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The Chicago School of Architecture

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Cover: Detail from HENRY BABSON ESTATE - SERVICE BUILDINGS. *Photograph by Richard Nickel for Historic American Buildings Survey.*

The Chicago School of Architecture

A Plan for Preserving a Significant Remnant
of America's Architectural Heritage

by

Hugh C. Miller

UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service

1973

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FOREWORD

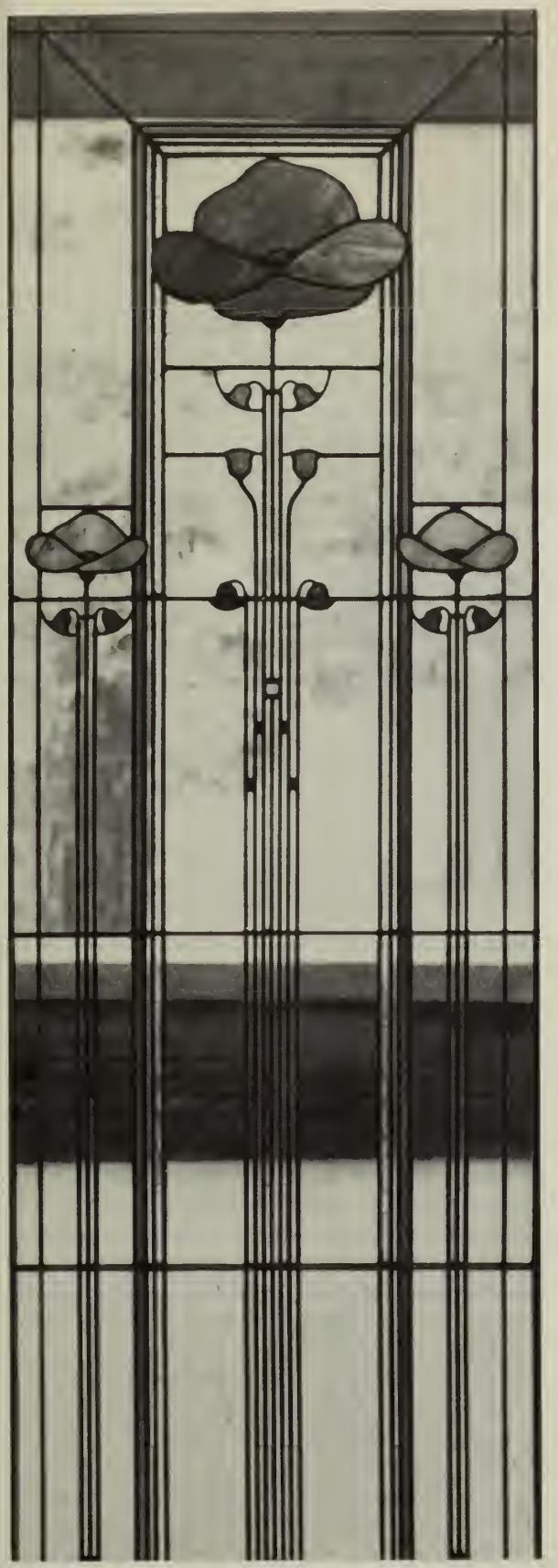
I have long been fascinated by the great landmark buildings of Chicago, the legacy of Adler, Sullivan, Wright, and other architects of the city's rebirth following the great fire of 1871. As examples of architectural developments of international consequence, these edifices constitute one of our Nation's richest cultural treasures. I believe every effort should be made to retain them as useful as well as ornamental features of the city's life and development.

The demolition of the distinquished old Chicago Stock Exchange building in 1971 dramatized the peril to these handsome and still-useful monuments of a past era. Economic pressures engendered by urban growth are relentlessly destroying them one after another. Ways must be found to ease these pressures while also helping to finance the preservation of worthy buildings in continuing beneficial use.

The Department of the Interior stands ready to participate in appropriate ways in responding to the widespread popular sentiment for saving these landmarks as a legacy to future generations. The following report suggests a possible approach to the problem.

Rogers C. B. Morton
Secretary of the Interior

Detail from MAGERSTADT HOUSE.
Photograpn by Cervin Robinson for Historic American Buildings Survey.



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This report was prepared by Hugh C. Miller, Architect-Planner; Lucy Pope Wheeler, Writer-Editor; and James A. Burnett, Graphic Designer. The background information for the resources is based on field observations, interviews, and published writings about the Chicago School. Source books and articles used are included in the bibliography.

INTRODUCTION

Between the late 1870's and the First World War one of the most significant architectural movements since the Renaissance flourished in Chicago. The "Chicago School," as it came to be called, produced an original architectural expression based on the application of industrial technology responsive to new economic demands and social concerns. Mirroring and shaping life styles, this architecture anticipated and influenced today's patterns of urban and suburban life in the United States and Europe.

In the years following the fire of 1871, Chicago created distinctive urban forms that permitted new high-density use in the city core. Development of the skyscraper made possible vertical growth. Innovations in mass transit moved people out from the city core and accelerated the city's horizontal expansion. New towns and new housing styles were developed. These new forms were the physical response to the stimulus of Chicago's booming activity in manufacturing, railroading, and commerce.

Departing from the traditional concept of tall office buildings as originated in New York City, Chicago architects adapted the design flexibility and speed of erection used by iron bridge builders to a basic system of construction for commercial buildings. The resulting metal skeleton frame, first in cast and wrought iron and finally in steel, permitted new physical height and openness. Since the wall no longer supported the building, it became a mere skin, a transparent envelope permitting maximum light and ventilation. The synthesis of the skyscraper form led to revolutionary theories of design expressing the structure and function of the building.

Designers of this period rejected historic styles in architecture and sought to apply newly formulated architectural theories to all types of buildings. These theories were particularly manifest in the continuity of exterior form and fluid interior spaces of a new kind of private residence—the Prairie house. This search for a design universality to reflect man's physical needs and social well being touched all aspects of architecture, the applied arts, landscape design, and town planning. The nature of building materials, the function of form, and the relationship of man's structures to nature became articulated in a philosophy that is still fresh and relevant.

The Chicago School movement prompted an architectural revolution, wholly American in origin, that anticipated by several decades a similar development in Europe. The refinement of building techniques and the expression of the function of the buildings in fully integrated architectural style provided inspiration for the designers of Europe's new architectural movement that followed World War I. For the first time an artistic development in America influenced architectural designers in Europe. The cycle was completed when the developed style of the modern European movement was later reintroduced to the United States with the emigration from Europe of the leading members of its architectural community during World War II. The work of the Chicago School was international in its consequences and prefigured the form of commercial and residential buildings now universally adapted as twentieth century architecture.

The evolution of modern architecture may be traced through its formative phases in Chicago and environs. Here survive not only individual buildings but whole communities that graphically portray this significant aspect of America's culture. Important examples of this uniquely American architecture have already succumbed to economic forces. The remaining examples have been aptly described as "endangered species." These merit recognition, preservation, and interpretation as a rich and vital part of America's cultural heritage.

In Chicago's Loop area there are more than thirty buildings dating from the mid-nineteenth century that illustrate the evolution of the skyscraper. The progression of architectural form—from unassuming beginnings with traditional materials, through the development of a new technique for building tall structures, and individual expression as architectural design is revealed in these buildings. In the residential districts of Chicago and the suburbs to the west and north are several hundred modest public buildings and private houses that illustrate the architectural principles evoked by the redefinition of form from commercial buildings to a new concept of suburban life. In the same areas are remains of significant landscape designs and advanced concepts of city, suburban, and park planning.

This report traces the unfolding of the Chicago School movement, assesses its significance, and explores possible means of safeguarding, in modern adaptive use, the best surviving examples.

THE CHICAGO SCHOOL . .

The Development of a Modern Architecture

Radical shifts in architectural form constitute one of the most significant elements of architectural history. In the history of the western world three such shifts have occurred during the last thousand years, and each has signaled the beginning of a new cultural epoch.

The development of a totally new architecture indicates social and economic changes which cause the basic forms and objectives of building to differ substantially from those of the preceding period. New structural systems as well as new decorative schemes appear. A new sense of space emerges and with it a new variety of symbolism more suitable to the requirements of a clientele representative of the new society.

The developments in Chicago in the late nineteenth century were as consequential in world cultural history as the developments in twelfth-century France that produced Gothic architecture and in fifteenth-century Italy that produced Renaissance architecture. Of these three equally significant nodal points in the history of western man, only the consequences of the Chicago school were truly global in scope.

The forces that nurtured the Chicago architecture are well documented in the political, economic, and social histories of the Midwest. Problems in Chicago were an intensification of problems that faced the nation in the 1870's – readaptation from cultural patterns formed in an agrarian society to a vigorous newly industrialized society.

Chicago's emergence as an industrial and commerical center was dramatic. "Citizens have come for the one common avowed object of making money," novelist Henry B. Fuller wrote in 1895. The opening of the railroad from Chicago to the eastern seaboard was reflected in the lowering of prices in the wheat markets of Europe. Entrepreneurs operated in an atmosphere of laissez-faire. Life was in deadly earnest. Business was conducted for the sake of business. Technology flourished. Mechanization took command. Science and the machine were applied to solving problems of production and services needed to guarantee continued productivity.

These forces became self-perpetuating after the Chicago fire of 1871 as recovery took the form of unprecedented economic expansion. Rapid growth intensified land use in the city's core. At the same time, through innovations that brought about mass transit systems people were able to move out from the metropolitan center, accelerating the city's horizontal expansion.

From the economic pressures behind the whole building industry came multiple inventions that had a profound effect on architecture. Technological innovations recently developed in Europe and also in other parts of America were brought together in Chicago for intensive use in building. New structural devices and construction methods increased the speed and efficiency of the building process. New systems, now standard, were conceived. With the achievement of the iron and later steel skeleton frame, great open floor areas became available for the first time. Raft footings better distributed the building weight over the medium bearing soils. Concrete caissons carried the loads of massive structures down more than a hundred feet to bedrock. Chemicals were added to concrete and mortar, permitting construction in freezing temperatures. Shelters were built to protect men and materials so that work could continue in any weather. Strings of Edison's newly invented incandescent lamps provided illumination to permit construction work at night, and buildings, although bigger than ever, rose faster. Concurrent with this rush of construction was a desire on the part of architectural designers to break away from the historic styles of European cultures —to find forms more expressive of the dynamic forces of new-world democracy.

The nineteenth century, having found itself limited by the "age of reason," sought reality in new directions. Science and romanticism, although seemingly opposite, were actually two phases of the same search. Science was a search for reality through the world of facts, whereas romanticism was an attempt to comprehend reality by means of emotional experience. In practice, the romantic was often too intense, the scientist too literal. It was in the context of this nineteenth-century dichotomy that the architects of the Chicago School strove to identify a set of architectural principles having a common outlook on modern life. They reacted against romantic historicism and the melange of ethical, literary, naturalistic, and sentimental values that were attached to various adaptations of classical and medieval "styles." They read with interest the theories of Viollet-le-Duc, the greatest of the rationalist critics, who constantly appealed for "truth" in architecture and sought to establish the rule that "all architecture proceeds from structure, and the first condition at which it should aim is to make the outward form accord with that structure."

Romanticism was concerned with nature and the biological theory of adaptation of form to function and environment. The emphasis of the rationalist was on the relation of use to structure as a means of achieving architectural beauty and integrity. Chicago was a fertile field

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HIGHLAND PARK
GLENCOE
5
WINNETKA
KENILWORTH
WILMETTE
EVANSTON
O'HARE FIELD
0 1 2 3 4 5
Scale of Miles
RIVER FOREST
OAK PARK
1
CHICAGO
4
RIVERSIDE
2
N
3

RESOURCES FOR
THE CHICAGO SCHOOL OF ARCHITECTURE THEME

Both the formative and mature phases of the Chicago School can be traced in the buildings that now survive in Chicago and environs. This report identifies individual buildings and whole communities worthy of preservation and interpretation as influences on world architecture.

- *Building by an architect active in the Chicago School movement.*

INTERPRETIVE UNITS

1. The Loop — Evolution of the skyscraper. Near North Shore, Near South Shore — Early modern forms and new designs for industrial buildings, hospitals, and schools.

2. Kenwood, Hyde Park — Evolution of the individual residences in modern architecture.

3. Pullman — Planning of the self-contained industrial town.

4. Oak Park-River Forest — Single family dwellings and small public buildings redefined. Riverside — A suburban townplan designed on the land.

5. Evanston, Wilmette, Kenilworth, Winnetka, Glencoe, Highland Park — Diversity of maturing individual solutions for residential and public buildings.

AUDITORIUM BUILDING, 1887-89. ADLER AND SULLIVAN, architects. *Photograph by Cervin Robinson for Historic American Buildings Survey.*

for the adoption of these ideas. This city, unlike eastern cities, had no physical continuity with the colonial period and its related cultural ties with Europe. Here designers were far enough removed from their historic origins to feel that merely to adopt the styles, and hence the voice, of the past was to be irrelevant. From their vantage point, it seemed absurd to continue to adhere rigidly to the rules of the academies especially when, through their studies in the history of architecture, they had accepted the evolution of form as obvious and undeniable.

But architecture, unlike painting, literature, or music, is not the product of the genius of one person. Architecture is a business as well as an art. An architect employs other architects, often more capable than himself, to prepare his designs, make working drawings, and even supervise construction. He hires consultants for the structural, mechanical, and electrical elements of buildings —the infrastructure that often controls the final design. The architect's ability as a businessman is as important to the successful completion of a building as his solutions

JAMES H. BOWEN HIGH SCHOOL, 1910, from the design for CARL SCHURZ HIGH SCHOOL, 1908-10.
DWIGHT H. PERKINS, architect. *Photograph by Dwight H. Perkins, FAIA.*

MRS. GALE HOUSE, 1909. FRANK LLOYD WRIGHT, architect.
Photograph by Richard A. Miller for Landmarks Preservation Council, Chicago.

WILLITS HOUSE, 1902. FRANK LLOYD WRIGHT, architect.
Photograph by Chicago Architectural Photography Co.

MONTGOMERY WARD WAREHOUSE, 1906. RICHARD E. SCHMIDT, GARDEN AND MARTIN, architects. *Photograph by Richard A. Miller for Landmarks Preservation Council, Chicago.*

UNITY TEMPLE, 1906-07. FRANK LLOYD WRIGHT, architect. *Photograph by Philip Turner for Historic American Buildings Survey.*

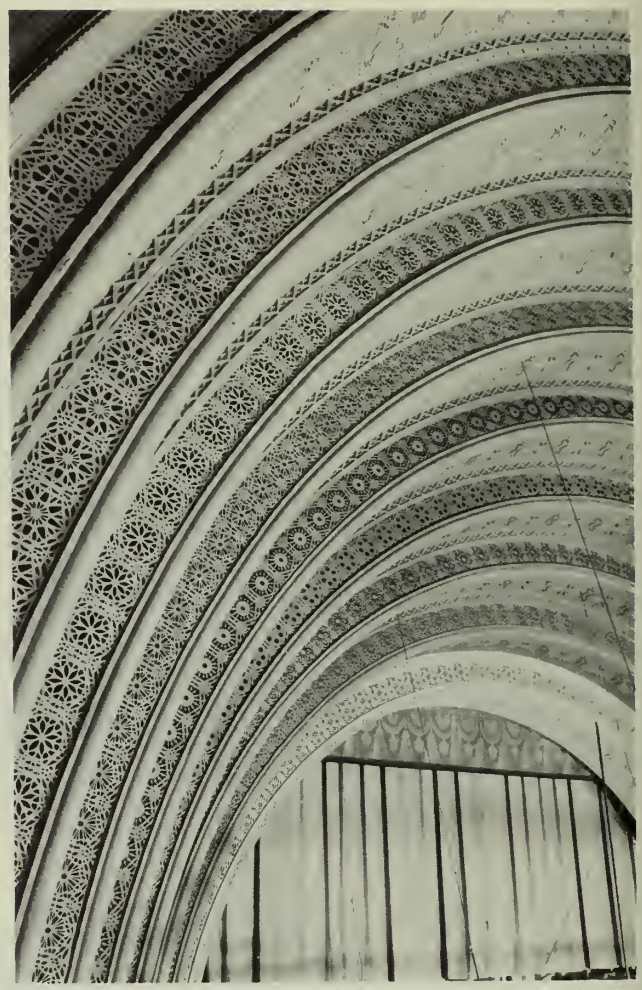
GETTY TOMB, 1890. LOUIS SULLIVAN, architect. *Photograph by Harold Allen for Historic American Buildings Survey.*

of the artistic and technical problems. His relationship with his client must be persuasive in the conceptual stage of design, practical in planning the functions of the spaces, and realistic in estimating the costs of construction. When the architect loses control of this delicate architect-client relationship, the results are usually an uncompleted project or a poor building. These considerations of the practice of architecture were intensified by the institutionalization of business and financial organizations in the late nineteenth century—a factor that was a major force in shaping architectural change in Chicago.

This change can be viewed as a response to two basic problems that existed side by side giving rise in turn to two main branches of architecture within the Chicago School. The first response was technological. The problem of real estate costs versus the vast floor areas required to enclose the bureaucracies of business was resolved by exploiting the verticality of office buildings. The second response was to the need for town planning and middle class housing; a need given impetus by the pervasive interest in the arts and crafts movement, the vogue for bungalows, and the influence of the homemaker magazines on life styles. Out of the Chicago School came a whole new vocabulary of expressive design forms created specifically for these purposes. Many scholars prefer to call the later phase of the Chicago School the "Prairie School," to distinquish it from the first branch, which they reserve for the design and construction of commercial buildings. However, the interaction of these branches was so strong as to render them inseparable; both were phases of the total evolution of the new architecture.

The development of the Chicago School has long been associated with an inferred master-pupil role of the great triumvirate of American architecture: H. H. Richardson, Louis H. Sullivan, and Frank Lloyd Wright. Although these men had a profound effect on American architecture, they were not individually responsible for the movement called the Chicago School. The impetus of this movement evolves from a variety of sources that were assimilated, reintegrated, and redefined as personal expressions by a great number of individual designers and architectural firms.

William Le Baron Jenney comes closest to being the father of the Chicago School. Although he is best known for his technical accomplishments in giving form to the skeleton frame of the skyscraper, he was perhaps most responsible for bringing radical architectural ideas, primarily from France, to Chicago. Influenced by the theories of the French classical functionalist J. N. L. Durand and the doctrine of Viollet-le-Duc, ideas not generally accepted in the European academies, Jenney created advanced technical and aesthetic forms for the skyscraper. As an employer and teacher he was concerned



Detail from: SCHILLER BUILDING (later Garrick Theater), 1891-92 (demolished 1961). ADLER AND SULLIVAN, architects. *Photograph by Richard Nickel and Aaron Siskind for AIA Chicago Chapter.*

with the new definition of architecture. He wrote and lectured in architectural theory and considered his office an atelier. Here he encouraged functionalism, and, although he embraced romanticism, he damned mindless eclecticism. His activities also encompassed other elements of the movement. He was experienced in the avant-garde theme of park design and town planning from student days in Paris. He designed the Western Park system in Chicago, and was associated with Frederick Law Olmsted, Sr., during the construction of the suburban village of Riverside. Jenney's office provided early practical experience and the point of departure for the creation of a new architecture for later leaders in the Chicago School movement such as Louis H. Sullivan, William Holabird, Martin Roche, and Daniel H. Burnham.

John W. Root and Joseph L. Silsbee, with their personal architectural expressions, also had an influential

role in this formative period of the Chicago School. George W. Maher, Frank Lloyd Wright, and George G. Elmslie were products of Silsbee's office. Wright also had an apprenticeship with Adler and Sullivan during the firm's most distinguished period, but it was Silsbee's free adaptation of the Shingle Style house that had a profound effect on Wright's early work. Dwight H. Perkins worked for Burham and Root following graduation from the Massachusetts Institute of Technology, and became a major figure in Burnham's office after the death of Root.

In 1897, Perkins, with his acquaintances from student days at MIT, Robert C. Spencer, Jr., and Myron Hunt, rented space in the loft of Steinway Hall. Shortly thereafter Wright joined this working group and entered with them into a loosely associated practice of architecture. By the beginning of the new century, the architects in Steinway Hall included Perkins, Spencer, Henry Webster Tomlinson, Walter Burley Griffin, Birch Long, the Pond brothers, and Wright. This was the focal point for what Wright later called "inspiring days spent in an ideal artistic atmosphere."

At the same time there was an informal group known as "the Eighteen" that met at dinners and discussed architectural problems and theories. Although the roster has not survived, most of the architects associated with this most prolific period of the new movement belonged. Outside this group were Maher, Thomas E. Tallmadge, Vernon S. Watson, William G. Purcell, George G. Elmslie. All took an active part in the Chicago Architectural Club and the Chicago Arts and Crafts Society, where they found a forum for their philosophies and a source of inspiration for their work. They revered Louis Sullivan and idealized his credo— "form follows function." Sullivan became their prophet–fusing his ideas of God, man, human powers, and beliefs about social order into a unique concept of the role of architecture.

Wright inherited Sullivan's role as the dominant force in the search for a rational architecture. Although his writings and theories are not as universally adaptable as Sullivan's, his studio produced a great number of designers who worked in the spirit of the Chicago School. However, from this group perhaps only Walter Burley Griffin, William E. Drummond, and Barry Byrne developed an individuality of architectural design beyond Wrightian forms.

The architects who came together in Chicago following the fire of 1871 included men of rare creative talent. Few of the leading figures were born in Chicago. Most of them had no formal training in architecture. The city had no architectural school as such, and only a small number of architects qualified to train apprentices. In less than twenty years they had mastered the technique of steel framing and were thus able to develop the office building, hotel, and apartment block, as we know them today. Their younger associates, in the mode of creative inquiry and scientific theory, approached the problem of how to achieve a universal design in architecture that would embody the modern spirit. By 1909 the Chicago School comprised more than 30 mature architects producing original, indigenous, and organic architecture for every type of design—residences, churches, hospitals, museums, theaters, railway terminals, warehouses, factories, even tombs, parks, subdivisions, and city plans.

The work of these men was not confined to Chicago. Having established themselves as leaders of their profession in the Midwest, they also designed buildings and prepared master plans for the major cities of the United States. Foreign commissions included Wright's Imperial Hotel in Toyko and Griffin's plan for the new capital of Australia in Canberra. However, in the eastern United States they had few commissions and remained unrecognized by the tastemakers of the profession.

When the United States entered World War I the Chicago School was abruptly deprived of its clientele. After the war, the nation turned its back on Chicago's inventive, forward-looking architecture. With the change in politics, economics, and social life in the postwar years, America's architectural appetite reverted altogether to eclecticism. Except for a few critics who were willing to risk their reputations by making an objective assessment of the activities of the Chicago group, the works of the Chicago School went into eclipse. During the period between the two world wars the Chicago group was often condemned and generally forgotten.

Fortunately there was still an open stream of continuity for the Chicago School elsewhere—in Europe through Wright's publications, and in Australia through the personal influence of Griffin. On both continents the impact of the Chicago School was profound. But the significance for America's future lay in the feedback from the European stream. Wright's work became well known in Europe through major publications in Germany and Holland. There were exhibits of his work in Berlin and of Griffin's in Paris. Members of the Chicago School visited Europe, and publications of their work appeared in European architectural journals. It is one of the major ironies of American architectural history that from European community, rather than from its native country, recognition first came to the Chicago School. We know now that its achievements were not a series of chance happenings, that they were in fact part of a truly worldwide movement. Their once forgotten principles constitute the basis for architectural practice on every continent today. Belatedly, we at last recognize that here in the Chicago area we have a living, tangible record of one of the most original and dynamic developments in the history of architecture.

THE SKYSCRAPER . .

The Evolution of a New Form

The tall commercial building originated in New York City, where the invention of the elevator made the multi-story building feasible. However, the designers of these early skyscrapers did not recognize the possibilities that this building type offered in the organization of the plan and elevations into a new architectural form. The form of the skyscraper that evolved from the Chicago School was based on the adaptation of the new technology to the art of building and expressing these techniques in architectural design.

It is perhaps significant that William Le Baron Jenney was one of the few Chicago architects not profoundly influenced by the work of H. H. Richardson and his mastery of design in masonry. Jenney had been trained in *Ecole centrale des arts et manufactures* in Paris (a school noted for its engineers, graduating Gustave Eiffel in the class before Jenney) but was interested in architecture as a structural art of organizing and shaping the building composition as a whole. He recognized the challenge to master the new materials and to offer new solutions to the problems of building space that existed in Chicago.

The technological advances of the Chicago School were the culmination of a structural evolution that extended over a century, Jenney's work gave form to these new structural techniques—an auspicious beginning as building style changed into modern architecture.

Jenney's commercial buildings were economic forms designed to satisfy functional requirements. His Leiter I Building was very nearly a glass box. The masonry enclosure of the structural system was a fireproofing measure introduced by Jenney to prevent the disaster that befell the Bogardus-type cast-iron frame buildings during the fire of 1871. Erected in 1879 and demolished in 1972, it embodied a special kind of mill construction that marks an intermediate step between the timber and cast-iron factory of James Bogardus in 1848 and Jenney's achievement between 1883 and 1885 of full skeletal framing systems.

The invention of skeleton construction was the major development in modern architecture. Jenney's Home Insurance Building, built in 1884-85 and demolished in 1931, represented the decisive step in the evolution of iron and steel framing. It was now possible to reduce the exterior wall to a mere curtain, supported throughout by the structural framing and bearing no part of the building load but the curtain itself. The exterior form that grew out of Jenney's system is distinguished by the articulated wall of large panes of glass, a basic pattern reflecting the underlying steel frame. Jenney's influence led to a great diversity of forms derived organically from the internal structure.

The architectural firms that made the biggest contribution in the early search for new forms in traditional materials were Burnham and Root, and Adler and Sullivan. Burnham and Root's Rookery Building is a livelier and richer essay in the architecture of commerce than Richardson's Marshall Field Wholesale Store, demolished in 1930, which was also constructed in the mid-1880's. Although the street facades are of wall bearing masonry, these elevations have an extraordinary openness of the wall with vigorous articulation of the elements in precise scale and proportion. In spite of the elaborate decorative elements on the street elevations, the design is a powerful revelation of the building's pier-and-lintel and pier-and-arch construction. The real significance of the Rookery is its interior court. The quality of this design was the rave of the architectural critic Henry Van Brunt, who wrote that was "nothing bolder, more original or more inspiring in modern civic architecture either here or elsewhere than its glass covered court." The present interior ornament of the court was designed by Frank Lloyd Wright in 1905 and is combined with Root's delicate ironwork to provide a rich but perfectly disciplined effect. Equally impressive is the design of the fire stair, which extends as a half-helix from the second floor to the tenth, enclosed in a semi-cylindrical curtain of glass and cast-iron panels. This detail and the fenestration pattern of the continuous or ribbon windows on the rear elevations and the court anticipated a now-standard feature of commercial design.

The Monadnock Block, designed by Burham and Root in 1891, was the ultimate dimension of the long, slow evolution of masonry structures. The contemporary architectural critic Montgomery Schuyler considered the Monadnock Building to be "the best of all tall office buildings." This 216 foot-high, 16-story structure depends on its solid masonry exterior walls to carry the main load. The massive thickness of the six-foot walls at ground level indicates that to build higher, using traditional masonry construction, would have gone beyond the point of diminishing spatial and economic returns. Hereafter it

was recognized that the only feasible system for the construction of a skyscraper was the utilization of the steel skeleton frame.

Interior spaces in the Monadnock Building consist of shops on the first floor and offices on the other floors, all carried on cast-iron columns. Street entrances open on two sides with a principal entrance on the north. In addition to its monumentality as the limit of masonry construction for commercial use, the Monadnock Building is also significant in the architectural refinements of its facade, which heralded a new architectural aesthetic. Since the client insisted on a building with no ornament, John Root conceived of it as a single slab with a subtle curve rising from the ground inward to the plane of the sheer vertical surface of the wall. At the top, the plane of the wall then gently sweeps outward to form the cornice at the roof. The form is not unlike the profile of a rolled steel I beam section. The flat surface of the wall is interrupted by bay windows of brick which seem to grow from the surface of the facade. The smooth transition of all these surfaces of unadorned brick anticipates the modern architectural philosophy of expressing through the nature of materials the ornamentation of the design.

While Root was discovering the full reach of his design powers in the Monadnock Building, Sullivan was well on the way to finding the extent of his powers in designing the Auditorium Building. The reputation of the firm of Adler and Sullivan and even of Chicago was made by this building. When the Auditorium was completed in 1889, it was one of the largest and most complex buildings in America. Shaped by civic and aesthetic considerations, this ten-story, block-long structure was built to house not only a 4,237-seat theater, but also a hotel and commercial office space. The ingenuity of the design achieves integration of these separate and diversified elements both in the function of the plan and the uniformity of the elevation. Sullivan abandoned his propensity for elaborate exterior ornament and concentrated on the architectonic effect of mass textures and the proportioning and scaling of large and simple elements.

The exterior walls of the Auditorium and the interior partitions dividing the theater from the hotel and offices are of load-bearing brick masonry. This is the extent of traditional materials and methods of construction. The foundation problems for this construction were solved in ingenious ways by Dankmar Adler with raft footings, precompressed soils, and high-pressure waterproofing. All forms of iron construction known at the time were used in framing the interior floor and carrying the roof loads. To support the great elliptical vault over the orchestra floor of the theater, Adler spanned the space with six, 117-foot long, flat trusses and hung elliptical arch trusses from these. The vault and ceiling were suspended from these trusses. Adler's engineering of the theater not only

THE ROOKERY, 1885-86. BURNHAM AND ROOT, architects. *Photograph by Hedrich-Blessing.*

resulted in superb sightlines and accoustical qualities, but his innovations in mechanical and hydraulic equipment for the stage insure that the theater still functions as one of the very best for opera and drama.

The Auditorium was a high point of masonry and iron construction in an age of mechanized industrial techniques. It brought the old systems of construction to a close and at the same time substantially advanced the new structural techniques growing up around it.

It was William Le Baron Jenney who first demonstrated in Chicago the advantages of new structural techniques as applied to tall commercial buildings. His early buildings, such as the Leiter I (1879) and the Home Insurance (1885), have now been demolished. However, there are several buildings still remaining in the Loop that show his genius. The Leiter II (now the Sears Building) is a well-developed design for space, light, ventilation, and security that fully expresses its construction and function in architectural elements. This is a starting point for architectural purity. The steel and wrought-iron frame functions entirely as a

Right to left: MANHATTAN BUILDING, OLD COLONY BUILDING, FISHER BUILDING, and MONADNOCK BLOCK, South Dearborn Street looking north.
Photograph by Harold Allen for Historic American Buildings Survey.

skeleton with large bays divided into windows of maximum size by fireproofed, cast-iron columns. (The fenestration pattern is considered to have influenced the design of Le Corbusier's Maison de Verre (1932), according to Sigfried Giedion, the Swiss historian, in his study of the development of modern architecture.) This expression of structure dominates the architectural accents of this eight-story building, which is over 400 feet long and contains 57,000 square feet per floor. The first floor was remodeled in 1955, but the mass of the building remains essentially as it was when completed in 1891.

During this same period, Jenney built the Manhattan Building at 431 South Dearborn Street. This sixteen-story building now appears somewhat awkward because the original design was for a twelve-story building and the cornice above the twelfth floor now reads as a belt course. At the time it was completed in 1891, it was the tallest building in the city. Technically, it is a very significant advance. The skeletal frame is used throughout the building. Even the party walls are carried on cantilevered steel members, thus avoiding the necessity for heavy foundations at the property line. The frame is supported on spread footings on the hardpan at pressures not heretofore used. The framing system is a combination of steel and cast and wrought iron, used as an economy measure to reduce the use of steel, which was reserved for the main girders, joists, and the channels used for the spandrel beams. This was the first building in which the structural designers recognized the need for wind bracing, which was carried out by both diagonal and portal bracing of the frame.

The window openings vary from trapezoidal to semicircular window bays. The openings on the additional floors are paired windows under arches surmounted by triple windows, a traditional fenestration pattern which can be traced to H. H. Richardson's Marshall Field Wholesale Store and classic sources. This curious mixture of window patterns and shapes was not entirely a matter of caprice. Jenney was exploring the use of bay windows as a means of admitting as much light as possible from the narrow, densely built street.

Following the death of Root, Burnham continued his architectural practice under the name of D. H. Burnham and Co. The Reliance Building, designed by the firm in about 1894, is credited to one of the firm's principal partners, Charles B. Atwood. This building is considered by Carl Condit to be "astonishing in its daring pursuit of the Chicago principles to their logical ultimate." The Reliance has no piers or columns in the exterior envelope, which is simply a vertical succession of broad glass bands divided into large panes by tenuous mullions. The strong horizontality of the street elevations is a direct revelation of the internal floor system, a series of parallel horizontal slabs carried to the columns by girders and joists. The design of the Reliance almost reaches the ultimate refinement of the modern dematerialized curtain wall.

This work is a direct forerunner of the designs of Le Corbusier and Mies van der Rohe. In fact, the Reliance Building comes very near to the transparent tower that the latter imagined in his Berlin project of 1919. The refinement of the structural system included two unusual provisions for wind bracing, employing spandrel girders and two-story columns with staggered joints. The upper ten stories of the frame were erected in fifteen days, a feat generally not surpassed today. A large space on the first floor is utilized for commercial use, whereas the rear portion contains stairs and an elevator. The upper floors, covering the same area plus cantilevered bay windows, are subdivided into rooms with a center corridor.

The Fisher Building, finished in 1896, has all the essentials of the Reliance Building translated into terms of Gothic ornament and pseudo-structural detail. However, the essentials remain—the high glass walls, the level plane of the projecting bay windows, and the thin bands of spandrel moldings and mullions. The whole effect is open and airy and does not have the cloistered effect of the Gothic motif as applied to skyscrapers as late as 1930. The structural system had fully matured by this time with spread footings to carry higher compressions and portal wind bracing. The efficiency of steel construction was well demonstrated in the Fisher Building where the upper thirteen and a half stories were topped out in thirteen days. The visual effect of this building as viewed in late winter afternoon softens the redundant details and the lighting transforms the walls into a glittering and transparent sheath crossed by thin horizontal and vertical lines.

The Railway Exchange Building, erected in 1903-04, is considered by many critics to be one of D. H. Burnham and Co's best designs. The building has little dependence on historic style and is the epitome of Chicago construction systems. Although it lacks the precision and openness of the Reliance Building, it has extensive areas of glass, clean sharp lines, and a lively expression of the steel frame. In the upper stories the clarity softens, and the motif terminates with circular windows not unlike Adler and Sullivan's Wainwright Building in St. Louis. However, this does not distract from the ornamental restraint and the delicately enhanced movement of the gently undulating walls of terra cotta and glass. The effect of this creamy color among the darker buildings facing Michigan Avenue is remarkable. The upper floors overlooking Grant Park and Lake Michigan were used as offices by Burnham.

The views from here certainly must have stimulated his romantic sense of grand views and long vistas, as he prepared his city plans for Washington, Chicago, Cleveland, San Francisco, and Manila.

Of the early buildings of Holabird and Roche, only a few remain that are significant in illustrating the originality and imagination of building that was possible in Chicago's new construction system. The commission for the south addition of the Monadnock Building was awarded to the firm in 1892 and completed a year later. In spite of an apparent misgiving on the part of the owner over the cost of constructing in steel, the extension of the original building is a steel frame structure. The elevation expresses this in the wide openings at the base and the large area of glass in the upper stories. The structural design is that of Croydon T. Purdy, who later achieved national reputation as a structural engineer for a number of famous Chicago

GAGE BLOCK, 30 & 24 South Michigan Ave. (*left*), 1898. HOLABIRD AND ROCHE, architects. 18 South Michigan Ave. (*right*), 1898-99. LOUIS SULLIVAN, architect. *Photograph by Chicago Architectural Photographing Co.*

MONADNOCK BLOCK, (*foreground*) 1889-91. BURNHAM AND ROOT, architects (*background*) 1893, HOLABIRD AND ROCHE, architects. *Photograph by Richard Nickel for Historic American Buildings Survey.*

and New York skyscrapers. Although the building continues the general proportions of Burnham and Root's northern portion of the block, the composition is more traditional. The lower stories are treated with three-story piers dividing the large horizontal windows from the two-story arched entrances. The projection of the bay windows is sharper in their break with the plane of the wall, and the cornice and upper story windows combine in a heavy arcaded treatment. These features are a differentiation from the original portion of the building.

The Monadnock addition, the earlier Pontiac (1891), and the later Old Colony (1893) buildings are unusual and arresting combinations of elements, but they show a failure to exploit the steel frame to full utilitarian and formal advantage. However, these buildings are important for the reason that they mark the point at which Holabird and Roche took the decisive step in the architectonic revelation of steel framing.

The Marquette Building, completed in 1894 from a design by Holabird and Roche, embodies all the criteria for an office building in well-porportioned and imposing simplicity. Some of the building's grace and symmetry have been lost with the addition of a bay and another floor where the cornices were removed. As originally designed, all the offices both on the street and the interior court received outdoor ventilation and natural light. The bay-wide, horizontal expanse of glass with a large fixed central sash flanked on each side by narrow, double-hung windows, later referred to as the Chicago window, is a full expression of the cells in the steel frame. The building extends for 188 feet (eight bays) on the front and 141 feet on the side and carries up 16 stories. There were no interior partitions in the original construction since the owner rented the space on the basis that he would subdivide the floors to suit the tenants. The elevator lobby is particularly commodious, and the floor planning is a model of functional design that has rarely been improved in the history of commercial architecture.

From the design of the Marquette Building, Holabird and Roche rapidly developed a standardized form for the office building. One building after another came from their drafting boards, each almost identical to its predecessor. The street elevations had cellular walls of large rectangular openings with the long dimension horizontal, each opening of glass filling an entire bay. The piers generally were continuous, having spandrel panels recessed to the point of being nearly flush with the windows. The piers and spandrel were always much narrower than those of the Marquette. The Chicago windows were common throughout, but sometimes narrow, grouped openings with tenuous mullions were used. Uniformity of the facade replaced the decorative variations of the Marquette. This simplified treatment answered the functional requirements of light and air, and honestly and effectively expressed the structural system of steel framing.

Especially refined examples of this concept are the three buildings of the Gage Block, 24 and 30 South Michigan Avenue by Holabird and Roche and a companion building, at No. 18 South Michigan Avenue, whose facade was designed by Louis Sullivan. The first two buildings were completed in 1898 and are a frank expression of the clarity and exactitude of the uniformity of treatment in reducing decorative detail to narrow moldings and in the placing of large Chicago windows in the small facades. The cornices have now been replaced by a parapet, and the present store fronts are grossly inferior to the plane of glass that originally characterized the base of these buildings.

This formula of the design of office buildings was carried to its ultimate in the McClurg (now Ayer) Building, completed in 1900. Here Holabird and Roche reduced the wide bay cellular wall to a pattern of mere lines and accentuated the tenuousness of the piers by fluting them to a knife-edge profile the full height of

LEITER II BUILDING, 1889-91. WILLIAM LE BARON JENNEY, architect. *Photograph by Cervin Robinson for Historic American Buildings Survey.*

the building to terminate in a stylized entablature. The cornice, as with most of the buildings of its period, has been removed as a safety precaution by city ordinance. It can be seen that Holabird and Roche designed their variations within a stable architectural treatment, providing a formula for the development of an architectural vernacular that extended the number of important operations that could be performed without a fresh act of imagination for each architectural commission. This is truly the basis of the ethos of our modern civilization.

Sullivan's experiment with expression of basic architectural form is dramatically displayed in his treatment of the facade of No. 18 of the Gage Block, designed by Holabird and Roche in 1898. This is the first of the Sullivan designs to take its form from the steel frame that supports it. In comparison with the frank clarity of the two adjacent buildings, Sullivan's personal idiom is superior in the subtle quality of its finely proportioned composition. This expression is derived from the articulation of the underlying structure by means of the thin piers and narrow spandrels set flush with the large openings and a flat glass base. The horizontal quality of the window openings is intensified by the translucent panels which Sullivan introduced to diffuse the natural light.

Alterations in 1902 added four more stories to No. 18 which, although it destroyed the original relationship with the adjoining buildings, followed the Sullivan motif in detail, including the foliation at the top of the piers so arbitrarily stuck onto the parapet. The Gage Building is the starting point for Sullivan's next step in the synthesis of form.

Sullivan's mature understanding of the complex quality of fine architecture is found in his design of the department store for Schlesinger and Mayer, later Carson Pirie Scott and Co. This commission was one of the few that came to Sullivan for a large urban building in the years after the partnership with Adler was dissolved. The design for the first two portions of the store (1899 and 1904) embody all of Sullivan's architectural theories and artistic skills. The last phases of construction were completed in 1906 by D. H. Burnham and Co., and in 1961 by Holabird and Root who chose to follow the major features of the Sullivan design.

For the most part, the Carson Pirie Scott Store is a steel-frame structure. The outer columns and spandrel girders above the second story are sheathed in terra cotta tiles. The first two stories form the base of the mass and are covered with profuse, delicate, and original foliate and floral ornament of low relief in cast iron. The cellular units of the upper story are a bold and exact reflection of the steel frame and perfectly proportioned windows are a dramatic culmination of the Chicago School fenestration pattern. This horizontality of the wide-bay window frame is further emphasized by the continuous rows of ornament at the line of the sill and lintel. The original roof line was a thin slab projecting slightly, accenting the horizontality, and terminating the verticality of the mass.

There is no better expression of the architecture of modern industry and commerce than this building. It can be easily associated with the European International Style of the mid-1930's and the American horizontalism of the later phase of the Chicago School. Sullivan's superior sense of scale, proportion, rhythm, and organization, coupled with his unparalleled imagination as an ornamentalist, is a declaration not of his style alone, but of his architectural principles. The Carson Store building is both an exploitation of the aesthetic possibilities of the steel frame and a statement of the system of construction epitomized in the Chicago School movement.

NEW FORM . .

The Expression of a Philosophy of Design

The full character of the Chicago School was not entirely visible during the late nineteenth century. The original architects limited their work almost entirely to the single aspect of tall commercial buildings. This limitation imposed severe restrictions on their effectiveness in other directions, prevented them from developing styles that were not so specialized, and inevitably impeded their influence on ramifications of the new architecture.

As the practice of architecture became increasingly institutionalized to meet the exacting needs of large commercial commissions, young professionals and small architectural firms found they did not have the credentials required by the business community for its major projects. At the same time, the larger architectural offices, with their highly specialized talents, could not afford to accept less remunerative commissions for small public buildings and residences. As a result, a later phase of the Chicago School was able to take advantage of a unique opportunity to adapt its design theories to new varieties of construction—small public buildings and houses.

The development of a second branch of the Chicago School was the American manifestation of the international revolt and reform which occurred in the visual arts during the early years of this century. Inspired by Louis Sullivan and given prominence by Frank Lloyd Wright, members of the movement sought to achieve fresh and original architectural expression. Their designs were characterized by precise, rectangular forms and by highly sophisticated interior arrangements with a sense of space that belied the actual size. The approach proved immensely significant in residential architecture as increasing land and building costs, together with the absence of domestic help required for great dwellings, led to the construction of smaller and more efficient houses.

Previous studies have exalted the work and influence of Sullivan and Wright often to the exclusion of many contributions made by their contemporaries, but scholars now are publishing books and articles on the entire phenomenon of the Chicago School. The comprehensive study of the Chicago School should take into consideration not only the masters but also the works of their colleagues and students. Included are some twenty architects, among whom are Walter Burley Griffin, the firm of Purcell and Elmslie, Barry Byrne, William E. Drummond, Hugh M.G. Garden, Dwight H. Perkins, George W. Maher, and the firm of Tallmadge and Watson, all of whom at times matched and occasionally surpassed the genius of their mentors.

The early phase of this branch reflects Sullivan's message of simplification and elimination of nonessentials. He starts with the building mass, transforms it by ordering and simplifying the individual forms and openings, and then integrates a structured ornament. This is what he had done in the Auditorium Building and the Wainwright Building, both echoing H. H. Richardson's Marshall Field Warehouse and its source, the Renaissance palazzo.

The most dramatic examples of Sullivan's approach to design can be seen in his development of a personal style in the two tombs he designed at Graceland Cemetery. The Ryerson Tomb (1889) is a clear statement of simplification with its battered walls that flare out at the base in a graceful, uncluttered, and springing curve. The form and the polished surfaces of the blue-black Quincy granite embody the full expression of the architectural composition. By emphasizing geometric form and the nature of material, this work became a statement of independence from the Romanesque, and the basis for the break from historic styles. The Getty Thomb (1890) is Sullivan's first mature work. The integrating of a structured ornament into an expression of the mass and its openings is a complete statement of the philosophy and style of architecture we call "Modern." This process of design was quickly mirrored by younger architects. It is particularly evident in Garden's Herrick and Madlener houses, Wright's Charnley House, Maher's house for John Farson, and Perkin's work for the Chicago Board of Education.

Of the young architects in the movement, George W. Maher was the first to develop a consistant personal mode for residential architecture. Maher developed his view of architecture somewhat independently of the mainstream of the Chicago School. Although he had been an apprentice of Joseph L. Silsbee simultaneously with Wright and Elmslie, he was not in the group at Steinway Hall or among the Eighteen. By the time he began his private practice in 1888 he had established his philosophy that "the right idea of a residence (is) to have it speak its function." Function for him was more a psychological concept of shelter rather than utilitarian function. This he expressed in the massiveness, centralization, and substantiality of design.

MAGERSTADT HOUSE, 1906-08. GEORGE W. MAHER, architect. *Photograph by Cervin Robinson for Historic American Buildings Survey.*

The culmination of this synthesis occurred in the symmetrical, blockly masses, and slick but solid masonry walls of the house he designed for John Farson in 1897. Unfortunately, he considered the Farson house a "type of an American Style." This search for an American architectural style was later supplemented by inspirations from the modern architectural movement in England and Austria.

Perhaps because of this concern for style, Maher was unable to completely synthesize his architectural theories into architectural solution. As a result, his work was often awkward, repeatedly falling back on the expedient of a tried formula until a new type was substituted in its place. However, Maher enjoyed considerable social success, and most of his houses were built in Chicago's northern, wealthiest suburbs including Kenilworth, Oak Park, and Evanston. Of Maher's nonresidential work, the Kenilworth Club (1906), with its timber frame and long hipped roof came closest to the design spirit of the Chicago School. More typical of his nonresidential work were the

ROBIE HOUSE, 1908. FRANK LLOYD WRIGHT, architect. *Photograph by Cervin Robinson for Historic American Buildings Survey.*

several buildings for Northwestern University and the suburban office buildings which were collegiate and commercial adaptations of his post-Farson house designs. All have the same emphatic cornice, and the same emphasis on the wall surface with the precise punctures of door and window apertures. Maher's later work showed a variety which lacked direction, and by 1913 he had relinquished his spirit of independence and decisiveness. In spite of present day aesthetic judgment, Maher made real contributions to the Chicago School movement. His work enjoyed great public favor and had a profound influence on other architects. He created, where others had failed, a consistent and occasionally highly personal series of ahistorical designs.

Some of the finest designs of the period were produced by Hugh M. G. Garden. Before the turn of the century he was working privately, often as a free-lance designer for Richard E. Schmidt, and in 1906 the partnership of Schmidt, Garden, and Martin was formed. Garden had an outstanding sense of proportion in which he expressed strong, positive massing, a simplification of basic forms, and careful attention to the relation between solid and void. From his hand came a continual flow of designs for houses, churches, industrial, commercial, and other public buildings that offered original solutions to the functional and aesthetic problems presented by each building type. The quality of work from this firm is reflected in the success of its creative exercises rather than the easier adaptations of design formulas.

Dwight H. Perkins was an architect who provided much of the spirit of the Chicago School movement although he was not an avant-garde designer. His colleague, Thomas Tallmadge, said, "We think of him as a citizen and a patriot almost before we think of him as an architect." Public service was always a priority with him, and he was instrumental in the establishment of the Cook County Forest Preserves. He led the cause of the movement in the Steinway Hall loft, at the Chicago Architectural Club, and during his term as architect for the Chicago Board of Education.

Although the designs may not always have been from his hand, he has justifiable claim as a specialist in school design with his concepts of new forms and functions for the school building.

BROOKFIELD KINDERGARTEN, 1911. WILLIAM E. DRUMMOND, architect. *Photograph by Richard Nickel for Historic American Buildings Survey.*

KENILWORTH CLUB, 1906.
GEORGE W. MAHER, architect.
Photograph for Historic American Buildings Survey.

Of the projects that came from his five-year tenure with the Board of Education, the Carl Schurz High School and the Grover Cleveland Elementary School are perhaps the most dramatic. His buildings are sometimes expressionistic, with vigorous plasticity of form and rich warm tone of brick in a tapestry of masonry. The schools have a dignity and repose in design that is monumental without being formidable.

The evolution of Wright's design from the Shingle Style, through the static forms of the rectilinear, to his fully developed prairie house and his experiments in new material, such as the exposed, reinforced concrete structure of Unity Temple can be traced in the limited geographic area of Oak Park-River Forest. His complete and personalized transformation of building forms can be seen in his Winslow, Thomas, and Mrs. Thomas Gale houses. However, the greatest works of his mature period (1900-09), called by Grant C. Manson "the first golden age," are outside this district—the Willits House in Highland Park, the Coonley House in Riverside, and the Robie House in Chicago.

Wright had re-thought the problem of the single-family house by that time, and the result was the destruction of the box. He opened the house within itself and opened it out to nature. The closed cubic form was modified by broad space-defining planes, and the traditional wall was all but eliminated. The roof as a function of shelter was emphasized with broad overhangs, and its low pitch hip or slab-like form accented the horizontal line and intensified the play of light and shadow.

The form of the roof was echoed in terraces or cantilevered balconies until the whole composition of interior and exterior space became a lively interplay between horizontals and verticals, culminating in a linear quality of repose on the land.

Wright's solutions were what he called "organic"—the adaptation of natural principles to the organization of architectural space. He conceived of the form of his buildings as an organic outgrowth of its function. Unfortunately Wright communicated his methods and principles of designs as formal solutions which were accepted as stylisms of his organic architecture.

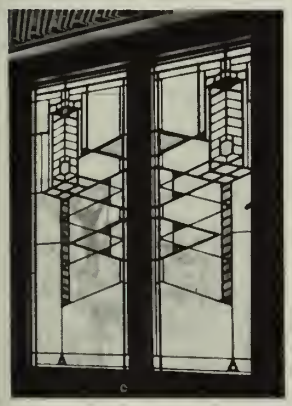
The maturing phase of the Chicago School was dominated by Wright, and the production of his prolific studio until 1909, when he left the city never to return. During this phase his influence was evident in the independent work of his former studio staff including Byrne, Drummond, and Griffin. As a result the diversity of architectural form at this period was made by designers who were not subject to Wright's thoughts.

The road to independence for architectural design

and the final fulfillment of the Chicago School as the basis for modern architecture came in accepting Wright's forms, which resulted from his personal design process, and then in applying Sullivan's manner of thinking to gain an individual solution and a more individual expression. This stage was epitomized by the mature work of Byrne, Drummond, and Griffin, although many of these commissions are outside the Chicago area. Within metropolitan Chicago there are splendid examples of their developing personal style, including such remarkable designs as the River Forest Women's Club by Drummond, and the Frederick Carter House by Griffin. To this somewhat limited volume of quality work the movement produced a great quantity of work by lesser known designers including Marion Mahony (who later married Griffin) and John S. Van Bergen, who never broke away from the Wrightian motif. Added to this was a wealth of personal expression of modern architectural ideas that stemmed entirely from non-Wrightian sources—houses by Tallmadge and Watson, bank buildings and houses by Purcell and Elmslie, and Maher's houses, schools, and small public buildings.

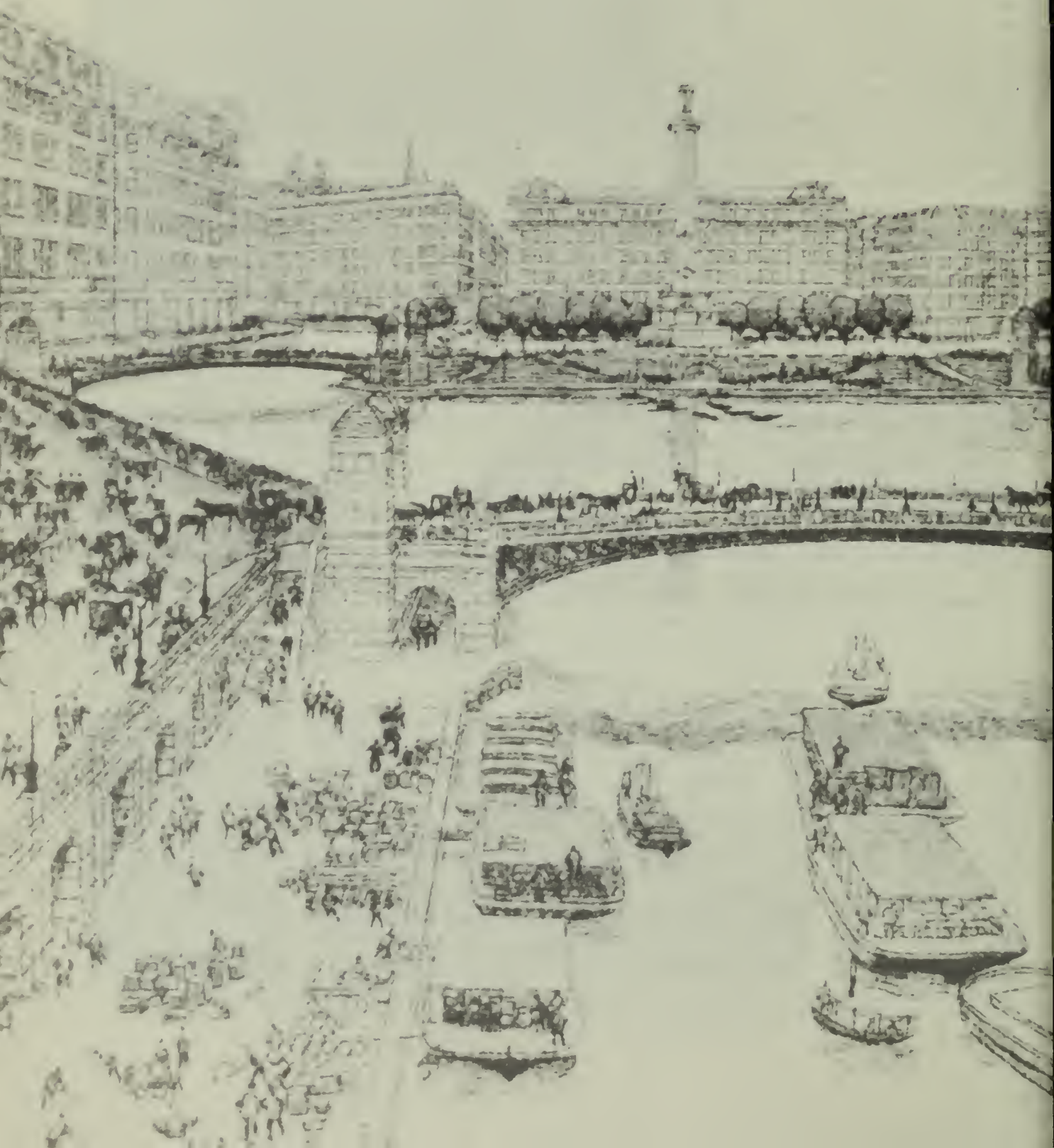
Thus by 1914, after the stimulation and assimilation of many and varied influences, the Chicago School movement reached full maturity and found fulfillment in creating often distinguished designs. Self-supporting, vital, and strong, the School seemed destined to a brilliant future. Then, with the interruption of building construction during World War I, the movement lost momentum. The very forces that created it fifty years earlier now led to its demise. After the war different values were of more importance, and Midwesterners increasingly rejected individuality in favor of conformity. The impact of the spirit of the movement was not to be felt again in Chicago for thirty years.

Left to right: CHARNLEY HOUSE, 1891. ADLER AND SULLIVAN, architects; FRANK LLOYD WRIGHT, designer. *Photograph by Chicago Architectural Photo Co.* CARTER HOUSE, 1910. WALTER BURLEY GRIFFIN, architect. *Photograph by Richard Nickel for Historic American Buildings Survey.* MADLENER HOUSE, 1902. RICHARD E. SCHMIDT, architect; HUGH M. G. GARDEN, designer. *Photograph by Harold Allen for Historic American Buildings Survey.*



Left to right: Detail from ROBIE HOUSE. *Photograph by Cervin Robinson for Historic American Buildings Survey.* ROBIE HOUSE, 1908. FRANK LLOYD WRIGHT, architect. *Photograph by Chicago Architectural Photo Co.* Detail from MAGERSTADT HOUSE. *Photograph by Cervin Robinson for Historic American Buildings Survey.*

TOWN PLANNING . . .



Architecture in the Landscape

Even prior to the 1871 fire there was an awareness of parks and open lands in Chicago. The great Western Parks of Chicago were established as a means of creating open space to enhance the real estate values of new residential areas to the west of the city's core, and concurrent with the beginning of the Chicago School movement there was the general interest of romanticists in relating nature and open country to the city. This interest was intensified by Frederick Law Olmsted, Sr., and Horace W. S. Cleveland, two pioneers in the young profession of landscape architecture, who brought to Chicago their mature experience in designing with the land. Their projects and writings, models of appropriate adaptation of basic design principles to local conditions, created the rationale for the evolution of modern landscape design.

Olmsted's plan of 1868 for the Village of Riverside, Illinois, was not only a landmark as the first planned commuter suburb, but the inventive design of its road system was a major contribution to town planning on a global scale. Olmsted had set out to create for the Riverside Development Association a community that represented "the best application of the Art of Civilization to which Mankind has yet attained." With his partner, Calvert Vaux, Olmsted used careful site planning to make the Chicago suburb a place to foster "harmonious cooperation of man in a community and the ultimate in relationship contrast, in a course interdependent between families." In its physical aspects and social concepts, Olmsted's plan is a classic. Abandoning the customary grid street pattern of the city, Olmsted merged the form of the street into the topography of the landscape. He reinforced the general layout of the street by planting roadside trees in regular clusters to give spontaneous effect and exploit the beauty of the mass foliage. He also insisted that each householder maintain living trees between the house and the highway line.

In further efforts to create a rural atmosphere, Olmsted and Vaux stressed unfenced parks and recreation grounds within informal village greens, and interior roadways that wound around interesting natural features and focused on the river. The roads were often depressed to create a less disturbing effect on sightlines. For the first time the streets were deliberately curved, the idea being to suggest, in Olmsted's words, "an implied leisure complacentness and happy tranquility." In other parts of the development there is the suggestion of separation of business from pleasure traffic.

The concept of the village was based on its function as a satellite town in relation to the city. The planning of the business and civic center for the village was focused on the railroad station—the first out-of-town stop on the main line of the Burlington. Although it was never exploited, the plan also encompassed a six-mile pleasure parkway, connecting the village with Chicago for the benefit of commuters.

Riverside became a model for the later development of suburban towns. However, planners of modern subdivisions generally use only the basic curving streets, while ignoring the creative use of topography and the role of small parks in suburban living.

The significant early planning projects of Chicago School architects were concerned with architectural solutions to the socioeconomic plight of factory workers, such as Beman's design of Pullman, or the overall organization of urban spaces into a unified scheme, such as Burnham's plan for the Columbian Exposition and his later city master plans. Although these planning projects had little effect on the advancement of modern design precepts, they were of international consequence.

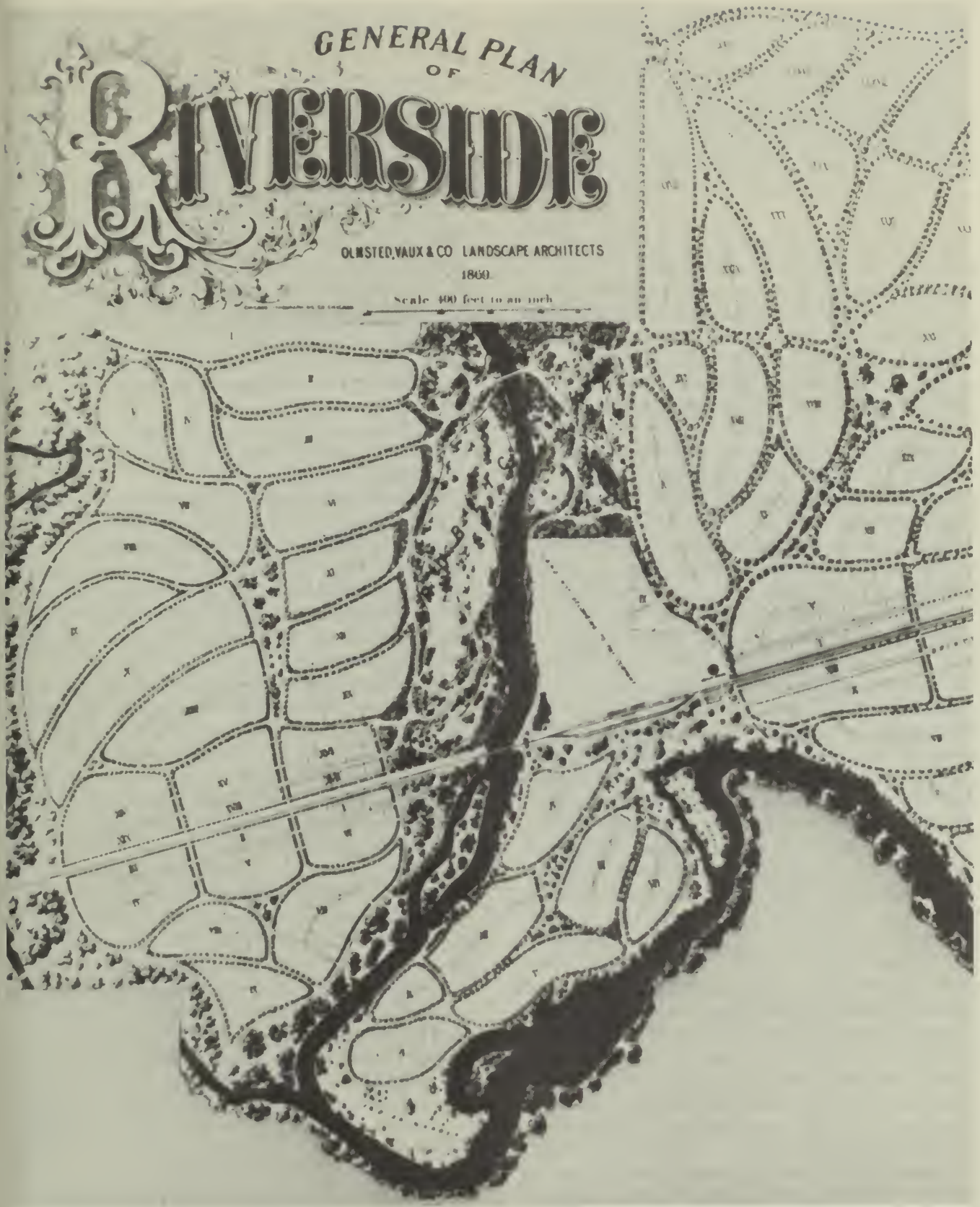
In 1879 the Chicago industrialist George M. Pullman commissioned architect Solon S. Beman and landscaper Nathan F. Barrett to design the town of Pullman. This project was conceived as a complete manufacturing town, having not only the factories and the workers' homes but also convenient shopping facilities, theaters, schools, and churches. Recreational activities were provided in playgrounds and athletic fields on the shores of Lake Calumet. Complete city services were also provided, including sewers and fire protection. Although the scheme followed a regular urban grid pattern, there were several planned open spaces. The public buildings were grouped around a park across from the railroad station, and the Pullman Company Administration Building faced a lagoon which formed an extension of the park.

Architecturally Beman's work had a high standard of consistency and provided striking public and company buildings, plus a variety of houses for families of managers and workers and dormitories for single, transient workers. Although there was no breakthrough into new architectural design, the complete development of the social and physical complex of the town by one team of designers was a significant milestone in city planning. There is no doubt that as an example of a satellite town Pullman had an influence on Sir Ebenezer Howard and his Garden City Movement in London in the late nineteenth century.

The World's Columbian Exposition of 1893, coordinated by Daniel Burnham, brought together all the major architects in the United States to design, as individual commissions, the major exposition buildings in a uniform, neo-classical style. Many designers and critics felt the exposition was an aesthetic disaster, since it turned public taste once more to the admiration of historic styles. Despite Sullivan's prediction that it would set American architecture back fifty years, the fair had a positive effect in the scope of its physical plan, mammoth buildings set within a man-made landscape and related and supported by an integrated infrastructure of transportation and public services. Burnham's effort to bring together the architectural, engineering, and construction talent of the entire country into a single concentrated work, to be completed simultaneously, proved an unqualified success.

One of the most important contributions of the Columbian Exposition to the future of American cities was its influence on the art of city planning and landscape architecture. For the first time in American history a complete city, equipped with all the public facilities attendant upon a population of thousands, was built as a unit on a single common architectural scale. Sociologists acclaimed the "White City" a great social achievement, "the result of many minds inspired by a common aim working for the common good . . . . The World's Fair was a miniature of the ideal city." Frederick Law Olmsted, Sr., together with his associate Henry Sargent Codlin, formulated the landscape design of the World's Fair, which was superimposed over his earlier design for Jackson Park and the Midway Plaisance.

COONLEY HOUSE, 1908. FRANK LLOYD WRIGHT, architect. JENS JENSEN, landscape architect. *Photograph by Chicago Architectural Photographing Co.*



Plan of RIVERSIDE, 1869. OLMSTED, VAUX AND CO., landscape architects. *Plan courtesy of Frederick Law Olmsted Society of Riverside.*

Montgomery Schuyler wrote the following year:

> The landscape plan is the key to the pictorial process of the Fair as a whole, and we say it generated the architecture of the water court by supplying indications which sensitive architects had no choice but to follow. In no point was the skill of Mr. Olmsted and his associates more conspicuous than in the transition from the symmetrical and stately treatment of the basin to the irregular winding of the lagoon.

The work of Olmsted and Codlin at the Fair was an outstanding example of the "City Beautiful" and a powerful influence on the art of city planning.

It was from his associations gained as administrator for the World's Fair that Burnham derived his interest in city planning. He visited Europe and studied plans for all the great European cities, particularly Paris. In 1902 he found himself working with Frederick Law Olmsted, Jr., and his associates from the World's Fair, Charles F. McKim and Augustus Saint-Gaudens, as members of the McMillian Commission to study and suggest plans for the District of Columbia. The influence of Paris and the neo-classic style is to be seen, not only in the city of Washington, but in all of Burnham's plans. He made master plans for Cleveland, San Francisco, and Manila, but the capstone of his planning career was his Chicago Plan of 1909.

Whatever criticism may be made of the Chicago Plan with its heavy overtones of classicism, Burnham had unusual technical and administrative ability to organize such stupendous operations. He enlisted broad support from political and business leaders of Chicago and received publicity that even reached to the schools explaining the reasons for a new city plan. The published brochures with sumptuous drawings depicted the integration of business and industrial and residential centers into a whole planned unit. Burnham came as close as anyone in modern times to changing the appearance of a major city. Although realized only in part—most notably the lakeshore area—this most ambitious of American city plans remains a goal of Chicago even today.

More direct in its influence on members of the Chicago School was the work and writings of Horace W. S. Cleveland. Cleveland moved to Chicago in 1869 when he learned that Chicago had purchased land for public parks. He was appointed landscape architect of the South Park and connecting boulevards to carry out Olmsted's plan. For almost twenty years he practiced landscape design and theorized on town planning. After the fire he became very much occupied with new designs for the city. In 1873 Cleveland published forceful arguments against the design of towns with the typical gridiron plan on land that could not accommodate this rigid pattern. His solutions to the problems of Chicago were not heeded in the rapid rebuilding that was in progress, and thus was lost an excellent opportunity for a new system of streets and boulevards more imaginative than the old grid pattern. Working in the romantic traditions of Olmsted, Cleveland did much to awaken his contemporaries in Chicago and the Midwest to the necessity of comprehensive solutions to the problems of town planning and the provisions of adequate park systems.

Several architects active in the Chicago School movement were also directly involved in landscape design. The development of the Western Park system occupied William Le Baron Jenney when he first arrived in Chicago and led him to an active role as designer for parks, gardens, and ancillary structures. He was later associated with Frederick Law Olmsted, Sr., as the local supervisor for the construction of Riverside. So imbued was Jenney with the romantic concepts of merging suburban town into the landscape and the ethos of nature, that he built his own home in Riverside and wrote and propagandized for the romantic point of view.

Another important figure in early American landscape architecture was Ossian C. Simonds, a civil engineer, who was at one time a partner in the firm of Holabird, Simonds and Roche. He was the only Chicagoan at the meeting in New York on January 4, 1899, to organize the American Society of Landscape Architects, and for the next thirty years he was active in the profession and the Society. His work in landscape design included the layout of Fort Sheridan, Illinois, and his masterpiece, Graceland Cemetery in Chicago. The remarkable parklike design of Graceland was planned on a large scale as a spatial entity. Because of his preference for the use of midwestern informality in his planning, and his insistence on a plan in sympathy with the environment, Simonds must be considered a pioneer in the development of what became a new school of landscape architecture.

One of the few landscape designers directly associated with the younger architects of the Chicago School movement was Jens Jensen. In his long career of more than fifty years in Chicago, Jensen landscaped houses and designed parks that are the illustrations of his affinity to the early works and thinking of Cleveland and Simonds. But Jensen's talent was original, springing from the artistic, intellectual, and prairie milieu of Chicago.

Jensen's philosophy is best revealed in his writings:

> I use many symbols of the prairie . . . plants with strongly horizontal branches or flower clusters that repeat in obvious or subtle ways the horizontal line of the land and the sky which is the most impressive phenomenon of the boundless plains.

His attitude was uncompromisingly against the use of rare and exotic plants. Their inclusion, except in a special

garden was termed by Jensen a "nature faking," and throughout his career he maintained that only the local varieties were proper material for landscaping architecture.

Jensen's direct associations with the Chicago School were many. He worked with Sullivan at the Babson House and with Wright at the Coonley House, both in Riverside. He did the landscape design for the Harry Rubens Estate, which was designed by Maher in Glencoe; he created the landscape design for dwellings by Robert C. Spencer, and was associated with Hugh Garden's numerous architectural designs in Humboldt Park.

Wright declared:

> In Jensen's landscape architecture Chicago has a native nature poet who has made the Western Park system a delight in the country. He is a true interpreter of the particular charm of our prairie landscape.

While Cleveland, Simonds, Jensen, and Burnham each contributed in his own way to the town planning-landscape architecture movement in the United States, it was the Chicagoan Walter Burley Griffin who brought the landscape and city planning concepts of the Chicago School to international attention. Griffin was concerned with buildings in the landscape, and from the time he began his private practice he considered himself an architect and a landscape architect. Although he was hardly designing on the scale of Burnham, his work in planning small communities and towns was not without importance from the point of view of design as well as social thinking.

Late in 1911 Griffin entered the international competition for the design of the new Australian capital as a planning exercise. On May 25, 1912, headlines in *The Chicago Tribune* announced that a Chicagoan, Walter Burley Griffin, had won the international competition for the design of the city of Canberra. This plan brought into focus all aspects of city planning philosophy to that date in the United States. Strongly influenced by the Columbian Exposition and the work of Burnham, the plan had a definite geometric character with avenues of vistas set in three foci: the House of Parliament, the Municipal Center, and the Commercial Center. However, the emphasis of the plan was on the site of the city—a large amphitheatre with a natural flow of river dammed to create lagoons. There was a throw-back to the romance of the natural scene and always a consciousness of the relation of the man-made structures to the land. Griffin introduced into planning, as a science and an art, something of the ultimate importance for orderly and healthy growth of towns and cities.

As a result of winning this competition, Griffin moved to Australia and spent the remainder of his life working for

HENRY BABSON ESTATE - SERVICE BUILDINGS, 1915-16. PURCELL & ELMSLIE, architects. JENS JENSEN, landscape architect. *Photograph by Richard Nickel for Historic American Buildings Survey.*

the development of Canberra, traveling also to Delhi, India, as a consultant for the new city. Griffin left a lasting impression on the country of his choice. As an advocate of town planning, he tirelessly worked in the planning movement, designing not only the capital city, but also a number of small suburbs and two major projects in other parts of Australia.

Griffin played an additional important role in the architectural development of Australia, both as a practicing architect and as an outspoken critic of timid traditionalism in building. He demanded that the style of government buildings in Canberra be designed without reference to the past, but in the true spirit of Australia with native materials and natural colors. He strove to achieve an ideal architectural style where there was no relationship to the past. His work was important as an extension of the philosophies of the Chicago School.

In landscape architecture and town planning the work of Jensen and Griffin stand out. Jensen was one of the primary designers of Chicago's superb system of public parks. He was the craftsman of the prairie garden, creating a natural architecture out of trees and shrubs, to compliment the structures of stone and glass.

Griffin was, of course, the most creative town planner of the Chicago School. Starting with modest subdivisions in the Chicago area and landscape plans for midwestern colleges, his career expanded to the planning of a national capital.

Griffin recognized the need for intellectually planned, semi-autonomous suburbs, which, although connected economically to the metropolis, preserved their own way of life. Although Griffin was aware of the English Garden City Movement, he saw that the American suburbs demanded a planned solution quite unlike that projected by Sir Ebenezar Howard and his followers. Realizing the inevitability of the American suburb, a fact never accepted by Wright, Griffin sought to retain the social advantages of a small town within the urban framework. By expanding this theme, which was Olmsted's philosophy in the design of Riverside, Griffin exemplified the progressive spirit which had been so much a part of his Chicago heritage.

CHICAGO RIVER
CHICAGO RIVER
Wacker Dr.
South Water St.
Lake St.
Randolph St.
Washington St.
Madison St.
Monroe St.
Adams St.
Jackson Blvd.
Van Buren St.
Congress Pky.
Post Pl.
Garvey Ct.
LaSalle St.
Quincy St.
Wacker Dr.
Franklin St.
Wells St.
Sherman St.
LaSalle St.
Clark St.
Federal St.
Dearborn St.
Plymouth Ct.
State St.
Wabash Ave.
Michigan Ave.
N
1,000
900
800
700
600
500
400
300
200
100
0 Ft.
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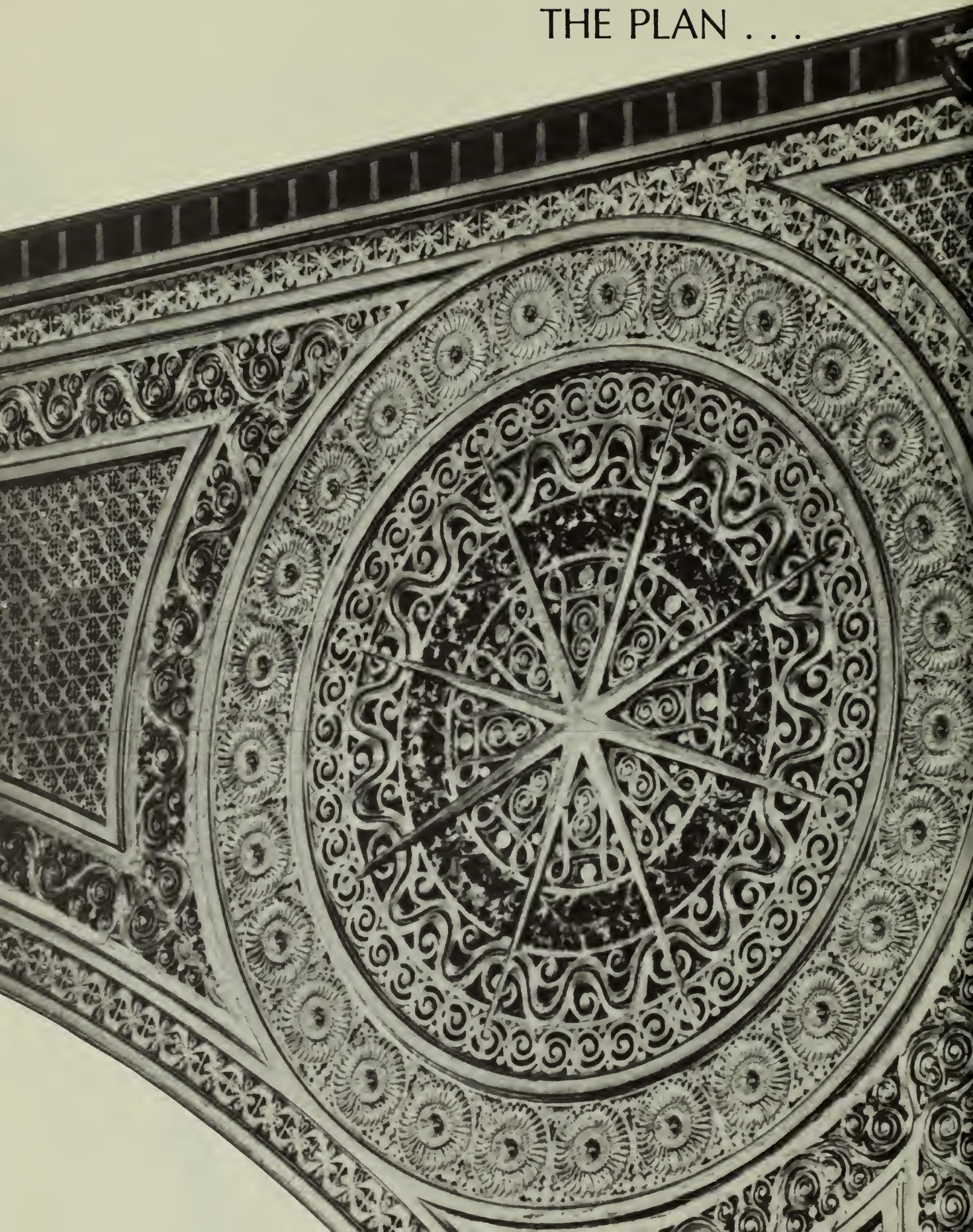
THE LOOP CHICAGO SCHOOL OF ARCHITECTURE BUILDINGS

In the central business district of Chicago, there remains a concentration of buildings representing the evolution of design principles and construction systems basic to modern architecture. The following buildings trace the development of the skyscraper - an architectural form that has shaped urban life throughout the modern world:

1. Auditorium Building, 1887-89, Adler and Sullivan, Architects
2. Carson Pirie Scott Co. Department Store, 1899, 1903-04, Louis H. Sullivan, Architect
3. Fisher Building, 1895-96, D.H. Burnham and Co., Architects
4. Gage Block, 1898, Holabird and Roche, Architects (Facade at No. 18 by Louis H. Sullivan, Architect)
5. Leiter II Building (Sears Roebuck and Co. Store), 1889-91, William LeBaron Jenney, Architect
6. McClurg Building, 1899-1900, Holabird and Roche, Architects
7. Manhattan Building, 1889-91, William LeBaron Jenney, Architect
8. Marquette Building, 1893-94, Holabird and Roche, Architects
9. Monadnock Block, 1889-91, Burnham and Root, Architects (South Addition, 1893, Holabird and Roche, Architects)
10. Railway Exchange Building, 1903-04, D.H. Burnham and Co., Architects
11. Reliance Building, 1894-95, D.H. Burnham and Co., Architects
12. Rookery Building, 1885-86, Burnham and Root, Architects
13. Champlain Building, 1903, Holabird and Roche, Architects
14. Chapin and Gore Building, 1904, Richard E. Schmidt, Architect (Design by Hugh M.G. Garden)
15. Jewelers Building, 1881-82, Adler and Sullivan, Architects
16. Mandel Brothers Annex, 1900, 1905, Holabird and Roche, Architects
17. Marshall Field and Co. Store (portion), 1892, Charles B. Atwood, Architect
18. Montgomery Ward Building, 1897-99, Richard E. Schmidt, Architect
19. Old Colony Building, 1893-94, Holabird and Roche, Architects
20. Reid, Murdoch and Co. Building, 1912-13, George C. Nimmons, Architect
21. Troescher Building, 1884, Adler and Sullivan, Architects

THE PLAN . . .



A New Park Concept

Chicago's architectural monuments can be saved only by a concerted effort combining both public and private resources. The Federal Government could, and should, participate. The experiment has application to other cities suffering the loss of important landmarks to economic forces. However, no plan can be successful that does not rest on firm municipal commitment and command meaningful support of the city's civic and business leadership. In short, these local elements must create the conditions, both economic and attitudinal, that will favor the retention of landmarks in viable, largely self-sufficient modern use. Without such commitment, Federal help is bound to be unsuccessful; with such commitment, Federal participation becomes feasible and appropriate.

The national cultural park concept offers a framework of sufficient flexibility in Chicago to test new dimensions of Federal, municipal, and private cooperation in the preservation and interpretation of outstanding segments of America's cultural patrimony. Under the Historic Sites Act of 1935 and additional authorizing legislation that would be needed from the Congress, the Secretary of the Interior would be empowered to enter into a series of cooperative agreements with the City of Chicago and other municipalities, as well as with public and private entities which would be responsible for properties to be included in the park. These agreements would specify the obligations of the signatories in preserving and interpreting the properties and establish the mechanism for Federal financial assistance in those instances where deemed essential to the purposes of the Park.

The Federal Government itself would acquire and administer little if any historic property. Most structures would remain in private ownership under the protection of cooperative agreements. However, the National Park Service would operate visitor center facilities where the history and significance of Chicago's architectural monuments would be interpreted to visitors through museum, audiovisual, and publications media and where guided and self-guiding tours of landmark buildings would be organized.

The most difficult and complex challenge is in the high density, downtown area, where economic forces relentlessly destroy buildings that do not use the full development potential allowed their sites by municipal zoning and building regulations. The key to the national cultural park proposal, therefore, is city action aimed at redirecting these economic forces so that they encourage preservation of selected structures, whether or not as part of the park itself.

The concept of development rights transfers appears to offer a means of achieving this redirection. The most detailed elaboration of such a scheme is the "Chicago Plan." This is described in detail in John J. Costonis, "The Chicago Plan: Incentive Zoning and Preservation of Urban Landmarks," *Harvard Law Review,* Vol. 85, No. 3 (January 1972), 574-84. The article is available in reprint.

Essentially, the Chicago Plan provides for the sale of any unused development rights to build on land occupied by landmark properties within designated districts. Subject to density controls and planning review, purchasers of the development rights would be permitted to use the rights in building beyond heights, space, or other limitations that would normally apply. By eliminating unused development rights from landmark buildings, the development pressures based on potential rather than on present value would be eased, if not altogether removed, and real estate taxes would probably be lowered.

At the same time, the sale of rights for use elsewhere would provide substantial cash income to the landmark owner, compensating him for loss of development values and assisting in preservation and restoration work. Owners of landmark buildings thus relieved of speculative interest would subscribe to a document setting forth preservation restrictions.

The Chicago Plan, as implemented in downtown Chicago, would apply to all landmarks designated by the city within a defined preservation district, not solely to those structures of national significance ultimately to be included in the park.

The city's role would be to accord to each structure in the park the protection of the Chicago Landmarks ordinance through official designation; to implement the development rights transfer proposal order; to administer a "development rights bank" and related revolving preservation fund; and to supervise the system of preservation restrictions. A cooperative agreement between the city and the Secretary of the Interior would specify the terms on which the park units would benefit from Chicago Plan financing and the interest of the Secretary in standards of preservation, restoration, renovation, maintenance, and use.

The private sector would be expected to administer a private preservation revolving fund; to operate the structures, whether for profit or not for profit; and to work closely with the City and the National Park Service in all phases of implementation.

It is the premise of this study that, once the park is established with proper design, the development rights bank and related revolving funds, together with the earning power of the structures and moderate real estate tax relief, will entirely support the costs of preserving the buildings. Costs to the Federal Government would be those associated with administration, technical advice and assistance, interpretive facilities, and visitor services.

The Loop Unit is the cornerstone of the park proposal. Unless a satisfactory formula is reached for preserving and interpreting the Chicago School buildings in the downtown area, the park would not be regarded as feasible.

The buildings, parks, and planned towns that make up the potential elements of the Chicago School theme are many. The individual buildings that remain in the Chicago area and grew out of the work of this School form a basis for scholarly assessment of each architect's contribution to the movement as a whole. The total resource reflected in the School as a unit mirrors the course of the movement itself, the architectural theme of the style change, and, in retrospect, its significance to our modern culture.

THE PARK RESOURCES

The park resources in the Loop include the primary surviving office buildings that portray the evolution of the skyscraper and the ensuing style change in modern architecture. At a minimum the following buildings are considered basic to the interpretation of the Loop unit of the park:

- Auditorium Building
- Carson Pirie Scott Co. Department Store
- Fisher Building
- Gage Block (18-30 South Michigan Ave,)
- Leiter Building II (now Sears Building)
- McClurg Building
- Manhattan Building
- Marquette Building
- Monadnock Block (including the southern addition)
- Railway Exchange Building
- Reliance Building
- Rookery Building

The theme of the park would be further enhanced by the addition of buildings in or near the Loop as their suitability and feasibility is evaluated in relation to the total context and purpose of the Park. The following list should not be considered definitive, but only an indication of the scope of the park resources.

- Champlain Building
- Chapin and Gore Building
- Colgate Building (now Playboy Building)
- Dwight Building
- Jewelers Building
- Mandel Store Annex
- Marshall Field & Co. Store (at Washington and Wabash Sts.)
- Montgomery Ward Co. Building
- Montgomery Ward Co. Warehouse
- Old Colony Building
- Pontiac Building
- Reid, Murdoch & Co. Building (now the City of Chicago Central Office Building)

The park interpretive theme of the search for the universal adoption of the principles of architectural design that matured in the second phase of the Chicago School, and its activities in landscape design and town planning, is depicted in structures and districts in the residential sections of Chicago and in the suburbs to the west and north. There are sufficient resources to interpret the scope of the Chicago School movement with a variety of separate buildings and geographic groupings of buildings and districts. As individual owners and citizen groups indicate their interest in participating in the park plan, new operating units can be added.

As a concept, among the units included in Chicago would be the Kenwood-Hyde Park Unit with the first houses designed by Frank Lloyd Wright the development of a new house form in his Heller and Robie houses, and Hugh Garden's Herrick House. Also in this area are several early houses by George Maher, the firm of Tallmadge and Watson, and the firm of Nimmons and Fellows. In this district is one of Barry Byrne's few churches in Chicago—St. Thomas the Apostle and the First Congregational Church by Drummond. The site of the World's Columbian Exposition of 1893 could form the southeast boundary of this Unit.

There could also be in the city a unit north of the Loop, generally the Near North Shore-Uptown areas; a unit on the west that follows the historic growth of the city around the Western Park system; and units in the Near South Side and in Pullman. Included in the unit north of the Loop would be Wright's Charnley House, Garden's Madlener House, several houses by Maher, a Byrne school, and Sullivan's Ryerson and Getty tombs in Simonds' Graceland Cemetery.

The resources in the western portion of the city are loosely connected but could include Dwight Perkins' Carl Schurz High School and his Grover Cleveland Elememtary School, Garden's Humboldt Park Pavilion in the Western Park system (a system in which both William Le Baron Jenney and Jens Jensen had a hand), Wright's Francisco Terrace Apartments, and Sullivan's Holy Trinity Russian Orthodox Cathedral.

Detail from EDISON SHOP, 1912 (now demolished). PURCELL, FEICK AND ELMSLIE, architects. *Photograph by Harold Allen for Historic American Buildings Survey.*

The Near South Side Unit should be included in the Park to interpret the point of departure for the Chicago School's house design with H. H. Richardson's Glessner House and S. S. Beman's Kimball House. Located across the street from each other, these houses are dramatic contrasts of life styles and taste in the affluent society of the late nineteenth century. Nearby is Richard E. Schmidt and Hugh Garden's Schoenhafen Brewery Company powerhouse and Schmidt, Garden, and Martin's Michael Reese Hospital. The Pullman National Historic District, important to the theme as a landmark of social and physical planning of an integrated satellite town should be included in the Park as a separate unit.

In the western suburbs of Oak Park, River Forest, and Riverside, there are over a hundred houses and small public buildings dating from the end of the nineteenth century to the First World War—works of Jenney, Wright, Maher, Drummond, and the architectural firms of Tallmadge and Watson, Purcell and Elmslie, and Spencer and Powers. The Village of Riverside, the design of Olmsted and Vaux, is now a National Historic District.

If sufficient interest by the owners and municipalities is shown, a park unit could be organized to show the complete evolution of architectural style change in a major phase of the Chicago School movement. Most important resources in such a unit would include Wright's own house and studio, the Unity Temple, and his Winslow, Roberts, Thomas, Mrs. Gale, and Coonley houses, Maher's Farson House, Spencer's McCready House, Tallmadge's Golback and Carroll houses, and the River Forest Women's Club by Drummond and the Village of Riverside as a planned community.

In the suburbs north of the city, from Evanston to Highland Park, a similar theme of the house and small public building could be developed from over 80 buildings, with emphasis on the work of Griffin, Maher, Van Bergen, and Tallmadge and Watson. Important work of Myron Hunt and Wright are also represented here.

An Interpretive Plan

The park interpretive programs are conceived as a chain with accent on the links. The interpretation of the central theme will be introduced at the major visitor center. The interpretation of the subthemes will be independently developed at the sites of resource concentration. Each story will stand on its own. The central theme will connect the subthemes to demonstrate their interrelations within the Chicago School movement.

Alternative means of transportation rather than circulation by private vehicle would be encouraged. This will minimize the impact of visitation and public use on the elements of resource that are in residential areas. Such a visitor transportation system will also expand the opportunities for interpretation while enroute to the sites.

The central theme will show the development of the Chicago School movement. The major site interpretive themes will relate this movement to the forces that were conducive to the development of new architectural forms, new concepts of landscape design and town planning. The new architectural styles as a product of the socioeconomic environment and the physical response and expansive growth will be subthemes to be interpreted within the framework of the central theme.

Continuity in the time span of all themes will be interpreted in terms of the international impact of the phenomenon, its eclipse, and its rebirth in the modern history of Chicago.

Daniel H. Burnham

William Le Baron Jenney

Louis Sullivan

Dankmar Adler

George W. Maher

Frank Lloyd Wright

Walter Burley Griffin

Hugh M G. Garden

Louis Guenzel

William Drummond

William Holabird

Martin Roche

George Elmslie

William Purcell

LIST OF PLATES

CARSON PIRIE SCOTT & CO. DEPARTMENT STORE, 1899, 1903-4. LOUIS SULLIVAN, architect. (Later additions by D. H. Burnham and Co., 1906. Holabird and Root, 1961). *Photograph by Hedrich-Blessing.* vi

RELIANCE BUILDING, 1894-95. D. H. BURNHAM CO., architects. *Photograph by Cervin Robinson for Historic American Buildings Survey.* 10

MARQUETTE BUILDING, 1893-94, 1905. HOLABIRD AND ROCHE, architects. *Photographs: (upper right and left and center), courtesy of Holabird and Root, architects, and the Landmarks Preservation Service of Chicago. (lower left) Chicago Architectural Photography Co., courtesy Landmarks Preservation Council, Chicago. (lower right), Jack Boucher for Historic American Buildings Survey.* 17

RIVER FOREST WOMEN'S CLUB, 1913. GUENZEL AND DRUMMOND, architects. *Photograph by Richard A. Miller for Landmarks Preservation Council, Chicago.* 18

THE CHICAGO PLAN, 1909. A Suggested Arrangement of Streets on the South Branch of the Chicago River. D. H. BURNHAM, architect-planner. *Painting by Jules Guerin.* 24

Detail from AUDITORIUM BUILDING. *Photograph by Cervin Robinson for Historic American Buildings Survey.* 32

Architects of the Chicago School. *Photographs courtesy of The Prairie School Press, Inc., and Chicago Historical Society.* 36

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