an eminently practicial scheme as this development of the Russell Sage Foundation, for the reason that there is a kind of subtle odium which attaches to "model" things of almost any kind, even when they are neither charitable nor philanthropic — a slightly sanctimonious atmosphere that is debilitating rather than stimulative of success.[25]

While Atterbury's statement disclaims his interest in designing an exemplary community, his denial of charitable or philanthropic involvement is even more perplexing. He can only be referring to the financing of the Forest Hills project, not through a gifted sum but by investment in a company that was expected to make a profit, however limited. Atterbury's focus on the project's "success" prompts the journal's hapless reporter to insert a litany of practicalities — including the unsuitability of placing low-cost housing on costly lots, the importance of protecting the assets of individual investors, and the debilitating impact of expensive railway fares. "This must be said in explanation, because many people will doubtless be disappointed to find that the first housing demonstration to be made by the Russell Sage Foundation will not reach the so-called laboring man, or

even the lower paid mechanic..."[26]

At this point, it seems appropriate to ask—if concern was lacking in the area of town planning as well as the design of low-cost housing — what, at least in the mind of the architect, was the purpose of the experiment?

The answer begins to evolve in a second article, entitled "Forest Hills Gardens — Building Construction." Here the writer, speaking of the completed work, remarks that "artistically, it is European of an earlier style."[27] In fact, the Anglo-Medieval quaintness of the architecture at Forest Hills is possibly its most salient feature, but the crafted charm of the buildings is misleading. Atterbury had been fascinated by turn of the century high-rise construction,[28] and the article's subsequent analysis reveals the degree to which he had succeeded in introducing innovative technology into the building process at Forest Hills. Techniques applied to the commercial area — the use of steel, concrete block, and curtain wall systems—were relatively straightforward. But Atterbury's eclecticism also obscured a fascination with materials. The writer describes Atterbury's development of several unusual finishing methods, but most astonishing is the revelation that he had convinced the Sage trustees to build an on-site factory for casting pre-formed sections in concrete.[29] The effect of incorporating these members in the construction process is particularly evident in the repetitive bays of the townhouses completed during this early phase of construction.

After 1913 the work at Forest Hills shifted almost solely to the production of housing. Atterbury used the factory to develop a complete system of prefabrication. Houses were built totally of precast elements — foundations, floors, walls, ceilings, roofs, dormers. Huge machinery was required to transport and erect the slabs and pieces.[30]

In 1916 Atterbury addressed the Fifth National Housing Conference in Providence, Rhode Island. In his speech, "How to Get Low Cost Houses: The Real Housing Problem and the Art of Construction," Atterbury separated home-building from commercial construction and observed that "by far the greatest sum spent in this country to-day is in domestic work..." Despite the economic importance of housing, Atterbury argued, traditional methods of construction, by contrast to innovation in commercial building, were wasteful and "disorganized."[31] Viewing design as insufficient, Atterbury insisted that the problem could be resolved only within the realm of technology:

> As one of the first to begin talking about the practical solution of the housing problem, model tenements and model towns, some fifteen years ago, it was quite proper that I should be among the first to stop talking about it and devote myself to an effort to find some practical constructive solution...[32]

By directing his own efforts toward the search for technological improvement, Atterbury hoped to demonstrate that the individual house, like the newly invented automobile, could become affordable to working families. He believed that the technology he proposed would automatically resolve

Fig. 5. Forest Hills Gardens. Design of Rowhouses, 1912. Source: *Forest Hills Gardens* (New York: Sage Homes Company, 1913).

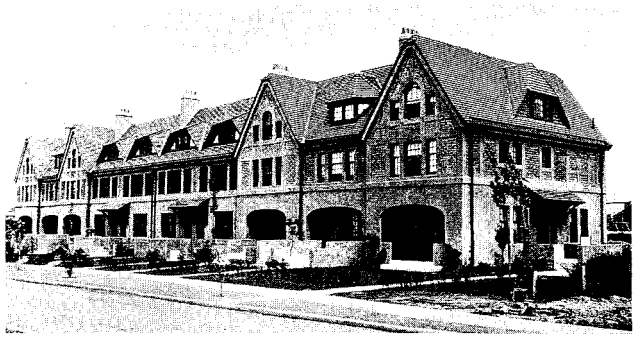

Fig. 6. Forest Hills Gardens. Completed Rowhouses, 1912. Source: *The Brickbuilder* 21, n. 12 (December 1912), Pl. 158.

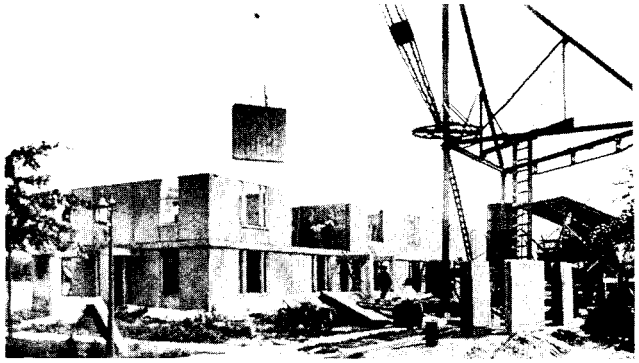

Fig. 7. Forest Hills Gardens. Rowhouses under Construction, 1918. Source: Grosvenor Atterbury, *The Economic Production of Workingmen's Homes* (January 1930), p. 34.

Fig. 8. Forest Hills Gardens. Completed Rowhouses, 1918. Source: Grosvenor Atterbury, *The Economic Production of Workingmen's Homes* (January 1930), p. 35.

the issue of design: "What we are trying to produce is not only obvious economy in material structure, but also in skilled expert service — such as is available now only to the rich man in the building of his home."[33]

EPILOGUE

Mrs. Sage died in 1918, bequeathing an additional $5 million to the endowment of the Russell Sage Foundation.[34]

In 1919, the trustees sold the prefabrication plant on the Forest Hills site; work ceased at the factory in 1921.[35] In 1922, the Sage Foundation divested its shares in the Homes Company, sustaining a capital loss of about $350,000. The shares were purchased by a group of community residents represented by John Demarest.[36] The foundation never again invested its capital in a limited dividend company, nor did the trustees approve any further, practical experiments in housing.[37]

The Russell Sage Foundation still exists today; it is known for its support of policy initiatives and research in the social sciences.[38]

Both Olmsted generations were influential in establishing the discipline of landscape architecture as a credentialled, licensed profession.[39]

Forest Hills Gardens remains one of the few examples of a planned community in the history of American town planning.[40] A residential annex was added to the site in 1922.[41] Following the location of the 1939 World's Fair in Queens and the extension of the subway system, the site was engulfed by urban expansion.[42] Today Forest Hills Gardens exists as an elite enclave, sheltering a community of affluent residents.[43]

Grosvenor Atterbury continued to promote the development of prefabrication techniques in building construction.[44] He sought, but was unable to find, philanthropic support to continue his experiments. Atterbury died in 1956 at the age of 87. He is remembered as a pioneer in the history of prefabrication.[45]

NOTES

[1] David C. Hammack and Stanton Wheeler, *Social Science in the Making: Essays on the Russell Sage Foundation, 1907-1972* (New York: Russell Sage Foundation, 1994), pp. 3-4; the first chapter, generally, details the creation of the foundation and its early years of operation.

[2] Mrs. Sage's letter of gift is reproduced in its entirety in appendix A of John M. Glenn, Lilian Brandt, and F. Emerson Andrews, *Russell Sage Foundation, 1907-1946* (New York: Russell Sage Foundation, 1947), pp. 667-68.

[3] For the foundation's reception among professionals and in the press, see *Russell Sage Foundation,* pp. 13ff

[4] Eric Wanner, the current President of the Board of Trustees of the Sage Foundation, in the foreward to *Social Science in the Making,* p. ix.Ibid.

[5] Ibid.

[6] For a discussion of the Charity Organization Society see *Social Science in the Making,* pp. 8-9ff.

[7] The significance of the general purpose foundation is explained in *Social Science in the Making,* pp. 2-3. The text of the charter is reprinted in *Russell Sage Foundation,* pp. 10-12.

[8] *Russell Sage Foundation,* p. 43; the rationale for policy and its implementation is covered, generally, in chapter IV.

[9] De Forest's advice and, in particular, his memo to Mrs. Sage dated December 10, 1906 are analyzed in *Russell Sage Foundation,* p. 6-12; cf. the passages in the letter of gift, p. 667.

[10] Ibid., p. 668.

[11] Richard Plunz analyzes philanthropric efforts relative to urban housing in *A History of Housing in New York City: Dwelling Type and Social Change in the American Metropolis* (New York: Columbia University Press, 1990), see chapters 2, 3, and 4 passim.

[12] Norman T. Newton reviews the history of English town planning in *Design on the Land: The Development of Landscape Architecture* (Boston: Harvard University Press, 1971), chapter XXXI.

[13] Plunz discusses Steinway's enterprise on Long Island, pp. 114-16.

[14] Newton covers Riverside and Roland Park in chapter XXXII, pp. 465-71.

[15] Plunz refers to this trend, p. 116.

[16] Newton mentions this circumstance, p. 475.

[17] *Russell Sage Foundation,* p. 49.

[18] Ibid.; Demarest's involvement continued until 1922.

[19] John Charles, Olmsted's nephew and stepson, began working with Olmsted in 1878; Frederick Law, Jr, who was born in 1870, joined his half-brother in partnership in 1898. The elder Olmsted, meanwhile, had retired in 1895; he died in 1903. For further information, see Newton, pp. 295n, 385, 389-90 and passim.

[20] My discussion is based in part on Newton's analysis, pp. 475-76.

[21] Plunz claims that Forest Hills Gardens "consciously followed the precedent set at Letchworth," p. 120.

[22] Olmsted's relationship to the City Beautiful movement has been re-evaluated by William H. Wilson, *The City Beautiful Movement* (Baltimore: Johns Hopkins University, 1989), chapter 1; the work of John Charles Olmsted for the city of Seattle is reviewed in chapter 7.

[23] Plunz raises the issue of differences between American and British experiments, pp. 120-21.

[24] "Forest Hills Gardens: An Example of Collective Planning, Development, and Control," *The Brickbuilder* 21, no. 12 (December 1912), p. 317; there is no by-line.

[25] Ibid.

[26] Ibid.

[27] W.F. Anderson, "Forest Hills Gardens — Building Construction," *The Brickbuilder* 21, no. 12 (December 1912), p. 319.

[28] Atterbury's early interest in technology is described by Albert Farwell Bemis, *The Evolving House* (Cambridge: MIT Press, 1936), v. 3, p. 349; and according to Atterbury's own account in "The Scientific Approach to the Problem of Economic Construction," *The Journal of the American Institute of Architects* 2 (September 1944), p. 144.

[29] Anderson, p. 320; Atterbury quotes extensively from the proposal he submitted in 1907 to the Sage Foundation in "The Scientific Approach to the Problem of Economic Construction," p. 140.

[30] Bemis provides a history and analysis of Atterbury's techniques, pp. 349-53; see also "The Prefabricated House: 3. Concrete — Forerunner to the Movement," *Architectural Forum* 78 (February 1943), pp. 69-71.

[31] Grosvenor Atterbury, "How to Get Low Cost Houses: The Real Housing Problem and the Art of Construction," *The American Architect* 110, no. 2135 (November 22, 1916), p. 318.

[32] Ibid., p. 320.

[33] Ibid., p. 319.

[34] Concerning Mrs. Sage's death, see *Russell Sage Foundation,* pp. 267-70.
[35] Bemis, p. 351.
[36] For details of the sale, see *Russell Sage Foundation,* pp. 272-73.
[37] Both *Russell Sage Foundation, 1907-1947* and the updated *Social Science in the Making* address the history of the foundation with regard to program decisions.
[38] For a retrospective analysis, see Wanner's foreward in *Social Science in the Making,* pp. ix-xiii.
[39] Newton is one among many sources that elaborate upon the Olmsted contribution, see chapter XXVI and passim.
[40] Although not totally inclusive, Newton summarizes the American efforts, see chapters XXXII, XXXIII, and XXXIV.
[41] Plunz, pp. 120-21.
[42] Problems were anticipated in "Forest Hills (U.S.A.): Replanning 350 acres of 'Grid,'" *Journal of the Town Planning Institute 24* (November 1937), pp. 16-17.
[43] The community received attention in 1984 when one of its residents, Geraldine Ferraro, became the first woman to serve as a Vice-presidential nominee; she and her Presidential running mate, Walter Mondale, lost the election.
[44] Atterbury's articles and speeches, at times repetitious, nevertheless continue to appear in the professional journals through 1944.
[45] Atterbury has been accorded significant recognition by Bemis and others. The headline of his obituary in the *New York Times* (October 19, 1956) reads: "Pioneer in Prefabrication/Was Designer of Forest Hills Gardens Community."