PER-1975

Perspecta 15 Yale Papers on Architecture

Perspecta 15

Perspecta 15 Backgrounds for an American Architecture

Editor
William Versaci

Design
Won Chung

Associate Editors
Jeffrey Limerick
Keith Gross
Hervin Romney

Assistant Editors
Patrick Curley
Steve Hagan
William McDonough
Marianne McKenna

Perspecta is a series of papers on architecture edited and published at intervals by students in the Yale School of Architecture, New Haven, Connecticut.

ISBN 0-8150-0322-6

Perspecta 15 is a non-profit publication supported by the Perspecta Fund and a grant from the Graham Foundation for Advanced Studies in the Fine Arts, Chicago.

Perspecta 15 and back issues of *Perspecta* are available exclusively from Wittenborn Art Books, Inc., 1018 Madison Avenue, New York, NY 10021. Type set by Typesetting Service, Inc., of Providence, Rhode Island. Printed and bound by Eastern Press of New Haven, Connecticut.

Contents

Oakland City Hall reflected in Cesar Pelli's Wells Fargo Building. Cesar Pelli is Design Partner with Gruen Associates and Professor of Architecture at Yale. He is a member of the "L.A. Silvers", who are experimenting with a glass-and-steel vernacular on the West Coast.

About Perspecta 15

Perspecta 15 is devoted to "Backgrounds for an American Architecture". In selecting articles the Editors sought to establish a cultural context of American Architecture within which they, as students, saw themselves working. Their purpose was not to catalogue significant monuments and movements, but to identify some aspects of the vernacular worthy of reconsideration.

The collection was intended to be documentary without being pedantic. Most of the work is of a scale which is more domestic than monumental, more suburban than urban. It is the Editors' premise that the less publicized developments of the last century have relied more on a loose application of historical style and technological innovation than on the formal and functional integrity associated with European modernism.

While choice implies a value judgement, the Editors do not intend to assign undue significance to the work they have assembled. Their goal was not to be inclusive, but to select articles from diverse sources which reflect a cohesive approach in our culture of built form.

William Versaci

The Editors wish to acknowledge the generosity and patience of the authors throughout the production of this issue. We would particularly like to thank Esther McCoy and John Entenza for their unfailing enthusiasm, and Carter Manny of the Graham Foundation and Gabriel Austin of Wittenborn Art Books without whose support this issue would not have been published.

Nathaniel Russell House, Charleston.

Charles W. Moore

is Professor of Architecture at Yale and UCLA. He recently co-authored *The Place of Houses* with Gerald Allen and Donlyn Lyndon, published by Holt, Reinhart and Winston, and has a professional practice with MLTW Associates.

Southernness

If John F. Kennedy did indeed call Washington, D.C. a city of Southern efficiency and Northern charm, it was a statement characterized less by its deadly accuracy and double-edged sharpness than by the startling lack of ambiguity which went with it. The American North is prized for its efficiency and the opulence of its progress. The American South is seen to lack those qualities and to rely instead on more leisurely (and more charming) ways. There is, of course, across the world (or at least much of the northern hemisphere) continuing distinction between the north (of Italy, say), industrial and progressive, and the south, rural and poor. Even when big cities are found in the south the differences are still often noted: I have lately heard a careful distinction between the north of Louisiana, sharp and dour, and the south, around New Orleans, more leisured and gracious—and urbane.

It is, in fact, a kind of scaled-down urbanity that seems to me, a Northerner, the most powerful southern image. My affection for that quality of that part of the country, and the fact that I have been designing buildings there, led me to write about the South's contribution to American architecture. The only parallel discussion I could remember was Lewis Mumford's in 1941. He had looked at the South mostly through two great architects, Thomas Jefferson (who came, as we all know, from Virginia) and Henry Hobson Richardson (who came from Louisiana but did his work from Boston). I, on the other hand, saw merit in starting from a collection of buildings and towns in the South which had maintained their hold on me and trying to discern what they have in common. That is the plan for the present assembly.

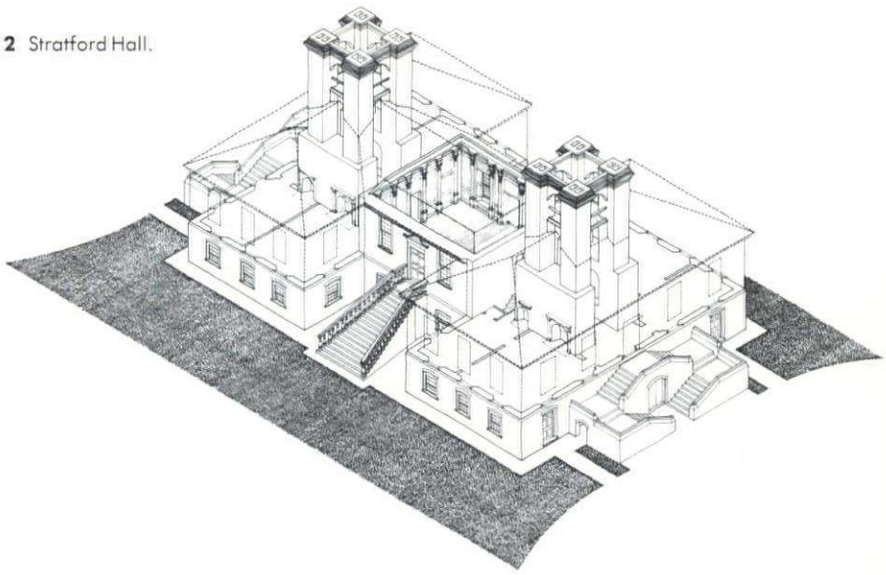
One thing the works in my collection do *not* have in common is local authorship. The architects came from England and France and later from Rhode Island and New York, as well as from Charlottesville and Charleston. Many only visited the South. And many, of course, were not professional architects at all, but engineers like l'Enfant, gentlemen explorers like Oglethorpe, or Renaissance men like Thomas Jefferson.

The South as it is generally taken (from the Mason-Dixon line to the Gulf of Mexico and from the Atlantic to Texas) has a variety of climates: from the sharp seasonal differences of the Blue Ridge mountains and the Smokies to the almost tropical Gulf coast. But almost all of the South has long hot summers which induce the tempo some of us connect with charm, and others link with indolence and poverty. All of the area, too (except for a corner north of Washington), shares a past which includes the institution of black slavery, secession from the Union, a bloody and debilitating war, and (mostly) a slow and painful recovery. The sense of local autonomy which prompted the secession is now generally well regarded across the country, but black slavery, of course, is not. (You may ask at Mount Vernon where the slaves' quarters are, but you will be shown the "dependencies".) So the climate and the institutional inheritance may provide direction in our search for architectural Southernness, even if the backgrounds of the architects do not.

But it is the collection itself that will provide most of the clues. It includes places I find especially memorable and think are especially special. It leaves out other places I like very much but which I felt

1 Stratford Hall.

2 Stratford Hall.



were already more or less well represented. (Some splendid plantations upriver from New Orleans are omitted, perhaps unjustifiably, as already more or less represented by Bremo in far away Virginia). It leaves out gardens, which deserve a separate study, and humble rural dwellings which do too. It also leaves out examples from the present century, at least partly because buildings built during the heyday of the energy blowout have been air conditioned by refrigeration and so have lost some reason for specialness and come closely to resemble buildings elsewhere. If I could have exhumed that magic moment in the thrities when Miami Beach became perhaps the first place in the world to resemble, albeit in miniature, le Corbusier's Ville Radieuse, I should have done that as well.

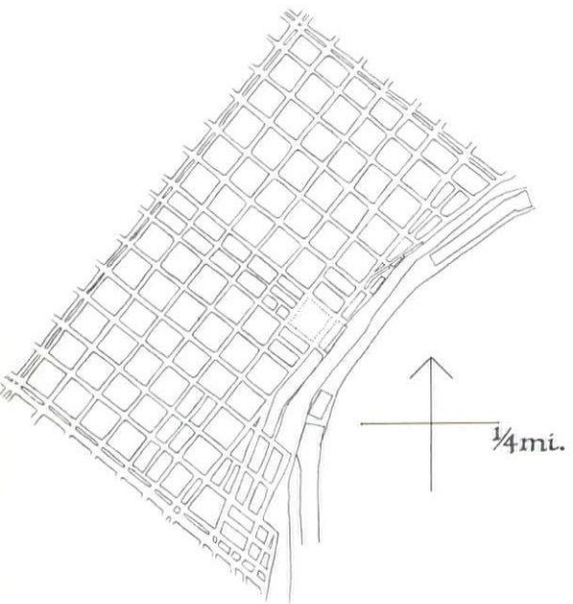
The fifteen places I remembered and chose are, alphabetically:

1. Biltmore House, near Asheville, North Carolina, designed for George Washington Vanderbilt in 1890 by Richard Morris Hunt of New York.
2. Bremo plantation in Virginia, designed by its owner, General John Hartwell Cocke after 1817 with strong Jeffersonian influence.
3. Charleston, South Carolina, the city, developed after 1730; including especially St. Michael's Church built 1752-61 and designed by a Mr. Samuel Cardy, an Irishman, or perhaps James Gibson of South Carolina, or possibly even the English James Gibbs; the Nathaniel Russell House, built by 1811 and designed by Russell Warren of Rhode Island; and the Pringle House of 1774 whose designer is not known.
4. Gunston Hall, south of Alexandria, Virginia, designed in 1758 by Thomas Buckland who had been indentured from England for the purpose.
5. Homeplace Plantation, in St. Charles Parish, Louisiana, from the hand of an unknown designer at the turn of the nineteenth century.
6. Monticello, near Charlottsville, Virginia, designed in several stages between 1770 and 1808 by its owner Thomas Jefferson, a Virginian with books from Italy and England and strong memories of France.
7. Mount Vernon, south of Alexandria, Virginia; a short ride from Gunston Hall but more causally put together and expanded in the late eighteenth century by its owner, General George Washington.
8. Another city in a coastal swamp, New Orleans, founded by the French and expanded thereafter under Spanish and American regimes.
9. The Ponce de Leon Hotel in St. Augustine, Florida of 1889, for which Carriere and Hastings were the architects and Bernard Maybeck was the designer.
10. The city of Savannah, Georgia, as it was laid out in 1733 by the plan of James Oglethorpe, an aristocratic English entrepreneur, perhaps after a scheme described in Venice by Pietro di Giacomo Cataneo in 1567.
11. Stratford Hall, in Westmoreland County, Virginia, designed for the Lee family by a strong unknown hand about 1725.
12. The Tampa Bay Hotel, more recently the University of Tampa, designed in 1891 by J.A. Wood of New York.
13. The University of Virginia, a work of Thomas Jefferson accomplished in the years after 1810.
14. The city of Washington in the District of Columbia, an overlay of baroque radial patterns developed by Major Pierre l'Enfant of France, and a classical-rational grid proposed by Thomas Jefferson.
15. Williamsburg, the capitol of Virginia until the end of the eighteenth century, put together by its English governors.

These places, both cities and buildings, with the eventual exception of Washington, D.C., are mostly quite small, mostly possessed of a high degree of geometric order, and must have been, through most of their existence, swarming with inhabitants. Therein lies their special quality and the essential paradox of this collection: although the heavily populated industrial cities of this country have been mostly in the North (where attitudes, as Vincent Scully has pointed out, were non- or even anti-urban and the life of the imagination was focussed on the

limitless frontier), the much more rural South, at once small-scaled and monumental, hyped up by the ferocity of its summers achieved a pitch of public inhabitation describable only as urban, and urbane.

Even the great houses in the collection must have been extraordinarily different in the days of their inhabitation from the hushed delicacy of their twentieth-century selves. The ladies at Stratford Hall (**1**, **2**), as they show off the bedrooms (with one bed each), describe a variety of eighteenth century Lee's and their attendants and guests whose simultaneous tenancy must have caused Stratford Hall to approach the residential density of Hong Kong. Their togetherness on a



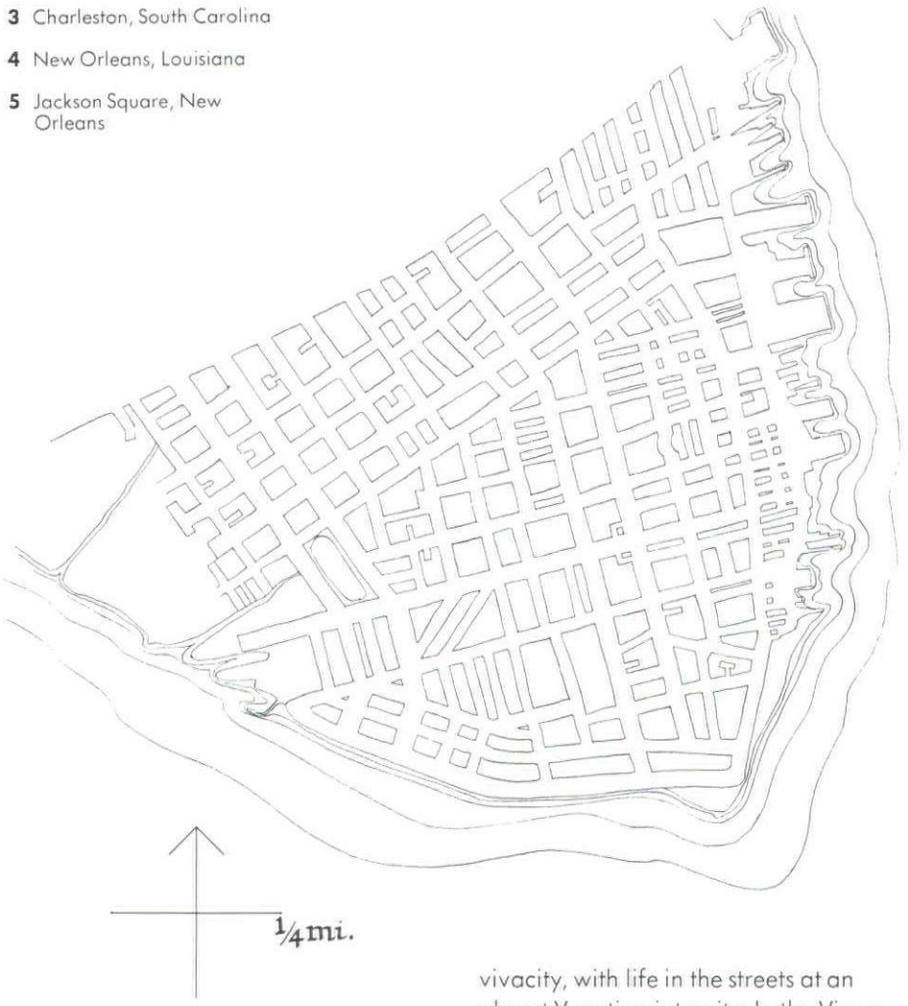
sultry summer afternoon must have been an altogether different phenomenon from the mid-twentieth century solution to the heat, far more precisely effective and far more deadly, which organizes the population into individual refrigerators for the long summer months.

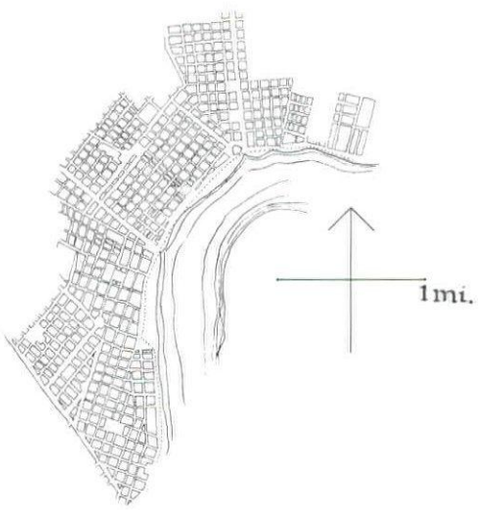
Whole cities, too, especially coastal ones like Charleston (**3**) and New Orleans (**4**), pressed by the swampy ground into quite restricted compass, then opened up internally to catch any summer breeze, must have been models of pell mell urban

3 Charleston, South Carolina

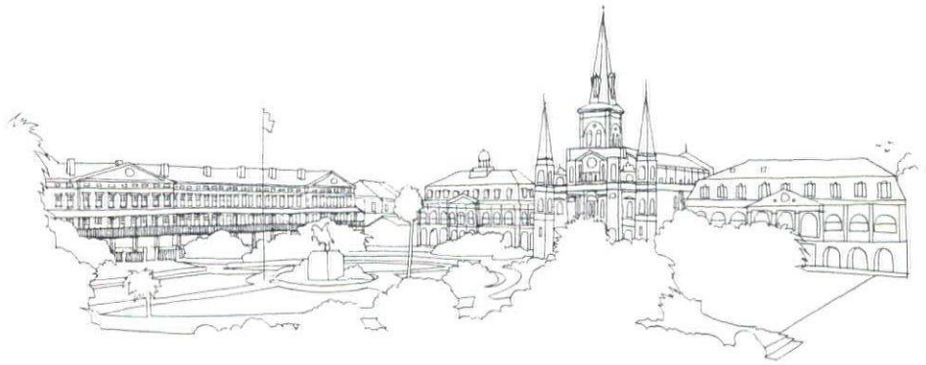
4 New Orleans, Louisiana

5 Jackson Square, New Orleans



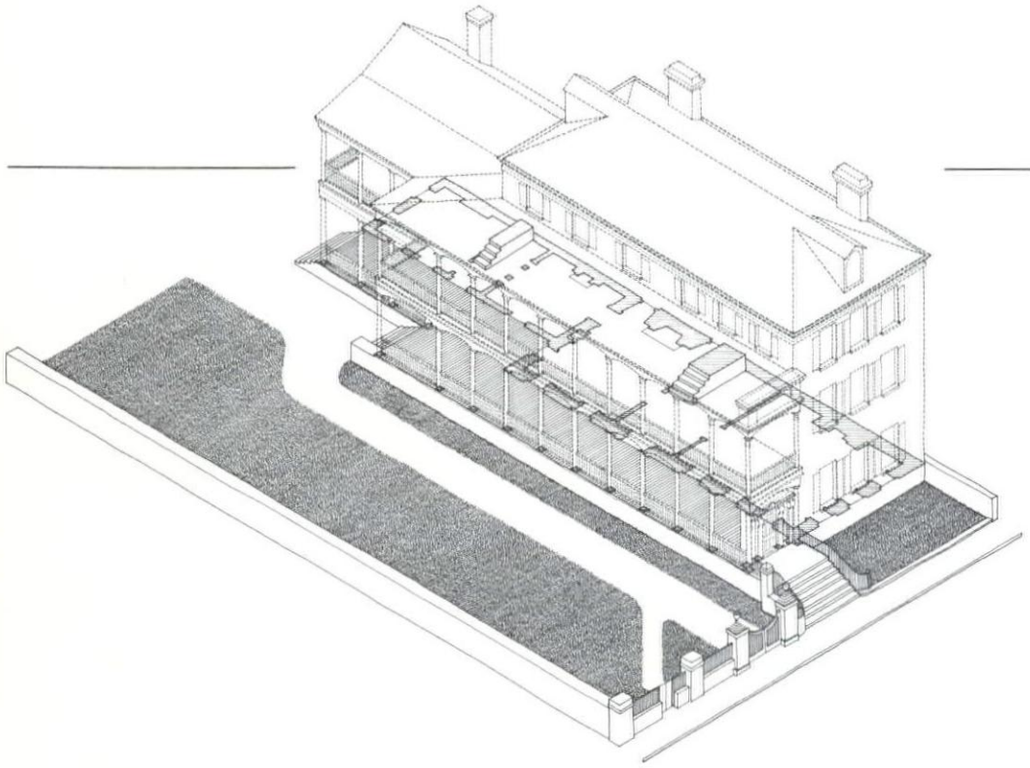


vivacity, with life in the streets at an almost Venetian intensity. In the Vieux Carré, the original part of New Orleans, the density of urban life was intensified in the early nineteenth century as the narrow streets were lined with buildings whose grilled balconies overhung the sidewalks. In such a fine-grained urban scene, acts of geometric formality, even gentle ones, can exert enormous power: just so the Baroness Pontalbo's twin apartment blocks (**5**), altogether simple with just three generous stories and continuous balconies along the upper floors, grant in their symmetry a real sense of the center of things (an urban sense) to Jackson Square which they flank. The rather unprepossessingly spikey cathedral in the center of the composition, flanked by government buildings of simple elegance (the Cabildo and Pres-



6 Pringle House, Charleston.

7 Single House, Charleston.



bytère) along the end of the square opposite the levee, is then thrust into a position of much increased importance by the Pontalbo apartments along the Square's sides. For contrast, one might consider a typical twentieth century new town and wonder where in, say, Columbia, Maryland one might place two three-story apartment blocks to have any effect on the urban scene at all.

The urban fabric of Charleston, South Carolina (**3**), which also had eighteenth century beginnings is, as the plan suggests, somewhat less formal. It incorporates, however, a number of house types, at least one of them invented for this very site, which sought quite specifically to improve the quality of comfort along this steamy coast and in doing that established the pattern for an altogether memorable city. The special house form, the Charleston "single" house, is illustrated by the Pringle house (**6**) and many others like it (**7**). In an incident of urban cooperation by now regulated out of existence, the system places long, one-room wide houses at right angles to the offset, with a two- or three-story piazza, off of which all the rooms open, and which runs along the narrow garden. The windows of the house next door pick up air from this same garden but no valuable space is wasted on set-back; all the lot is rendered habitable, all the rooms have natural through ventilation and adjacent space on a shaded piazza, and every house has a garden. Entrance is generally right off the street (**8**), often highly elaborated to celebrate the passage from the public sidewalk outdoors to the private realm (still outdoors) which begins just inside the door.

9 Nathaniel Russell House, Charleston.

8 St. Michels, Charleston.

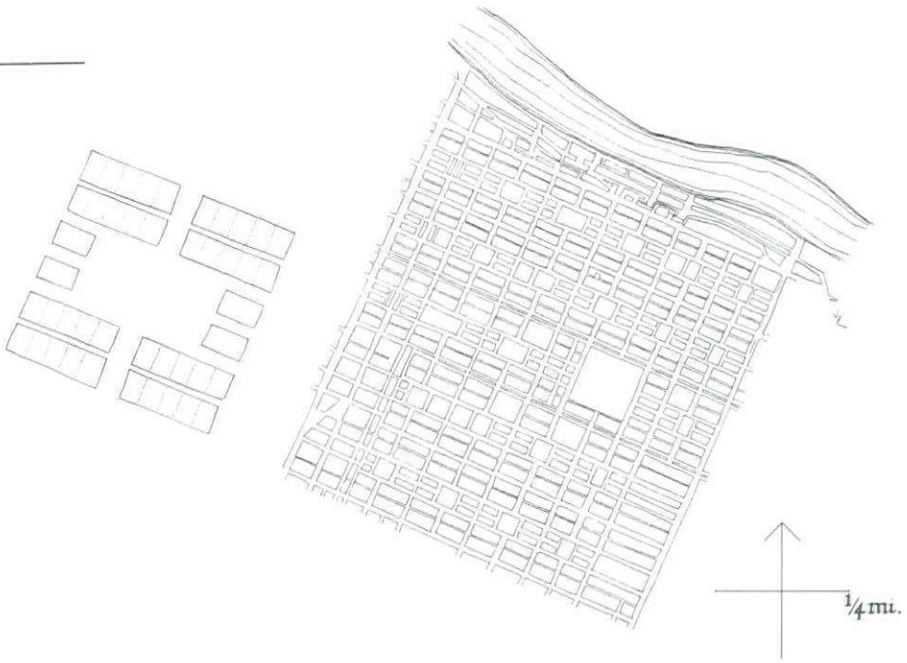
Smaller Charleston houses relegate the garden to the rear and adjoin their neighbors in rows along the street, or more grandly face the street in a format which allows generous vertical spaces inside, as in the Nathaniel Russell House (**9**), to induce a chimney of air and set the stage for gracious sweeping movements by ladies in expansive finery. All

these building types are set within the limits (disciplined by the climate and the scarcity of land) of a dense urban fabric which allows a nuance like the thrust forward of the porch and spire of St. Michael's Church ahead of the building line of the adjacent houses (**8**) to have powerful visual consequences, assuring the improtance of St. Michael's.

10 Savannah, Georgia.

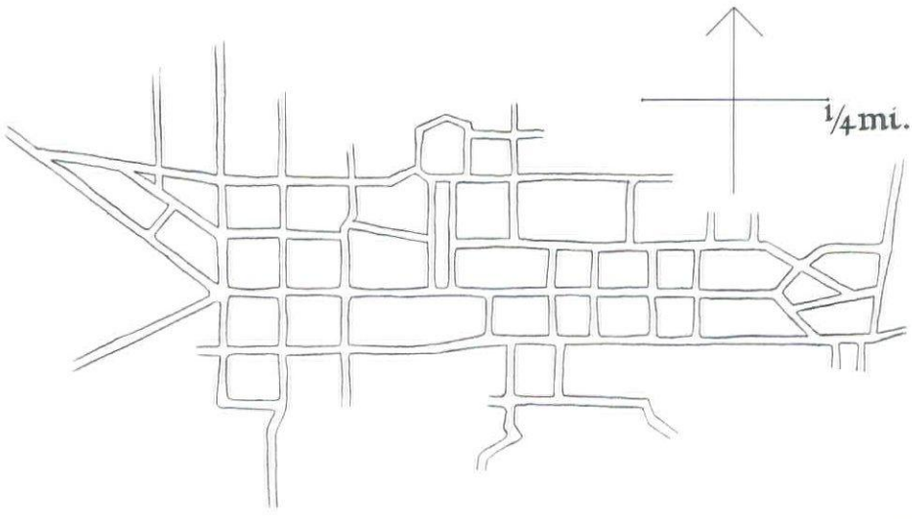
11 A square in Savannah.

12 Williamsburg, Virginia.



By all odds, however, the most highly developed urban geometry in the South, (or the Country) is that of Savannah, Georgia which was planned around an expandable series of squares by James Oglethorpe, the English gentleman who founded the place on a bluff above the Savannah River. The most remarkable qualities of the plan (**10**) are the great variety of building sites it provides within such an apparently simple framework and the alternate traffic patterns it allows. At each square are four monumental building sites, visible across the width of the square and each public on three sides. Along the long sides of each square, more modest building plots share their amenity with the neighboring buildings which slip off in an unbroken row down the block, not actually facing the square but, on the other hand, not really cut off from it. The most memorable streets, meanwhile, those perpendicular to the river, have been spared from heavy through traffic by the squares themselves which provide monuments on axis but require slow speed circumnavigation each time. Major traffic is thus relegated to the alternate straight streets which harbor commerce, while pockets of residential peace are left around almost all the squares. Streets parallel to the river slip alongside the squares uninterrupted and generally not congested landward of the pair of commercial streets closest to the river. The houses, which are generally row houses in this dense fabric, usually have their main rooms raised one floor off the street for improved circulation of air under the elegantly high ceilings. The drawing (**11**) is a composite of the kinds of buildings which can happen on a Savannah square.

The Williamsburg, Virginia that we see today restored to a cinematic purity and elegance was evidently a much more casual collection of buildings than its counterparts farther south came to be. But even the short and very wide main street named for the Duke of Gloucester has a collegiate building (perhaps by Christopher Wren) on axis at one end and a capitol at the other, and passes a long baroque allee which leads to a Governor's Palace as well as bisecting a courthouse square (**12**). The buildings of the town, not subject to the densifying pressures of Charleston, New Orleans or Savannah, are mostly free standing in gardens, but along Duke of Gloucester Street they almost touch and face directly on the sidewalk, and in the shops and ateliers on the ground floors of these houses there is a strong hint left of the



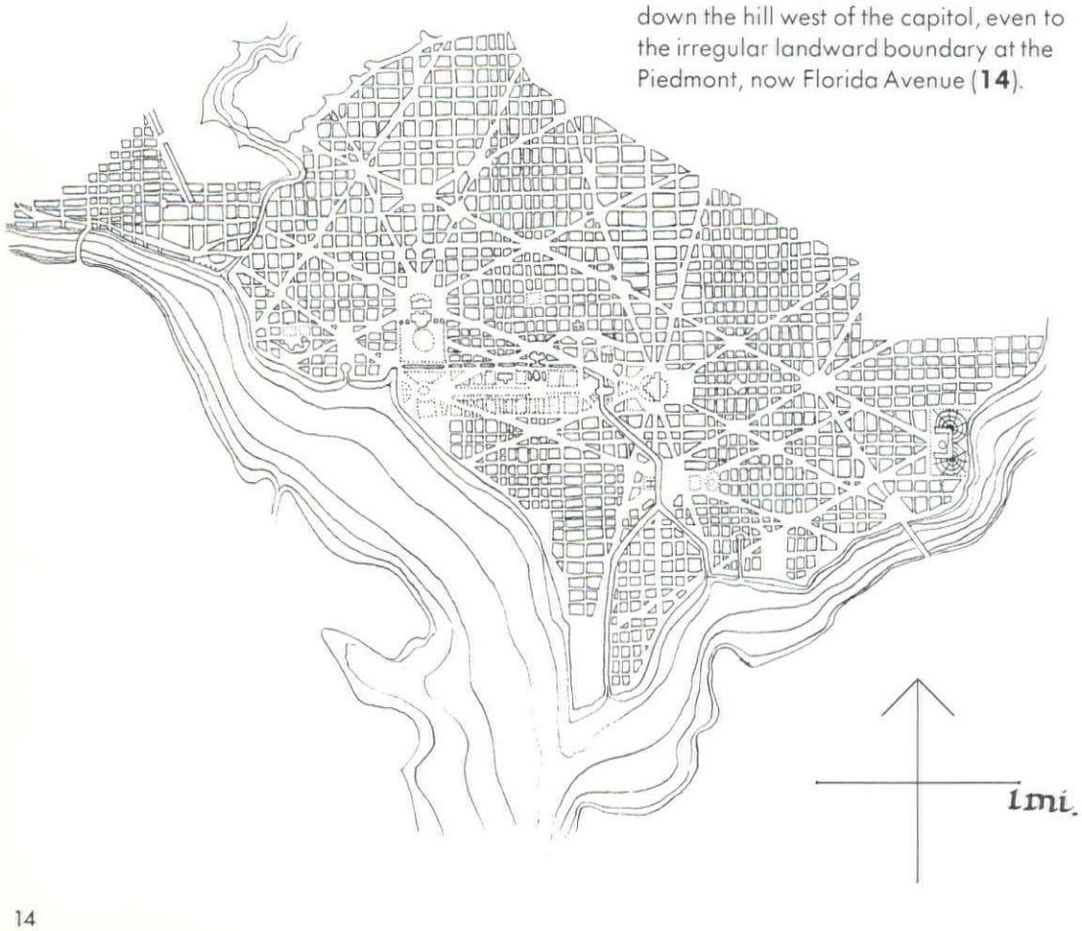
13 Duke of Gloucester Street, Williamsburg.

14 Washington, D. C.

15 Mount Vernon, Virginia.

mixed uses which must have contributed to the bustle of life in this small but important city (**13**).

Thomas Jefferson, who went to school there, thought that Williamsburg was an architectural disaster area and thought it mandatory in the new republic he was helping to establish that architecture and planning function in a much more sophisticated and important way than it had in the fairly casual aggregation of tiny monumental buildings in Williamsburg. So although he had in mind a gridded plan for the new national capitol as the rational available format, philosophically perfect as well as convenient (for which reasons he was trying as well to establish the metric system in the new country), he could not have been altogether displeased with Major l'Enfant's baroque allées, especially since they were laid out with extraordinary sensitivity to the natural features of the site from the hills (like Capitol Hill) to the waterways, which would have put the Washington Monument almost on the shore and allowed a splended cascade down the hill west of the capitol, even to the irregular landward boundary at the Piedmont, now Florida Avenue (**14**).



If these Southern cities were like houses, sensitive to their sites, dense, formally coherent and full of a shared life in the streets, an even more evident source of Southern urbanity are the houses like cities, jammed with a complexity of people but ordered, with architectural devices establishing a formal dignity that makes these achieved places, not gateways to somewhere else in the way accepted in much of the rest of the country. Even Mount Vernon (**15**), the most

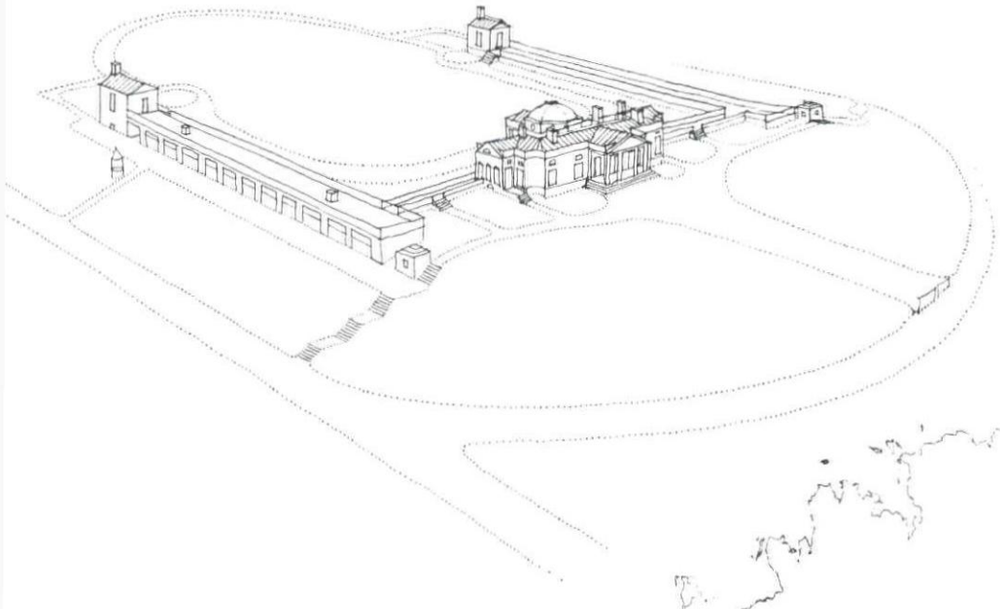
disorderly plan of the great houses in the collection, makes a single grand public gesture with its portico toward the Potomac, the chief entrance when the house was new, then with its flanking galleries quite gently embraces a whole village of one-story "dependencies".

Thomas Jefferson spent the happiest hours of a whole long lifetime making his house at Monticello into a city, fitting it onto and into its mountaintop and crowning the hill with a monumental house-pavillion, memorable and symbolic enough for the country he was helping form that its picture graces one of the country's coins. Here the theme "house" is stated in the one-room flanking building to the first of which Jefferson brought his bride, then gets elaborated through the complex workings of a vast establishment, mostly tucked into the hill and subordinated to it in a highly organized set of galleries. The whole is surmounted by the monumental pavilion, capitol, place of welcome, and sign (**16**).

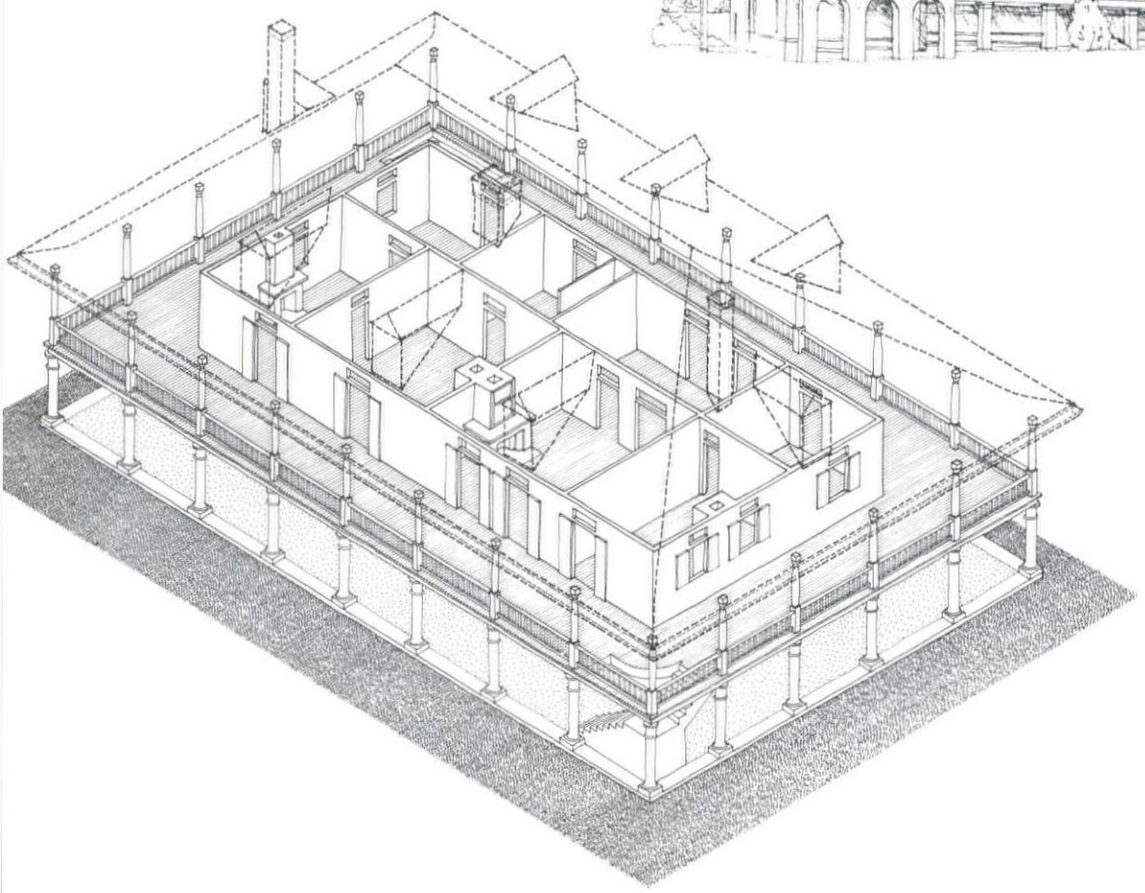
16 Monticello, Virginia.

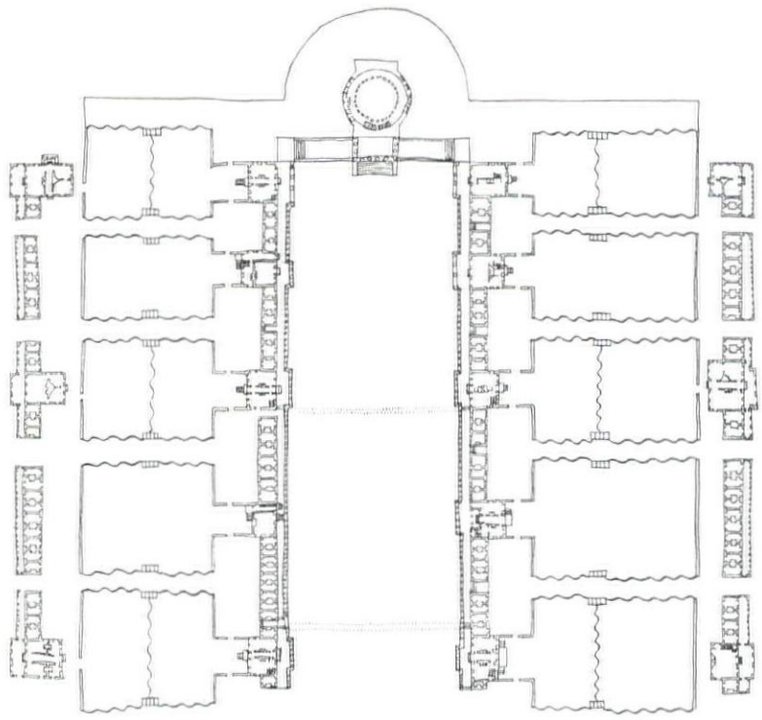
17 Bremo, Virginia.

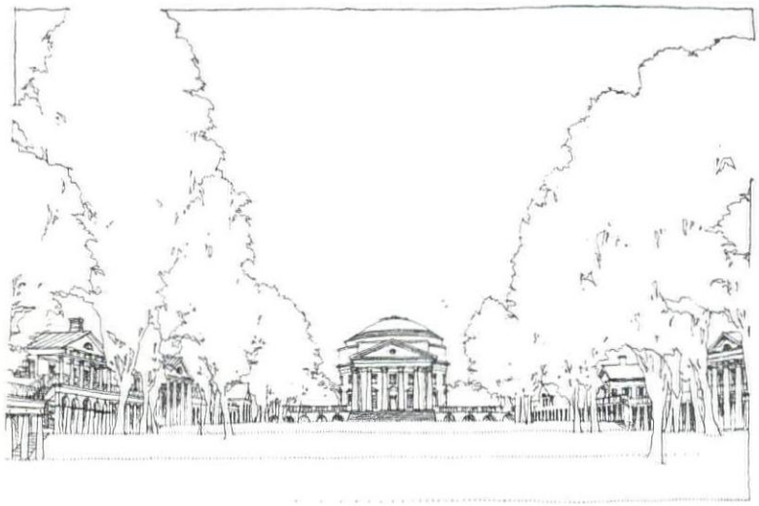
18 Homeplace Plantation, Louisiana.

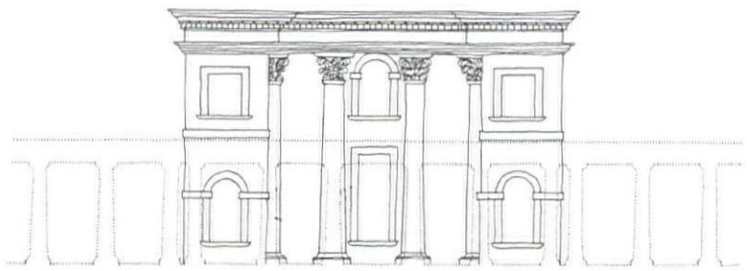


Jefferson's influence on Bremo in Virginia (**17**) must have contributed to making it, on an only slightly more modest scale, the same kind of ordered miniature urban complex as Monticello itself. Only a cut less ambitious and more coherent, it is worth noting that as far away as Louisiana, an even more modestly vernacular country house like Homeplace Plantation manages, in a single surviving building far less sophisticated, the same concurrence of geometric order and of life (**18**).









19 University of Virginia, Charlottesville.

20 The Lawn, University of Virginia.

21 Pavilion VIII, University of Virginia.

22 Pavilion IX, University of Virginia.

But the quintessential house-city monument of them all, with qualities of invention and reflection and passion for architecture and the life lived in it, clearer, I think, than in any other buildings on this continent, is Thomas Jefferson's part of the University of Virginia; a plan for a university education made manifest in buildings on a site (**19**), with a place for reading and assembly at its head (**20**) and professors' houses flanked by places for students' residence, with a chance to embody in the houses everything from the most solid Palladian architectural models (**21**) to the latest from Ledoux (**22**), the whole democratized, socialized and linked by a continuing colonnade. It is the world of the mind in microcosm and a splendid place to sit and work, or talk, or entertain friends.

One last special quality of the South began to show up late in the last century: its exoticism. Its Transylvanian sense of separateness from a rapidly changing world, especially evident after the Civil War, prompted Northern architects not just to import exotic styles, which they would have done anywhere, but to pursue them all the way to fairyland and create a complete exotic world: French in the Smoky Mountains (**23**), Spanish (with more evident local reason) in St. Augustine, Florida (**24**), Moorish, somehow, in Tampa (**25**), or Spanish on the east coast of Florida.

There is nothing newer in this collection, not because nothing has been built, but because the advent of air conditioning by refrigeration has hastened the loss of that special set of challenges of climate and site that provided the lively, urbane and, withal, charming cities and buildings in this collection.

23 Biltmore House, Asheville, North Carolina.

24 Ponce de Leon Hotel, St. Augustine, Florida.

25 Tampa Bay Hotel, Tampa, Florida.

James Grady

is Professor Emeritus at the Georgia Institute of Technology.

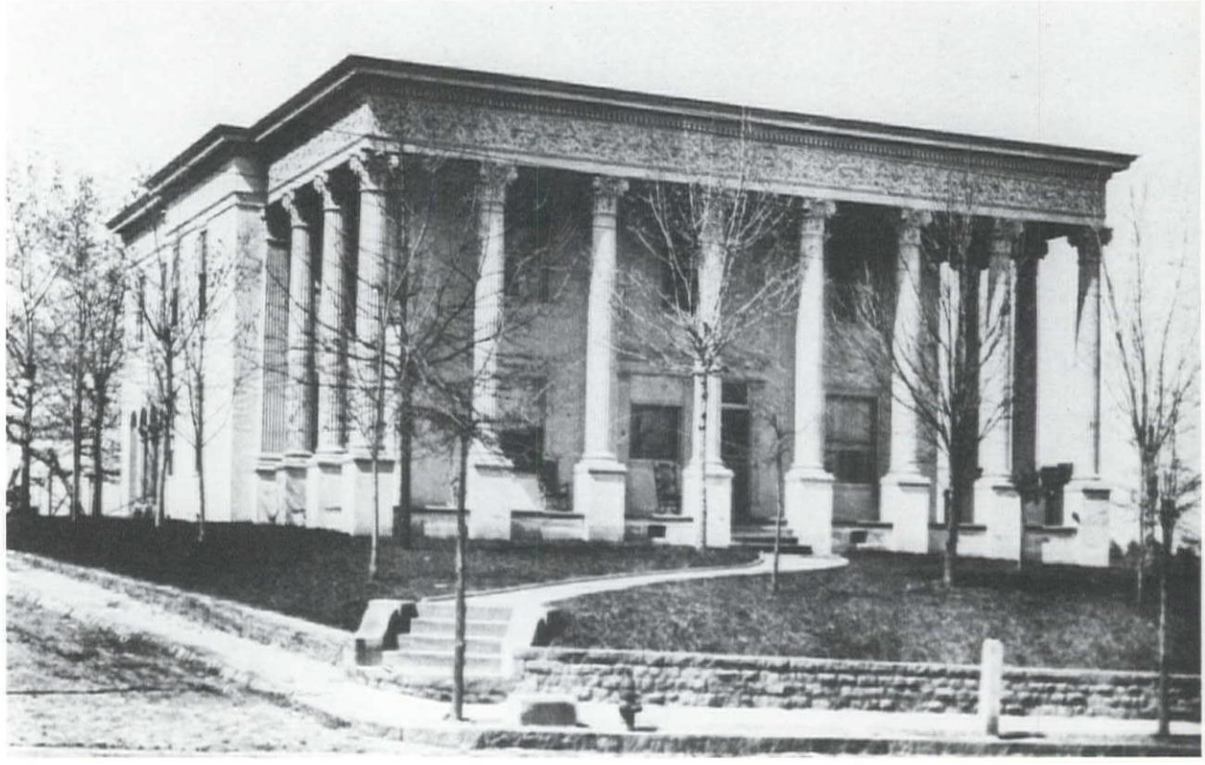
A Question of Style Houses in Atlanta 1885-1900

After the Greek Revival had ceased being a dominant fashion in American architecture the problem of style became increasingly urgent to the nineteenth century architect. In the first issue of the *Architectural Record*, July 1891, George Keister wrote in "Fads in Architecture":

There is a prevalent notion that to be architectural means that the subject must be treated in one of the so-called styles of architecture, but this is an error; the different styles are not so distinctly separated that a composition may not handle the characteristics of two or more styles; nor are they so essential that a compositon must have the elements of one or more to be scientific, artistic, and hence architectural. On the other hand, a composition could have the elements of the most clearly defined style, and even the details of the best examples of the style, and be far from architectural.

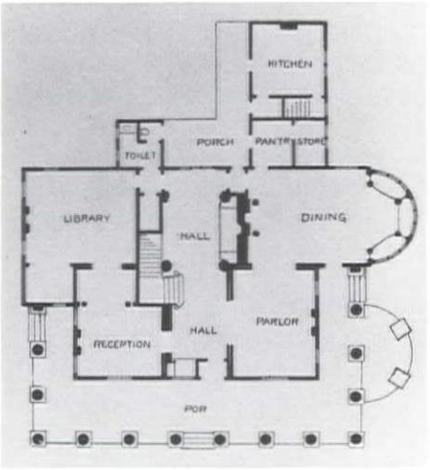
This stated the ways that were considered possible solutions to the problem: by the use of one of the historic styles; by combining two or more styles; by using a new style without historic precedent. As Keister recognized, none of these methods was certain to produce a competent architectural design.

American architects of the eighteen-nineties usually attempted to create a contemporary architecture by combining historic styles with more recent fashions including English movements from 1865



1 Judge H. B. Tompkins House, W.T. Downing.

2 Tompkins House, plan.



to 1890, the Shingle Style of the eighties, and a growing use of classical elements after 1880.

The English Aesthetic Movement was a source of much American inspiration. It included the domestic architecture of Richard Norman Shaw of the sixties and seventies, both his Late Gothic manor houses with their numerous gables, false half-timbering, decorated barge boards and tile-hung walls, and the red-brick Queen Anne examples with molded terracotta details, ornamental chimneys and gables, tall, narrow sash windows, colored glass and tile-hangings. All this was part of the Aesthetic Movement which opposed the crude colors and vulgar display of High Victorian decoration. It introduced Japanese design, ebonized wood and art industry products, particularly tiles and faience objects. H. H. Richardson's Newport house for Watts Sherman, 1874-75, was the introduction to many American architects of the new English fashion. It translated Shaw's style to an American idiom and it had a wide influence. Its use of wood shingles in place of tile is one source of the Shingle Style.

The Shingle Style, although using some ideas from English examples, produced a house that was new in plan and architectural expression. Many of the first examples were vacation or summer homes with free, open plans of irregular perimeter. The living hall, with its necessary features of an exterior entrance, fireplace and stairway, functioned as a general living area and the core of circulation. It was an important plan element. Verandas and loggias were outdoor living areas. These elements, the plan, living hall, verandas and loggias, persisted in most houses of the nineties.

Classical elements, particularly those of American Georgian or Federal derivation, were used in some early Shingle Style houses, particularly those by McKim, Mead and White. This firm used a completely classical, formal plan and exterior in the H.A.C. Taylor house of Newport in 1885. By 1890 the use of classic elements in domestic architecture was usual. The Greek Revival was seldom used as a source in Atlanta even in its period of academic eclecticism of the 1910-30 period. Only after *Gone With The Wind* had created its mythical splendors in the 1939 film were new houses built in numerous and confused parodies of the original style. A usual Georgia Greek Revival house might have had a formal plan expressed as a cube with a flat roof and a two-story peristyle. This scheme is evident as a source for some houses of the nineties but they are not Greek Revival in details or formal in plan (**1**, **2**).

Atlanta's founding, destruction and rebuilding within the last half of the nineteenth century offers an opportunity to examine the search for architectural style in the last decades of the period. It was not a typical Southern city based on an agricultural economy. It was a new settlement and from the beginning, formed by railroads and commerce.

Atlanta started as Terminus, a site chosen in 1837 by railroad engineers as the point where a railroad line from Chattanooga could connect with branch roads to established towns in Georgia. In 1843 this small settlement became the village of Marthasville which was chartered in 1847 as the city of Atlanta. The new city had four railroad lines by 1851. The population was 7700 in 1860. It was a transportation center and not much interested in architecture to judge from contemporary photographs.

Atlanta became a manufacturing and supply center for the Confederate armies and its destruction was considered essential for a Union victory. After its burning in November, 1864, its public, transportation and commercial buildings were almost completely destroyed and of the 3600 houses within the city limits only 400 were left standing. Its architectural development during the last third of the nineteenth century was without local traditions or examples. It was a new city.

Atlanta grew rapidly during the last decades of the nineteenth century with a population of 90,000 in 1900. After its burning, the new buildings for transportation and commerce had developed architectural pretensions but houses were generally simple frame or brick structures with few indications that architectural style was any consideration (**3**). They were direct, utilitarian statements. A few more ambitious designs were built in the eighteen-seventies. From 1880 to 1900 increasing numbers of wealthy citizens demanded homes and it was then that the question of style became important. It is possible to make a useful survey of Atlanta's first significant domestic architecture but, not withstanding its recent date, it must be largely archaeology by photographs, many of them old and faded, for Atlanta continued to grow and destroyed much of its nineteenth century building.

3 Panorama of Atlanta from Whitehall Street, 1880.

4 Atlanta, c. 1882.

5 View of Peachtree Street.

6 View of Washington Street.

7 Edgewood Avenue, Inman Park.

There were no nationally known architects in Atlanta at the end of the nineteenth century. The houses studied in this essay are not marked by the expression of a definite personality but are provincial examples showing current fashions interpreted by local designers, usually somewhat later than the original models. The skill of the architects and the taste of the owners determined their design. Historical architecture and new fashions in design were selected and mixed to produce a series of houses that are definitely period pieces of a certain species but not at all alike in details. They were essential elements of the social rituals of the era, intricate, elaborately decorated backgrounds for a lost way of life. They were intended to impress visitors while providing a comfortable ambiance for their owners. The new conveniences of central heating and electricity were welcomed but they did not supplant fireplaces or competent servants. These are generally city houses sited closely together, designed for living almost completely indoors, the only concession to outdoor activities being the verandas. The surviving buildings seem to belong to an incredibly remote past and while their confusion of parts may make their design incomprehensible at times, their excellence of craftsmanship is impressive.

Building patterns in Atlanta were determined from its beginning by transportation facilities. The zero milepost, marked by a plaque in what is now Underground Atlanta, was the terminal of the first railroad in Atlanta. It was the center of Atlanta and the first city limits were determined by a circle with a one-mile radius from the zero milepost. Atlanta's hilly, piedmont topography indicated the location of its early railroads. They followed the existing roads, based on older Indian trails, that entered Atlanta on ridges converging in what is now Five Points in downtown Atlanta. This pattern determined the development of city streets which were parallel and perpendicular to the rail lines (**4**). When they ran into one another the multi-directional grid that is the plan of downtown Atlanta was established.

The street railway system was important in the determination of Atlanta's growth patterns after the introduction of horse-drawn cars in 1871. In 1888 steam car service was inaugurated. These were used until the electrification of all Atlanta's street railway lines in 1894, five years after the first electric line from Five Points to Inman Park was opened by Joel Hurt. None of these systems was owned or operated by the city. They were privately initiated and managed and were built to serve the new suburbs being privately developed, such as Inman Park, Grant Park and Peters Park. The lines generally used public routes and as they were not developed under any masterplan the direction of much of the city's growth in the late nineteenth century was in a random manner.

While building patterns were determined by transportation, the designs of the houses were little influenced by their location. Whether on narrow lots near the center of the city or on more generous suburban sites the plans, forms and fenestration are essentially similar. The integration of the house and its site was not a quality much valued in this period. A view of Peachtree Street taken in the nineties (**5**) shows an imposing row of mansions in the eclecticism of the period, French Renaissance, American Classic and Second Empire with a hint of the Aesthetic Movement, all tightly side by side. A photograph of Washington Street in the same period (**6**) is a study of wood architecture with an elaborate Second Empire townhouse in the foreground. The fantasy that could be a setting for everyday life at the end of the century is clearly evident in a row of houses on Edgewood Avenue at Inman Park (**7**). The Shingle Style was the inspiration but it is the Shingle Style transformed into carnival architecture for an unconventional vacation resort. The capriciously broken forms are unified somewhat by the repating thin verticals of the supports for the numerous

8 Edward C. Peters House, G.L. Norman, 1885.

9 Peters House, staircase.

10 Peters House, newel.

11 Peters House, leather panel, hall.

porches and loggias. The designer or designers have been forgotten. No records of the interiors have been saved. It is interesting to imagine reconstructions by present day architects.

The villa designed in 1885 by Gottfrid L. Norrman for E. C. Peters is the earliest surviving Atlanta house of the period which remains in good condition (**8**). It is on a large site near downtown Atlanta. It is quite clearly a product of the English Aesthetic Movement by way of Richardson's Sherman house. The picturesque massing, half-timbered gables, the *japonisme* railings of the veranda, and tile hangings, are carefully designed. The warm, red colors of the brickwork, tiles and exterior woodwork are typical. The house is the work of a trained architect. Norrman was born in Stockholm in 1846, came to Atlanta in 1881 and practiced there until his death in 1909. His work was published in contemporary journals, including The American Architect. The house is now a restaurant and original fittings, wall finishes and furniture are gone, but the entrance hall (**9**) with its carved oak staircase (**10**) and

stone mantlepiece with a motto are scarcely altered. Original mantlepieces remain in other rooms, the most interesting being of ebonized wood in the

Godwin "Japanese" manner (**11**).

The W. G. Raoul house, 1892, by Bradford R. Gilbert, a New York architect, has the same sources of design (**12**). It has served many uses in its time but can still give an idea of a fashionable Atlanta mansion of the late nineteenth century. It was a center for Atlanta social life until 1913. It later became the Red Cross Chapter House and during this period a new office block was built in front of the street facade. The other elevations may be seen much as they were designed although clearly showing years of neglect. The house is built of brick with a free, rambling plan, many slate-clad gables, and windows of great variety. It illustrates the late nineteenth century use of free fenestration with ordinary window glass, stained glass, beveled plateglass and leaded glass used in windows of several shapes and sizes on the south facade. The two dependencies, carriage house and servants' house, are charming pavilions with the first story of red brick, the second in wood shakes.

The Freeman house was demolished but photographs give a good idea of its character — Shingle Style with exotic touches such as the oval openings to the loggia and the bit of half-timbering at the gable peak (**13**). The oval attic gable window was a hint of the growing ten-

12 W.G. Raoul House, B.R. Gilbert, 1892.

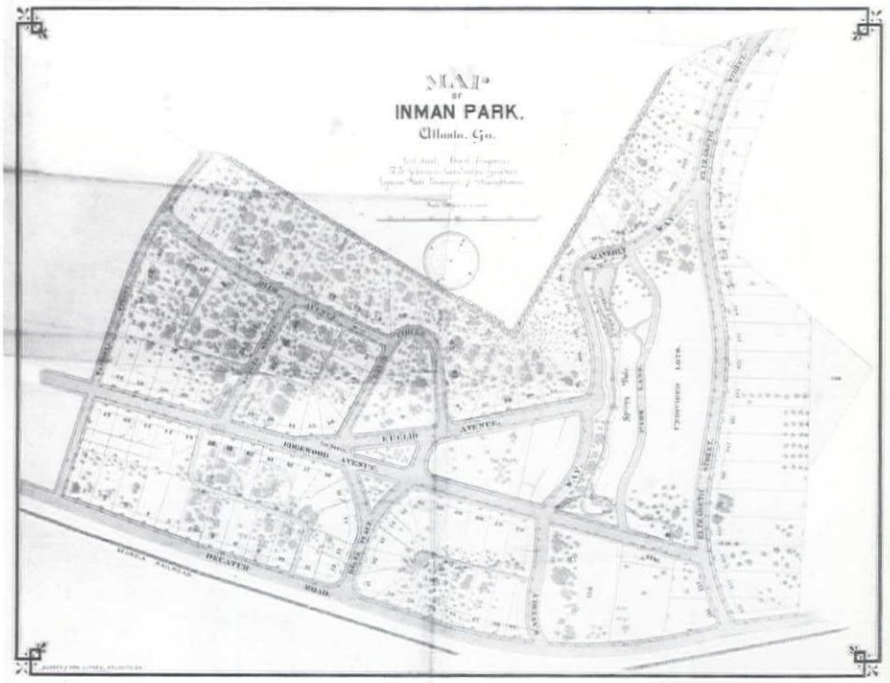
13 Freeman House.

14 Inman Park plan, 1888.

dency to use classic details in the nineties. The rough-faced random ashlar masonry was popular and blends well with the shingle siding. The architect is not known and the date is probably some ten years later than the original Shingle Style houses.

Inman Park was planned in 1888 as Atlanta's first garden city suburb (**14**). It is three miles from the center of the city and was reached by Atlanta's first electric street car line. It was based on the English garden cities and kept the original terrain, adding winding streets, a lake, park and offering irregular building sites. It was intended as a picturesque background for city houses. Inman Park is the only Atlanta area with numbers of late nineteenth and early twentieth century houses. The park went out of fashion as automobiles made it possible to live further from the city. By 1960 it had become a slum with many of the large old houses carved up into multiple family dwellings. As growing problems of commuting made living near the city center a consideration, Inman Park again began to seem a desirable neighborhood. In 1969 Robert Griggs bought the most important remaining house, a brick mansion of 1890, and started its careful restoration. This attracted a great deal of interest and was the beginning of the Inman Park revival.

The architect of the Griggs house is unknown but it is a good example of the rich, picturesque, infinitely varied English Aesthetic Movement (**15**). The fish-scale shingle siding and the helmet-roofed belvedere are Shingle Style and classic touches are added by the Tuscan columns of the porch and the Palladian motif of the window between the second-story loggias of the right projection. Its decorated bargeboard recalls the early Shaw manor houses. Interiors are richly detailed and have been carefully restored.

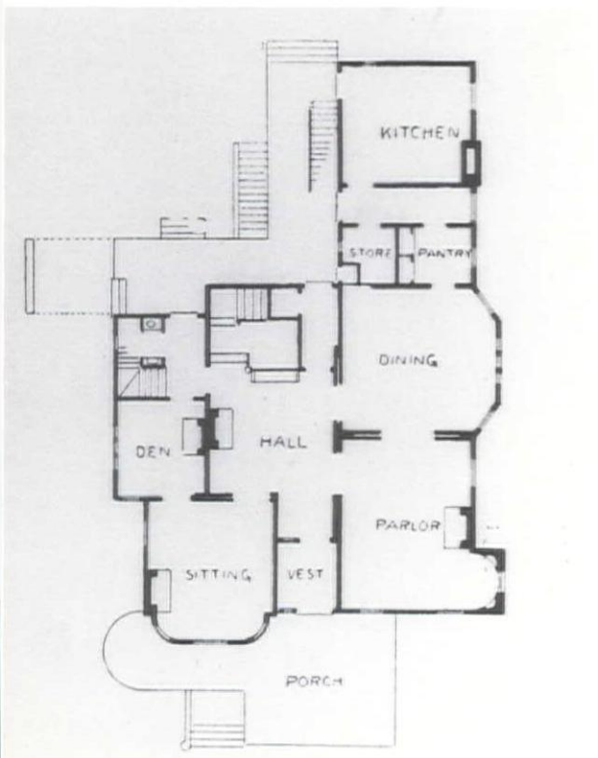


15 Griggs House, Inman Park, 1890.

16 Mull House, Inman Park.

17 Dr. W.P. Nicolson House, 1890.

18 Nicolson House, plan.



The Mull house, another Inman Park restoration, is simpler than the Griggs house but an equally interesting period example (**16**). It must be dated later because it shows many more classical tendencies. It is simpler in massing and in its surfaces the veranda tends to make the lower floor seem symmetrical at first glance. But the fans and squares that decorate the gable and the erratic and interesting fenestration are of the Aesthetic Movement and place it in the period although it is a late and quiet example.

The most important designer of Atlanta houses during the nineties was Walter T. Downing. Downing was born in Boston in 1865. He came to Atlanta in 1881 and began his career in architecture in the office of L.B. Wheeler in 1885. In 1897 he published a volume of photographs of houses he had designed between 1890-1896. These studies of twenty-five houses, published as *Domestic Architecture* by the Franklin Printing and Publishing Company, Atlanta, is the most necessary document for a study of the period in Atlanta for most of the houses have been destroyed or drastically remodeled. There is no text explaining the architecture, only a brief introduction in which Downing regrets that he "could not reproduce the interiors in colors, for a great deal is lost by reproduction in black and white." At the end of the book he included several pages of advertisements of firms who had worked on or furnished materials for the houses. These indicate the technical means available in Alanta at the time. They include the firms who reproduced the lavish ornaments of the houses in "artistic terra cotta, ornamental plaster and staff work", or, "wood carvers and workers in papier mache, compo. and staff." A most important collaborator must have been "C. O. Sheridan, Decorator and Scenic painter. Decorations of residences and theaters a specialty." Downing's sense of the dramatic and scenic possibilities of his interiors is evident. The smooth brick that he used for his exteriors, usually with rock-faced stone, was by the "Washington Hydraulic-Press Brick Company, makers of front and ornamental bricks in pink, gray, brown, tan and mottled colors." The new technical services for the houses were furnished by "Hunnicutt and Bellingrath Company, Atlanta, Georgia. Sanitary plumbers, steam and gas fitters, hot water and hot air heating. Gas and electric chandeliers in brass, copper, iron, gold and silver a specialty. 95% of the gas fixtures in Atlanta's handsome residences were furnished by us."

Downing's houses are examples of their period but have characteristics that show an awareness of more forward-looking tendencies than is apparent in the usual Atlanta designs. He retained the use of the free, open plan and the living-hall from the Shingle Style. Classical elements predominate in both exteriors and interiors. Windows have become plain glass without muntins. He does not use the usual free fenestration. Stained glass gives an ornamental accent to staircases. Exterior massing is still picturesque but much simpler than is usual in most houses of the period. The houses are close together on city lots. Verandas are still the only exterior living spaces but are smaller than customary. Few second-floor loggias are used. The exteriors are not generally as interesting as the interiors. Stairhalls and dining rooms are the largest living areas and the most elaborate and dramatic effects are in the stairhalls. Often rooms in the same house have no design relation and exteriors may not give a clue to interior styles. Downing was nearer a correct, academic eclecticism than other Atlanta architects.

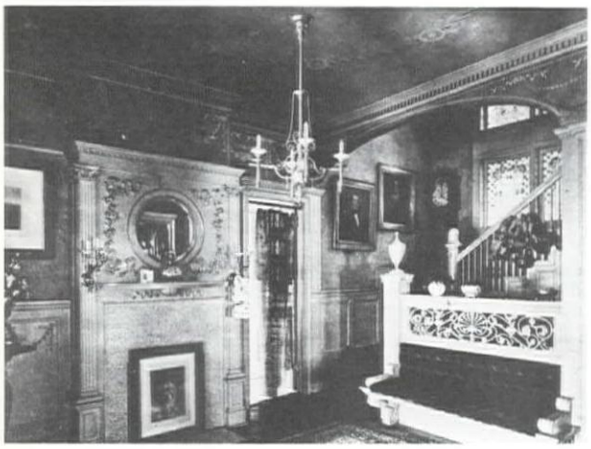
The houses are not dated in *Domestic Architecture* but as they were built between 1890 and 1896 this is not important. The only house that remains generally in its original condition is the residence built for Dr. W. P. Nicolson, started in 1890 (**17**). It is still lived in by Dr. Nicolson's descendants and has been carefully maintained (**18**). Original interior wall treatments are gone but the

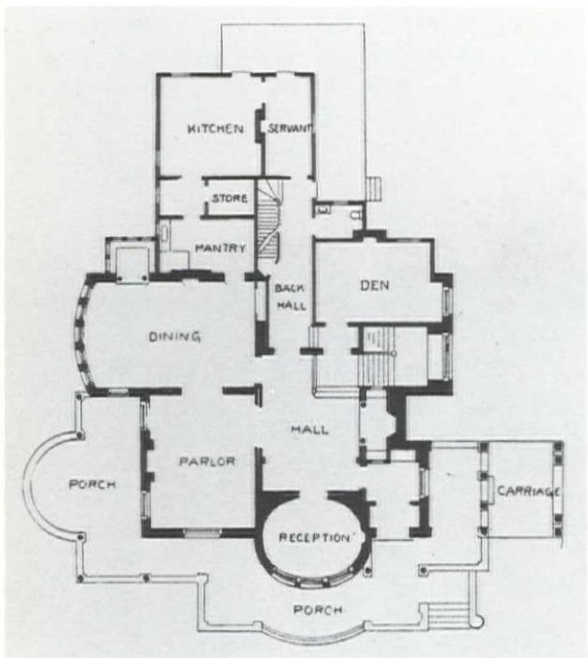
19 Nicolson House, hall.

20 J.W. Grant House.

21 Grant House, plan.

22 Grant House, vestibule.



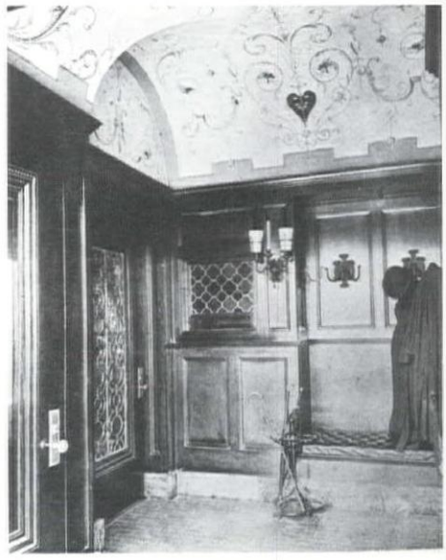


effect is still very much of the period. The house is conceived as a central block with a hipped roof and bays of various shapes about the perimeter. There is a veranda across part of the front roofed by a balustraded deck. All details are classical, used in extremely unacademic ways. Composition ornaments are used as accents, the most imposing being the large panel with a trophy of torches and wreath on the front bay. The plan is developed in a free, open way with openings between areas having sliding double-doors. Each room has a mantlepiece that is treated as an important decorative focus.

The stairhall is the most important room in the house (**19**). It indicates Downing's interpretation of an interior of the period. The classical manner of the exterior continues, giving this house a unity that is not always evident in Downing's work. All woodwork is painted, not usual in the nineties. The staircase is displayed as the most important design element in the house, framed by an arch and the carved, pierced anthemion panel and seen against the background of a fine stained-glass window. The mantlepiece has the fireplace surround faced with a mosaic of blue, white, and gold tessarae. The overmantel has a relief of ribbons and flowers and the whole composition is framed by pilasters. Hardware and lighting fixtures are silver. Electricity was not available when the house was finished so the fixtures seen are for gas. Downing always used the candles without mantles or globes. The wall paintings that were in all the rooms may be faintly seen in the photograph. An unusual newel design is the use of two different finials. The living room was not finished until several years later so it does not have the character of the hall, study and dining room. The dining room furniture was designed especially for the room and originally the wall decoration used motifs carved on the chair backs. This is now gone but the furniture remains, a blending of Sheraton and Adam. The Nicolson house is an important survivor of the nineties, both as a period piece and an indication of coming fashions in architecture.

The J. W. Grant house was one of Downing's designs combining brick and stone (**20**). It was not as unified as the Nicolson house on the exterior and had a variety of eclectic rooms. Some classic details are used but the total design is not in that manner. The plan is not at all symmetrical with the hall and dining room the largest spaces in the Shingle Style tradition (**21**). Porches are not important in the facade design. The elaborate relief ornament of the gables and upper frieze of the bay has no relationship to the incised geometrical frieze across the middle of the facade. This use of ornament and materials is perhaps a concession to the periods' demand for variety in design.

Interiors are more interesting. One enters a richly decorated vestibule with one of the vaulted ceilings that Downing used so well (**22**). The dark woodwork is a frame for the delicate "Pompeian" vault decoration. The stained-glass window



23 Grant House, reception room.

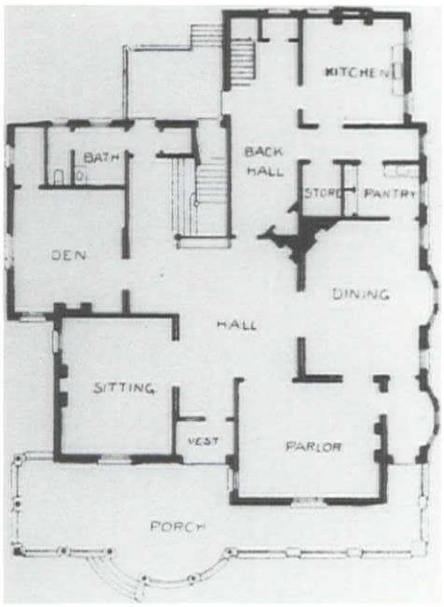
24 Grant House, dining room.

gives on the hall inglenook. The door opens to the stairhall. The combination electric and gas sconce and the coat hooks have a handcrafted look. The polished brick floor with marble wainscot finishes this satisfying design. The overcoats and hat add a Magritte-like dimension that makes this small, enclosed space mysterious and a little surreal. The hall is very open in plan and uses the English device of an inglenook to enclose and emphasize the fireplace. The oval reception room must have been one of Atlanta's most surprising interiors (**23**). It is full-blown Rococo handled with an assured skill although Downing must have had few opportunities to use this difficult style. The andirons are an authentic accessory. The dining room is a mixture of motifs, Rococo, Louis XVI, with decoration kept in definite frames (**24**). The glimpse of the painted ceiling indicates how important this area was to Downing.

25 E.S. Gay House.

26 Gay House, plan.

27 Gay House, hall.



The house for Mr. E. S. Gay remains but it has been made into a clinic and the interiors were demolished. The exterior is still much as it was when photographed (**25**, **26**). It is another of Downing's combinations of brick and smooth and rough stonework. The only unusual exterior features are the twin bays on the side facade.

This glimpse of the interior indicates that it may have been one of Downing's most advanced designs (**27**). The stairhall was the largest room in the house and its treatment quite individual and unable to be placed historically. The plain, vaulted ceiling is emphasized by the arches that intersect it. Decoration depends on the tile mosaics with the richest panel framing the staircase. Stained-glass in a geometric design lights the stair landing. Downing always used his mantelpieces as features of his design and the variety is remarkable when the twenty-five houses in "Domestic Architecture" are studied. The fireplace for the Gay hall is a solution to a difficult problem, unexpected but quite right for its location. It is interesting to see Downing using exposed light bulbs in this room. It is so much a vogue today.

28 L.A. Jordan House, Macon.

29 Jordan House, hall.

30 Jordan House, dining room.

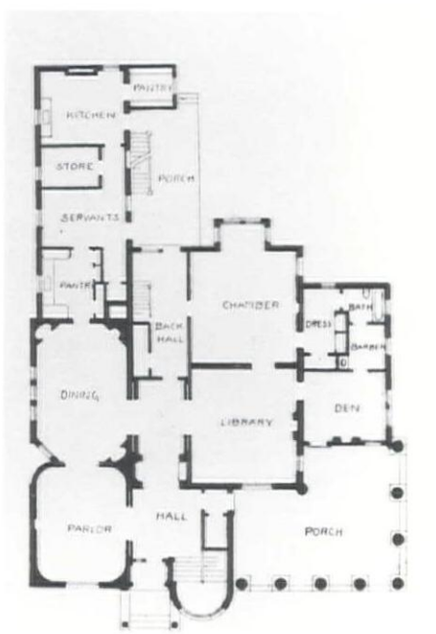
31 W.C. Sanders House.

32 Sanders House, hall.

33 Sanders House, plan.

Downing frequently used the classic fashion of the period of the flatroofed house with columns forming a two-story porch on one or more facades (**28**). The L. A. Jordan house, Macon, is an example. It was not Greek Revival in detailing. No plan is available but judging from other examples by Downing, it would not have been symmetrical. The rather common place monumentality was handled competently and gives no indication of the dramatic impact of the stairhall (**29**). This can be viewed only as a scenic effect and has little stylistic intention. It is not certain from the photograph whether surfaces were marbleized. The dining room is calmer and achieves its effect by the handling of abstract forms (**30**). The fireplace is an example of Downing's ability to integrate this element into the ensemble. This room would be difficult to date and that cannot be said of many designs of the period.

One of Downing's most archeological designs was the hall of the house of Mr. W. C. Sanders (**31**). This was another of the classic, flat-roofed, columned designs with a free, asymmetric plan (**32**, **33**). The architecture for the hall was probably derived from Rome via Robert Adam. Its coffered ceilings and Ionic order are carefully detailed. The marbleized walls seem quite authentic. The handling of the fireplace is in the true Downing manner. The off-center arch and the off-axis doorway may indicate the period's dislike of symmetry.



34 McBurney House.

Near the end of the selection of houses for *Domestic Architecture* is this Shingle Style cottage for E. P. McBurney (**34**). It brings us firmly back into the period. Downing has handled the usual features with a quiet skill. The tall, narrow Queen Anne windows and the veranda spandrels of Moorish grillwork are from the Aesthetic Movement. This is so unlike his usual work that it may have been an eclectic exercise for him, a reproduction of a past style. In any case, it is a demonstration of a considerable design ability.

The eighteen nineties did not produce a codified style for American houses but the Atlanta examples indicate the general characteristics of the period — complexity, attempts to combine historic styles with contemporary fashions, free and open plans, the scenic treatment of interiors, and the ability to use these means to create houses of differing expressions from dignity to fantasy. Today this architecture seems lavish but comfortable, the background for an extravagant way of life. It becomes more interesting as our lives become more controlled and ordered. It seems likely that the remaining houses will become increasingly desirable for contemporary homes.

The twentieth century brought a new style, introduced by the young architect trained in the Beaux Arts tradition in the growing schools of architecture. This wa a more controlled, unified, academic education than the office training of pre vious generations. During its popularity this new eclecticism produced a great deal of distinguished architecture and such amenities as remain in our cities ar often from this period. The late nineteenth century seemed old-fashioned at once and became increasingly unpopular. By 1920 it was a remote and disdained architectural interlude. Today its complexities and contradictions are being considered with a new interest, nc as a style to be revived but as a symbol of much that is now remembered as mor valuable than was thought a few years ago.

Grant Hildebrand is currently Professor of Architecture at the University of Washington. He practiced as a professional architect for a number of years, incldluing work with Albert Kahn Associates of Detroit and Minoru Yamusaki and Associates of Birmingham. He has recently completed a book entitled *Designing for Industry: the Architecture of Albert Kahn*, published by the MIT Press.

Albert Kahn The Second Industrial Revolution

Albert Kahn did two kinds of work. On the one hand his career presents an outstanding, perhaps a unique example of an architect's pragmatic address to the operational needs of an industrial society. The changes Kahn brought about through his industrial architecture are so sweeping that he can properly be considered a revolutionary figure in that field. Yet on the other hand, he was by nature a conservative with no apparent revolutionary intentions at all, who in fact produced a nonindustrial architecture which, while often of considerable quality, can in no way be considered revolutionary. Thus his career raises interesting questions. One lies in the duality of his career — how could a single architect produce so polarly disparate a variety of work? Another concerns the degree to which meaningful revolutions arise without conscious intent, or perhaps put another way, the relationship between pragmatic and theoretical bases of significant socio-technological change.

Kahn was born in 1869 near Mainz and when he was three moved to Echternach, where he spent the remainder of his childhood. While in Echternach he would have experienced both the stunning natural and architectural beauty of the region, and also the drama of its proximity to the burgeoning Ruhr; for in Kahn's childhood Krupp of Essen was emerging as the arsenal of the world following success in the Franco-Prussian War, while slightly to the south Daimler and Benz were independently pursuing their work in internal combustion engines and vehicles propelled by them. Whether Kahn was actually aware of these aspects of his childhood locale is not easy to determine; — but Krupp, at least, had an active press, and Kahn's later life suggests that at least part of the message got through.

He came to Detroit as a child of eleven in 1881; thereafter he had no formal schooling. He came to a region which like the Ruhr was steeped in heavy industry. We tend to identify Detroit with the automobile of a later date, but the auto industry was attracted to Detroit, and succeeded there because of Detroit's already decades old industrial history. And Kahn could hardly have failed to be aware of the city's industrial aspect, since he worked for a while in the Michigan Central Terminal in close contact with the trains whose rolling stock Detroit was producing.

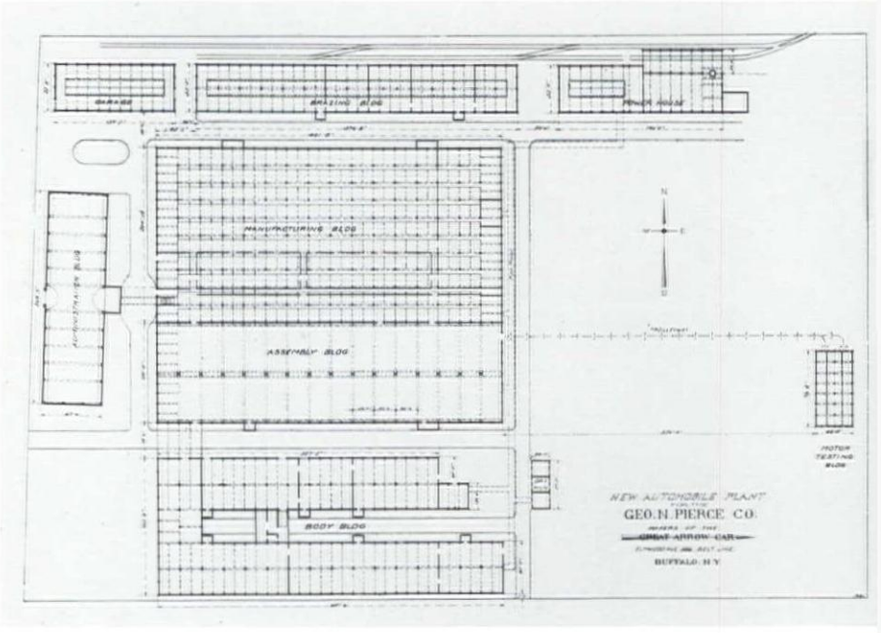
He had demonstrated some drawing skill as a boy; on the basis of that in 1884 he found work in the excellent Detroit architectural office of Mason and Rice. He was intelligent, determined, and boundlessly energetic, and so he rose rapidly within the firm; by 1891 he was chief designer, doing work in the mode of the Shingle style and Richardson Romanesque. Thus while he lacked a formal education his own drive, talent, and luck had provided him with an excellent professional grounding. In 1896, having climbed as high as he could within the office, he launched his own practice with two associates. By 1900 one had died, the other had taken a position on the Cornell faculty, and Kahn was sole principal.

Three years later he was appointed architect for the Packard Motor Car Company for whom in 1905 he produced the well-known Packard Building No. 10. This building was in fact less sig-

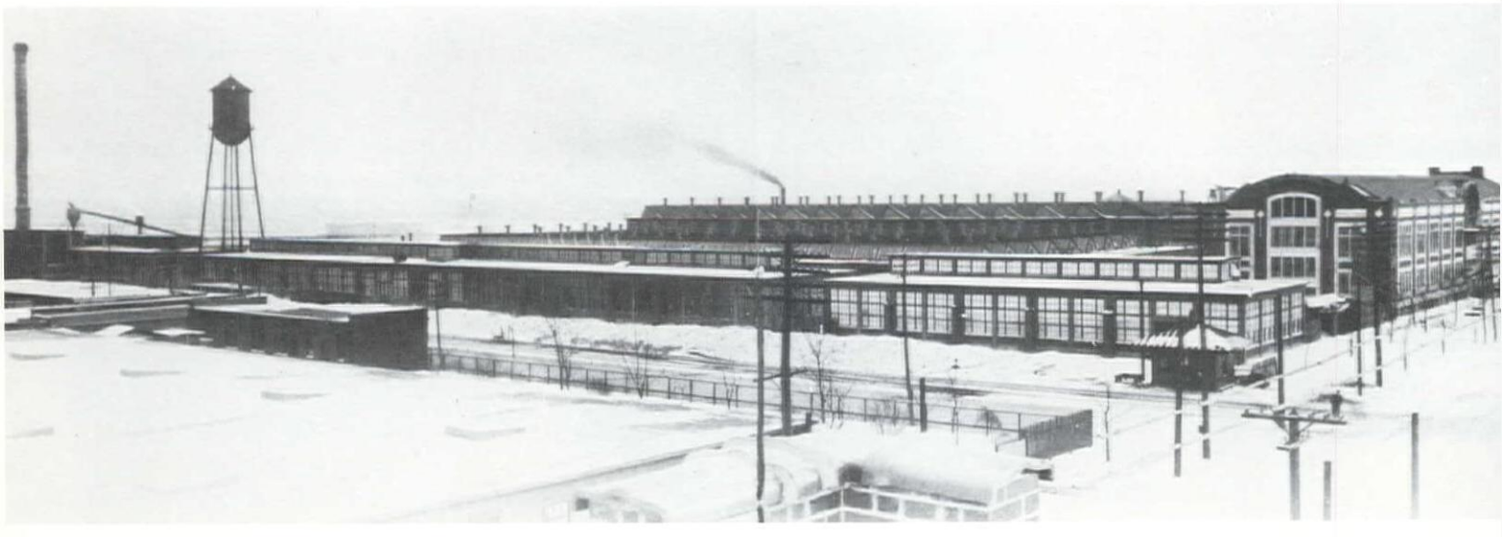
1 The George N. Pierce Company Plant, Buffalo, New York, 1906. General view from the northwest: the manufacturing building is the lower sawtooth roofed structure in the middle distance.

2 The Pierce Plant, plan.

nificant than its fame has suggested; it was intrinsically notable only for being the first reinforced concrete factory for the automobile industry. But it got Kahn started in work for that industry. The following year he was instrumental in the design of the new factory for the George N. Pierce Company of Buffalo, New York, to produce the Pierce Arrow car (**1**). This factory's importance would be hard to overstate. It inaugurated the planning concepts of progressive factory design from its date right down to the present, since it was the first in which manufacturing processes rather than architectural limitations determined the setting out of the plan. The Pierce Plant was a broad horizontally extended configuration of space as the plan (**2**) shows. Raw materials entered the so-called Brazing Building (actually a warehouse) to the north. From there materials were fed into the east faces of the Manufacturing and Body Buildings to be processed into sub-assemblies, these sub-assemblies meeting in the Assembly Building and emerging from its west face as a complete automobile ready for shipment. That the Pierce Plant could be so logically arranged around a manufacturing process was due to its exploitation of roof lighting; this did away with the architectural constraint of light penetration from wall windows which heretofore had forced on such buildings a relatively long and narrow configuration.

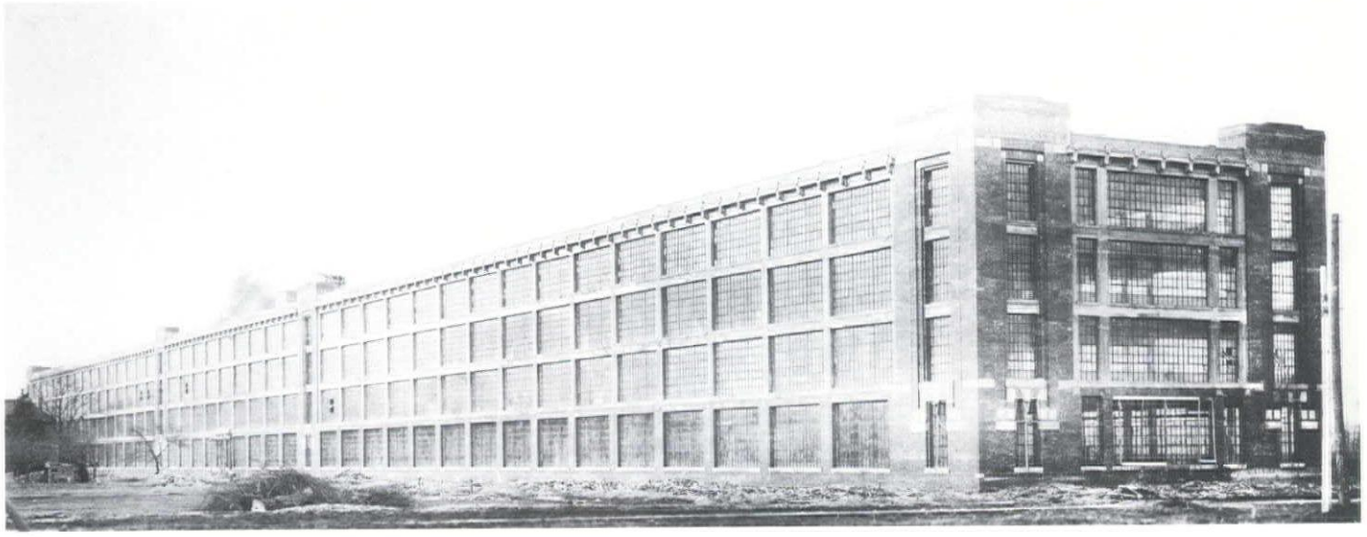


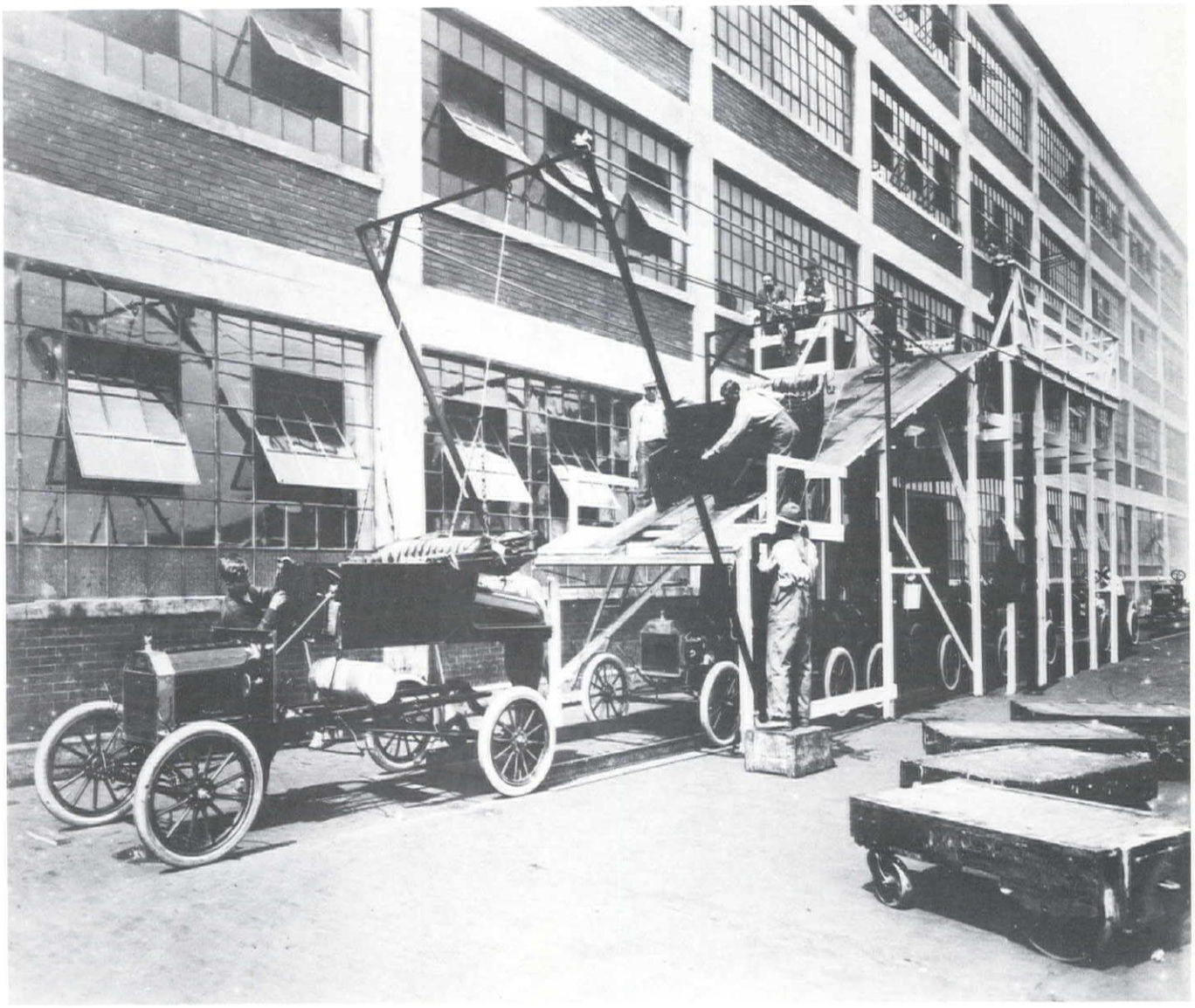
In 1908, probably as a result of the Packard and Pierce work, Kahn met Henry Ford; two years later Ford's new factory in Highland Park, designed by Kahn, was producing the Model T. The factory seems regressive by comparison with Pierce. It was multi-story; because of that it relied primarily on wall windows for light (though there was also a skylit central light well); and because of that, in turn, it was a long narrow building (**3**). The configuration, however, which seems regressive by hindsight, must have seemed progressive at the time. It derived from Ford's current experiments in production methods. He had tried gravity chutes to assist manufacture at his existing plant and had become enamored of them as a way of augmenting production. The new plant at Highland Park was designed to utilize these gravity chutes as much as possible; in order to d so it obviously had to be a multi-story structure. Raw materials were hoisted to the roof and trickled down through the building in process of manufacture and assembly until the finished car exited at ground level (**4**). But this interesting idec was a dead end, made obsolete by Ford's own cleverness.



3 The Ford Motor Company Factory, Highland Park, Michigan, 1910. General view from the southwest.

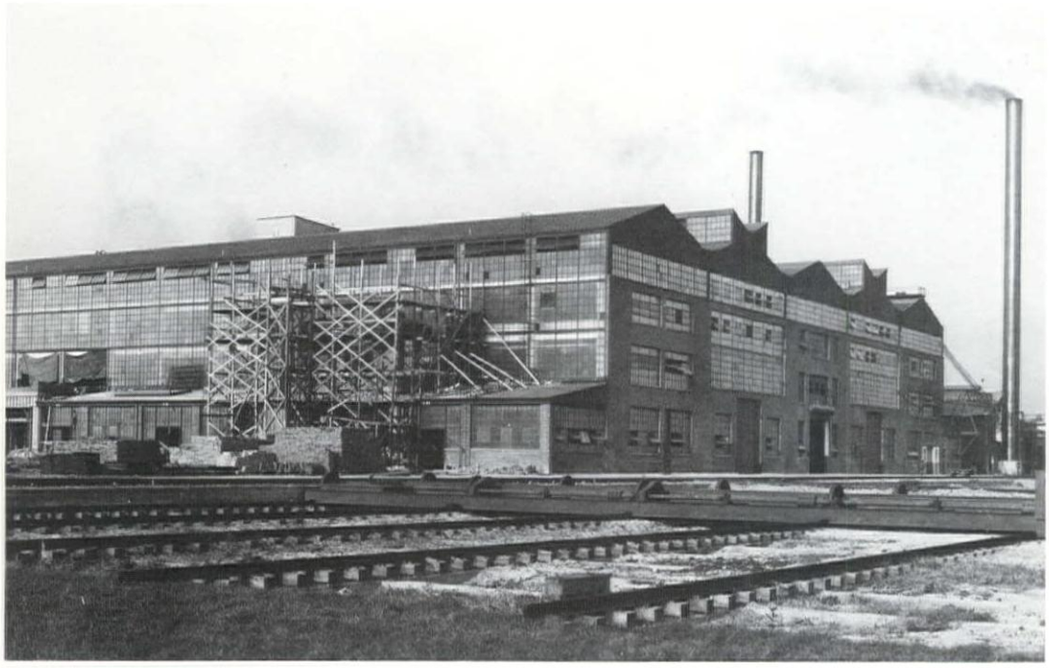
4 Ford Highland Park. Mock-up of gravity chute system for final assembly.

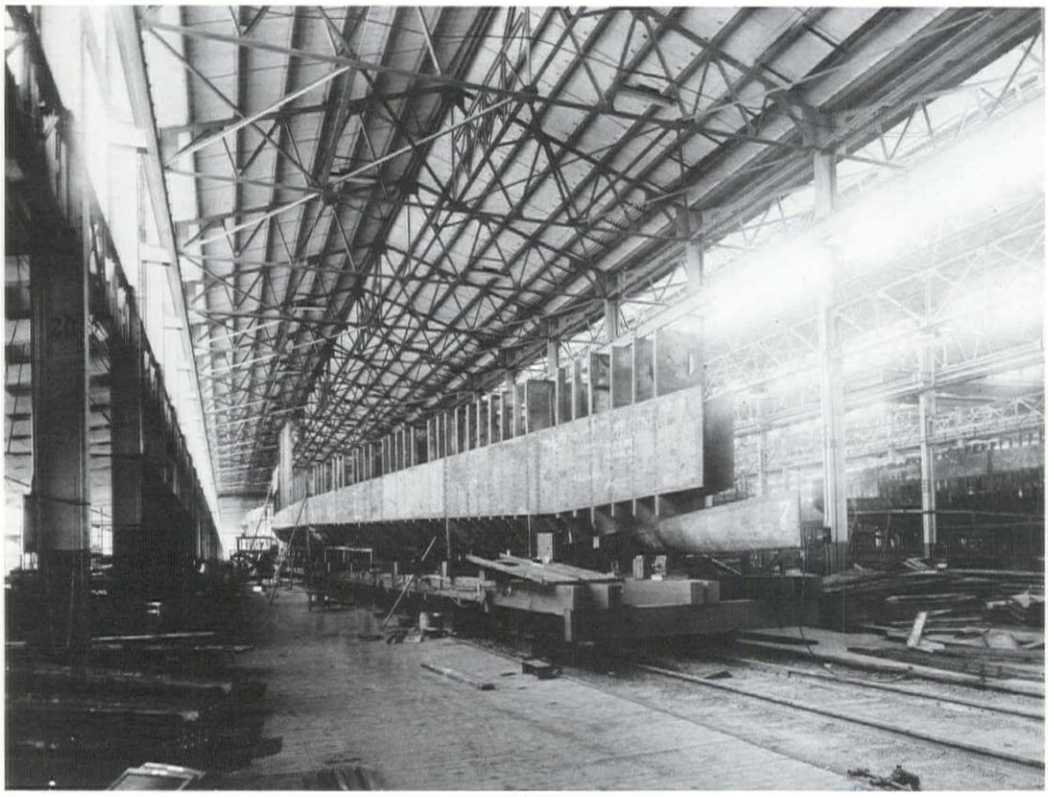




5 The Ford Motor Company, River Rouge Plant, "B" Building, 1917, general view.

6 Ford Rouge "B" Building, interior.



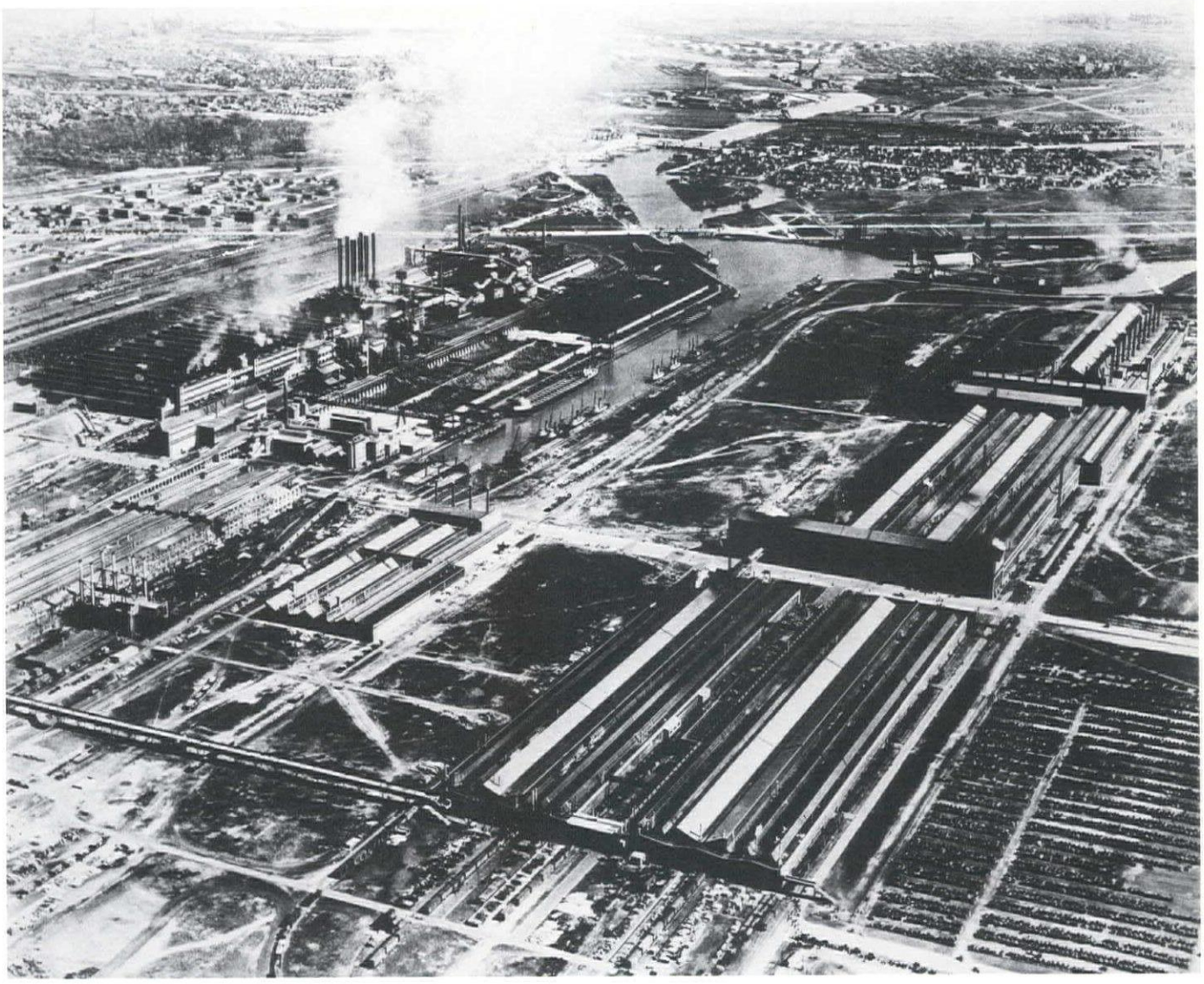


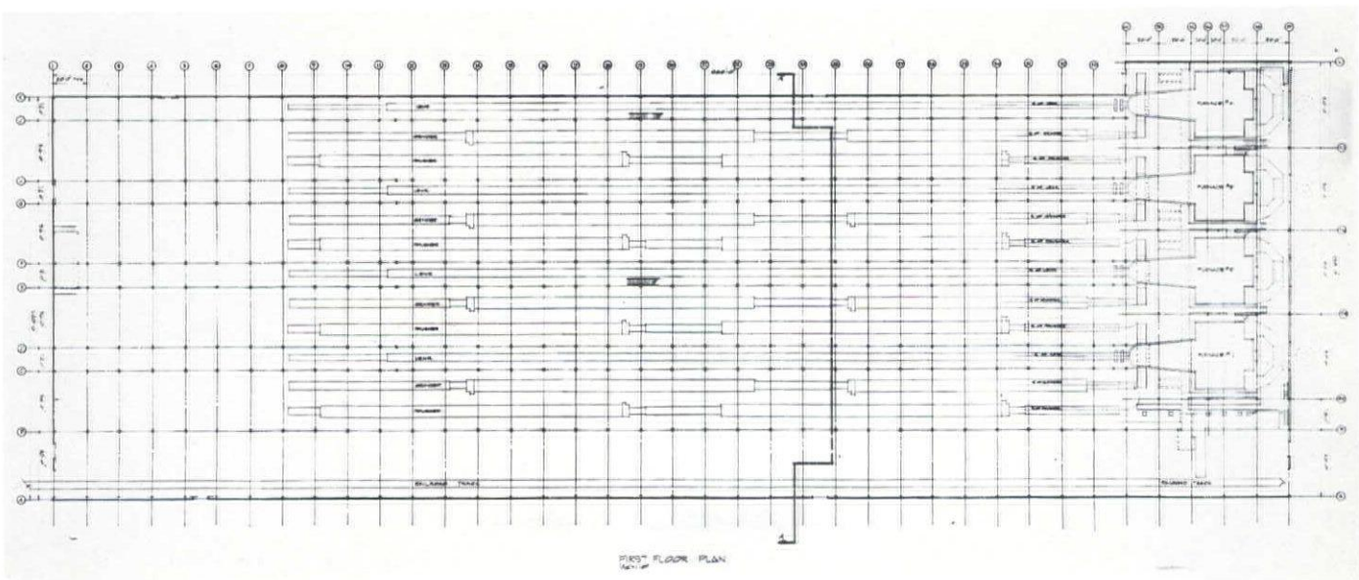
For in March of 1913 Ford tried assembly line techniques in the magneto production area at Highland Park, and encouraged by apparent success soon adopted the approach for assembly of the whole car; — with his usual quick mind he seems to have perceived almost at once the appropriateness of something like the Pierce format and the inappropriateness of the multi-story Highland Park Building for this new manufacturing technique. In 1915 he purchased 2000 acres on the Rouge River southwest of Detroit as the site for an entirely new and vast factory complex for assembly line production. In 1917 Kahn designed for this site a vast factory, a third of a mile long, of one story with lighting through roof monitors and clerestories, as the first building to be designed specifically for assembly line manufacturing process (**5**, **6**). (The building was designed to produce, of all things, World War I submarine chasers; Ford had convinced the government that these could be produced by assembly line methods. They couldn't — but the building was later used for Fordson tractor production and is still in use.) Over the course of the next decade Ford, with Kahn as architect, made the Rouge Plant the largest single industrial complex in the world and the nucleus of the flivver empire.

Rouge, as it reached maturity, consisted almost exclusively of one-story roof lit buildings organized around logical manufacturing process layout (**7**). A typical example of the high quality of design at Rouge is the Glass Plant of 1922. The making of glass involves the generation of intense heat. The furnaces heat the sand to 2500° at which point it is in a liquid state; it then flows out along a conveyor, the lehr as it is called, to anneal and solidify (**8**). After solidification it is ground to a uniform thickness, then polished to perfect transparency. The highest roof of the Glass Plant therefore is over the furnaces and is glazed with vast expanses of ventilating sash. In the main body of the building, over the process lines, Kahn has ingeniously organized

7 Ford Rouge Plant, overall view as of the late Twenties.

8 Ford Rouge Glass Plant, 1922, plan.





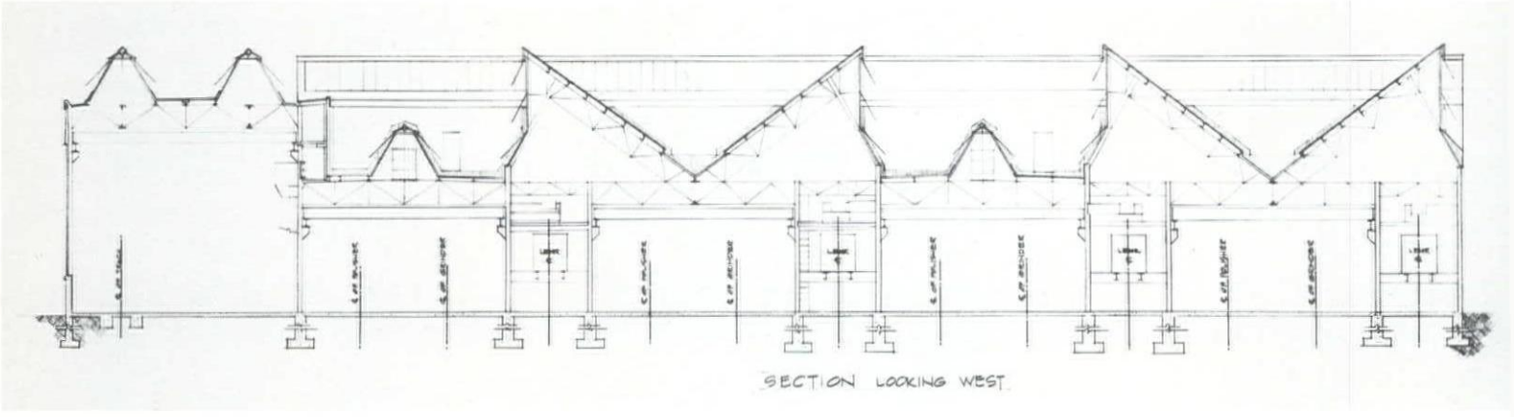
9 Ford Glass Plant, section.

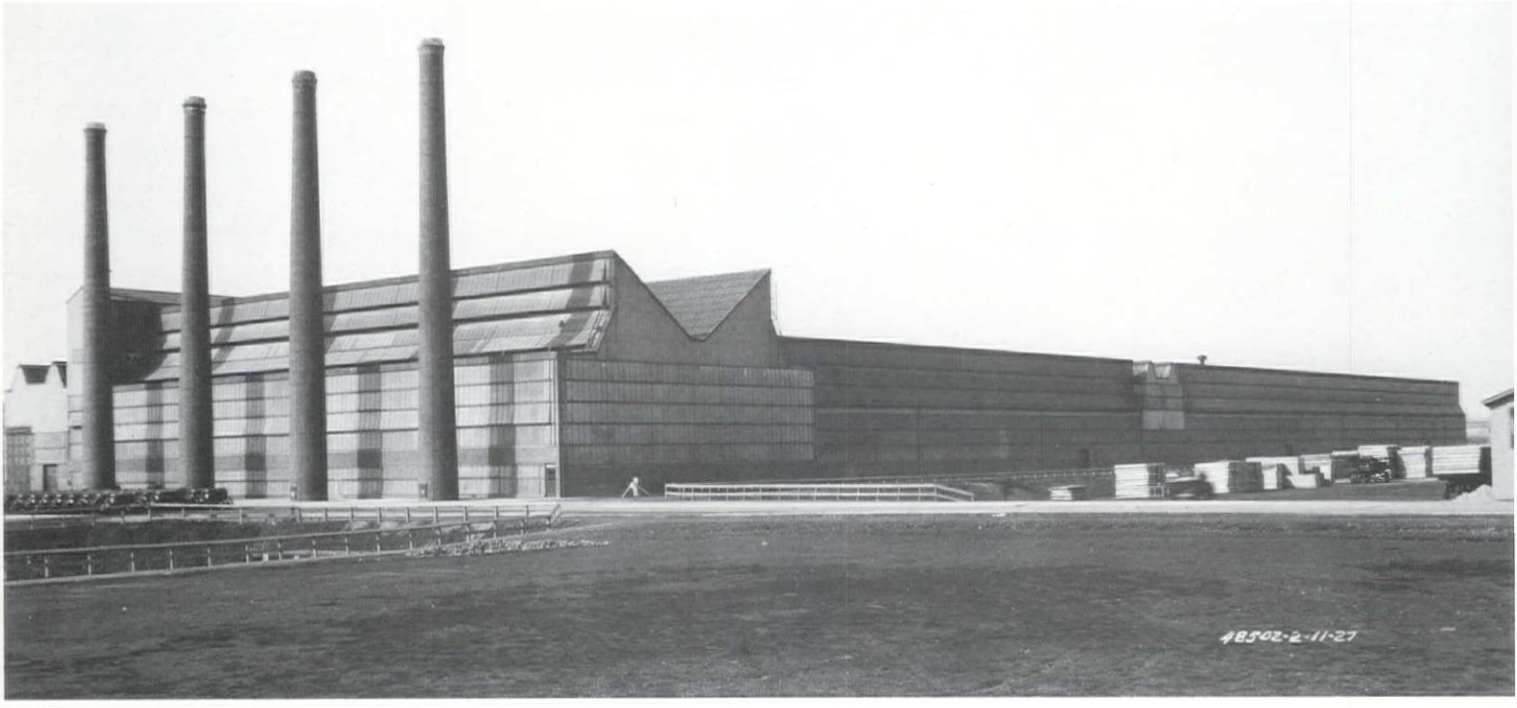
10 Ford Glass Plant, exterior.

the structure so that the highest parts of the roof occur over the lehrs to allow the heat of annealing to escape through the ventilating sash. At the same time, column lines are placed to allow freedom of worker movement for charging grinding and polishing lines with the necessary abrasives (**9**). Light comes to the charging areas through the sash over the lehrs and through the smaller continuous skylights. The structure seems, and is, complex, but this is because it has been cleverly and precisely tailored to the specifics of the industrial program. So too the architectural envelope is simple and clean, involving a minimum of fussy and expensive detailing (**10**). This building is, in my opinion, one of the key buildings of our century, though I know of no general work on architectural history that makes any mention of it at all.

Buildings of comparable thoughtfulness occur throughout the Rouge complex. Architecturally they are far in advance of their counterparts elsewhere in the world. Just how far can be judged by a look at the January 1933 RIBA Journal, for example: this issue, devoted to British industrial architecture of more than a decade after the Glass Plant, illustrates multi-story concrete factories that seem almost unbelievably primative compared with the most advanced American work; not even up to the planning standards of the Pierce Plant, much less the Glass Plant at Rouge. Or to take another example: Reyner Banham, in his *Theory and Design in the First Machine Age*, illustrates the supposedly advanced FIAT factory of 1927 — the story is the same. The FIAT factory repeats exactly the scheme not of Ford Rouge but of Ford Highland Park, with one exception: at FIAT the raw materials start at the bottom and the finished car emerges at the top, thus foregoing even the advantages of Highland Park's gravity feed system.

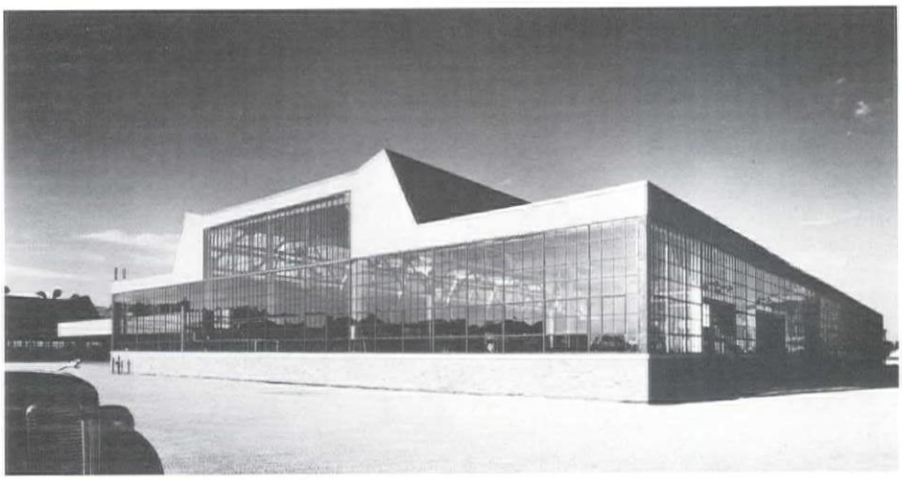
Such in fact was the thoughtfulness and the demonstrated success of Kahn's work





11 The Chrysler Corporation, Half Ton Truck Plant, Detroit, Michigan, 1937, exterior.

12 Chrysler Half Ton Truck Plant, interior.



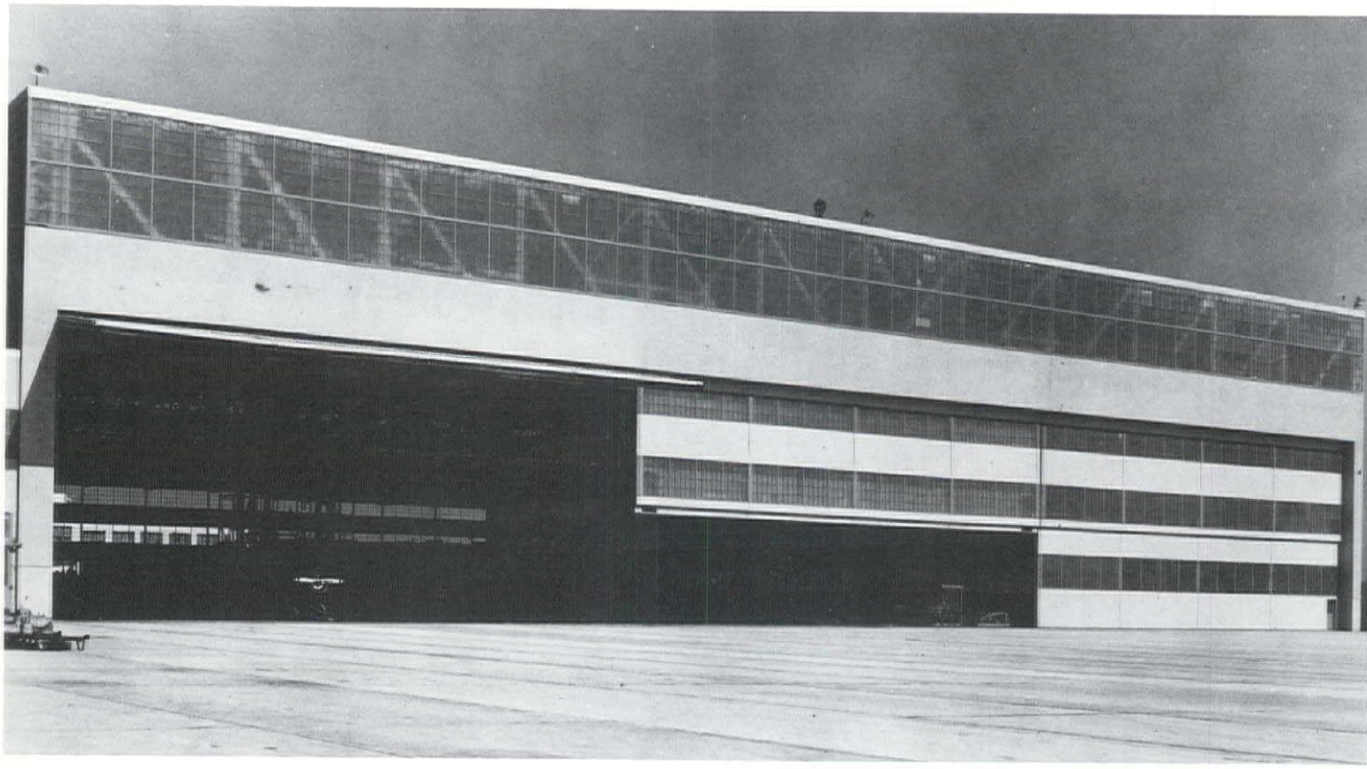
at Ford Rouge and elsewhere that I believe it would not be stretching the point to say that it marks a second industrial revolution. Certainly this architecture encouraged, served, and to a considerable degree made possible the quantum jump in the efficiency and economy of mass production that occurred in those early years of the twentieth century, and which in turn represents a watershed in the development of the industrial era.

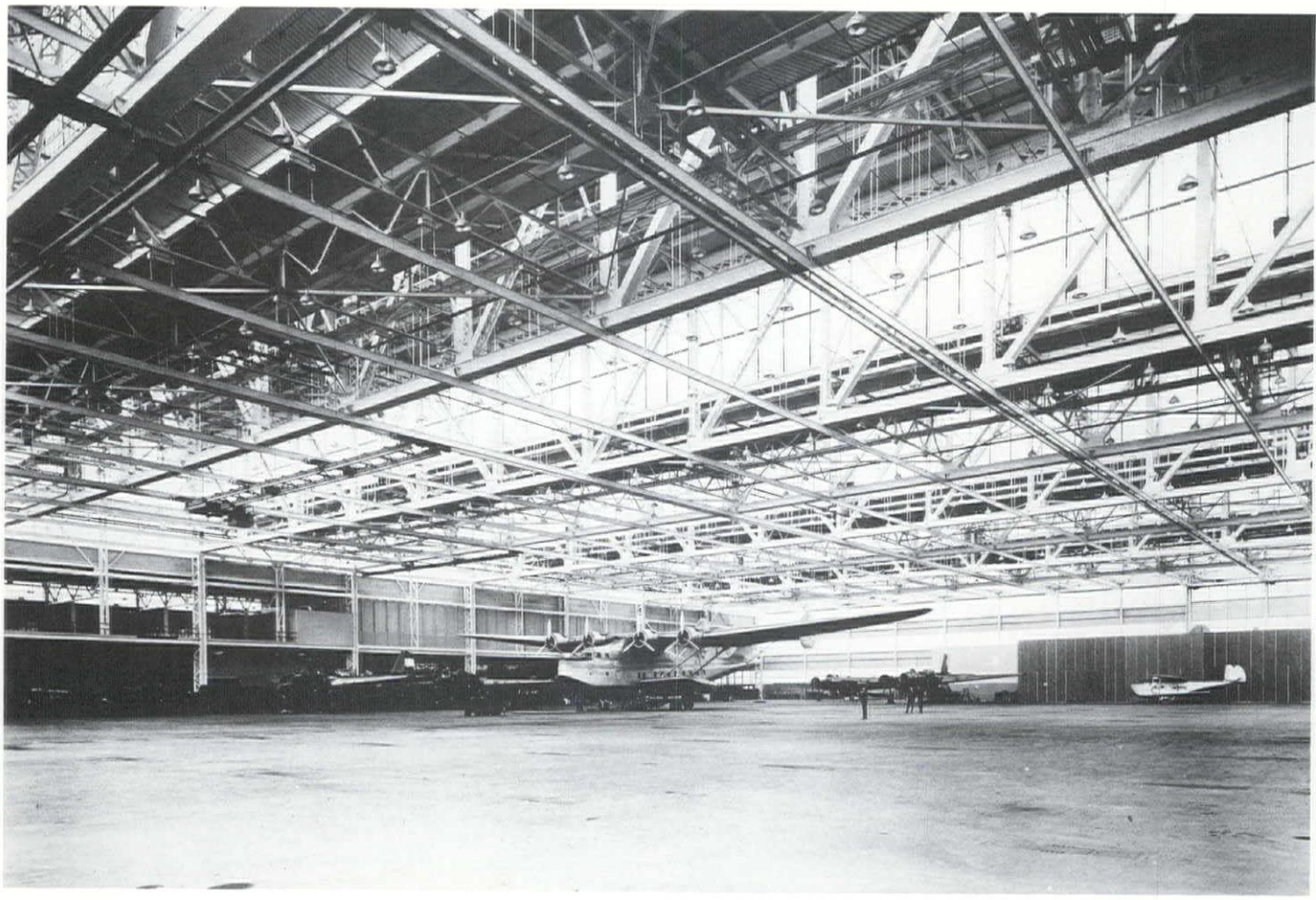
This early work of course formed the basis for Kahn's later and better known career. Such buildings as the Chyrsler Half-Ton Truck Plant, with its clever use of cantilevering to minimize structure (**11**, **12**) or the Glenn Martin Assembly Building with its 300 foot clear spans (**13**, **14**), represent the maturation of Kahn's industrial architecture. The necessary limitations of this article preclude a detailed discussion of these examples which in any event are generally more familiar than the early work. What should be clear however, what I have tried to present in minimal terms, is that by virtually any standard of architectural evaluation, Kahn's industrial architecture can properly be considered revolutionary — certainly to the extent that the work of any single designer can be so considered. By the end of his career, he had directed the design of well over 2000 factories and full merits classification as the foremost industrial architect of the twentieth century.

Yet many readers will be aware that there was a vastly different side to Kahn's practice. In the same year that Ford was buying land for the future Rouge Plant, Kahn was at work on the design of the Detroit Athletic Club, an exercise in urban elegance owing something to Kahn's recent stay in Florence and also drawing heavily from the manner of McKim (**15**). In the year before the Glass Plant design Kahn was also at work on the William L. Clements Library of Americana for the University of Michigan campus (**16**). This library also has obvious affinities to the work of McKim

13 The Glenn L. Martin Company Assembly Building, Baltimore, Maryland 1937, exterior.

14 Glenn L. Martin Assembly Building, interior.





15 The Detroit Athletic Club, Detroit, Michigan, 1915.

who, as may be guessed, was one of Kahn's heroes. It is really a remarkably fine piece of work within that style; Kahn said on many occasions and with good reason that it was his favorite among all his buildings. And these are only two of a profusion of such examples. Kahn did a majority of the buildings on the early Michigan campus, a large number of commercial buildings in downtown Detroit including the General Motors and Fisher Buildings, and many smaller structures as well, Edsel Ford's own home for example, modeled on a Cotswold country house. Many of Kahn's non-industrial designs owe a lot to the work of McKim, and many do not, but few indeed make any conscious attempt at a sharp departure from established modes. Thus while his nonindustrial work is usually tasteful and of high quality, there is nothing in it to compare, for example, with the work of De Stijl, or Corbu's Citrohan house, or PSFS, or indeed with Kahn's own imaginative factories.

Kahn, then, was seemingly both liberal and conservative at one and the same time.

Now people who combine a liberal and conservative cast are by no means rare; even among Kahn's cohorts we can name two famous examples immediately. Henry Ford established Greenfield Village as a nostalgic remembrance of an Americana that once was, while producing the Model T that made that Americana forever irretrievable; and Edsel, who designed the brilliantly svelte original Lincoln Continental lived in that very un-Lincoln Continental Cotswold country house. But these examples seem more understandable to us because two fields of interest are involved. In each case one field of interest is central to the person's business and is forward looking, the other field is peripheral and is less avant-garde. Yet Kahn, in his chosen and central field of architecture was both liberal and conservative at the same time; one could even say that he was both radical and reactionary. And this strikes us as puzzling. For us, Clements Library and the Rouge Glass Plant seem to have proceeded from totally different frames of reference. Yet there must be some explanation behind the paradox — after all, Kahn did exist, and did what he did.

I think we make some headway in understanding the matter if we view Kahn as an evolutionary figure, perhaps as a craftsman, dedicated not to challenging but to encouraging the trends of his time. If I interpret his personality rightly he was concerned not with redefining the problem (the conscious revolutionary's position) but with answering the problem (though this may lead to revolutionary work and in Kahn's case did so). In non-industrial commissions the answer to the problem was to execute the design in a historical style. That was part of the professional viewpoint; it virtually went with the job description. We forget now how few prior to, say, 1935 held any different viewpoint — but look sometime at professional journals of the twenties and thirties. By 1925 Sullivan was dead, Wright's career had vanished, both appeared as trailblazers of a cul de sac. Thus Kahn was working in the framework of a profession as he had learned it and as it was being practiced. He was not trying to change its direction but was trying to work at the top quality level of that profession — and from that particular point of view he succeeded very well.

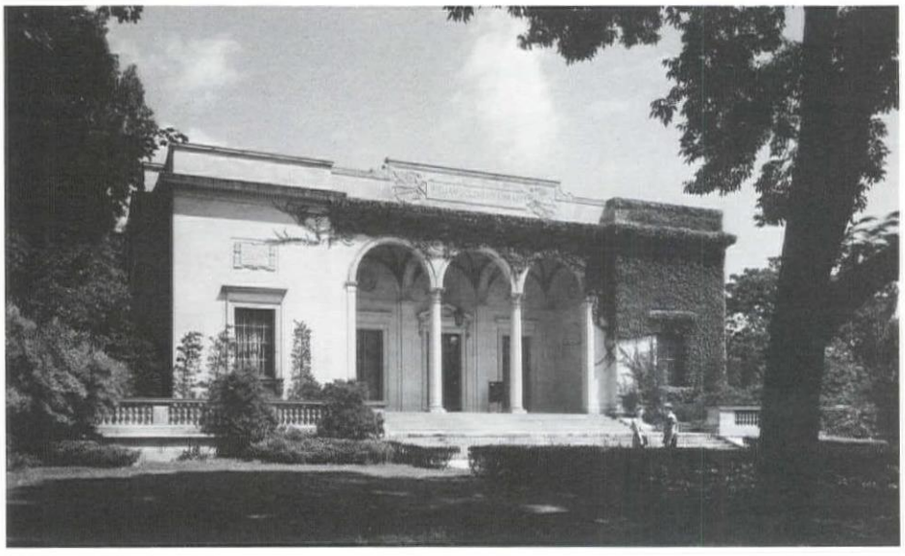
The same viewpoint held for his factory commissions. The problem was clear and crisp. His task, as he saw it, was to find an efficient answer, to execute the solution as well as he could. His fame and fortune were made because he was par-

16 William L. Clements Library of Americana, University of Michigan, Ann Arbor, Michigan, 1920-21.

ticularly suited to finding uniquely useful answers to that kind of problem. Furthermore, Kahn's pattern of conservative nonindustrial work and innovative industrial work found ready encouragement from the people with whom he was dealing. And here we should note that in many cases the clients were the same for both branches of Kahn's career. The relationship between industry and the Edsel Ford home or the General Motors and Fisher Buildings is obvious, but the Detroit Athletic Club was by and large a club of Detroit industrialists, founded by the president of Packard, while Detroit industry was responsible for many and major endowments of the University of Michigan. One could cite numerous other examples. Kahn's industrial and nonindustrial careers had close ties indeed in terms of the clientele behind them. For these clients the factory was not a problem in Architecture, it was a problem in Production Efficiency; sponsorship of innovation for such purposes was only natural; any other point of view would have been, in context, sheer nonsense. But where Architecture was concerned, where Edifices were to be erected with a view to Image, these same clients, for equally obvious reasons, chose to sponsor work at a high quality level of prevailing taste. (An interesting near-exception here was Henry Ford, who flirted with the idea of having his house at Fair Lane done by Wright, and in the end did have one wing done by the Wright office after Wright's flight to Europe. For Greenfield Village, however, and for Ford Hospital, Ford entertained no such notions.)

It is worth noting here that a few other designers of Kahn's generation did approach the issue of an architecture for the industrial age from a consciously revolutionary point of view and a comparison of their impact is illuminating. Perhaps the most obvious group is the Futurists. They were inspired, as Kahn was, by the drama of the age which seemed to be dawning, but in a different way; at the very time when Kahn was busy designing the early Highland Park Plant for Henry Ford they were preparing the Manifesto. Their excitement led to dramatic sketches and dramatic statements; Kahn's excitement led to real factories. Which in the end led to genuinely revolutionary results? That is not an easy question to answer — both approaches played a role and it would be folly to argue that one was important while the other was not. But in terms of executed work there can be no question. We have already mentioned the FIAT factory of 1927; Reyner Banham considers this the most purely Futurist building ever built; yet it was more than a decade out of date by comparison with the best American work — and this not just by an arbitrary standard but in terms of the actual production needs and processes which it was designed to augment.

Perhaps the most fascinating point of all is that the attitudes that lay behind Kahn's approach to his work also, I suspect, underlie many significant historical changes. Certainly the agrarian revolution must have proceeded from like attitudes, as did the urban revolution of medieval times, the industrial revolution and, if we accept my previous term, the second industrial revolution of which men like Kahn and Ford were the driving force. Whether these revolutions were more significant than the innumerable other more politicized revolutions of which history takes note — whether French, Bolshevik, Renaissance of Bauhaus, — is a matter for another essay, or book, or tome.



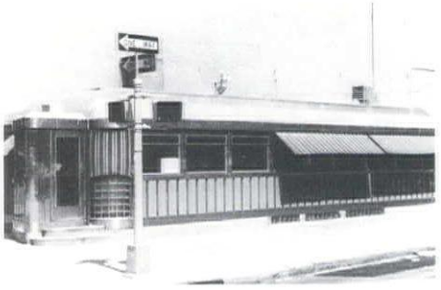
Richard J.S. Gutman graduated from Cornell University College of Architecture in 1972 and is currently living in Cambridge, Massachusetts. He has travelled throughout the United States lecturing on Diners at architecture schools. This article is excerpted from a book on Diners to be published by Harper & Row, which he is co-authoring with David Slovic and Elliott Kaufman.

1 Finn Square Diner, N.Y.C., Kullman Dining Car Co., circa 1940.

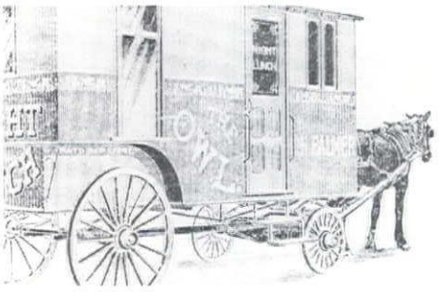
2 Night Owl Lunch Wagon, Charles H. Palmer, c. 1890.

Diner Design Overlooked Sophistication

The roadside Diner is one of the ultimate examples of a type of American indigenous architecture. Its construction has always been the complete factory-built job, right down from the days of its birth as a horse-drawn lunch wagon to the super deluxe twenty-unit modular restaurant of the 1970's.



From its humble beginnings in the early 1870's, Diner design developed into a high degree of sophistication and use of materials, but on a totally vernacular or craft level; no architects ever designed Diners.



The classic Diner which once dominated the food service business along the roads of our nation, especially in the northeast, has a completely familiar image. It invariably has counter service and a menu of "American" fare. The exterior has a railroad or vehicle-like styling: a long, low unbroken strip of windows, a skin of gleaming stainless steel or porcelain enamel. The Diner has an appearance of being mobile and is, in fact, highly movable.

The idea of a mobile eatery was one factor that brought Diners into existence. If you had a restaurant on wheels, you could go to where your business was. Early operators moved around to the mills, factories, and newspaper offices. Some set up wagons on one favorite location, knowing their regular customers would drop in after theater, dances, roller polo games, and whist parties.

The other main reason for the appearance of the first lunch wagon (Providence, Rhode Island, 1872) was that after 8:00 p.m. a person couldn't get anything to eat in a town. That was when all restaurants closed for the evening. A fellow named Walter Scott deserves credit for being the first lunch cart operator, serving sandwiches of chicken and ham, a boiled egg with a slice of buttered bread, and pies. He converted a small freight wagon into a food-dispensing unit and he passed out his victuals to customers who stood on the curb.

Whereas Walter Scott's cart was a home-built conversion, other entrepreneurs contracted local wagon builders and blacksmiths to build wagons specifically made as lunch carts.

By the late 1880's, the lunch wagon business began to mushroom into an industry. On September 1, 1891, Charles H. Palmer of Worcester, Massachusetts received patents on two of his wagons, "The Night Owl Lunches." His carts were large enough for a customer to enter.

3 Night Lunch Wagon, Thomas H. Buckley, c. 1895.

4 Quick Lunch Wagon, c. 1890.

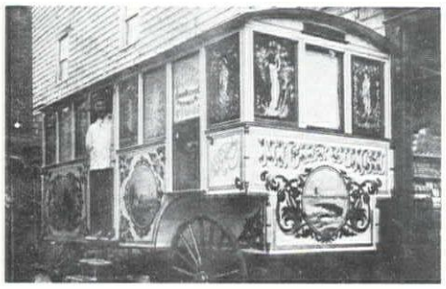
5 Quick Lunch Wagon (sans wheels), c. 1905.

6 Franklin Diner, Worcester Lunch Car Co., 1925.

7 Capitol Lunch, Jerry O'Mahony Co., c. 1920.

8 Tom's Cafe, O'Mahony, c. 1920.

It was Thomas H. Buckley, the original "Lunch Wagon King," who built the first noteworthy cart. His factory in Worcester had 80 craftsmen turning out seven wagons a month. Buckley widened the wagon from 6 to 10 feet, allowing more comfort for both customer and operator. He built a substantial counter, comfortable stools, and installed a bright nickel



coffee urn.

By 1895, Patrick J. Tierney, of New Rochelle,New York, was running a chain of 38 lunch wagons. His success was so great that he decided to start manufacturing them, and soon changed the industry. Known as the man who brought the toilet inside, Pop Tierney manufactured and sold more Diners in less time than anyone else, before or since. Pop died a millionaire in 1917, but his sons kept the business going for almost a decade and a half.

In 1906, the Worcester Lunch Car Company was formed. It survived until 1961. Charles P. Gemme was vice president. "I had charge of the place for 55 years. We started out making lunch wagons 7 feet wide by 16 feet long." Gemme is a perfect example of a man who designed and built Diners. He started out making lunch wagons with T. H. Buckley. Then he worked for an outfit that made electric streetcars.

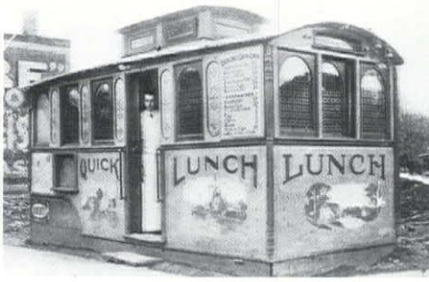
When Charlie Gemme got back into the lunch wagon business, he could see many similarities between the design and construction of lunch wagons, streetcars, and railroad cars. Around the turn of the century, a brilliant new streetcar was looked upon as the pride of a city. Lunch wagons were built with a similar appeal.

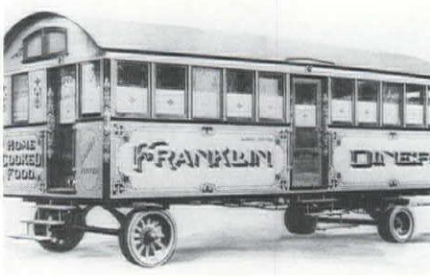
Buckley's cars were painted white and decorated with gold scrolls in bas relief. They had stained glass windows etched with portraits of the Presidents. Many of the old wagons were decorated on the outside with painted landscapes.

Lunch wagon design became more sophisticated. The early styles which had large back wheels and smaller front wheels gradually gave way to the more car-like form. The change occurred when the wagons left the streets to set up on "permanent" locations. The early lunch carts were only allowed to do business on the streets from dusk until 10 in the morning. The "floating" restaurants were so popular that in Providence, for example, nearly fifty were roaming the streets by 1912.

All of those "two frankforts and a cup o' coffee for a nickel" wagons just became an eyesore to residents and visitors. Not only that, they were staying on into the late morning to do more business. When the city cracked down and declared that they had to be off the streets by 10 a.m., some operators discovered the way around it. The simple answer was to pick a good site, off the road, where one could set up permanently.

This led to 24 hour business. It also enabled a wide expansion of the menu because water, gas, electrical, and sewage connections were made possible. Ham and eggs, steaks, chops, and even roasts were added to the fare. It was at this time that the high wheels came off. The wagons did not have to negotiate the streets on a daily basis, so two sets of

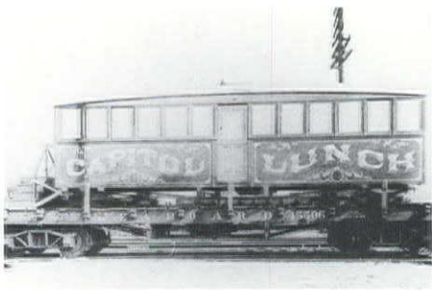




small wheels beneath the Car were adequate.

Up through the 1920's, Diners were still built on wheels. The early small carts had a food preparation area at one end and a counter running around the perimeter of the other sides. Later designs with the more elongated Car had a larger "back bar" area running along the length of the Car, separated from the customer by a long counter.

Diners grew in length, but not really in



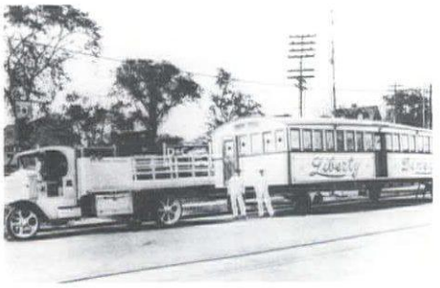
9 Liberty Diner, P.J. Tierney Sons, 1924.

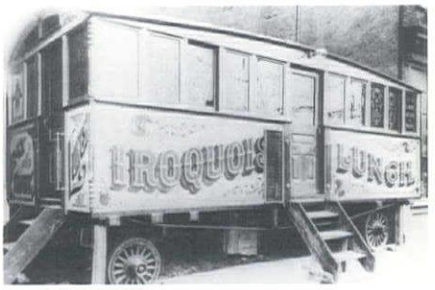
10 Iroquois Lunch, O'Mahony, c. 1920.

11 College Lunch, O'Mahony, c. 1920.

12 Quick Lunch, O'Mahony, c. 1920.

13 Special Steel Monarch interior, O'Mahony, 1929.





width. Prefabrication and mobility were the reasons. Diners were shipped by railroad or trucked to their sites. The railroad couldn't move anything wider than 10½ feet. When "Booth Service" or "Tables for Ladies" were added to Diners in the late twenties, the width expanded to 14 feet. These Cars were shipped by water, or over the highway on their own wheels.

Even shipping by truck was a limiting factor. After all, the old roads could not accommodate extra wide loads. So, in order to maximize the number of customers in a Car, it naturally grew into its familiar long narrow form. That plan was ideally suited for fast, economical preparation of food, right before the customer's eyes, with a minimum of employees. Indeed, the features that guaranteed the success of the Dining Cars were apparent cleanliness, speedy service, food made before the patron, novelty of the Car, economy of operation, portable facilities, and the wide range of meal types.

The portability aspect was very enticing to potential operators. The Diner was "personal property," like an automobile, and could be written off at 10% a year for the first 10 years for depreciation. It was not taxed as real estate. Because the land on which it sat was not improved, assessments were generally lower than those on stationary restaurants. Owners could often rent plots of land on which no other structure could be built.

The mobility of the Car made it easy for the owner to switch locations if he so desired. The Cars kept their wheels; brick or wood foundations were just built up around them.

The 1920's was the first Golden Age of the Diner. It was during this time that they achieved an elegance unsurpassed at later dates. The Diner interior was a dazzling, almost dizzy, combination of ceramic tile designs, with marble counter tops, porcelain enamel stool bases, often fluted or striped, and leaded, etched frosted, or stained glass windows. The

gleam of the shining metal equipment was balanced by the use of natural wood for the ceiling, window frames, and doors.

14 Webster Lunch interior, Bronx, N.Y.C., Tierney, 1924.

15 Steel Monarch interior, Brooklyn, N.Y., O'Mahony, 1932.

16 Tavern Grill, Tierney, 1924.

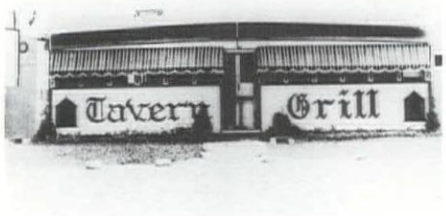
17 Building the underframe, Tierney plant, 1924.

18 Putting up wall sections & roof, Tierney plant, 1924.

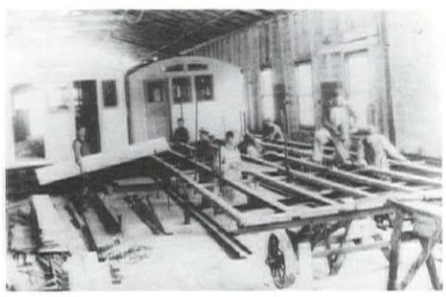
19 Building the counter, Tierney plant, 1924.

20 Finishing the interior, Tierney plant, 1924.

21 Lettering the exterior, Tierney plant, 1924.



In 1924, the P. J. Tierney Sons Company built a Car that was touted as "a modern thoroughly equipped restaurant on wheels." The standard Car was 30 feet long and 10½ feet wide. The Diners were all built right on their wheels, with an underframe of steel I-beams and angle irons. Wall panels framed with seasoned oak were prefabricated and



then attached to the chassis. With the wooden roof added, the structure became rigid. Rib irons strengthened the roof structure. The body was covered

with 20 gauge automobile body steel, making it fireproof.

The Car was fitted for electricity and gas, and then the interior was sheathed in light oak or mahogany. Metal was an available option for the ceiling. When the counter was built, the Car was ready for interior finish work. The floor was

tiled in front of the counter, the sides and front tiled up to the windows, and the rear up to the ceiling. Occasionally, deluxe models had marble floors. Behind the counter, wood flooring was used because it was easier on the feet of the countermen.

Counter tops were made of 1¼ inch marble, black walnut, mahogany, or Vitrolite, as desired. Marble was used in the standard Cars. The optional Vitrolite, gaining widespread use in the food service industry, worked equally well; being non-porous, it would not stain or discolor. It could not be scratched and never grew dull. One of its advantages was that it could be etched or color decorated. Easy to maintain, a damp cloth with an effortless stroke removed all spots and spillings from its ever-clean surface.

With the counters installed, the gas range and other equipment were brought in. The all-steel ice box, with white enamel inside and out, was adaptable for electric refrigeration. A five-foot long steam table was installed, where roasts would be prepared and other dishes displayed. The coffee and water urns were spotlessly nickeled.

Each Car had stools of white porcelain enamel with mahogany or oak seats and nickel plated or porcelain enamel rims. Stools in some Cars were upholstered in leather and fitted with backs. Each stool was equipped with an individual brass foot rail.

The final interior finish work consisted of varnishing all woodwork and installing

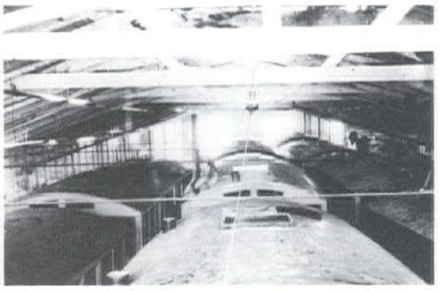
the exhause fans in the skylights. Outside, the body was usually painted in white enamel with lettering in gold. The purchaser could select optional colors. The roof covering was made of waterproofed duck. Two coats of special roof paint provided further protection.
Each Tierney Dining Car came complete with dishes, dining and cooking equipment. The 30 foot long standard Car, 10½ feet wide, cost $7,500 in 1924. It seated fifteen. Each additional stool required a proportionate enlargement of the Car and cost $250.

22 A view of the roof tops, Tierney plant, 1924.

23 The metal shop, Tierney plant, 1924.

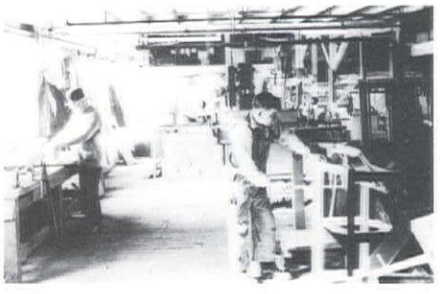
24 Ted's Diner, Milford, Mass., O'Mahony, mid-1920's.

The new Tierney plant which opened in the summer of 1925 in New Rochelle had enough floor area for 250 men working on 40 Cars at a time in various stages of construction. The production capacity was two Cars a day. It was claimed by the Tierneys that at one time their plant was turning out a Diner a Day, i.e. 250 Cars in a single year.



All parts, wooden and metal, were fashioned on the premises: ice boxes, drawers, doors, urns, hoods, drinking fountains, steam tables, pie warmers, milk pumps, garbage cans, etc.

The Tierney plant used nickeled metal or German silver, but a new material, Monel Metal, was rapidly growing in

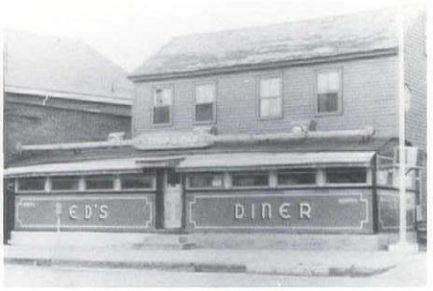


popularity in the food service business. Monel Metal was a technically controlled nickel-copper alloy of high nickel content. It was mined, smelted, refined, rolled, and marketed solely by The International Nickel Company.

Monel Metal was first used extensively around 1924 by railroad dining cars, where hard use and abuse were the rule, rather than the exception. It stood up well, retaining its silvery brightness. It had no coating to chip, crack, or wear off. It was also easy to keep clean. It would not rust and resisted corrosion.

Like stainless steel, which would begin to replace it ten years later, Monel Metal was used for every conceivable purpose: canopies, hoods, ice box lining and pans, kick plates for swinging doors, bins, trim, stands, racks, railings, shelving, sink linings, splash boards, table tops, exhaust ducts, flashings, skylights, roofs, troughs, gutters, ventilators, and counter tops.

In the early 1920's, the Tierney Sons were competing with another large scale manufacturer, the Jerry O'Mahony Company of Elizabeth, New Jersey. The O'Mahony outfit was begun in 1913 in Bayonne, New Jersey, and Jerry O'



always claimed, "In our line, we lead the world." By the late twenties, the Tierney Sons had run their business into the ground, and O'Mahony became the largest manufacturer. O'Mahony was one of the first to make Dining Car manufacturing a big business.

O'Mahony, along with Pop Tierney, started a unique system of financing Cars, and for this reason they were able to sell so many. It was a deferred payment plan, under which only a small cash down payment was required upon delivery of the Car. The O'Mahony company financed the balance, and the operator paid it off in time. Thus, the operator knew the manufacturer had a vested interest in his success, and therefore, a well-designed Car, properly managed, on the right location would be a sure profit earner. O'Mahony claimed after 13 years in business that no O'Mahony Diner had ever failed!

25 Bringing in the new Franklin Diner.

26 Palace Diner, Jamaica, L.I., N.Y., O'Mahony, 1924.

27 Palace Diner interior.

28 Jimmie Evans Dina, Buzzard's Bay, Mass., Worcester Lunch Car, 1930.

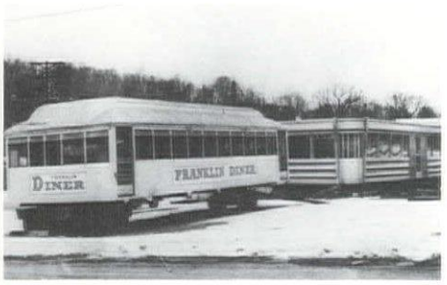
29 Hayes-Bickford's Dining Car No. 1, Boston, O'Mahony, 1925.

30 Park Central Diner, Roselle, N.Y., O'Mahony, 1932.

Both O'Mahony and Tierney had extensive service organizations. In addition to the financing, the manufacturers usually helped pick the most profitable location and helped the operator secure it. The Tierney Sons operated a training school in one of their Cars, located adjacent to the plant. In that Car and in others in New Rochelle, newcomers to the business learned the daily routine and practical aspects from experienced men under operating conditions.

Tierney would even send a man to stay with the fledgling operator for a short while, if needed, to insure that the business was successfully launched. Tierney and O'Mahony both put out publications, *Tierney Talks* and *Dining Car News*. Both were sent out at no cost and were devoted to educating the industry and the public about the advantages of Dining Cars, providing tips and other information.

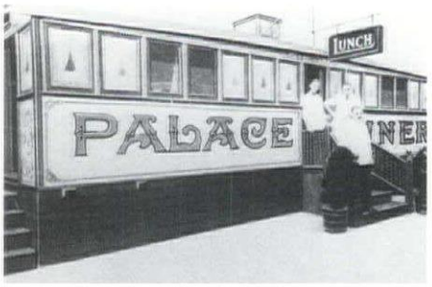
Another aspect of the industry was the attitude toward trade-ins. Naturally, the manufacturers wanted to sell as many new models as possible. An operator

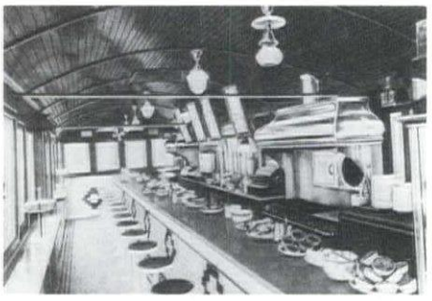


could trade in an older Car toward a new one. The manufacturer would haul off the old one, tune it up, and sell it as a reconditioned Car to someone with limited capital. This usually meant only refinishing, re-doing booths or tables, putting on a new skin, and generally cleaning it up.

Because the new units were usually bigger than the old ones, a new foundation could be built right around the old Diner. When the new one was brought in, service was interrupted for only a day or two.

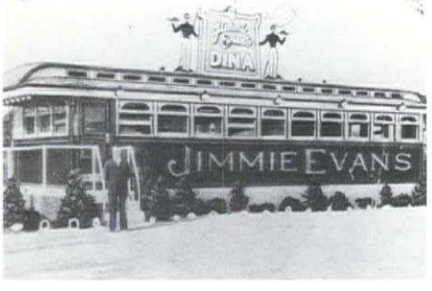
More Diners were built during the 1920's than in any other period. At that time tens of thousands of miles of highways were built to accommodate a flood of automobiles. Scores of Diners popped up along the roadside to service the hungry travellers. In the early twenties there was only one style of Car that all the manufacturers were building. It had a barrel





roof. Tierney, O'Mahony, and Worcester all built this model.

O'Mahony and Worcester also built Diners with monitor roofs. An idea borrowed from streetcar and railway construction, the monitor had a clerestory or raised section running the length of the roof. Operating sash in the cle-

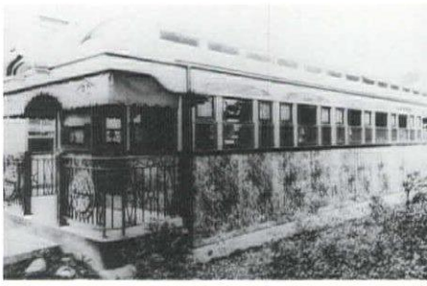


restory provided added light and better ventilation. This style helped give Diners the familiar railroad look that lasted until 1950.

In 1927, the Hayes-Bickford Lunch System of Boston installed in Cambridge an O'Mahony Diner that sat on regular railroad trucks and steel rails. As an extra attention getter, the operators placed a railroad signal arm with a red light in front of the lunch car. The sign read, "Siding: Parking space in Rear." What motorist wouldn't stop, look, and turn in

for that.

Other Cars, especially those on sites with end frontage, had entrances that closely resembled railroad observation cars. Some Diners were also given railroad names to reinforce the association.



31 Illinois Central Interurban Car, 1940.

32 Eagle Diner, O'Mahony, 1940.

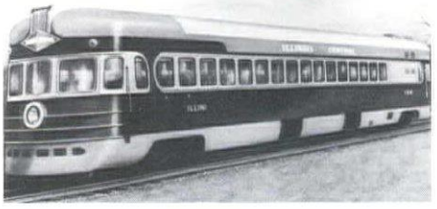
33 Coyte's Diner, The Pullman, Arlington, Mass., Worcester Lunch Car, 1948.

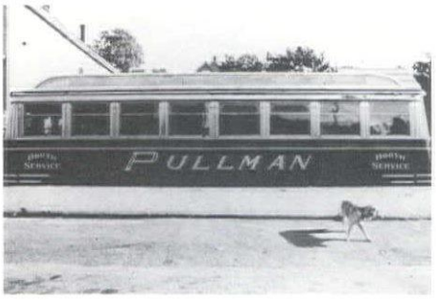
34 Sterling Diners advertisement, 1941.

35 Mayflower Diner, Quincy, Mass., Worcester Lunch Car, 1941.

36 Brill Steel Diners advertisement, 1928.

37 Brill Steel Diners advertisement, 1929.

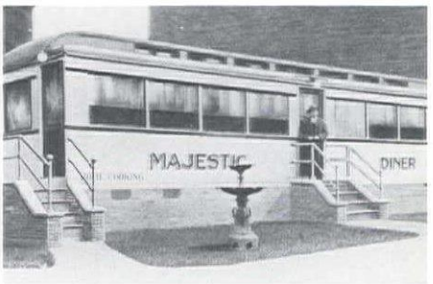


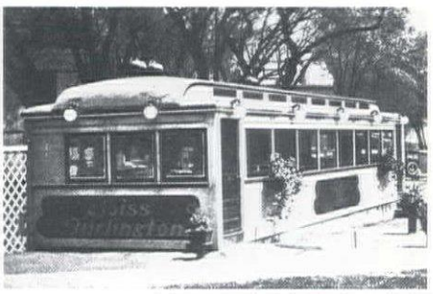


In the later days, the forties and fifties, the manufacturers were even more consciously making Diners look like clean machines. The streamlined style of the first Airstream Trailer in 1937, as well as the sleek locomotives, influenced Diner design. No other buildings were made with skins of gleaming stainless steel and porcelain enamel. For the average man, the Diner implied the means of getting away, a relaxing trip, a restful vacation.

Streetcar companies and other vehicle builders started making Diners as a sideline, and for some it became a big business. The J. G. Brill Company of Philadelphia started making railway and streetcars in 1869. In the 1920's they also got into the Dining Car Manufacturing business.

Brill made all-steel Diners. A December, 1928 advertisement described the standard unit. "The underframe of the Brill Steel Diner is constructed of heavy structural steel beams, firmly riveted together. Outside sheathing is selected car builder's plate steel. Much of the interior construction is metal. The result is a





degree of rigidity and durability that defies time. Increased protection against fire, roominess and greater sanitation are further assets which result from steel

38 Steel Frame, O'Mahony plant, late 1920's.

40 Steel Frame, Kullman, 1940's.

42 Sterling Diners patent drawing, August 3, 1937.

construction. Truly, Brill Steel Diners are 'Built to Win—Without—Within.' "

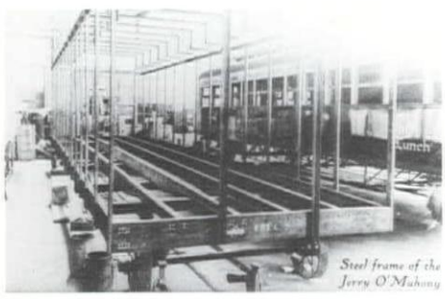
Brill introduced an interesting design feature. The counter was set at a comfortable table height so there was no climbing up onto high stools. Many women didn't feel comfortable perched up in the air, but a lower counter, along with backs on the stools, eliminated the problem. Brill also lowered the floor height behind and under the counter, allowing for adequate storage and easy and comfortable service by the counterman.

Brill's "modern" inside trim consisted of art metal, tile, marble, and vitreous enamel of beautiful shades.

Evidently Brill only made Diners for a short time, and also didn't make too many, because few, if any, have survived to 1975. Perhaps their units were too heavy and over-designed structurally.

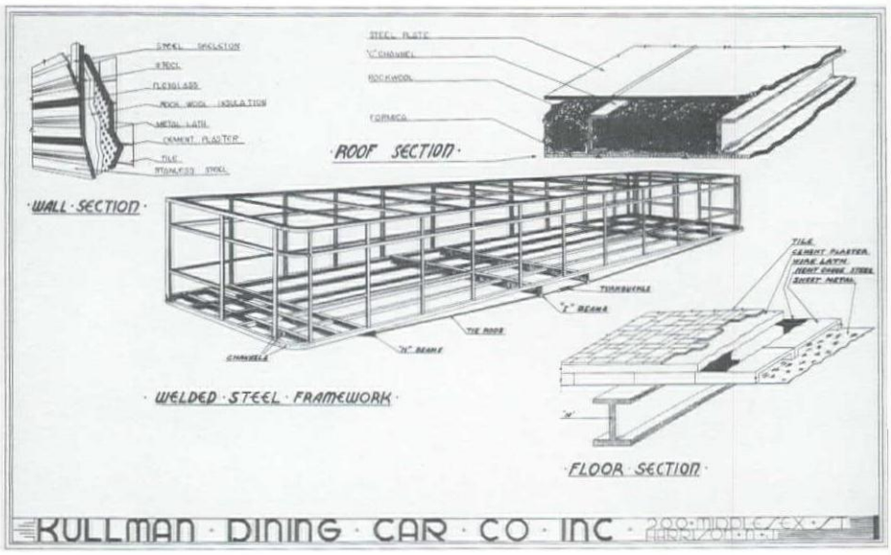
Other manufacturers had special design features. The Worcester Lunch Car Company built their counters so that the marble top sloped slightly back to the rear of the Car. If something were spilled, it would flow backwards, away from the patron, and the counterman could easily wipe it up.

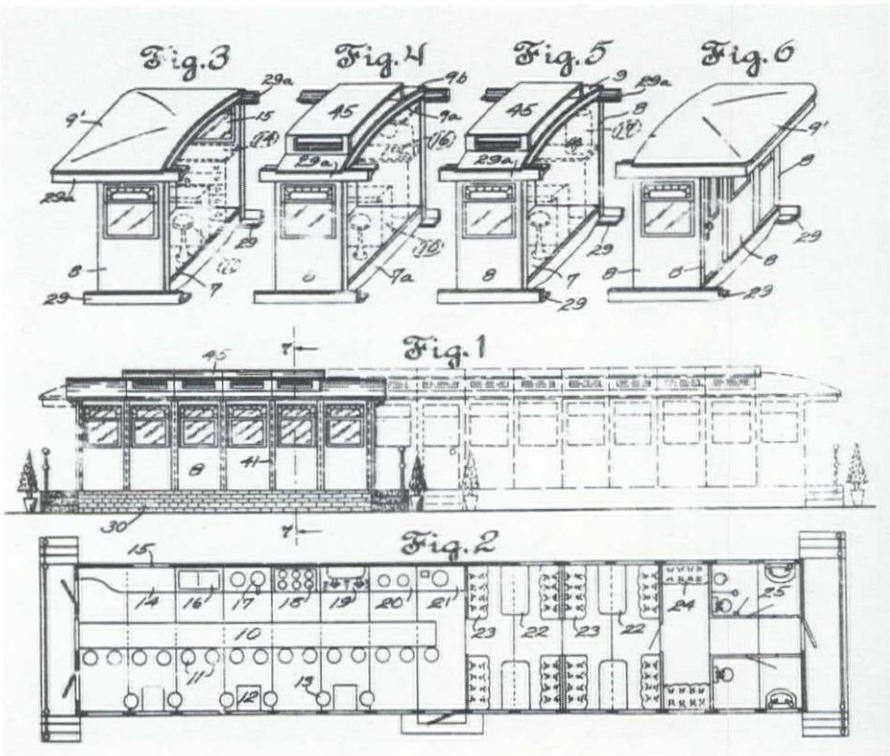
Although Brill probably built the first all-steel Diner, the O'Mahony Company was building steel-framed Diners at the



Steel frame of the Jerry O'Mahony

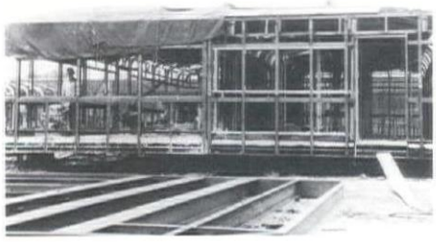
same time. The Tierney Sons went out of business before they got into total steel framing. Even the O'Mahony wood-framed construction method was differ-





39 Steel Frame, O'Mahony plant, 1940's.

41 Bixler Manufacturing Co. advertisement, 1930's.



ent from that used by Tierney. Whereas the Tierney plant prefabricated wall sections, O'Mahony built with balloon framing right onto the chassis.

It was the smaller, more obscure companies, though, that were making innovations way ahead of their times. In the early 1930's the Bixler Manufac-

turing Company, with headquarters in New York City, was building Diners that they called sectional restaurants. The Bixler Company lasted perhaps 15 years, and little is known about it other than that it pioneered modular construction. The unique feature was that the Diner could be any length—it was built in 5 foot modular sections.

From 1937 to 1941, another vehicle company, the John B. Judkins Company of Merrimac Massachusetts built Sterling Diners, in sections, not unlike the Bixler Cars. These Diners could be shipped knocked down at money-saving minimum freight rates to any point in the country. The Cars would than be assembled on site by Sterling engineers.

The unique feature of knock-down construction was that the Diners could be remodeled or lengthened by adding or rearranging one or more sections without undermining the structural integrity of the unit as a whole.

It was possible to interchange wall and floor sections without moving the corresponding roof section, and vice versa. Therefore, the relative positions of blank wall spaces, windows, doors, exhaust fan openings, etc. could be changed without requiring any rebuilding or great expense. This feature was very advantageous if the Diner was sold or relocated. A new site might easily require a new configuration or a change in the size of the Diner.

However, as a result of this construction method, when these Diners were shipped as whole units, they did not hold together as well as Cars built onto welded steel underframes.

When Diners were shipped to their locations, special care was taken to avoid damage from vibration. All equipment was boxed up, with lights and counters braced. Plywood or tape was put on the windows to keep them from breaking. Although the Diners were actually bolted down to the flatcars when shipped by rail, this method caused more damage than trucking the Car to the site.

On July 1, 1941, Arthur E. Sieber of the Paramount Diner Company in Haledon, New Jersey received a patent on his design for the split construction concept. Paramount built Diners that were 20 feet wide in two 10 foot sections. The two halves were shipped separately and then clipped together on site. The increased width allowed ample room for the modern Diner of the early 1940's, containing the back bar and counter as well as a full kitchen, washrooms and booth service.

This was an important milestone in Diner construction. Previously, Paramount had put together two Diners on a site to make a big one, but now they designed units from the onset in two or more sections. No one had successfully designed a Diner that could be split lengthwise and shipped separately, because of rigidity

43 Les Grater Diner, Paramount Diners, late 1930's.

44 Tastee Diner, Silver Spring, Md., O'Mahony, c. 1948.

45 Chadwick Square Diner, Cherry Valley, Mass., Worcester Lunch Car, 1924.

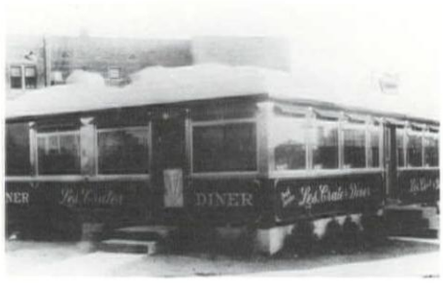
46 Garden Diner, Breinigsville, Pa., Silk City Diners, c. 1940.

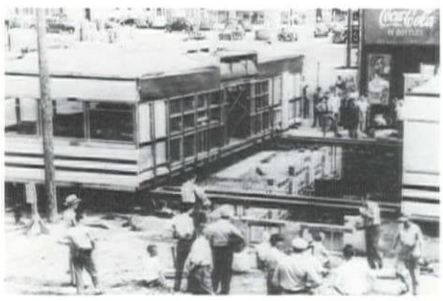
47 Orchid Diner, New Bedford, Mass., O'Mahony, late 1940's.

48 Suburban Skyline Diner, Polkville, N.Y.; two Silk City Diners with a connection clad in stone.

49 Country Diner, New Jersey, Kullman Dining Car Co., 1960.

problems during transport. Each piece of the Paramount Split Diner had one open wall, yet the structural integrity was maintained. Paramount solved the problem by making the edges at which both halves joined continuous structurally without any intermediate vertical supports. Central floor support was provided by a combination channel and

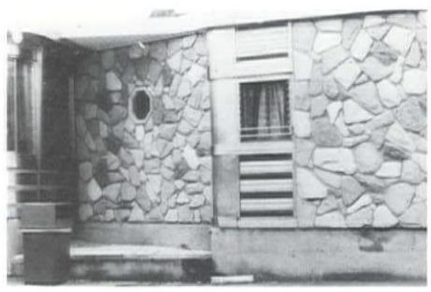




truss plate under the floor of each half at the joined edge. The rest of the structural frame was standard steel construction.

Paramount actually built its first split Diners right after World War II. Within a few years other companies were also using split construction. As the Diners grew in size, the structure was strengthened by the addition of more steel. The greatest difference between Diners of different eras, other than size, was the change in materials. In Diners, materials have always been selected for longevity, not just immediate efficiency. As a functional requirement, all surfaces had to withstand deterioration under extreme climatic stresses.

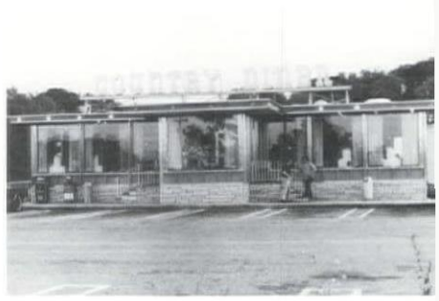
As new materials became available, they were used in Dining Car construction. Wood sheathing gave way to porcelain enamel, which gave way to Formica. Ceramic tile became too expensive, and



terrazzo was substituted. On the exterior, wood again was replaced by porcelain enamel or painted galvanealed steel plates. After World War II, stainless steel became the most common exterior skin. Now it's stone, stucco, brick, or back to wood.

Generally speaking, it has been the customer and owner that have caused the changing styles. The manufacturer just keeps up with the demand. (Naturally, a bit of planned obsolescence is in there too. Otherwise owners wouldn't replace their old Cars so quickly.) However, it would be a lot cheaper today to sheath a Diner in stainless steel. Brick or stone add a great deal of weight to the Car; the steel framework must be that much heavier to support it.

It was not too long after the widespread use of split construction that Diners began to lose their railroad image. It just didn't fit in with the larger structures into which Diners had evolved. The monitor roof was totally abandoned around 1950, and the windows were enlarged to picture window size. In an attempt to capture more family business, stainless steel went out of fashion, and was replaced by wood, brick, and stone for exterior facades. In searching for an



image, designers turned toward historical revival styles: Tudor, Arabesque, French Provincial, Mediterranean, in addition to the Early American look that "will never go out of style."

Manufacturers went to great lengths to provide exotic foreign materials to use in their Diners. The Kullman Dining Car Company, now in Avenel, New Jersey is the oldest company still in operation. It was founded in 1927 by Samuel Kullman who was an auditor for the Tierney Sons. Kullman is now also the largest manufacturer.

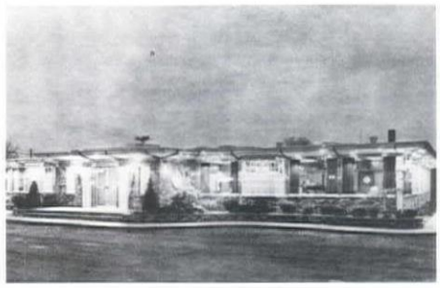
The Kullman Company has been responsible for many innovations, especially in materials. They clad the first Diner in brick. In the words of the President, Harold Kullman, "In 1962, we started Americana with our Diners." The Colonial Diner soon became the rage. For ten years it was the most popular model.

50 Colonial Diner, Kullman, 1962.

51 Davis' Diner, Kullman, 1930's.

52 White Star Hamburgers, Kullman, 1940's.

53 Castle Turrett, Kullman, 1930's.

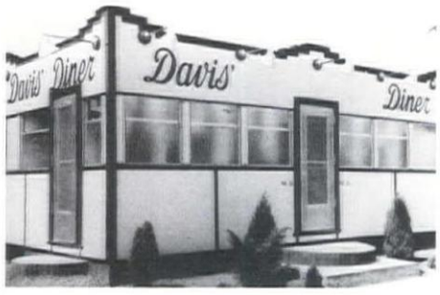


"Of course, now, Mediterranean design is the big thing."

Kullman always used the latest in materials. Around 1960, many were imported from Italy: mosaic tile for backwalls, beach pebble marble and precast stones in marble for wall treatments, and terrazzo flooring.

Essentially modular builders, Kullman Industries now also builds bank facilities, outpatient clinics and maternal and infant care centers, and portable classrooms, as well as Diner-Restaurants.

Today's Diners are colossal structures. They generally take three months to build, and their average price tag runs between $100,000 and $500,000. In most cases, it is still cheaper to build in the factory than on site. Recently the Fodero Dining Car Company of Bloomfield, New Jersey built one in twenty sections and trucked it to Philadelphia. The Diners still do a thriving business, and six companies are busy producing more units.

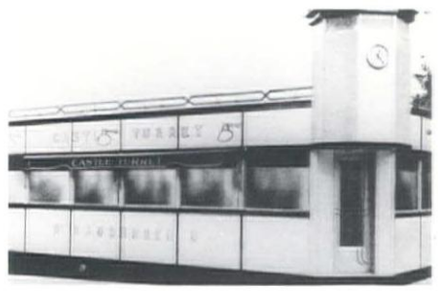


The Diner has always had to compete with all other types of restaurant forms. Throughout the history of the Diner, one trend seems to have been a continual growth in size. The Kullman Company, however, generally offered a small scale Diner as well.

The significance of the small unit was not

to be overlooked. It was a return to the early days of the Dining Car. The one-man operation, with a limited menu, was well suited to the man with limited capital to invest, whether it was during the early 1930's or the early 1950's.

The small unit was ideal for chain operation: people would buy several set-ups



at a time. In the thirties, Kullman put out the "Castle Turret," an economy Diner that was in direct competition with the White Tower, White Castle hamburger trade.

In the late forties, they introduced the "Kullman Junior." The most popular size was 25 feet by 16 feet, seating 12 at the counter and 16 in four booths. A sales brochure claimed, "It brings you all the tested features of a super diner . . . boiled down to every-day needs!"

54 Kullman Junior, 1950.

55 Kullman Junior interior, 1950.

56 Short Stop Hamburgers, Belleville, N.J., Paramount, 1950.

57 Paramount Roadking, 1948.

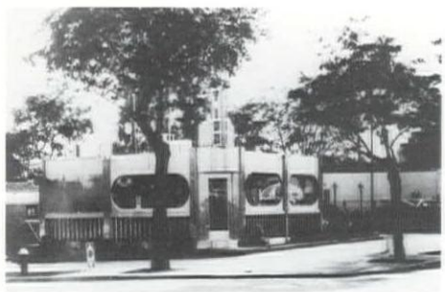
58 Valentine pre-fab steel liquor store, Abilene, Kansas, 1940's.

59 Valentine Little Chef pre-fab sandwich shop, 1940's.

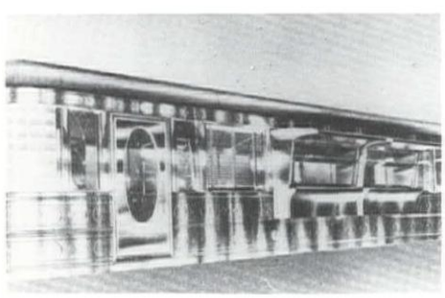
60 Valentine sandwich shop interior, 1940's.

61 Hickey's Diner, Taunton, Mass., Worcester Lunch Car, 1947.

62 Ollie's Trolley, Arlington, Va., 1974.

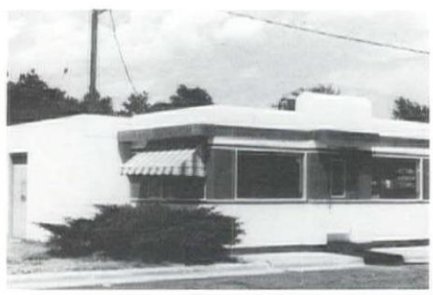


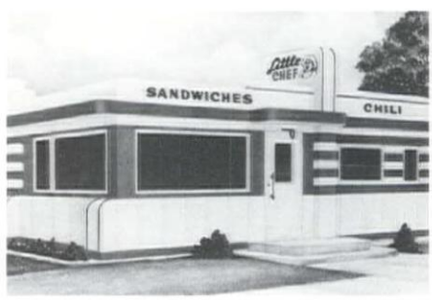
Other companies saw the need for smaller Cars. While Paramount pioneered split construction, it also introduced the "Short Stop" hamburger stand in 1950. Comac Dining Car Company and Manno Dining Car Company, both fledgling operations, jumped on the band wagon with similar Dinettes. Paramount even developed the "Roadking,"

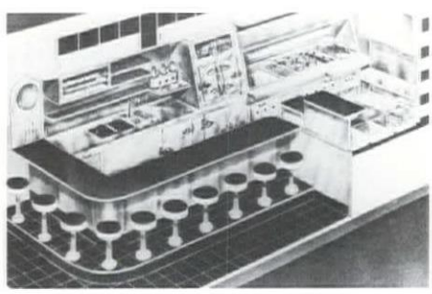


a combination Diner-drive-in with a big drive-up take-out window.

The midwest spawned several companies which built prefabricated restaurants. In 1938, the Valentine Manufacturing Company of Wichita, Kansas started producing prefab steel sandwich shops. With a skin of porcelain enamel and a complete stainless steel backbar, the standard unit seated 10 at a counter. A deluxe double unit added seven booths,







giving a total capacity of 38, still a rather small building.

The Worcester Lunch Car Company always made small units. They were just miniature versions of the larger Cars. As late as 1947, they mounted a Diner on the back of a truck. Hickey's Diner still remains in operation in Taunton, Massachusetts. It pulls into the center of towr at dusk and remains until the wee hours, just as the old wagons did.

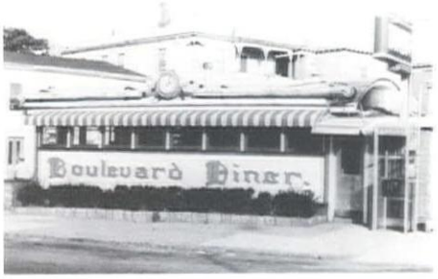
There is a continuing need today for the small units, with a limited menu, and this has been fulfilled to some extent, but not by the Dining Car companies. The vending trucks that make the rounds of construction sites, industries, and other businesses hearken back to the good old days. There are also many do-it-yourselfers who have outfitted small trucks and vans as mobile food service units.

A company from Louisville, Kentucky ha brought the idea almost full circle back to the original idea of the quick lunch wagon. "Ollie's Trolley" is a prefabricated box (even in the vague shape of a streetcar) that has a limited menu with takeout service only. It sits on pods off the ground and hooks up to water, gas,

and electric, just like the old dog wagons. The land is not improved, so taxes are low. If the site proves to be a bad one, the unit is simply moved to a more profitable location.

63 Boulevard Diner, Worcester, Mass., Worcester Lunch Car, 1938.

64 Salem Diner, Salem, Mass., Sterling Diners, 1941.



Diners have become so familiar that they are invisible. Therefore, it is easy to overlook the fact that the old Cars are rapidly disappearing from the landscape. They are certainly worth looking at closely. Within the standard form lie an infinite number of variations, a testament to the native ingenuity of the men who developed and perfected the Diner.

Esther McCoy has written numerous books and articles on architecture, particularly the architecture of Southern California. She is a regular contributor to *Progressive Architecture*, and Praeger has recently republished her *Five California Architects*.

Arts & Architecture Case Study Houses

There was the 1927 Weissenhof Settlement in Stuttgart and the 1930 Werkbundsiedlung in Vienna, but the only program of housebuilding in the U.S. before the general acceptance of the Modern style was *Arts & Architecture* magazine's Case Study houses, initiated in Los Angeles in 1945. Mexico's Jardines del Pedregal, of the same period, was also restricted to Contemporary design; Luis Barragàn, the architect who did the land and landscape planning of this dramatic development on a lava bed, further required the preservation of plants native to the volcanic terrain. The houses, large and elegant (except for Max Cetto's own), continued in modern dress the past way of life in the Spanish Colonial houses; the Case Studies opened a new chapter in the design of two-bedroom (with two baths) houses for servantless families with one or two children.

A five-acre piece of land was acquired for the program, a handsome site on the palisades above Santa Monica Canyon and overlooking the ocean. However, because of the expansion of the program, the majority of the Case Studies were built on sites scattered about greater Los Angeles. Like their European counterparts, the houses were opened to the public for inspection.

Certain concessions were made in price by manufacturers of materials and equipment in view of the notice they would receive: Sometimes with skepticism, because there was the general assumption that modern design would never have a broad appeal. But the popularity of the Case Studies exceeded all expectations. The first six houses to be opened received 368,554 visitors. The lag between the assumptions of manufacturers and the tastes of the public was responsible for manufacturers flooding the market at the end of the war with tired "traditional" designs; it was not only that shortages had been so great during the war that the public would take anything but rather that the manufacturers thought they were in tune with the taste. They did, however, test out a few products of contemporary design, and it was these that were seized on. The architectural and shelter magazines' advertising pages were showing traditional products and the editorial pages were weighted to modern. Surveys by manufacturers confirmed their misjudgment; they hastily revived some of the zigzag modernistic designs of the 30's (as unacceptable as traditional designs) rather than hiring fresh designers. This opened the field to new small companies, in many cases small production shops started by designers themselves. Los Angeles had its full share of these. Many of their products were used in Case Studies. The end result was a proliferation of retail outlets to sell an unexpected wealth of well designed products.

If the manufacturers misread the mood of the public, so in a sense did *Arts & Architecture*, because the Case Study House program was based on an assumption (in this case a fear) that architecture would at the end of the war fall back into its eclectic rut. The purpose of the program was to provide a forum for talented architects, and it was reasoned that their work would be best served by showing it in context with furniture, floor coverings, lamps, textiles, flatware, pots and pans, even napery.

Kitchens were fitted with the best of the new designs in ranges and refrigerators; the mechanical systems were innovative —many introduced heating systems in the slab. In heavy equipment more than in accessories there was a wider choice because the old dies had been broken up and industry had retooled.

Some good contemporary furniture already existed in Los Angeles. The lightweight and sleek aluminum tubing and string chairs and chaises designed by Hendrick Van Keppel were in production in the 30's; their low scale and linear character blended well with the Case Study houses, as did Van Keppel's furniture of the 40's—long, low slat benches for living rooms, outdoor dining furniture (seen in the patio of Soriano's 1950 Case Study).

Eames also had a head start. He and Eero Saarinen while at Cranbrook had won several of the Museum of Modern Art awards for new furniture in 1938, and during the war Eames formed a company with John Entenza to produce furniture and also plywood war products. By 1945 Eames was ready to produce lightweight plywood cabinets and molded plywood chairs and tables, all of which were featured in Case Studies. By 1949 when his own Case Study was exhibited, and the one for Entenza which he designed with Eero Saarinen, his new metal cabinets were ready.

A new direction in landscape design was an important part of the Case Studies. This also was heartening to landscape architects breaking away from a romantic tradition which blended with the Spanish Colonial and other eclectic styles of the 30's. What was exciting about the landscaping, as I recall it 30 years later, was that it *looked* designed. The spaces were fragmented, with a variety of textured surfaces in walks, walls and patios. Angles and diagonal lines occurred frequently in rather small spaces—quite a change from the flow and curve of the romantics. Another important change was the wide use of low maintenance plant material, a prediction of the servantless days to come. Many ground covers were combined in small spaces; ajuga might flow into an adjoining patch of festuca, the red-green into a yellow-green, then in the shade a black-green of lirope grass, with red flax introducing tall strap-leaf verticals. The Chinese elm was a favorite, the podocarpus; broad-leaved philodendrons were indispensable. Garrett Eckbo was the most important landscape architect to design for Case Studies; as an architect might design social housing, Eckbo designed social landscaping, for a group of houses in Laurel Canyon, etc. He was characterized in the 40's as "socially responsible", which describes well the idealism in all the arts of the 30's and 40's. His counterpart in architecture was Gregory Ain, designer of much social housing, and in the 30's a Guggenheim Fellow for the study of lowcost housing.

One of the by-products of landscaping was new containers for plants, such as those produced by Max and Rita Lawrence's Architectural Pottery; one of their designers was John Follis who became better known as a graphics designer and put together many of the issues of A & A.

The houses themselves were an idealized mirror of an age, an age in which an emerging pragmatism veiled the Rooseveltian idealism. Conceived as lowcost, prices soared as inflation grew. Standardized elements were generally used, often imaginatively, but did not bring down costs; nevertheless there was an effort to arrive at the prototypical if only in floor planning or detailing. The first house to be completed, by J. R. Davidson, had a floor plan without halls, much copied by developers in the 50's. The open floor plans of all the houses was one of the few borrowings from Wright; the designs looked more to Europe than inward toward Wright. Nearly all of the houses were on flat pads, giving little opportunity for a Wrightian integration into a site.

The service the houses rendered went beyond any experimentation embodied in any of the first eight. It was rather a service to a time and a place.

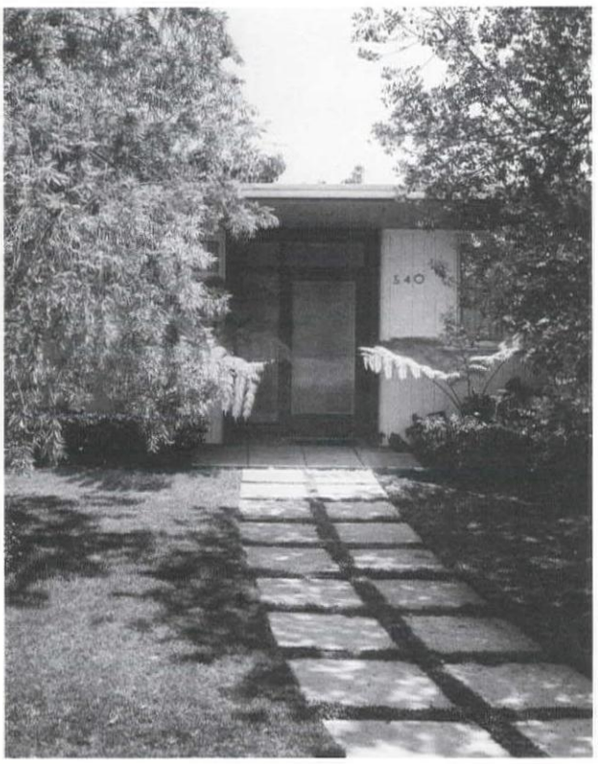
During the 30's the Great Depression severely curtailed building, and when practice wanes, theory flourishes; a major theme of study was lowcost housing, a critical need because of the antiquated and unsanitary quarters generally available to low and lower-middle income families.

Architects who matured in the 30's were dedicated to the ideal of architecture as a social art. Wright was dandy but the true path was through standardization. Two battles were being waged simultaneously, one for the facade, one for the structure.

1 Case Study House, J.R. Davidson 1946, plan.

2 J.R. Davidson, entry.

3 J.R. Davidson, view from entry.



The late 30's held out little promise that architects would be permitted to develop many of their ideas. *Residential Architecture in Southern California,* published in 1938 by the local AIA, relegated modern to the back of the book and featured eclectic at the front. R. M. Schindler's Buck house was on page 106, and Richard Neutra and Harwell Harris followed. Nor did the modern style offer hope to a young architect who wanted a comfortable practice, which was why architects who lived solely by work in the modern idiom were much revered: Wright, Lloyd Wright, Schindler, Neutra, Davidson beginning in the 20's; Harwell Harris, Gregory Ain, Raphael Soriano and others beginning in the 30's. There was an extraordinary amount of provocative architecture within easy reach. Some of its specific lessons were that a good house could be of cheap materials; outdoor living was as valued as enclosed spaces; a dining room was less necessary than two baths and glass walls, and other things now so commonplace that it is hard to believe they were ever thought innovative enough for lending agencies to object to. (Banks, for instance, deplored a kitchen at the front of the house, on the grounds that the house would have no resale value.)

The clients who commissioned modern houses were most often professional people with moderate incomes—progressives, they were called. Because they saw the need for change in their own fields of education, law, medicine, politics, the arts, they were receptive to change in architecture. (Schindler's 1924 Packard house was for a liberal attorney; at the same time he designed a project for Clore Warne, a civil liberties attorney. Much of Ain's work in social housing was for political leftwing clients.) One cheerful prospect was that while the work of Schindler, Neutra, etc. was educating the student it was also educating the laymen. The other great source of hope came from the assertive new direction of *Arts & Architecture* magazine.

By the time peace came talents had lain idle too long; architects were bursting with energy. This was the climate in which the Case Study House program budded.

Back of it was an extraordinary man, John Entenza. Although he had not studied architecture he became intensely aware of it when young, acquired a broad knowledge of the modern movement especially, and developed a sensitivity to form. He could easily have turned designer himself except for his modesty about his own talent, quickened by his easy recognition of talent in others. This has served him well for 37 years, years in which he has become a bridge between the creative person and the act, as editor, then director of the Graham Foundation, now professor of architecture and advisor to the chancellor, University of Illinois, and consultant, board member or commissioner for city and national governments, universities and museums.

In 1937 he commissioned Harwell Harris to design a small house, one totally different from Harris' usual wood houses with inspired borrowings from the Japanese. It had certain memories of Neutra's Von Sternberg house with the circular form and the absence of texture; a certain flavor of the early Le Corbusier. The following year Entenza bought the magazine *Arts & Architecture;* it was two years, however, before he assumed the full task of editing. At that point he threw out the eclectic work and dropped the regional bias along with the word California from the title. With the redesign of the magazine by Herbert Matter (and others) the transformation was complete. Because of its receptivity to the work of the young, local architects had a rallying point; even a school of graphic designers sprang up in the city as *A & A* welcomed contributions from young designers. No one single event raised the level of taste in Los Angeles as did the magazine; certainly nothing could have put the city on the international scene as quickly. Entenza's assistant, Susan Jonas, born in

4 J.R. Davidson, patio.

France, carried on correspondence in three languages with foreign editors who wanted permission to reprint a story, sometimes a whole issue. Eastern European, Latin American and Japanese magazines soon began publishing work of architects who first appeared in *A & A*. A slim magazine with little advertising and no outside financial backing became the greatest force in the dissemination of information, architectural and cultural, about California.

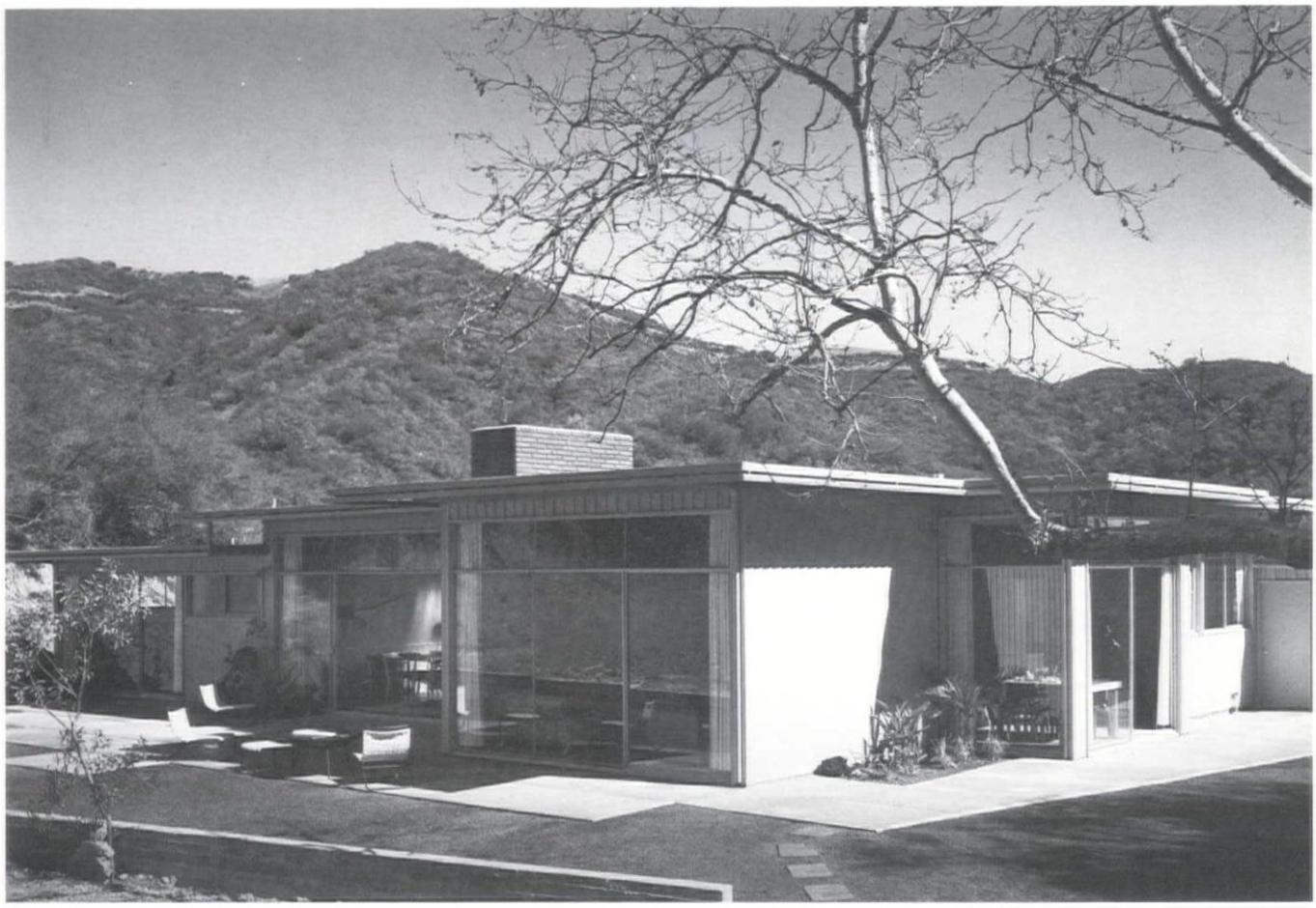
The very looseness of the Case Study House program, as announced in 1945, was responsible in a way for its survival; in the first place it was obviously written not by a committee but by one man, and that man one who understood the chaotic period after the war ended. The goal of the program was simply "good environment," and to achieve this the eight architects asked to participate were invited to experiment in form or materials. If they liked—there were no restrictions on what they designed. But half of the eight, being over fifty, were accustomed to working in a style that was still unacceptable to most clients, to lending agencies, to craftsmen and to the neighbors. They were all in the habit of reviewing and redesigning; there had been time in the 30's for the architect to proceed slowly, to consider each work as if his reputation depended on it.

In the first group were three Californians with a national reputation: Richard Neutra, J. R. Davidson and William Wurster (then Wurster and Bernardi); less known outside California was Sumner Spaulding (Spaulding and Rex—Rex was then only 22).

Davidson and Neutra each did three designs; two of Davidson's were built from the same hall-less plan, one in West Los Angeles, one in La Canada. The only Neutra completed was on the Pacific Palisades property acquired for the program. Other Case Studies built on the five-acre property were the 1949 Eames house (1½ acres), the 1949 Entenza house (1½-acre site) and one by Rodney Walker on a smaller site.

All of the early houses were more or less rectangular in plan except for the Wurster, in which two wings were connected by a "porch". I think it was called a lanai room, producing a U-plan. The social and work spaces were arranged on one side of the porch, and three bedrooms on the other. The entrance was through the porch, which was solid on the street side and had sliding glass toward a garden; it was a porch only in the sense that part of the roof could be opened by louvres. It reminded me a little of a 30's house of Wurster's in Pasatiempo in which the entrance was through a porch walled on the street side and entirely open on the other to the breezes and a view of a valley, like some of the vernacular Cuernavaca houses.

5 Case Study House, Wurster & Bernardi, 1948.



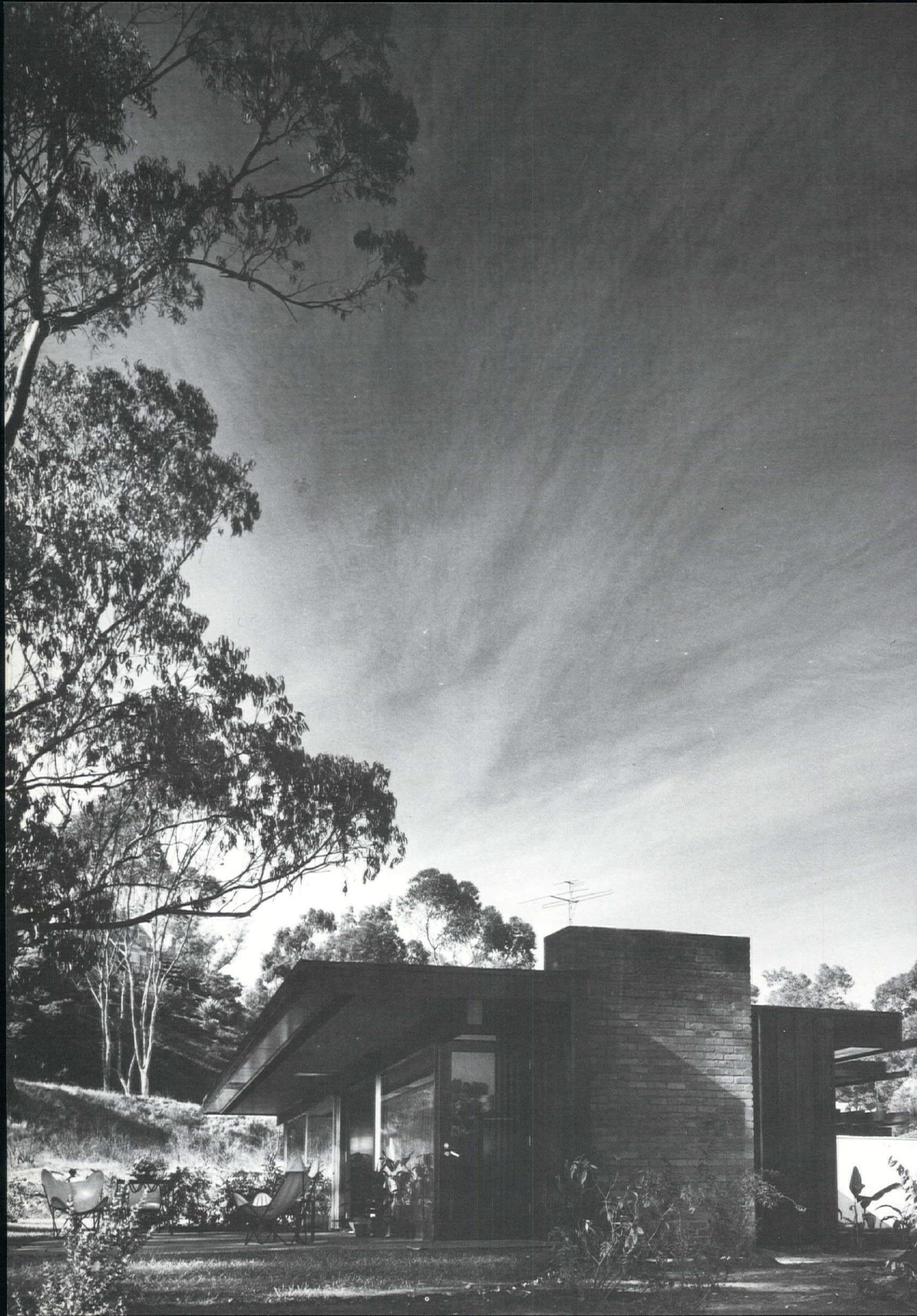
By contrast, the Davidson house was compact. You couldn't read the plan from the street, although the street side was cottagy compared with Davidson's usual urbanity. The traffic pattern of the plan was a series of overlapping ovals, which made it possible to move freely through the house without ever crossing the social area of the living room, which was close to the glass wall on the south. A broad aisle along the north wall (lined with low book cases) led to bedroom #2, with its own outside entrance through a patio.

Davidson and Neutra used standard wood framing with stucco and wood siding, but Wurster experimented with aluminum siding; used vertically, it read as wood. The Spaulding and Rex Case Study in Chapman Woods was sheathed in plywood panels. Seasonal rains were recognized in the wide eaves which kept water off the walls and glass. There was little experimentation in fenestration; sliding glass was still mainly custom made at that time and considered a mark of the "modern" house. Spaulding and Rex, however, used awning-type factory sash for some glazed areas, much the same as that used in the Eames house.

The Neutra house, finished in 1948, was in the vein of his Nesbitt house, which, bowing to the war scarcities of 1942, made a virtue of redwood—even brick—and opened up for him a period which you might call elegant vernacular.* The Case Study—the client was Dr. Stuart Bailey who still lives there and has added two wings designed by Neutra—is more interesting for relaxed style and poetic siting, although not a milestone in his work. The one innovation was mechanical core at the center of the house for plumbing and heating. The serpentine brick wall, used at the Nesbitt house, was repeated in the Bailey house at the owner's request.

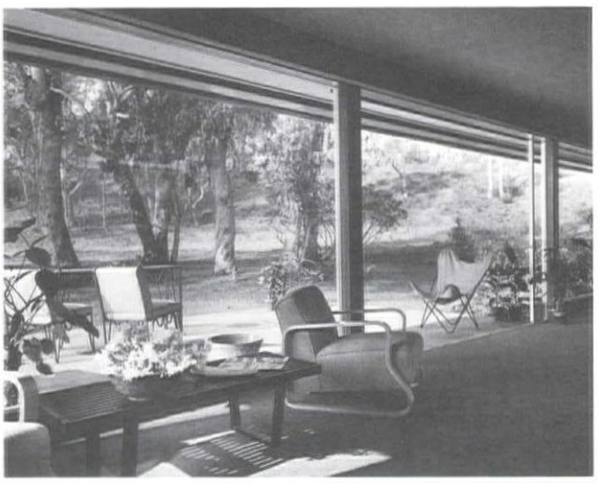
The group of younger architects who were invited to particiapte were Eames and Thornton Abell (both just under 40), and Eero Saarinen, Whitney Smith and Ralph Rapson, aged 35, 34 and 30 respectively. In 1937 Abell had designed his own house in Santa Monica Canyon, which stands today, furniture and all, as an excellent example of the International Style; his Case Study of 1948 in

*Since writing that sentence Harwell Harris has told me that Frank Lloyd Wright, who had designed a house for Nesbitt in Pebble Beach, was asked first to design the house, then because of what was said to be outstanding fees on the first house, Wright declined to design it. Harris was then asked to design it, in brick and redwood, already agreed on by Nesbitt and Wright, but at the request of John Lautner, formerly with the Wright office, he also declined. Then Neutra was asked, and accepted along with the commission the redwood and brick, according to Harris.



6 Case Study House, Richard Neutra, 1946.

7 Richard Neutra, 1946.



San Gabriel is a composition of Barcelona pavilion planes of wood (high louvred fence screening the bedroom patio facing the street) and of concrete block. In scale if not in area, it was a first study for a 1954 small low building which houses his office.

Two Whitney Smith projects, one steel framed with adobe brick infilling, the other wood and plaster, broke from the rectangular plan; the adobe house, planned around loggias, and the other with entrance through a lath house, an idea not abandoned as Smith incorporated lath houses into many of his later plans. Indeed, entry gardens became very popular in the 50's.

The most innovative of the unbuilt projects was Ralph Rapson's, for what he called a "greenbelt house." A 12-ft wide glass-roofed aisle cut the rectangular house in two; three bedrooms on one side, living, kitchen and dining on the other, faced the trees and other planting of the interior garden. The community space was expanded by using folding doors to close off the sleeping areas at the end of each bedroom. Rapson said of the plan: "For once the complete integration of inside and outside will have been accomplished." The plan, which remained a project, and Rapson's comment, describe well the yearnings of the mid-40's; so does the helicopter hovering above the roof in the sketches.

The popularity of the program, and delays in construction, brought in two houses not originally planned for: one by Kemper Nomland and Kemper Nomland, Jr. in Pasadena, one by Rodney Walker in Beverly Hills, and both finished in 1947. (Later Walker did another for the Pacific Palisades property.) Both were sheathed in plywood panels which had a grooved profile (it was called "striated"), and was popular as an exterior material because it was waterproof and to an untrained eye it might be mistaken for grooved siding. Later, it was considered an abomination, along with colored corrugated plastic. Plywood was still an exciting material in the 40's; Neutra had designed an all-plywood exhibition house in 1936; Schindler's 1938 Southall house was of plywood. The material lent itself to modular design and eliminated fussy detailing. A comment of Wurster's points up the cult of the lowcost house of the 30's and 40's: "Although plywood costs more than plaster, we like it better because it looks cheaper."

Walker spent some months in Schindler's office in the 30's, then began building lowcost houses which were little text books for cutting costs. His success was based on an uncanny total recall of the stock sizes of everything and the comparative costs of all materials; he knew the closeout market and bought up and stockpiled bargains. Once he had mastered cost, he turned around and spent some of the savings on such dramatic features as garden rooms, some with 10-ft high walls of rough cork panels, out of which exotic plants seemed to sprout. Like Schindler, he had a running battle with the elements. He would set the largest standard size sheets of glass between plaster guard stops; he did not match the spatial refinement of Schindler but he understood drama. His first Case Study had a high entrance hall with splended waste space.

Eames' own house, and the one he designed with Eero Saarinen for Entenza on adjoining property, were completed in 1949, and one by Raphael Soriano, a mile to the north of the Case Study house land, in 1950. Soriano had become interested in steel when he worked in the early 30's in Neutra's office; Neutra used it rarely after his 1929 Lovell house, but Soriano took it up from there and made it a life pursuit. From junior I-beams in a plaster house in 1936, he went on to expanded steel studs, then shop-welded light steel frame. Beginning with the 1942 building in San Francisco for Hollowell Seed Co., he worked almost entirely in pavilion type structures of which his Case Study was an example. His framing was 3½ in. pipe columns on

8 Case Study House, Charles Eames, 1949.

a 10 ft by 20 ft grid, spanned by 6-in. wide flange beams, roofed with steel decking. This solution varied little in his one-story structures of the 40's and 50's: the 1949 Noyes house, Bel Air, the 1950 Shulman house, Laurel Canyon (the most intact and handsomest example of Soriano's houses of this period), and the 1953 Adolph office building, Burbank.

Eames, Ellwood and Koenig were influenced by Soriano's experiments, each finding different solutions in steel. An essential difference between the Eames and Soriano houses was that the latter was planned for an average family, and the former, with its detached studio, was planned for special needs. This was pointed out by *Arts & Architecture* in introducing the Eames house (it was just as true of the Entenza house); the statement was less a criticism of the Eames house than a reiteration of the creed that models of well-designed houses for an average family benefitted architecture and filled a social need.

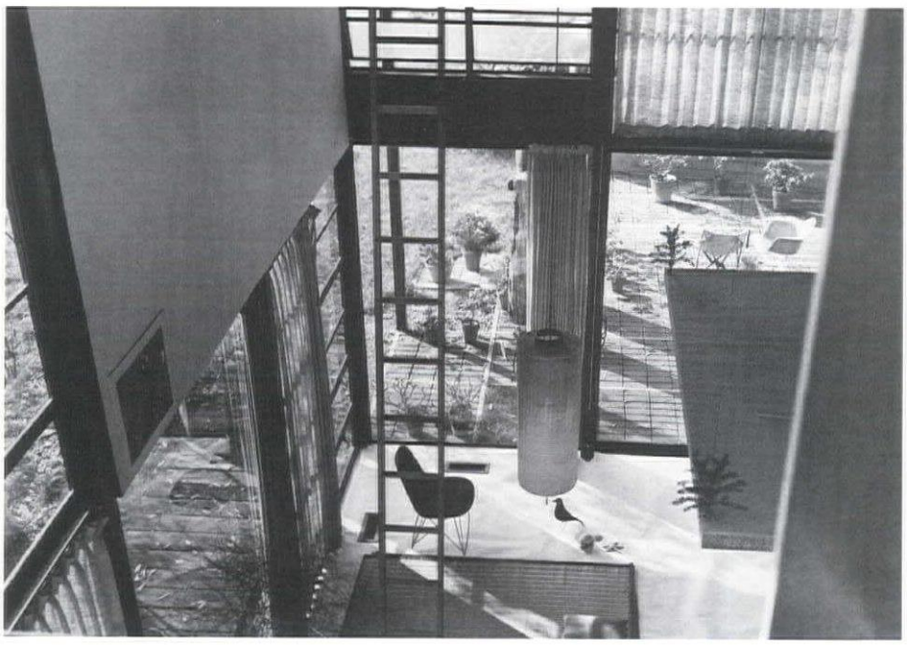
Social needs are always in flux. It appears now that the steel-framed house answered no long-lived social need because the average family sooner or later found its wood-framed tract house. The steel frame was too strict to lend itself to mass production; the margin for error was too narrow, no scheduling procedure which mixed the wood carpenter and steel carpenter was ever devised. For these reasons the steel house never became a common type as did the Greenes' bungalow and Gill's cubic house of concrete (which was easily translated into plaster). Nor did the steel-framed house stand outside architecture; as the Miesian principle caught the imagination in the late 50's and the 60's, the influence of the steel-framed house grew among architects, usually young ones, and a number of good examples do exist. They are not confiend to California; the excellent Rogers house by Piano and Rogers near London is an indication of the renewed interest among English architects in steel-framing. Now that the single family house is a luxury in itself, the greater cost of the steel-framed makes it more prestigious.

The Eames house is still intact as designed while the Soriano for the typical family underwent changes, among them a pierced concrete block screen at the entrance to "bring it up to date." Other Case Studies have been remodeled: an addition added to the Entenza house, a Craig Ellwood sentimentalized and published in *House Beautiful* as an example of how to inject life into an old house.

Eames' previous work in architecture had been mainly in collaboration with others for churches, etc., around St. Louis (he had usually designed furniture and other interiors for all buildings); from that he went eventually to instruct at Cranbrook, then in its golden period. His contact with the Saarinens led to design in many fields, among them furniture design with Eero Saarinen. His first

9 Charles Eames, living room from balcony.

10 Charles Eames, balcony and entrance from living room.



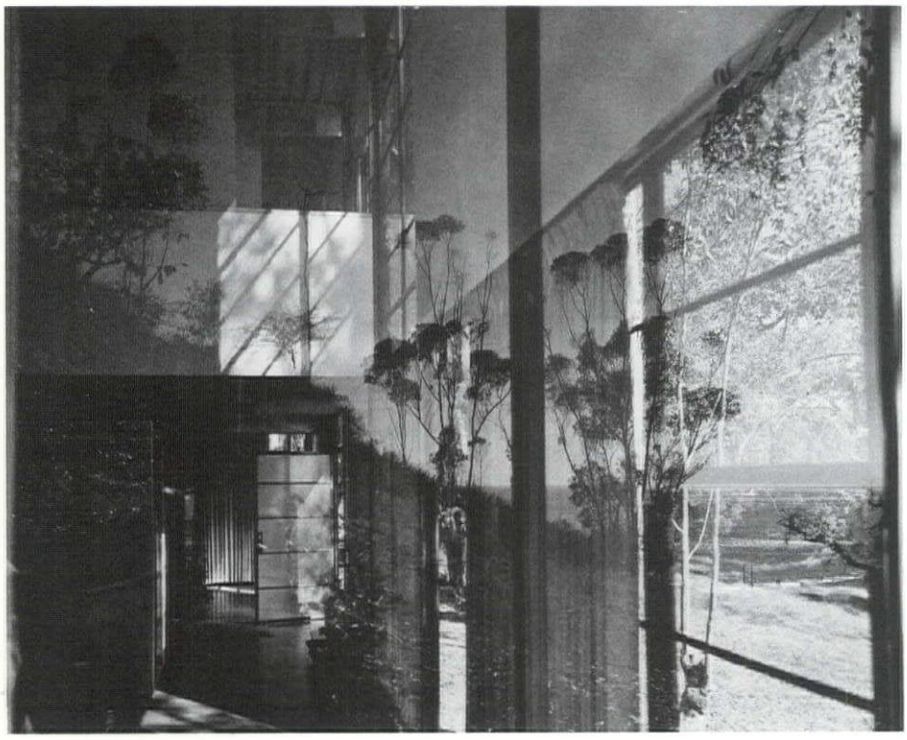
and only buildings in steel and glass were his own house and the Herman Miller showroom in Los Angeles, also 1949. He thinks of his major discipline as architecture, but after 1949 he concentrated on films and furniture, and now on exhibitions.

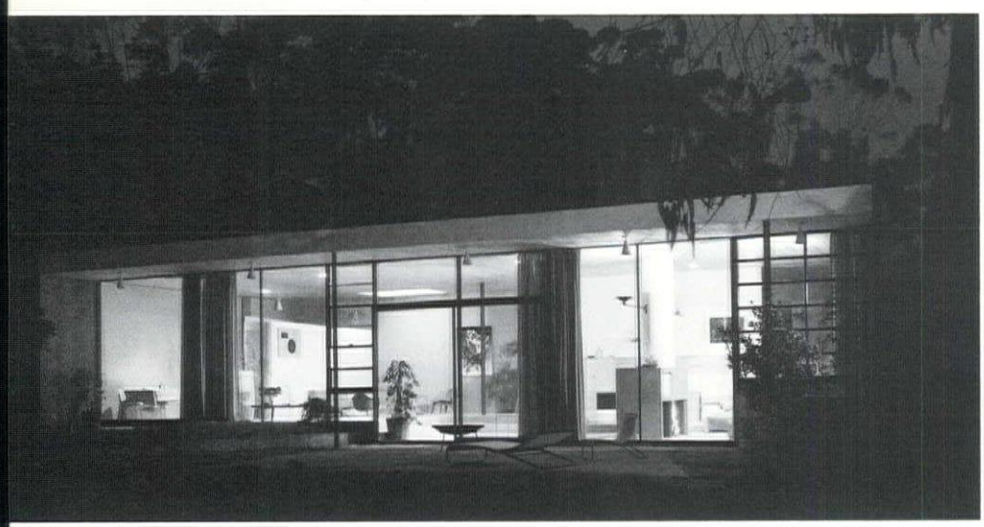
The Eames house is a steel and glass cage, as lightweight as an Eames chair, which lends itself admirably to an exhibition space for a changing collection of art, toys and crafts of all kinds. The dramatic quality comes from its situation among eucalyptus trees and from the double height of the living room; this is enhanced by the sensitive land-planning of the 2½ acres shared by the Entenza and Eames houses, the uninterrupted flow of meadow between them and beyond them to the edge of the palisade, with long views across it to the sea and coastline. Entrance to the Eames house from the parking space passes first the detached studio, which also helps to isolate the house. Neither studio nor house has overhangs, projections or recesses; the structure is composed of 4 in. H-columns spaced at 20-ft intervals and spanned by 12 in. open web bar joists. A 7 ft 6 in. module is compatible with the steel decking and the two ceiling heights. The illustration of the east wall shows the eight bays; the composition of rectangular surfaces is composed of sliding or fixed factory sash and solid wall. The interior is three-dimensional in comparison: the exposed steel decking, the open web joists, the sculptural mass of the balcony (where the two bedrooms are placed) and the recessed seating area below. The room is alive with colliding reflected images on the glass and walls, changing with the sun and the season.

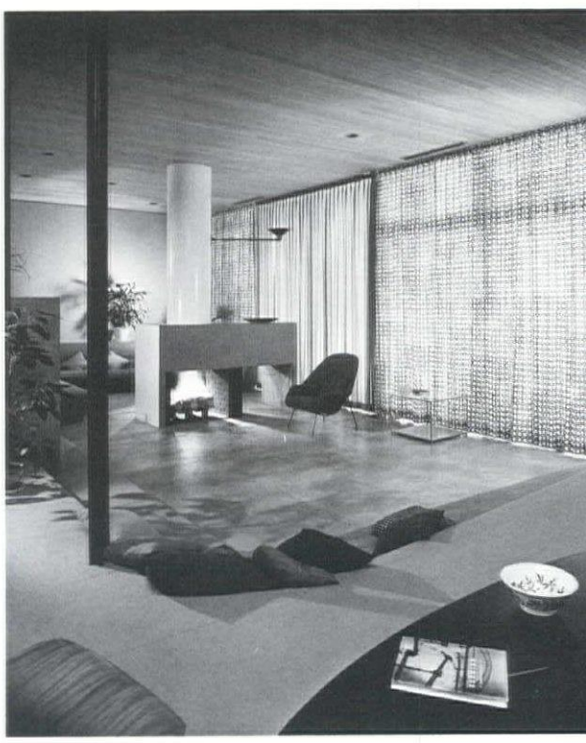
11 Charles Eames.

12 Entenza House, Saarinen and Eames, 1949.

13 Entenza House, living room.







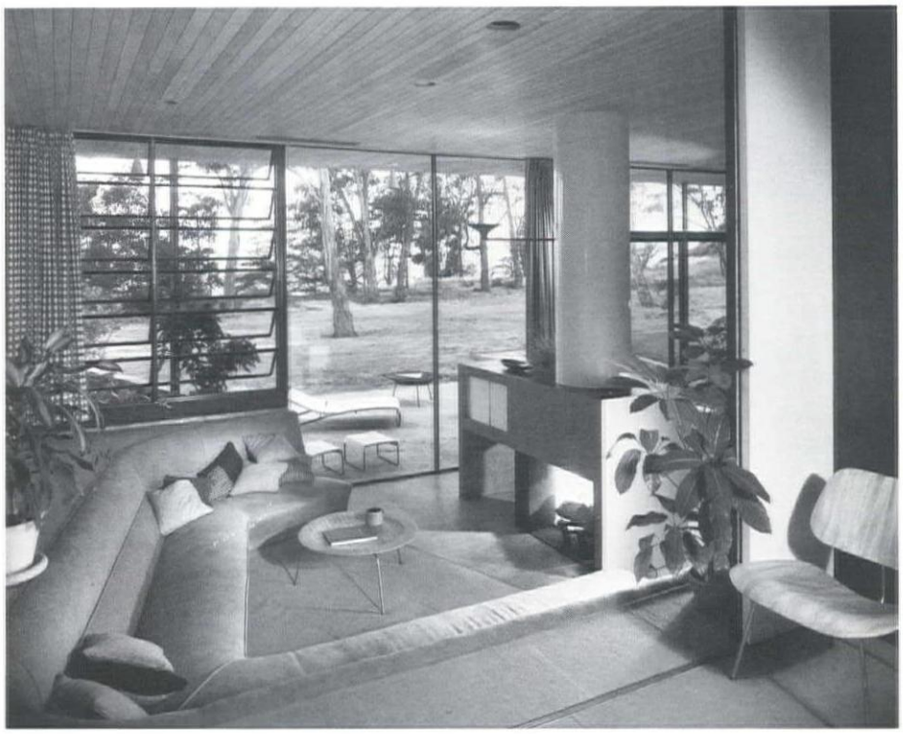
14 Entenza House, view from bedroom.

15 Case Study House, Raphael Soriano 1950, garden face.

16 Raphael Soriano, entry.

The same module was used for the Entenza house, essentially a 42 by 42 ft box, pierced lightly on three sides and opened wholly on the south. Except for one lone column, the structure is not expressed; walls are plastered, ceilings covered with wood. The cylindrical chimney, the curve of step to the dining-kitchen level, the curve of the built-in sofa evoke an image of the Saarinen womb chair. An interruption in the flow of space became a sculptural statement, especially the freestanding kitchen wall containing the mechanical equipment.

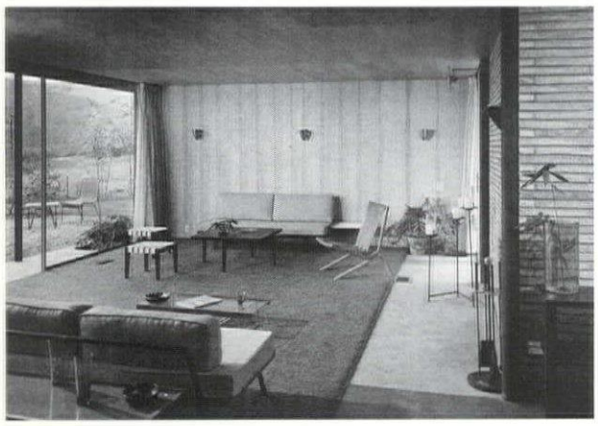
The Soriano house is sober in contrast to the Entenza, and appears less machined than the Eames. It was, however, one step in a long exploration of steel. It is closer to a Koenig house in the feeling that it was a problem solved, an intellectual exercise. Soriano was by force sensitive to the amount of exposed steel a client would accept, and in the 40's and 50's that was not very much. His ceilings were plastered, walls were usually a dark hardwood plywood; in the Noyes house he used rough dark brown cork panels for some exterior walls (they disintegrated) and in the Case Study there were a few masonite panels turned with the rough side out; fireplaces were red brick, standard size or a Roman split: to give a greater feeling of space to the small Case Study he made two walls of obscure corrugated wire glass panels, one of which was lighted from behind to illuminate the entrance. But as for steel, the columns were minimized by butting them against a wall and the steel decking was visible only in the carport and entry. However, his habit of recessing his exterior glass four feet emphasized the rhythm of perimeter columns. Thus steel was prominent only where visible through glass. His ceilings were the standard 8 ft, and glass and doors reached the full height; the soffit of his 4 ft overhangs was continuous with the ceilings, the material the same for both.



17 Raphael Soriano, living room.

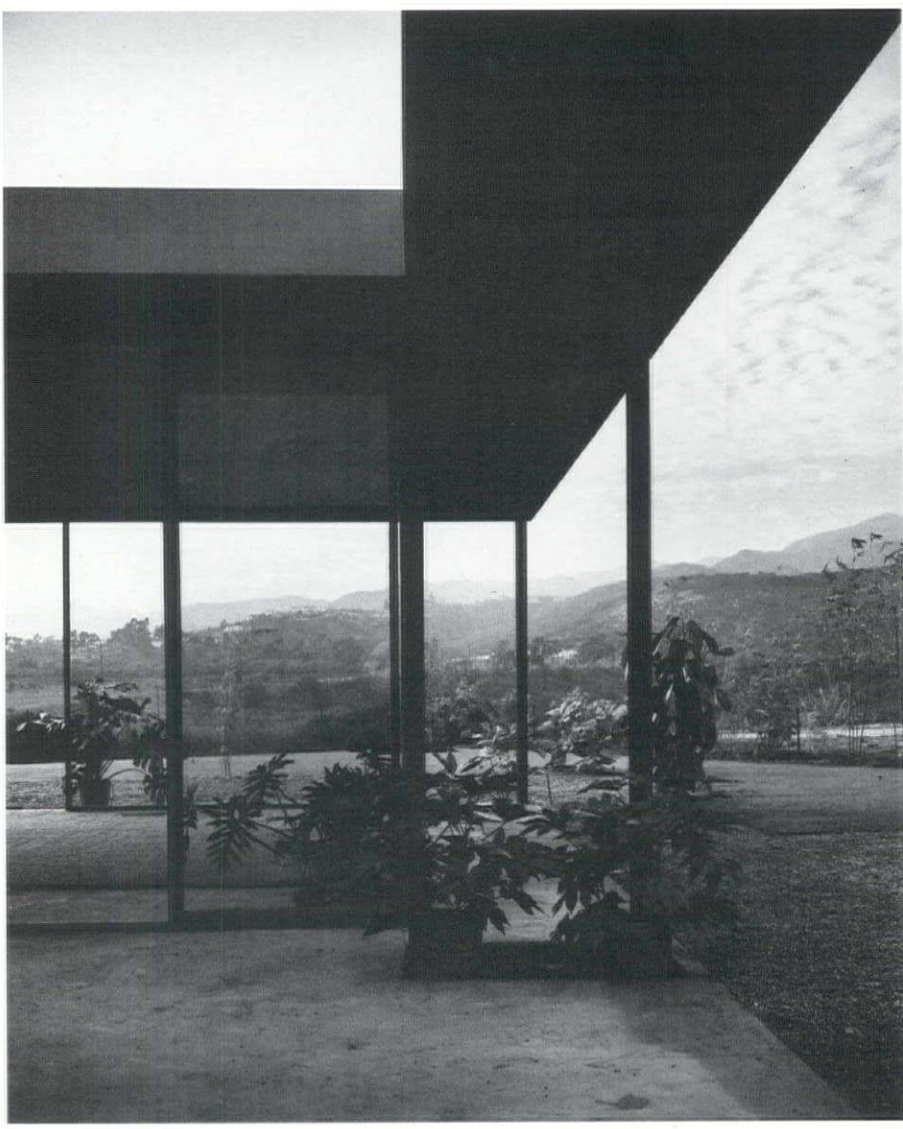
18 Raphael Soriano, garden room.

19 Raphael Soriano.



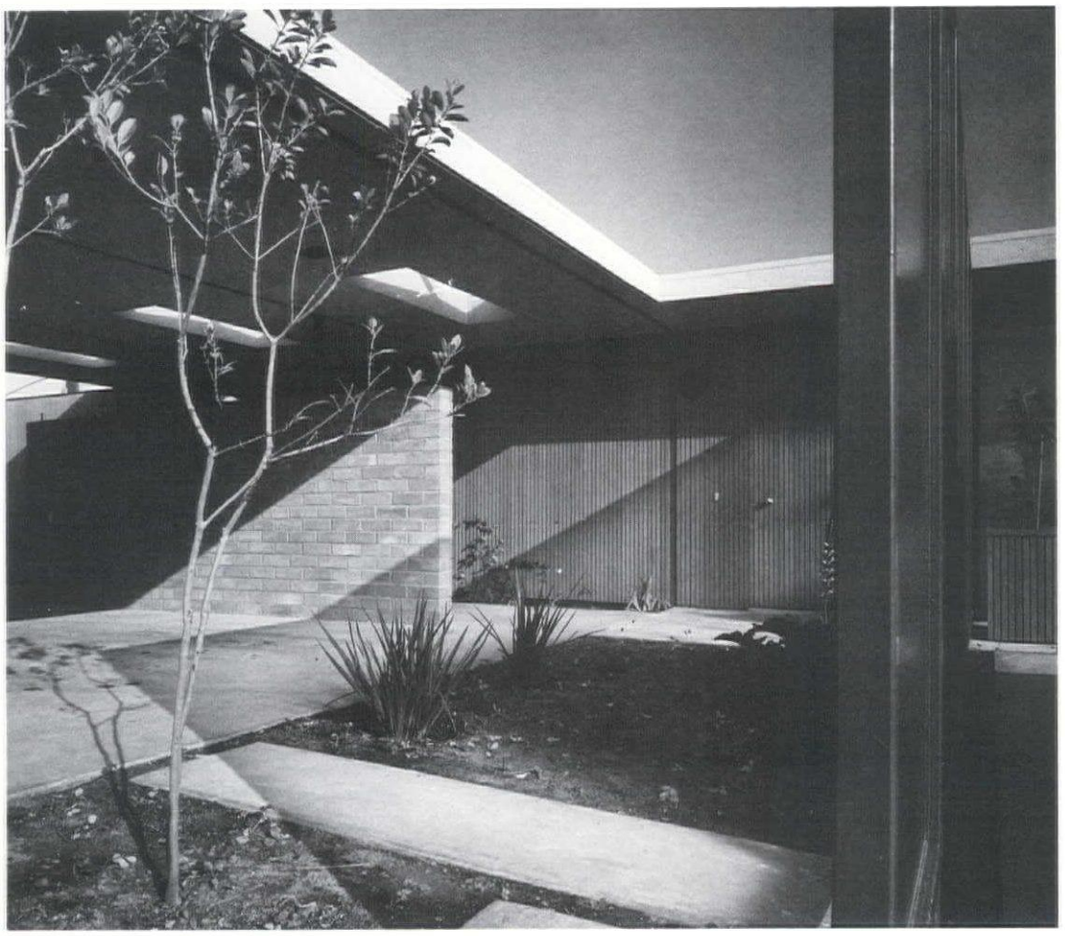
The columns for the Case Study were spaced on a 10 by 20 ft grid, and the house was four bays wide by two bays deep. As noted earlier, 6 in. wide flange beams spanned the 3½ in. pipe columns.

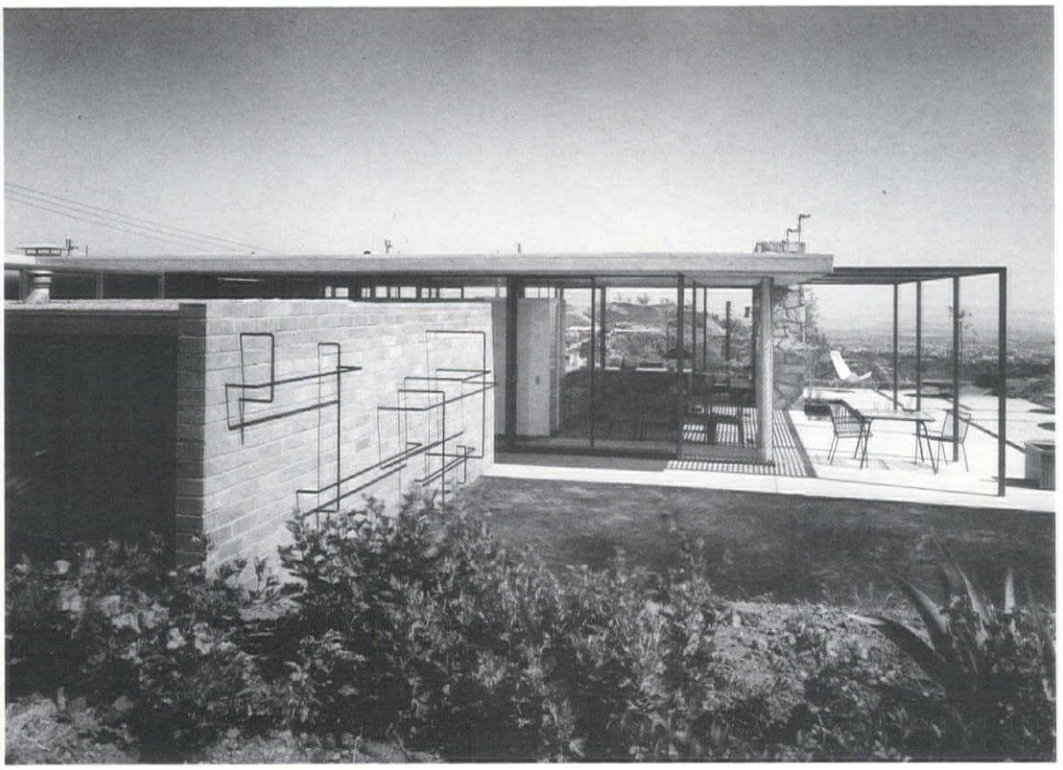
Late in the 50's Soriano moved his office to Tiburon, a steel man in what was at that time wood country; his commissions were never numerous but always enough to keep his small office busy. He was eager to work in lighter weight metals and succeeded in doing several pilots for a series of aluminum-framed houses for the Bay Area and Hawaii. His hope of designing frames of plastic is still a hope. A project for a 1300 ft tower of aluminum tubes for San Francisco did not materialize.



20 Case Study House, Craig Ellwood 1951, carport and entry.

21 Craig Ellwood, view toward living room and terrace.





There was a generation between Soriano and the two younger men upon whom he exerted an influence, Craig Ellwood and Pierre Koenig, who between them designed five Case Studies. The Eames house was less an influence because the typical family preferred a house on one level; but of more importance is the fact that the eye of the steel men was on the developing technology. A new joint, a new steel section, larger standard sizes of steel decking and glass, all affected their design more than any one completed house. They were researchers.

Craig Ellwood, who designed Case Study House # 16, was the first among the postwar designers to complete a house, and the first architect under 30 to participate. He was 29 when he built his first steel-framed house, and 31 in 1953 when he completed a four-unit apartment house framed in steel; the latter won a first award at Sao Paulo. He had bypassed architecture school at the end of the war to go into the office of a contractor as an estimator (some of the buildings were by Neutra and Soriano); his formal education was courses in engineering.

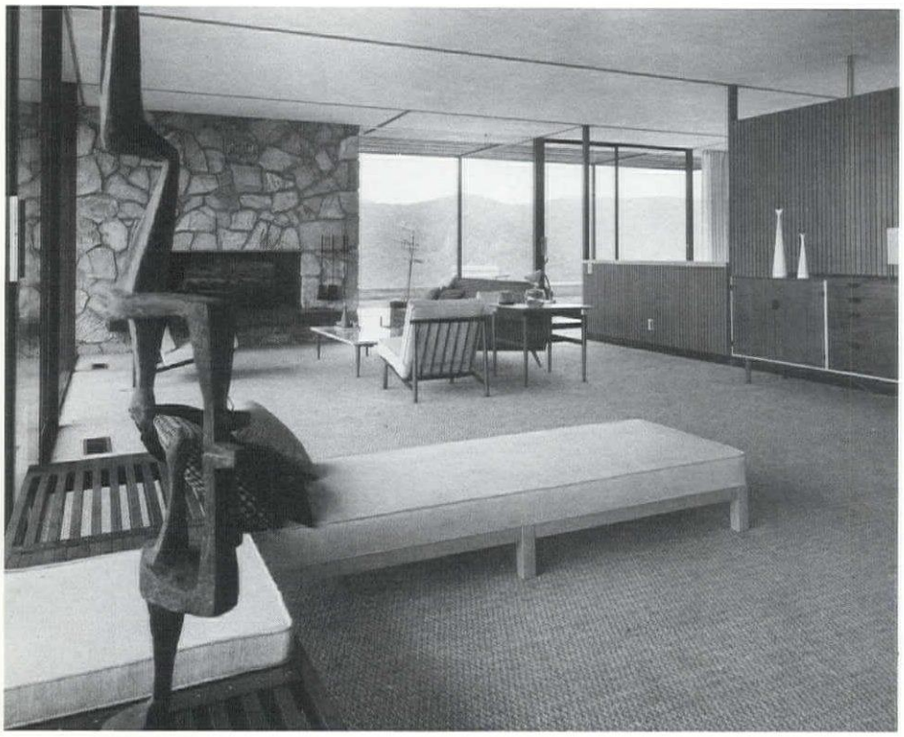
Ellwood was not the first of the CSH architects to chart his own course of education. Soriano left USC to continue his studies as an apprentice in Neutra's office; Koenig's first steel-framed building ended as an extracurricular study during his last year at USC, indicative of the lack of interest of the schools in steel technology.

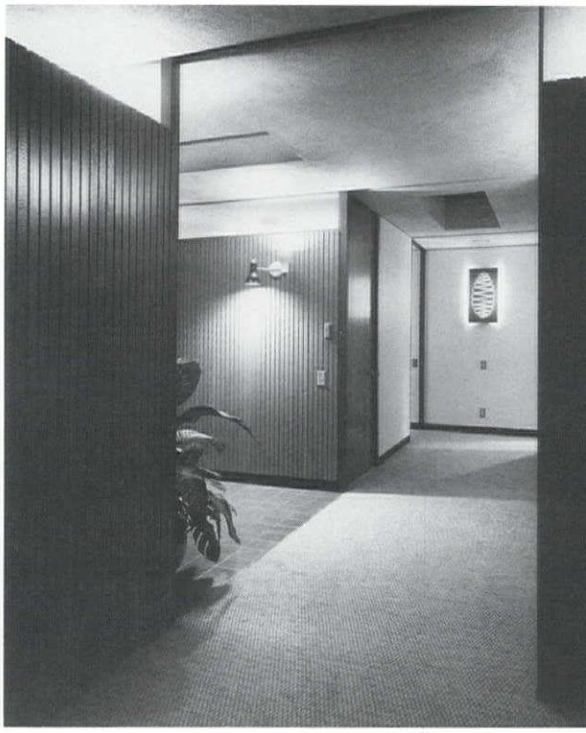
Ellwood worked mainly in panel systems, to which he brought such ingratiating materials as wood and brick for infilling of the steel frames. Also, his use of 2½ in. square tubing for framing did much to domesticate steel; however, it was the panel aesthetic which made his early buildings agreeable. The square steel section was no more than a shadow line and no plates or angles were required as fasteners. The 6 in. I-beams were suppressed and the ceiling sandwich panels were delineated by a metal trim carried

22 Craig Ellwood, living room.

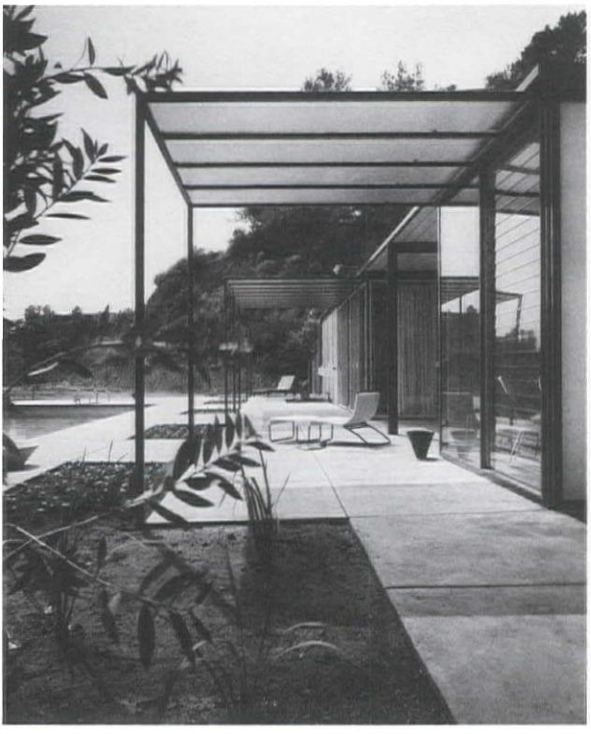
23 Craig Ellwood, hall.

24 Craig Ellwood, bedroom and enclosed court.





25 Craig Ellwood, terrace.



from column to column. By many devices the panel was stated as panel; the wood of the wall sandwich panels reached below ceiling height, the base was recessed and was black to emphasize the change of plane. The 4 by 8 in. module was one that was reassuring to the eye accustomed to standard sizes: the random masonry of the fire established friendly associations which a modular material would not.

Two things were at work in all the Ellwood houses: the perfection of a body of detailing that was both handy and elegant, and the adjustment of steel to meet public acceptance. It was Ellwood's ability to deal with both that carried him into commercial buildings where he had greater scope. To continue to refine in small scale buildings could have been self defeating if his talents hadn't been called to new areas. The fact that he could later design the first SDS (now Xerox) building in a matter of weeks at and unusually low cost per square foot was proof that he had outgrown the house. (SDS was designed in such a way that structure and walls could be built independently.)

Ellwood continued in Case Studies #17 and #18 to use brick and wood in panels, and wood ceilings, but in #17 he departed from the steel tubing and went to 4-in. H-columns, only to return to the tubing for #18, this time a 2 by 5½-in. rectangular tubing; the beams were of the same section, the first time such a thin walled section was tried as a beam. It minimized detailing because one connection applied to all exterior wall conditions; panels, glass, sash and sliding door units could all be attached in the same manner.

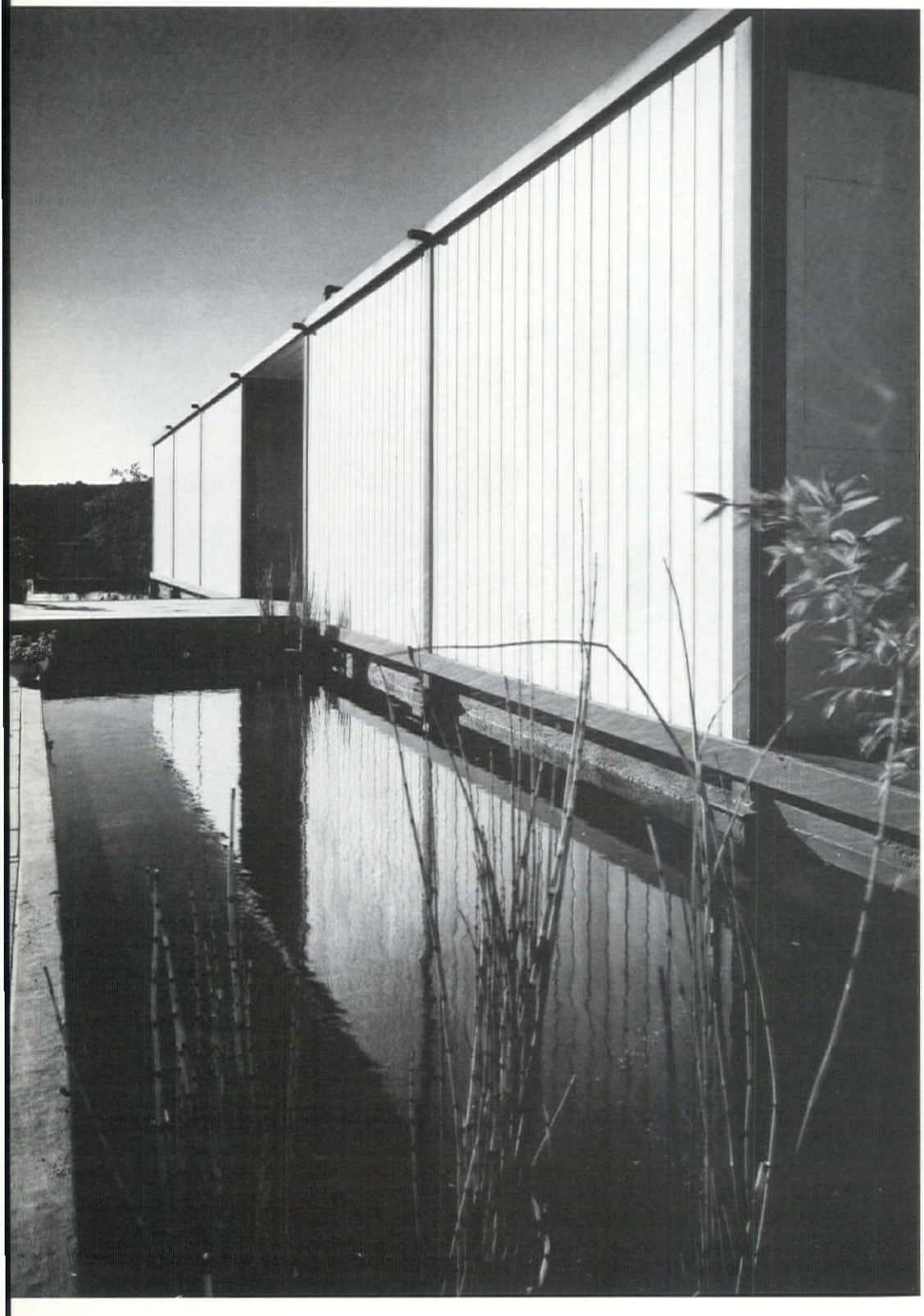
In #18, there is a greater awareness of Mies. It has been hard for easterners, who live closer to history, to believe that Mies's influence on Ellwood had come second and third hand; anyway, by 1956 Ellwood discovered his master, but by then he was already secure in his own habits with steel.

One difference in #18 was that for the first time in a Case Study shop-fabricated bents were used. The 16-ft bents were delivered to the site and erected in a day, then immediately roofed.

The most uncompromising use of steel was in the two Case Studies by Pierre Koenig in 1958 and 1959, both of them little portraits of the state of the art of the period. Koenig's interest in the monoplanar wall led to a plan innovation which is still valid but did not enter the common language. Far from it. What Koenig did was to locate two bathrooms in a court at the core of CSH #21, thus satisfying the code concerning ventilation for baths and at the same time freeing the exterior walls from the tyranny of the small bathroom window. The idea of detaching the baths and facing them into a ventilated court produced a plan unique for the steel-frame. In floor planning, Ellwood had adapted freely; for all the strictness of the square plan of the Rosen house, he avoided the features of the Farnsworth and Johnson houses which conflicted with privacy for families with children. Soriano, the most dogmatic of the three, had an old-fashioned idea of plan. It was one that protected the adult (male) from the smells of the kitchen and the frettings of infants.

CSH #21 is a series of 10 by 22 ft bays 9 ft high; each frame is composed of 8-in. I-beam floor channel and three 4-in. wide flange columns. The two exterior bays came shop-equipped with a 4-in. channel to tie into the columns at sill height. The curtain walls of steel decking and the sliding glass were inserted into the 22-ft openings between columns. Some of the exterior walls are of gypsum board, these exposed for interior walls.

26 Case Study House 21, Pierre Koenig 1958, street face.



Koenig moved away from panel aesthetics, and in exploiting the larger standard sizes of the late 50's of steel decking and glass, he arrived at a skin aesthetic. He gave economy as his reason for abandoning panels but added, "Expense is inevitable while experimenting, but unless there is a goal it is wasted." The spartan character of the house was relieved nevertheless by rather costly reflecting pools. Today the pools are filled in, trees have grown, the hillsides are strewn with houses, interior changes have been made, but the crispness of the steel frame is unchanged. What still gives the plan its special character is the buffer between living and bedrooms set up by the island core.

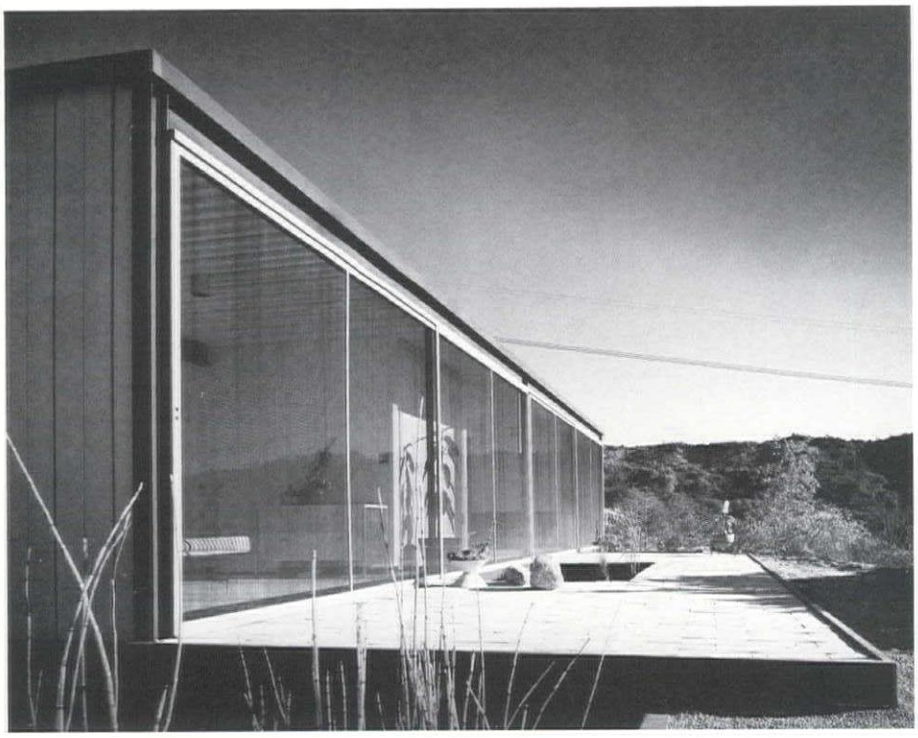
His second Case Study the following year was for a site on a canyon edge, and a factor in the design was a 10-ft cantilever to extend the living space and allow a swimming pool on the same level. Here it was an L-shaped plan around a pool; as in most Koenig houses, water becomes a part of the floor plan. Another design characteristic is the horizontal plane floating above water, repeated in both Case Studies and continued in his later houses. In CSH #21 it is a terrace raised above the pool on the street side and another off a bedroom which is separated from the carport by a pool. In CSH #22, a platform hovering above the swimming pool extends out from the living room. These horizontal planes, complementary to the size of openings, are vertical planes tipped to a horizontal position. With the disappearance of both the Koenig houses into nature, they have become pavilions glimpsed, CSH #21 the purer because of the compact mass.

Only two steel sections were used in CSH #22, 12-in. I-beams and 4-in. columns, to form 20 by 20-ft bays; the house is three bays wide by four bays long, ten feet of the latter in cantilever.

27 Pierre Koenig, terrace.

28 Pierre Koenig, entry from living room.

29 Pierre Koenig, kitchen and living room from central court.

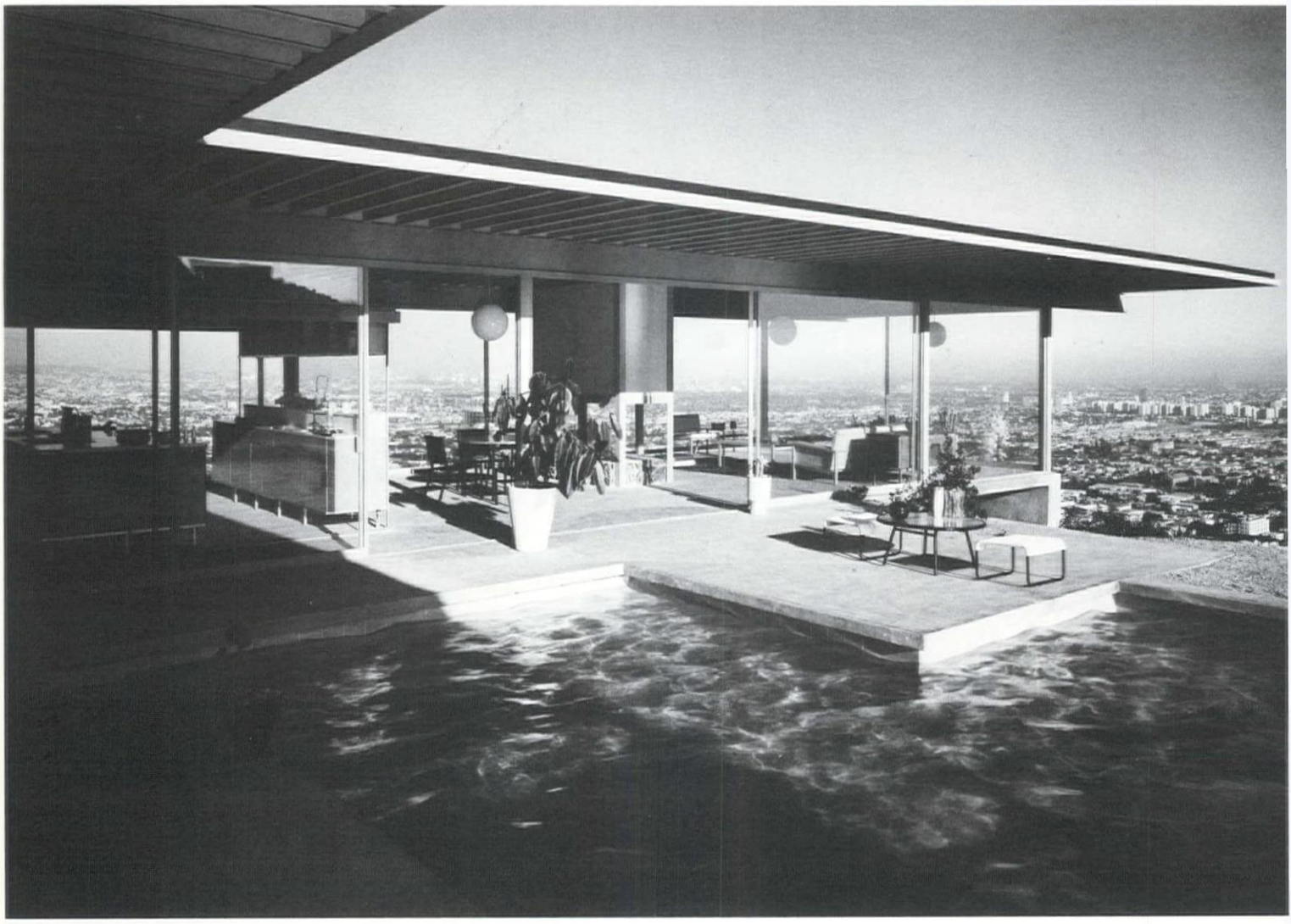


30 Case Study House 22, living room from pool terrace.

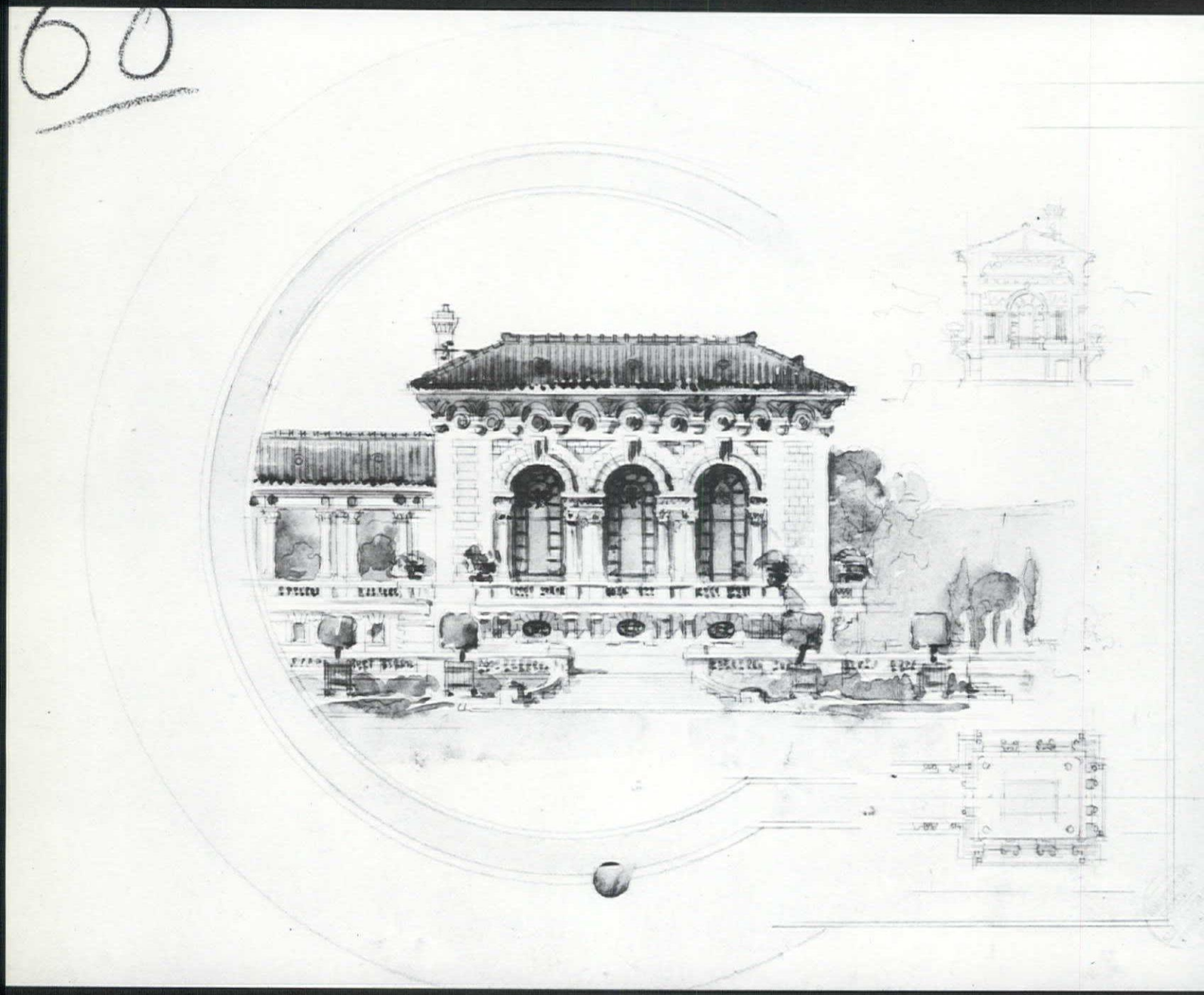
Now two decades later, the Case Study House Style refers only to the work of Soriano, Eames, Ellwood and Koenig; but during the time their houses were being built another type quickly gained a name: the Pasadena or USC Style. The houses were based on a panel system and framed with 4 by 4-in. posts 4 feet on center. Roofs were gabled and low pitched, and glass often followed the gable line. Decks and porches were oriented to the mature trees of Pasadena. They were influenced by Greene and Greene and earlier cottages, which Randell Makinson calls the Brown and Browns, and by Harwell Harris; in turn the Pasadena Style exerted an influence on tract builders. Several members of the USC school designed Case Studies, two projects by Whitney Smith (later as Smith and Williams, the firm built many 4x4, 4 o.c. houses); and Buff, Straub and Hensman designed a Case Study for Pasadena with roof of plywood barrel vaults.

Between 1959 and 1961 there was the Buff, Straub and Hensman Case Study, already mentioned, and aside from a Don Knorr project in which adobe brick was the infilling for a steel frame, the only four completed houses were by Killingsworth, Brady and Smith. (An abandoned project by that firm was a prototype for houses in South America which would try out a new structural system in concrete.)

By the 60's, architects had lost the battle for the tract house to the developers; the involvement of the architect was minimal, confined often to what details the developer could borrow and hand over to Bill Ding to draw up. The high production of developers and the rising cost of land and construction made the custom-built house anachronistic. Two Case Studies between 1959 and 1961 for cluster housing were timely. First there was Killingsworth, Brady and Smith's group of three houses for a small tract in LaJolla, designed for a cul de sac street and placed to complement one another. The idiom was the same for all: a plan around interior courts and a framing system which was a variation of the 4-4-4 wood frame. However, for the sake of



1 Study of a pavilion for a country house (?), ca. 1900.



privacy there were a number of long walls with continuous wood skin formed of sheets of rough-sawn redwood panels.

A prophetic project was one by A. Quincy Jones of Jones and Emmons. Jones, with Whitney Smith and Edgardo Contini, had in 1949 planned an idealistic development of 100 houses on hillside land in Brentwood. Concrete block and redwood houses, all variations of the same theme, were handsomely fitted to the natural contours. Almost intact today, the development stands as a model for good land use. During the 60's, Jones planned a number of tracts for Eichler Homes which represent a high point in good siting, preservation of land, communal spaces and floor planning; one of his models was a steel-framed house with walls of glass and wood, and roof openings to light interior planting areas. A sensuous use of plants was characteristic of all his domestic work.

What he proposed for a Case Study was 260 houses on a 140-acre tract in San Fernando Valley; building pads were below grade, and the earth thrown up to create the flat pads was mounded into barriers between house and street and between neighbors. The houses were isolated visually and sound transmission was low. Rather than houses which he called "bumps along a road waiting for trees to grow," he planned "earth sculpture in which houses and land blend." The size of the lots was to be trimmed and the square footage saved thrown into a park, an idea he had already carried out in a Palo Alto tract but was not permitted in the south. It should be remarked that in institutional buildings and in offices, Jones developed a plan in some ways similar to the Case Study tract: entrance is by way of the middle level, and the first level, below grade, opens onto planting courts and landscaped banks. In this way, buildings are kept low and there is only one flight down or up from the main middle level. The kindest feature is the creation of good work space below grade.

Although the Case Study program continued bravely, if sporadically, in the 60's after David Travers took over the magazine, the interest in the single house as a type was waning. The reason for the existence of the program had passed: the establishing of a forum for Modern (as opposed to the prevailing eclectic) and the production of new prototypes for the two-bedroom house.

Julia Morgan, 1872-1957.

Richard W. Longstreth is working on his doctorate in architectural history at the University of California at Berkeley and is currently with the Rhode Island Historical Preservation Commission. He is a co-author of *Architecture in Philadephia: A Guide*, and a contributor to the Pasadena Design Center's recent catalogue *California Design 1910*.

Julia Morgan Some Introductory Notes

Invariably mentioned in essays concerning architecture of the San Francisco Bay Region, Julia Morgan has often been compared with Bernard Maybeck, Willis Polk, and others as a designer of informal shingle houses during the first decades of the twentieth century. Popularly, she is perhaps best remembered as the architect of William Randolph Hearst's huge "Castle" at San Simeon, an incredibly pretentious, eclectic pile, in many respects more akin to a stage set than an American country house. Recently, she has also attracted interest as a successful woman professional. Still, relatively little is known about her life and work, which provide the essential context for understanding an approach to design that could encompass such seemingly irreconcilable images.

Morgan made a commitment to the profession at an early age, despite the fact that scant precedent existed for women in architecture at the time. She entered the College of Civil Engineering at the University of California in 1890, right after graduation from high school. While at the University, she met Maybeck, then an instructor of drawing, and attended informal classes in architectural design conducted at his house. With the encouragement of both Maybeck and her family, she continued her studies at the Ecole des Beaux-Arts, and in 1901 became the first woman to receive its diploma (**1**). Thereafter she returned to the Bay area and soon found work with John Galen Howard, who had recently moved his prosperous New York office to San Francisco in order to redesign and implement a grandiose master plan for the Berkeley campus.

By the early months of 1905, Morgan was in practice for herself. Over the next three and a half decades, she conducted a flourishing business and seldom seems to have been short of work. Most of her known designs were for residential and institutional buildings located in suburban communities along the eastern shore of San Francisco Bay. The exact number of commissions she received has yet to be determined; if we can judge from the job numbers assigned to the relatively few sets of surviving working drawings, there were over a thousand. Out of these, probably six to eight hundred buildings, additions, or alterations of consequence were executed before she officially retired in 1940.

Several readily identifiable explanations can be offered for Morgan's consistent success. Unlike many of the prominent architects in the region, she was a native, and a substantial portion of her work came from friends and family contacts. She had two important patrons, William Randolph Hearst and his philanthropist mother, Phoebe, who directly or indirectly were responsible for numerous commissions. In addition, the first two decades of Morgan's practice coincided with the large-scale development of East Bay communities into suburban tracts, creating a continuing demand for new middle class houses in the area where she had spent most of her life.

Finally, at a time when various women's organizations were rapidly growing and gaining a respected position in community affairs, it is not surprising that many of them entrusted her with the design of their quarters. Indeed, buildings of this

2 "El Campanil," Mills College, Oakland, 1904.

3 Walter Starr house, Piedmont, 1912.

nature comprise the majority of her nonresidential work. Morgan's first known commission was from Mills College in Oakland, a noted establishment in the history of women's education on the west coast (**2**). She continued to design their buildings for the next decade, as well as others for girls' schools throughout the region. Work also came from lady's clubs, hospitals, and retirement homes. One of her best clients was the Y.W.C.A. for which she designed buildings in most major California cities and many minor ones as well.

These circumstances might lead one to believe that Morgan devoted most of her time to coordinating a large office staff and obtaining a steady flow of incoming jobs, rather than to designing. In fact, however, the circumstances were very different. Her office seldom exceeded a dozen people at any one time, and often the figure was half that number. She maintained tight control over all aspects of her commissions: interviewing clients, preparing the preliminary drawings, closely directing their development into the final set of working drawings, and inspecting progress on the site. These responsibilities frequently consumed fourteen hours a day, six days a week, and left little time for other activities. At least after her reputation was established, her contact with the outside world was primarily through her work. She generally avoided social gatherings, participation in professional groups, or in women's organizations, and shunned publicity of any kind, including the architectural press. Her avoidance of channels usually taken by architects to help procure new jobs is the more remarkable since she had to overcome the additional obstacle of prejudice. In her mind, the fact that she was a female had no bearing on her abilities as a designer. Few agreed at a time when prevailing opinion at best relegated the woman's role in architecture to interior decoration. Many women may have come to Morgan because she, too, was a woman, but a large share of her success also must be attributed to her own determination and ability to win people's respect through a meticulous proficiency in all aspects of the field.

The length of time spanned by Morgan's practice, the quantity of buildings she designed, and the fact that only about a third of them have been found preclude giving a complete chronological outline of her *oeuvre*. Here it is worthwhile to concentrate on the distinguishing qualities of her mature work, roughly from 1908 to the mid-1920s, about which the most is known at present.

Reflecting Rationalist principles taught at the Ecole, Morgan was eminently practical in her use of form, space, and structure. She rejected the pursuit of innovation when a good, feasible solution was already available, concentrating instead on adapting and refining it

4 Y.W.C.A., Fresno, 1921.

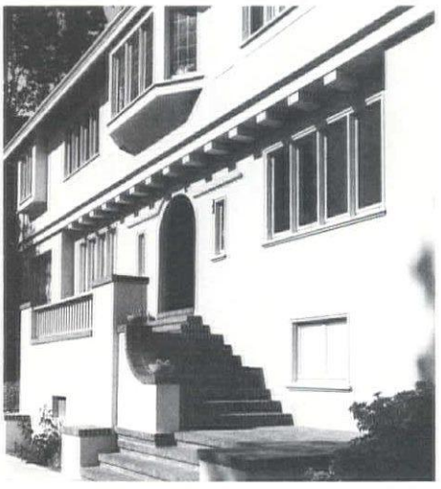
5 Apartment house for Clif ton Price, Berkeley, 1912.

6 Allen Chickering house, Piedmont, 1912.

to the specific needs of the situation. The exteriors of her buildings show a balance between deliberate understatement of the whole and precise definition of the parts. Morgan felt that most buildings should read as unobtrusive elements in the landscape and refrained from the use of particularly assertive form or detail (**3**). At the same time, volumes are rendered with a forthright simplicity and clarity of form; the major elements are crisply delineated and carefully balanced, often in symmetrical compositions (**4**). A small apartment house for Clifton Price is typical in its sense of purposefulness, and its absence of picturesque, flamboyant, or casual qualities, all of which Morgan considered superfluous (**5**). It is also revealing of the matter-of-fact way she studied her designs during the preliminary states, "sketching" them with T-square and triangle, refusing to draw in perspective so as to avoid the temptation of composing simply for effect.

Along with most of her colleagues, Morgan fully accepted past periods of architecture as a repository of sources for her vocabulary, and if a budget and client's taste called for the incorporation of historical details, she had no reservation about using them. The large collection of architectural monographs in her office library was frequently consulted, and undecided clients were allowed to peruse them for ideas. However, this process seldom produced strictly academic essays.

Even when a design was modelled on a readily identifiable monument, significant modifications were generally introduced, responding both to aesthetic preferences and practical requirements of the twentieth century. The facade of the Allen Chickering house, for example, is clearly derived from the garden front of Palladio's Villa Pisani at Montagnana, however considerable changes have been made in proportion and detail (**6**). The result is a change in emphasis, all but

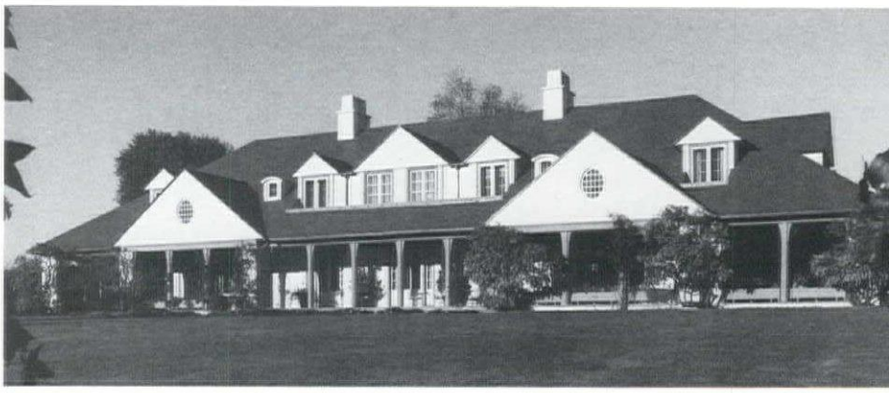


7 George Walker house, Alameda, ca. 1908.

8 Chauncey Goodrich house, Saratoga, 1919.

9 Goodrich house, porch.

eliminating the strong contrast between the columned porches and flanking walls found in the original. Here the orders serve more as an ornamental screen, giving a focus but also continuity to the elevation. In front, an extremely simple brick terrace provides a measure of informality compatible with the small lot on which the house is set. More frequently, Morgan's buildings made only vague references to a past period, as with the "half-timber" George Walker



house where ornament is reduced to pristine linear motives set in a taut composition quite unlike any late medieval precedent. In some instances, such treatment allowed for the combining of several seemingly incompatible sources in a single building. A country house for Chauncey Goodrich employs a varied grouping of dormers and gables, dominated by a broad encompassing roof reminiscent of late medieval English cottages, but has a long, colonnaded porch wrapping around three of its sides and U-shaped plan, in most places only one room deep, adopted from California ranch houses of the Mexican-American period (**8**, **9**).

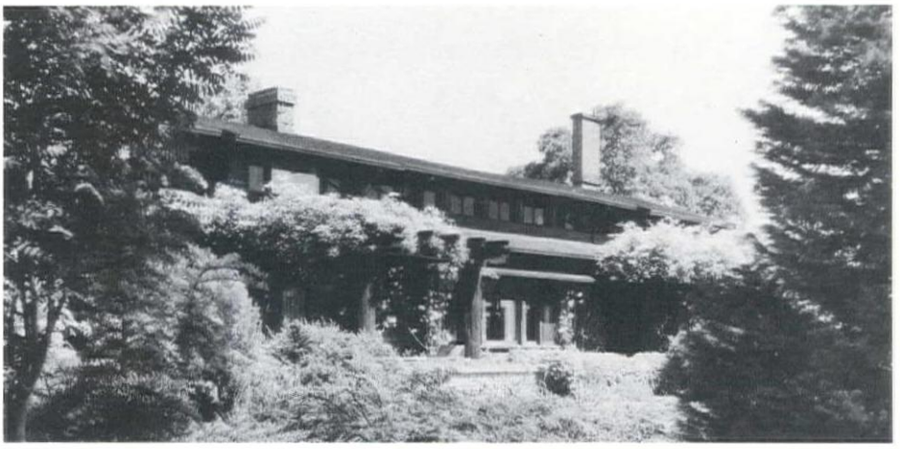
Morgan's approach to the past, simplifying, even abstracting historical motifs, and setting them in a new context is typical of the methods used by many eclectic architects at the time. These buildings are easily comparable to ones by Lewis Albro or Charles Adams Platt in New York, Harold Van Doren Shaw in Chicago, or Ernest Newton in London. For Morgan, no less than for them, the use of history provided a system whereby order and continuity in design could be maintained, without curtailing the creativity or contemporary relevance of her work. There was an internationalism in this attitude, clearly reiterated in her buildings. They are sensibly adjusted to local climatic conditions and living patterns, but one senses no attempt to produce a vocabularly distinctly Californian.

10 Frederick Ginn house, Ojai, 1908.

11 Elsie Drexler house, Woodside, 1913, now altered.

12 Apartment house for Clifton Price, Berkeley, ca. 1908.

These academic characteristics are found in most of Morgan's work, but by no means all of it. Her approach to architecture differs from that of the aforementioned men, and many like them, in that she also relied on thoroughly plain, unornamented elements and rustic materials as a means of architectural expression. Many of her buildings, while maintaining a carefully ordered and restrained composition, correspond to work by proponents of the Arts and Crafts movement in America. This is clearly evident in the Frederick B. Ginn house where the massive ground story of the living room wing is of roughcut local stone, supporting a simple band of casement windows above (**10**). The scale of the house is broken down by dividing the front into two blocks, set at right angles to one another in an arrangement similar to that of Greene and Greene's Gamble house, built at the same time. A considerably larger country house built for Elsie Drexler shows affinity to work of the Prairie School in its broad, horizontal mass, and the abstract, rectilinear organization of elements, but here softened by the use of shingle siding and large redwood trunk columns supporting pergolas, both typically Californian (**11**). Such buildings were not confined to a few types more or less incidental to the mainstream of Morgan's practice as were, say, the mountain cabins many noted eclectics would occasionally design. Appropriately many of them were built in rural settings but many others were set on small suburban lots in Berkeley and Oakland, close by the more historicizing examples noted previously (**12**).

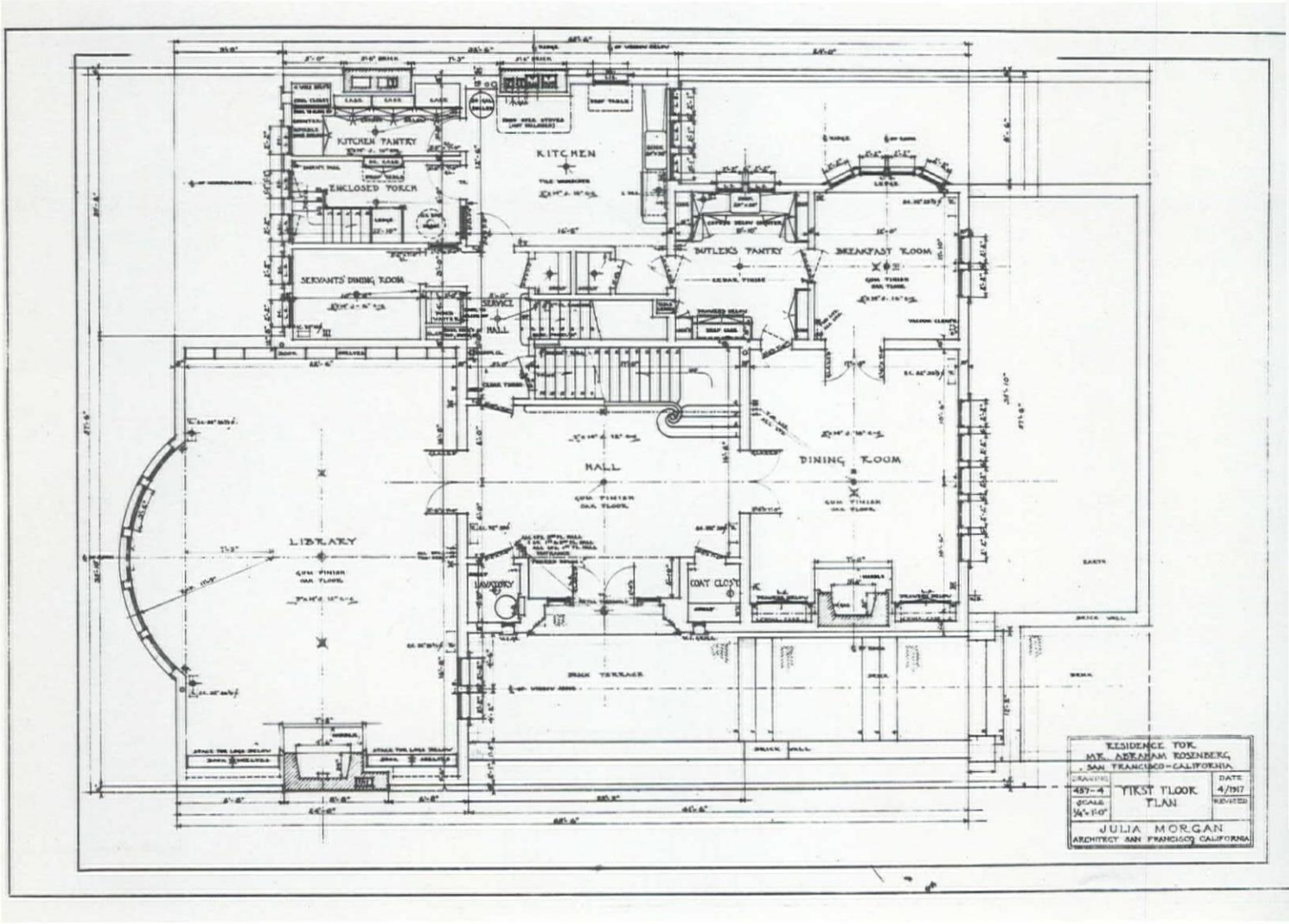


13 Speculative houses, Berkeley, ca. 1915 (?).

14 Abraham Rosenberg house, San Francisco, 1917, first floor plan.

The diversity of Morgan's designs does not mark her as simply a freewheeling purveyor of fashion. While trained as an academic and fully sympathetic to its precepts, she also maintained a deep respect for simple, everyday objects. Even after she was well-established and had no need for such work, small, inexpensive commissions were readily accepted and developed on the basis of their own requirements, not as economy versions of larger buildings (**13**). A direct influence on this attitude was Maybeck, whom she was fond of quoting, to the effect that every constraint should be regarded as an opportunity, not a detriment. The idea of giving dignity to commonplace things was also a fundamental tenet of the Arts and Crafts movement.

The reason for embracing both the academic and the ordinary extends beyond an aesthetic one; it is directly related to her conception of the architect's role in society. Following the then popular notion of the medieval master builder, she felt the architect should be a semi-anonymous contributor to a team whose efforts were dictated by people's spiritual and physical needs. The unobtrusive quality she sought in her buildings in par emanates from the belief that a design should serve as a backdrop conditioned by the activities it contained; an assertiv use of form, regardless of its source, violated the essential master-servant relattionship between life and architecture. Morgan also realized that the desired expression of simplicity, order, and



15 E. J. McCormac house, Berkeley, 1911, entrance hall.

16 Charles B. Wells house, Oakland, 1911, entrance hall.

restraint could be obtained from both academic and arts and crafts realms. The differences between these two strains were not, for her, divisive; instead, they provided the scope necessary to respond to the diversity of human needs.

This duality between a logical ordering of elements in generally conventional patterns, and accommodating them to a wide range of problems can be seen throughout Morgan's work. Her arrangement of interior space, which she regarded as the first consideration in design, has the same straightforward, clearly defined qualities of her exterior elements. Plans are generally variations on standard themes, with rooms axially aligned and their elements symmetrically balanced. The layouts of her residences repeatedly follow the widely-accepted pattern of placing the entrance and stair-hall in a central position with living and dining rooms set to either side and other ground floor spaces remaining in a subordinate position (**14**). But within this framework, she produced rooms of greatly varying character. Illustration is afforded by the entrance halls of two dwellings erected during the same year on suburban sites within a few miles of one another. One was designed for a Berkeley professor, E. J. McCormac, with a budget of less than five thousand dollars; the other was for the president of a machine tool company, Charles B. Wells, and cost several times as much (**15**, **16**). Aside from the configuration of the stairs within a self-contained space, little similarity exists between the two rooms. In the McCormac house, the space is virtually a corridor, lined with redwood board and batten paneling. The linear pattern of the battens is reiterated in the treds, unturned balusters, and translucent leaded windows, establishing a subtle abstract pattern by the simplest of means. The hall of the Wells house, on the other hand, is ceremonious and historicizing, loosely following English Georgian precedent and elaborately panelled in imported gum.

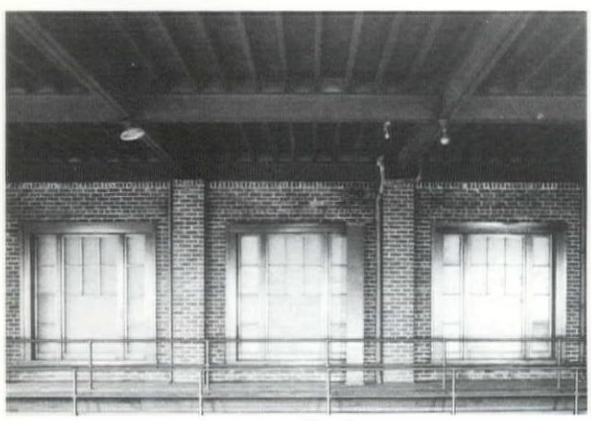
The way in which a building was constructed was of as much concern to Morgan as its outward appearance and interior arrangement. A respect for technical considerations was nurtured at the College of Civil Engineering and very possibly furthered through her training at the Ecole. Much of her early experience was gained through the supervision of buildings under construction, both for Maybeck in the 1890s and for

17 Alumnae Hall, Mills College, Oakland, 1916, reception room.

18 Y.W.C.A., San Jose, 1915, gymnasium, demolished.

19 St. John's Presbyterian Church, Berkeley, 1908, 1910.

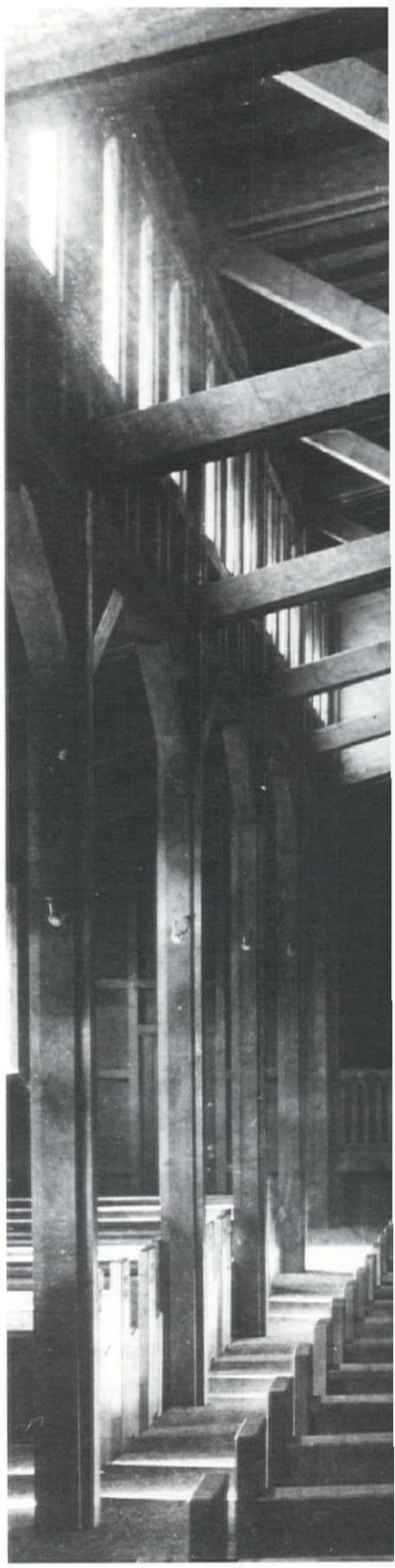
20 St. John's, sanctuary (1910), now altered.



Howard after her return from Paris. With this background, she not only acquired a sensitivity to the practical aspects of architecture, but also a realization of how complex the building process could be and the need to cooperate with specialists. Thus in later years she welcomed the chance to work closely with engineers and also frequently consulted favored contractors during the design stages of a project.

It is not surprising then, to find that Morgan treated structural components in the same logical and unostentatious way she rendered surface elements and space. Unlike many academicians, she was not reticent about exposing structural members frankly, but also had no desire to produce unnecessarily complicated structural effects. The use of exposed structure as a prominent feature in her buildings in generally limited to cases where she felt the scale and forms of a functionally sound system were compatible with other aspects of the design; that is, when both utilitarian and aesthetic purposes were served without compromising either. The opportunity to form such a union presented itself most often in the major rooms of her institutional buildings where Morgan demonstrated her versatility as a technician in a wide variety of straight-forward solutions using wood, steel, and concrete (**17**, **18**).

So far we have seen that Morgan generally avoided any search for novel results in her work. Yet if a program precluded the use of ordinary methods, she did not hesitate to seek unconventional ones. No better example can be found than St. John's Presbyterian Church in Berkeley (**19**, **20**). Responding to a budget that permitted the expenditure of less than two dollars per square foot, she produced a building that was entirely structure, save for exterior sheathing and fixtures. The decision to take this course was made in the early stages of the design. Most of the time spent on the project was devoted to refining the arrangement of stud framing and trusses

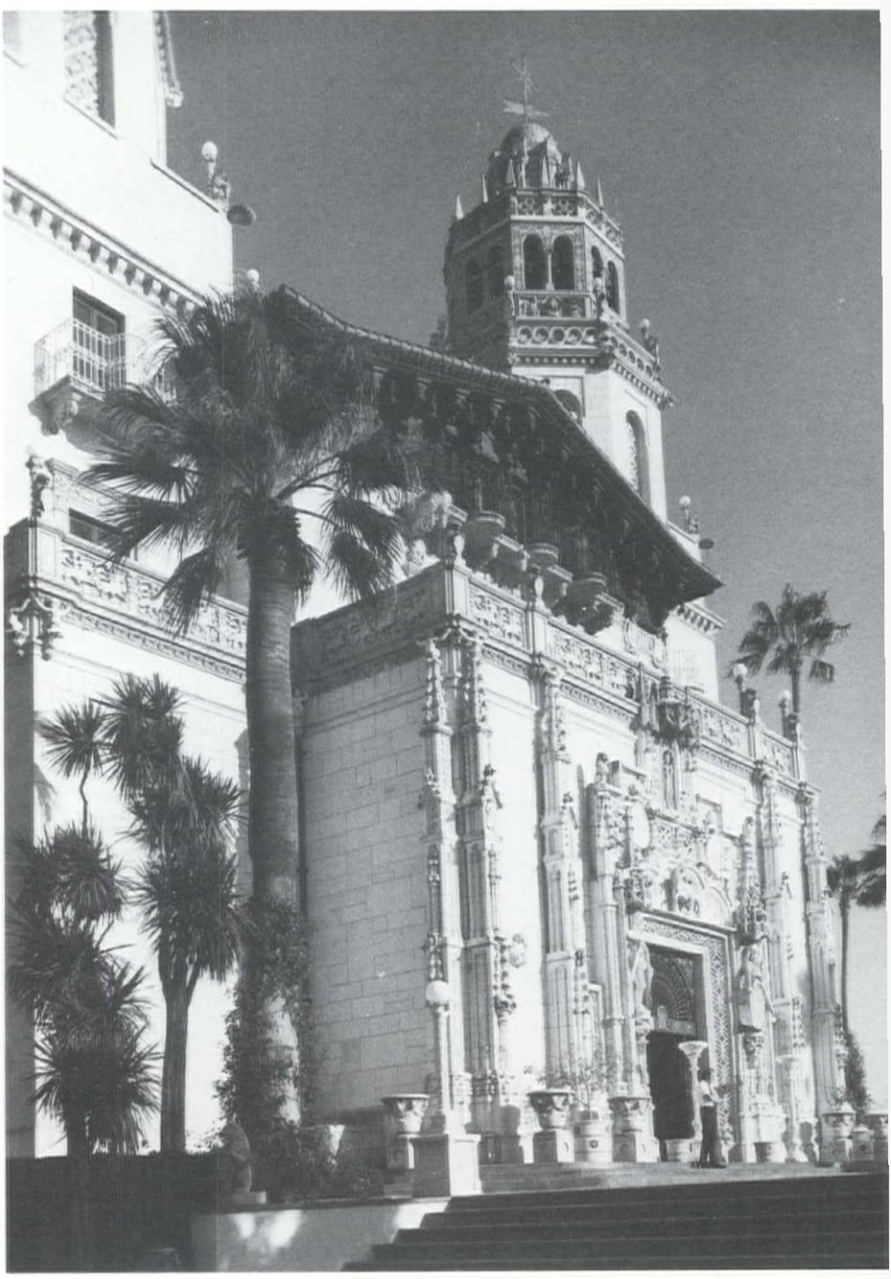


21 "La Cuesta Encantada", San Simeon

22 Casa Grande (main house).

in order to form a cohesive composition and structurally economic system. This choice would not have been possible without a strong taste for simple rustic design in the region, and a climate that was mild throughout the year. Still, the work represents a departure in its uncompromising frankness, embodying the logic of Rationalist theory translated into warm materials and a celebration of the ordinary. Few architects would have attempted such a merger; fewer still would have been able to attain it with such subtlety and grace.

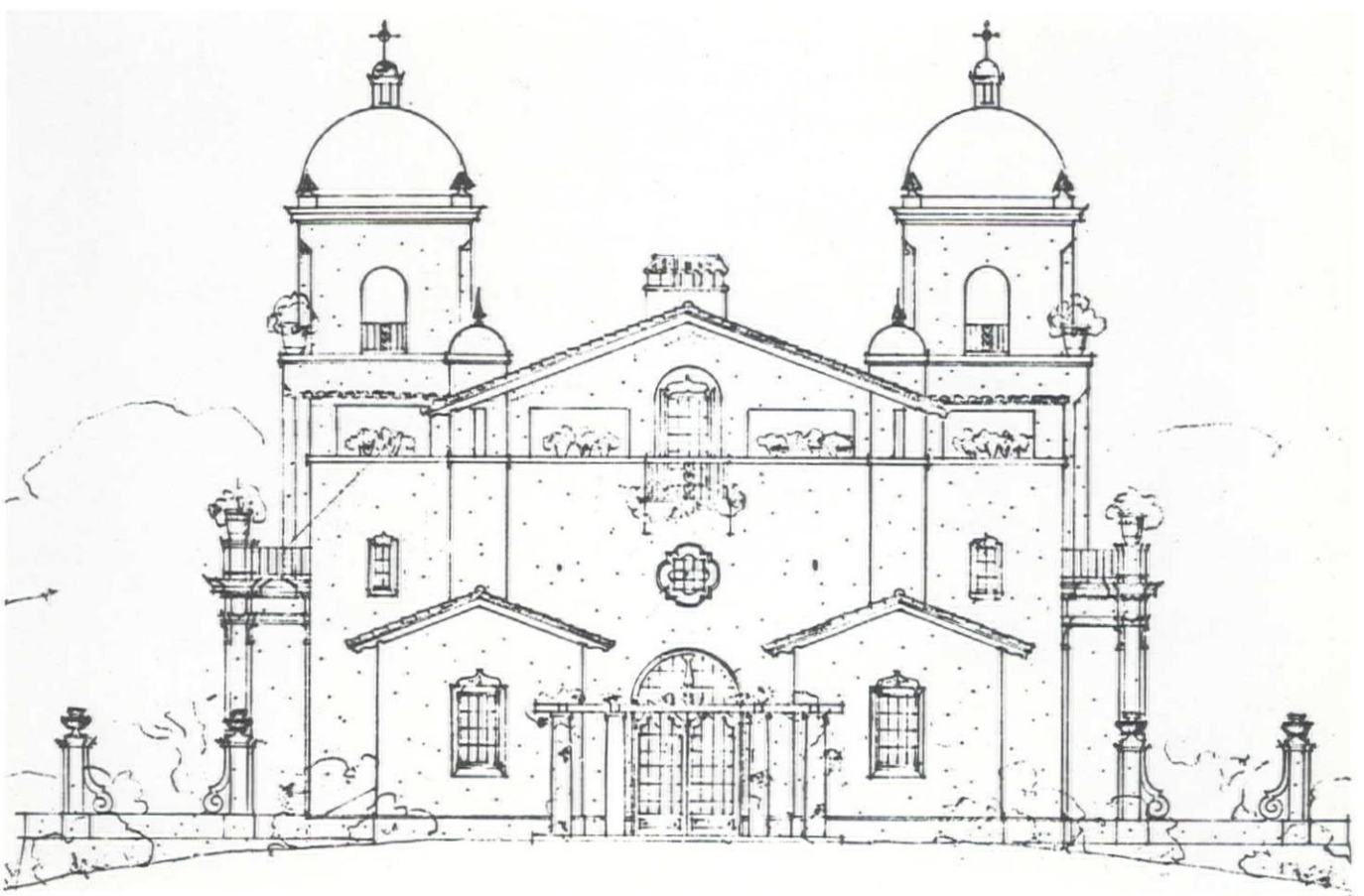
On the other side of the spectrum stands the Hearst compound at San Simeon (properly called "La Cuesta Encantada", San Simeon being the village nearby), also an unconventional commission, but one which seems to contradict so much that has just been said (**21**, **22**). It is thoroughly ostentatious, bristling with ornament, filled with impracticalities, and gives virtually no indication of its reinforced concrete construction. As with St. John's, some important conditions surrounding the commission must be briefly outlined in order for it to be more fully understood.



In 1919, when Hearst came to Morgan, his idea was to build a comparatively modest group of buildings. Surviving preliminary drawings show three unobtrusive bungalows fronting a towered main house, loosely inspired by the California missions, all consistent in appearance with the majority of Morgan's work (**23**). However during the next two years, the scheme's character changed considerably. The buildings grew in size and pretention, and, in effect, became museums displaying an eclectic array of architectural fragments and antiques Hearst had collected. Now a primary responsibility of Morgan's was the integration of these elements into the new fabric. The selection process, in itself, proved to be no small task. Warehouses full of old fireplaces, ceilings, window frames, tilework, and the like had to be measured and photographed, producing a multi-volume catalogue from which owner and architect could effectively work. Frequently a piece had to be modified in order to fit its designated position, and numerous others had to be replicated when the quantity of originals was insufficient to meet Hearst's demands.

The actual construction of the building presented no significant problems aside from the complicated logistical arrangements necessitated by the importation ofmaterials, equipment, and labor to the isolated site. Even here, operations were simplified by using locally gathered sand for most of the concrete. However, from the time work began in 1920, until it was brought to a halt in 1937, plans were constantly being redrawn and major new proposals introduced, following Hearst's ever-changing and increasingly grandiose ideas. Completed portions of the buildings were no less immune to alterations. A large stone fireplace in one of the guest houses was moved once, and then back to its original position, an operation which also included the removal of the walls and ceiling around it. A new structural system had to be injected into the west arm of the main building when Hearst decided to have another story added. Perhaps the most extravagant change was the destruction of the outdoor swimming pool shortly after it had been finished when the chief ordered a larger version; this happened twice. Having long held a fascination for architecture, Hearst spent innumerable hours on the site, directing operations with the same close scrutiny with which he ran his newspapers. Like them, it became a process to be perpetuated, not concluded. San Simeon developed into an epic toy.

Whether Morgan would have accepted the commission had she known how it was to evolve is impossible to say. But once committed, she refused to abandon the project. Financial reward was not a primary factor, for she never sought to be a wealthy woman. Rather, much of



her devotion to the job stemmed from a great admiration for Hearst as an individual and her belief in the architect's duty to serve the client. She respected Hearst's passion for building, and under the circumstances, was willing to let him assume a major role in the design and make choices she herself would never have done. Perhaps equally important was her regard for the working conditions San Simeon afforded. Virtually all personnel connected with its construction — as many as a hundred at one time — lived in temporary quarters on the premesis, and initially all of them were put under her charge. Several years later a general contractor was brought in, but she still retained direct control over the small army of artisans imported to work on the elaborate decorative scheme. Even if the results were not what she considered ideal, Morgan felt the patronage of these craftsmen was a significant act. Furthermore, the great scope of the project presented an unusual opportunity for a community of workers in both the building and decorative arts to unify their efforts in a single undertaking, where she as a modern-day master builder could serve to coordinate their skills and guide their course.

References

A major source for this study has been interviews conducted by the author, cited in the acknowledgements.

Available collections of Morgan's drawings exist at the College of Environmental Design Documents Collection and the Bancroft Library (both University of California, Berkeley), and at the Hearst San Simeon State Historical Monument.

Among the few articles on Morgan's work written during her lifetime are, in order of their appearance: Jane Armstrong, "Woman Architect Who Helped Build the Fairmount Hotel," *Architect and Engineer of California*, October 1907, pp. 69-71; Edith Everett, "Odd Features of California Architecture," *Keith's Magazine*, April 1910, pp. 263-265; Walter T. Steilberg, "Some Examples of the Work of Julia Morgan," *Architect and Engineer*, November 1918, pp. 39-107; Julian C. Mesic, "Berkeley City Woman's Club," *Architect and Engineer*, April 1931, pp. 25-47.

One of the most informative readings on San Simeon is Ken Murray's *The Golden Days of San Simeon*, (Garden City 1971).

Acknowledgements

I am greatly indebted to the former employees and friends of Julia Morgan who devoted many hours of their time to answer my questions, and many of whom allowed me to study materials in their possession related to her practice. They are: Mrs. H. C. Forney, Lucy Hale, Edward Hussey, Dorothy Wormser Koblentz, George Loorz, the late Walter Steilberg, and the late Charlotte Vickery.

In addition thanks must be extended to Carleton Winslow, Jr. for sharing the information he has collected on San Simeon, and to Sara Boutell for adding to my notes on Morgan's early years.

Robin Clements, Raymond Lifchez, and Sally Woodbridge kindly read preliminary draughts of this paper and provided a number of useful suggestions.

Jeffrey W. Limerick holds degrees in architecture from the University of California at Berkeley and Yale School of Architecture. He began his study of resort hotels at Yale and is currently preparing a book to be completed this spring.

1 Tremont House, plan and view.

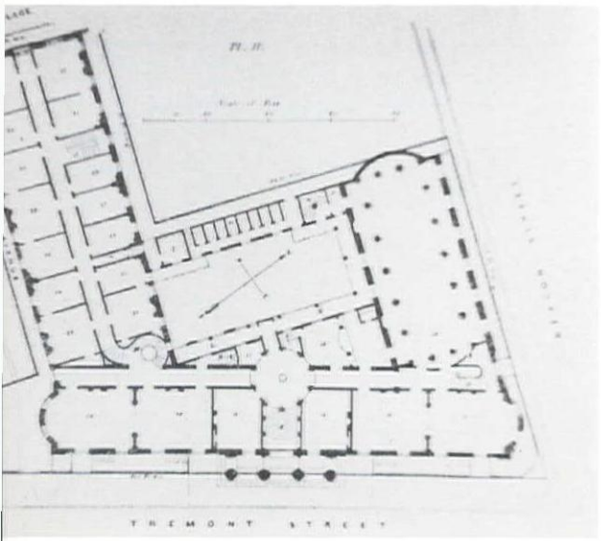
The Grand Resort Hotels of America

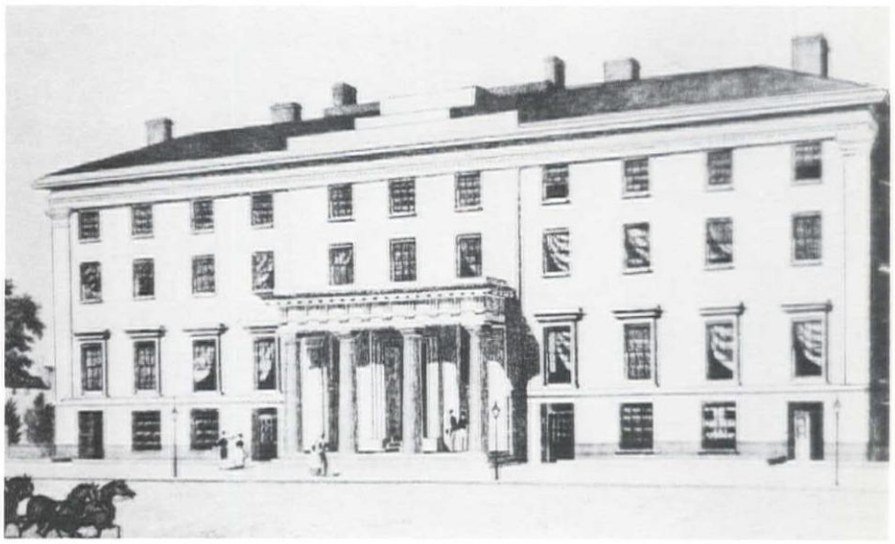
In the late 18th century, as American cities began to expand and Americans found more reason, and increasingly comfortable and efficient ways to travel, the hotel emerged as a new building type. Initially, hotels were simply larger versions of traditional inns. With the opening of the first modern hotel, Boston's Tremont House of 1829, they became something unique (**1**).

The Tremont was expensively constructed and bulging with every luxury and convenience its architect, Isiah Rogers, could devise. Its grandeur, size and functional organization were unparalleled. Among the host of innovations it introduced were the lobby, elegant public rooms, a subscription library, private lockable guest rooms and indoor privies. The Tremont was hailed as one of the proudest achievements of American genius and became a symbol of the wealth, enterprise and cultural life of Boston. Soon, every aspiring city wanted a hotel like it.

The Tremont's combination of luxury, size and gadgetry became the formula for success. New hotels sought to outdo their competitors by adopting the latest popular styles and mechanical conveniences in ever larger structures. Although hostelries introduced the public to steam heat, modern plumbing and electric light, the buildings changed very little in concept or physical organization. The history of the hotel, then, is a study in the interaction of style, construction technology and relation to the site as they create settings for human action.

Resort hotels, especially, were worlds within themselves, offering everything the guest believed worthwhile in life—physical and spiritual health, social distinction, romance and fashion. As recreational architecture, resort buildings had license to stray from or exaggerate the normal standards of taste. Grand or gaudy, sophisticated or crude, these hotels openly celebrated their range of possibilities, inviting their patrons to join





in the display.

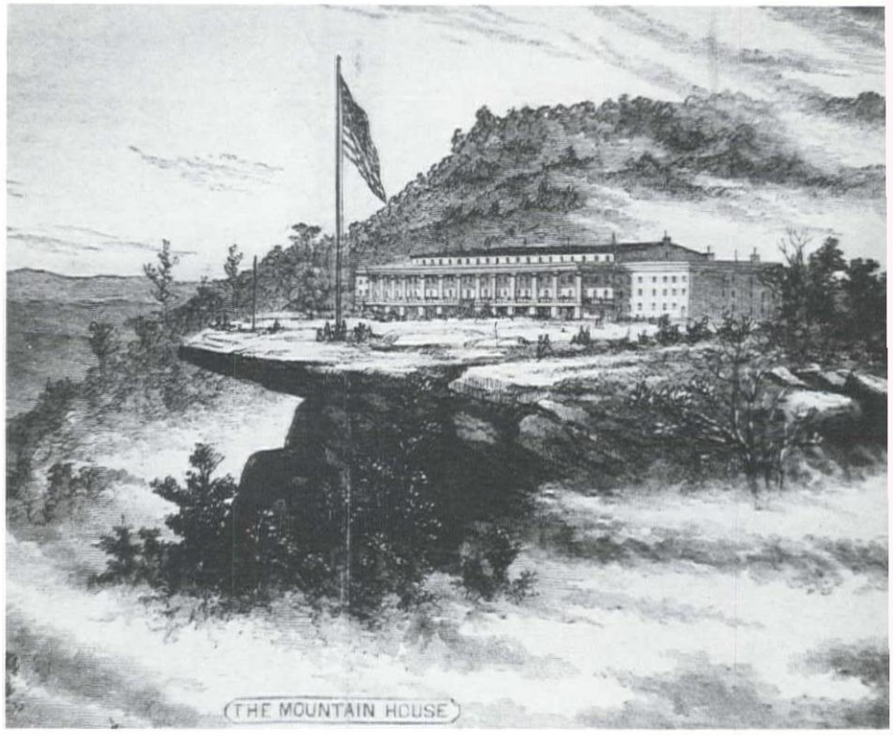
America had an active resort life long before the first hotels were built. Early colonists discovered that the Indians used the waters of mineral springs for health purposes. The practice was fashionable in England at the time, so it was quickly taken up.

Stafford Springs, Connecticut began to attract New Englanders in the 1670's. By 1720 the people of Philadelphia were making regular pilgrimages to nearby Yellow Springs, Bristol and Schooley's Mountain. Seasonal visitors began to frequent the springs of Virginia and upstate New York.

Others sought relief from the heat and diseases of summer by packing off to small coastal towns from Virginia to Massachusetts. Wealthy Southerners favored Newport, New Haven and Cape May, stops on the seasonal cargo ship routes.

Early resort life was religious in character. Recreation was distrusted as both wasteful and an open invitation to sin. Life was fraught with appropriately aristocratic discomforts including the accommodations, usually little more than simple cottages or crude dormitories. But the season provided a splendid opportunity to renew friendships, trade fine horseflesh and arrange a good match for many a nubile daughter.

Around 1820, improvements in transportation and changes in American attitudes toward nature and recreation caused a sharp upswing in resort growth. The Eastern wilderness was now sufficiently tamed to be appreciated aesthetically. The influence of European romanticism, combined with the Puritan tendency to view the landscape in moral terms, led increasing numbers of Americans to the wild to unravel the secrets of divine order. Travel and leisurely appreciation could raise one to a higher level of spiritual existence while improving one's health. At the same time, a wave of patriotic fervor in anticipation of the



2 Catskill Mountain House as it appeared in 1886, Thomas Nast for *Harper's Weekly*.

nation's 50th anniversary fed interest in the glorification of its scenery in the face of the European contention that America was too vast, too natural to be picturesque or beautiful. Growing numbers of artists, writers and well-to-do leisured found their way to the springs, shore and convenient places of scenic interest.

The entrepeneurs of Jacksonian America made the most of the wave of tourism. By the 1830's a number of first class hotels had been constructed near popular attractions. Congress Hall and Putnam's were the centers of Saratoga Springs' gay life as the home of the nation's first temperance society began to throw off religious restrictions and to introduce dancing, carriage parades, displays of fashion and gambling. Cape May's well-appointed Ocean House joined the earlier crude but extensive Congress Hall and Mansion House in 1832. Nahant, off Boston's North Shore, had a stone hotel with numerous viewing porches from which one might sight a mysterious sea monster, the nation's first promotional hoax.

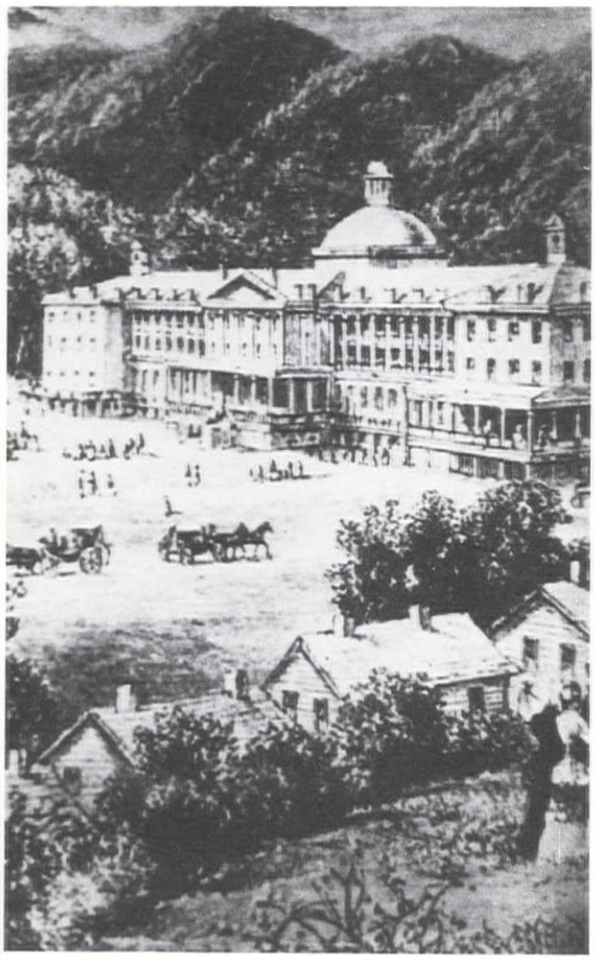
One of the most popular of these early resort hotels was the Catskill Mountain House (**2**). It was built by a corporation of local business men to capitalize on the tourist traffic along the Hudson River. The view from the top of a nearby mountain had already become famous, so the hotel sought to claim the attraction by perching atop it, on the brink of a cliff 2500 feet above the river.

The Mountain House was little more than a 10 room cabin when it opened in 1823. But it proved popular and was quickly expanded to 60 rooms with all the luxury of a first class hostelry. When stagecoach tycoon Charles Beech took over operations in 1839, it was further enlarged, given a unified facade and made the equal of the best city hotels. Everything necessary for the resort's self-contained operation, from thousands of acres of scenic or food-producing lands to a resident minister for the devout, was consolidated under one ownership.

The Mountain House, like nearly all the early resort hotels, was of wood frame and clapboard construction. Its plan arranged the public rooms and dining

room symetrically about the lobby and stairs. The kitchen was detached to minimize the risk of fire. In the days before elevators hotels rarely rose above four stories. They expanded horizontally, the further the better: vast dimensions and great quantities were valued in themselves. Private rooms lined a double-loaded corridor, giving each room access to light and air. A full-height colonnade running the length of the cliff facade proved to be the center of the Jacksonian resorter's sedentary existence.

The Mountain House was in the Greek Revival style. Not only was it suited to simple wood construction, but it also reflected the period's preference for clean geometric order and simple massing in contrast to its natural surroundings. Overt luxury and decoration of the facade were avoided for they suggested undemocratic or dishonest tendencies. The Greek Revival had become a national style, and the Catskill Mountain House recognized its obligation to use it in a typically patriotic way: the colonnade had thirteen columns, one for each state in the union.



The expansion of America's resort culture continued throughout the 1840's and '50's as the growth of new forms of transportation opened previously remote areas to the traveling public. Transportation companies constructed new hotels at points of interest along their routes to stimulate business and investment. Steam ships began regular service along the coast and up the Hudson, Lake George, Lake Champlain, and the Saint Lawrence to Niagara. Railroads penetrated the mountains from Virginia to Vermont making them easily accessible from the major centers of population. Religious sanctions and the older, more simple life continued to decline in the face of sophisticated and self-interested newcomers. Resort communities began to specialize to attract a distinctive clientele.

By 1850 Saratoga Springs had become the haunt of the fast crowd and a center of gambling and racing. Long Branch, New Jersey was a rising competitor known for its spicy blend of fast life, display, and family entertainment.

The most fashionable resort of the period, Cape May, attracted the wealthy aristocrats and political figures of the mid-Atlantic and Southern cities. The town's life of sea bathing, carriage promenades, gambling, dancers, and full dress balls centered in large hotels. Each sought to outdo the others by offering ever greater facilities and events in buildings for larger and grander than ever before. The spatial arrangement was similar to that of the Catskill Mountain House but stretched to great lengths, commanding as much coveted frontage as possible and then sending wings back to form great L's, U's, or T's. Greek Revival remained the accepted (and most economical) style, despite agitation for picturesque forms. But the interest in the rational expression of the wood framing members compromised the style's purity. The stately colonnades were filled with layer upon layer of porches with thin wood structural and decorative members.

The outstanding hotel of this period was the Mount Vernon of 1853. Its four story facade, based loosely on the new Buckingham Palace, extended 300 feet down Cape May's main street and was to have two three-story wings stretching back 500 feet. Each of the 600 rooms offered the unheard-of luxury of private bath. The 60 x 400 foot dining room could seat 3000. In 1855, with accommodations for 2000 guests and its second wing under construction, the Mount Vernon caught fire and was totally destroyed.

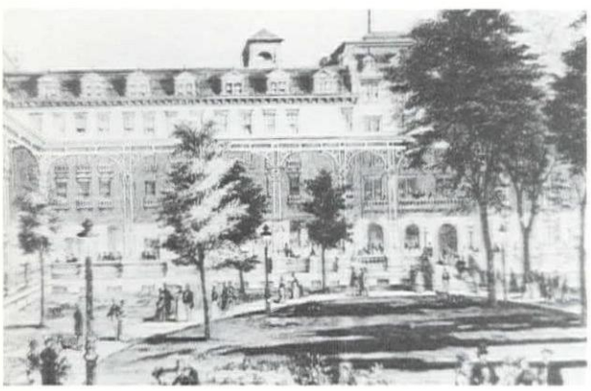
Southern resorts also experienced a wave of development as frictions between North and South increased prior to the Civil War. Slaveholders began to frequent the Virginia springs. To meet increased demand, the owners of the cottage colony at White Sulphur Springs erected a magnificent hotel in 1857 (**3**). The White, as it was called, became a symbol of Southern tradition and self-sufficiency, and experienced increasingly brilliant seasons as ties between North and South were broken.

After the Civil War industrialism became the dominant force in American life. The new businessman found his identity through character-building competition and expressed it through the accumulation of objects appropriate to his power and position.

4 The Union Hotel.

5 The Grand Union.

6 The Grand Union, garden.



The war had shaken America's faith in automatic progress and the natural superiority of the democratic way of life, creating an openness to and interest in new ideas, lifestyles, and cultures. The resulting passion for collecting bits of exotic cultures and experiences took two major directions. Americans admired European sophistication and experimentation while at the same time they paid homage to an idyllic American past. Both significantly affected resort architecture of the period.

Affluent Americans discovered the grandeur and traditions of Europe through travel and a flood of descriptive literature in the late 1860's. Home seemed provincial and naive by comparison: European culture seemed far more suited for the expression of wealth and sophistication. As a result, many new buildings became a picturesque collection of European stylistic devices and forms. Possibly the best examples are the grand hotels of America's wealthiest and most cosmopolitan resort, Saratoga Springs. Saratoga of the late 1860's was host to a diverse collection of tycoons, industrialists, bonanza kings, politicians, turf aristocrats, wealthy wives escorting marriageable daughters, eligible young men and a host of the curious who came to mix with the powerful and the notorious. The hotels were well suited to their patrons.

The Union Hotel, one of the oldest at the Springs, had been repeatedly remodeled and enlarged. By 1865 it was not only the largest and most elegant hostelry in town, but offered a variety of first-class shops, an opera house, and private cottages set among its gardens (**4**).

In 1872, the Union was purchased by self-made retail king Alexander Stewart and thoroughly rebuilt to be the greatest hotel in the United States. Few contested that claim when the Grand Union opened in 1874 (**5**). The five story brick structure in the mansardic mode—well suited to a large simple mass—boasted 824 guest rooms. The building presented a 450 foot piazzaed facade to the main street before stretching its wings back nearly a quarter mile to surround an elegantly landscaped garden (**6**). Over a mile of piazzas facing both street and garden accommodated Saratoga's grand life of self-display. The interior of the Grand Union was divided into a series of spaces—elaborately finished in carved walnut, Brussels carpets, mirrors, and marble—arranged to maximize vistas and sheer horizontal extent. The entry lobby expanded space vertically as well, rising full height to the roof and enshrining one of the first elevators in the country.

The Grand Union was not alone in splendor. The nearby United States Hotel, reopening the same year, was somewhat smaller but every bit as elaborate. Its cottage row added a measure of exclusiveness which made it the favorite of the wealthy. Every afternoon the giants of finance would gather on the north "millionaires" piazza to plot maneuvers which would soon rock Wall Street.

The search for the simplicity and moral strength of an idealized American past focused attention on the distinctive character and traditions of older resorts and the rural and seaport towns of New England. The Virginia springs became the bastion of Southern gallantry and elaborate courtship of the belle. Hotels and boarding houses sprang up along the railway lines through the mountains of New York, Vermont, and New Hampshire. Vacationers searching for an unspoiled retreat from the unmanageability and corruption of the day established cottage colonies all along the coast. The romantization of the colonial past and its simple silver-shingled architecture became something of a craze as the centennial approached. The English Queen Anne, too, as a supposed relation, rose to popularity on the wave of nostalgia. Its lively combinations of gables, brackets, towers, and decorative stickwork, and a variety of Oriental and Chateauesque motifs suggested extensions of the popular American stick style.

7 Manhattan Beach Hotel.

The resort hotels of seaside and mountain were quick to adopt the fashion. The Chalfonte of Cape May, constructed by war hero-carpenter Henry Sawyer in 1867, was a bracketed clapboard structure encased in porches of stickwork and gothic revival tracery. Nearby Long Branch had hotels and cottages sporting picturesque jagged rooflines and decorative half-timbering amid their older Greek Revival neighbors. One of the first hotels carefully designed in the mode of the Queen Anne made popular at the Philadelphia Exposition of 1876 was the Manhattan Beach Hotel of 1877 by J.P. Putnam at Coney Island (**7**).

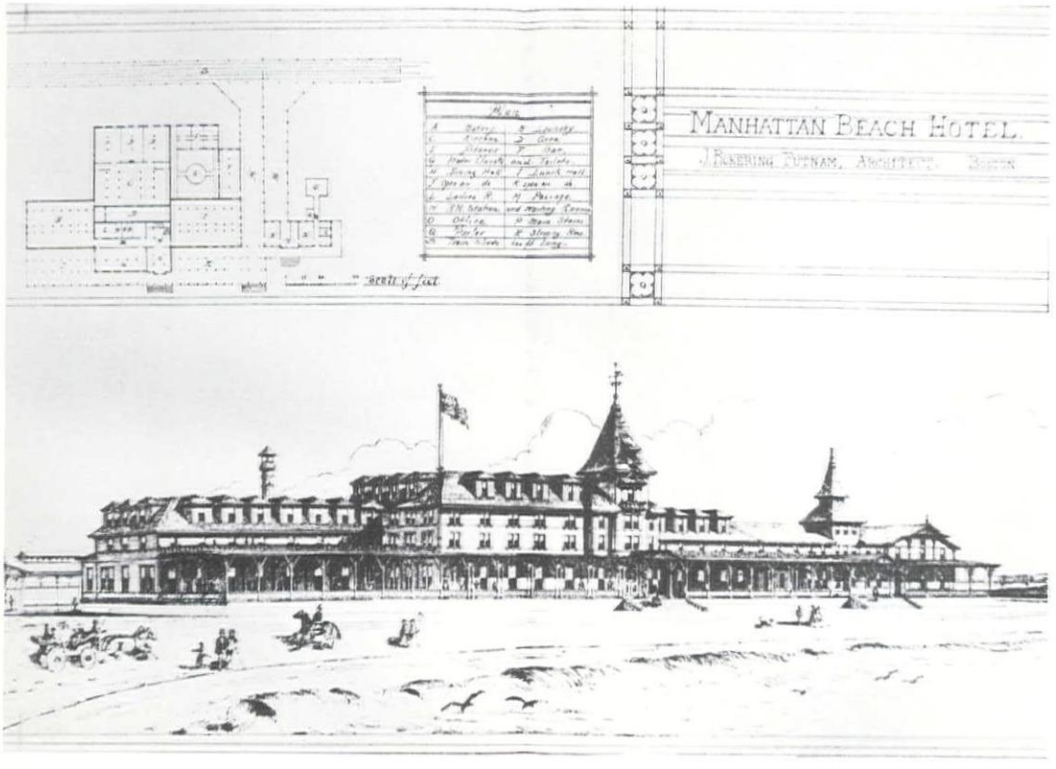
Commodore Vanderbilt had built several ill-fated hotels there in the 1840's and '50's to stimulate business on his coach and steamship lines. But the beach area soon developed an unsavory reputation as the summer haunt of New York's toughest elements. Nevertheless there was a strong demand for a luxury seaside hotel within commuting distance of New York City. When the Manhattan Beach Hotel was built, far from the saloons and boarding houses behind an undemocratic but effective fence, it became an immediate success. The building was an asymmetric arrangement of subdivided wood frame boxes bolted to piles set in the sand. A railway spur ran right up to trainsheds at the building's rear. The architectural press praised the hotel's picturesque massing and lively play of dormers and towers. Within a year it was extended by the addition of two towered wings and several auxilliary pavillions.

The adjacent Oriental Hotel of 1879 was an arrangement of corner and entrance pavillions crowned by exotic, vaguely Chinese roofs. Dormered wings stretched between them, forming an E-shaped ground plan to maximize air and view. The lavish entertainments jointly offered to attract the crowds included nightly fireworks tableaus, balloon ascensions, concerts by the likes of John Philip Sousa, ballet, prizefights, and night bathing under the glare of an Edison arc lamp.

The burst of hotel construction in the late 1870's marked the beginning of the golden age of American resorts which lasted through the turn of the century. In the next two decades, hotels of greater size and character were constructed all across the United States. A wide range of factors contributed to this growth.

In the post-Civil War years, Americans were increasingly aware of the widening gap between the rich and the poor. In the face of mounting social tensions, many of the wealthy retreated to an idealized world. Theirs was an exclusive society of private schools, cultivated tastes, suburban lawned estates, cottage colonies, and magnificent resorts.

After the economic reversals of the mid-1870's people were ready to make the most of the return to prosperity. The old Puritan restrictions against the pursuit of pleasure were still strong enough to demand justification of the growing vacation habit. Health was the best excuse. The people of the 1880's were deluged with advertising weighing the advantages of mineral springs with sea or mountain air and exhorting the overworked businessman to take a rejuvenating rest to remain at his competitive best.

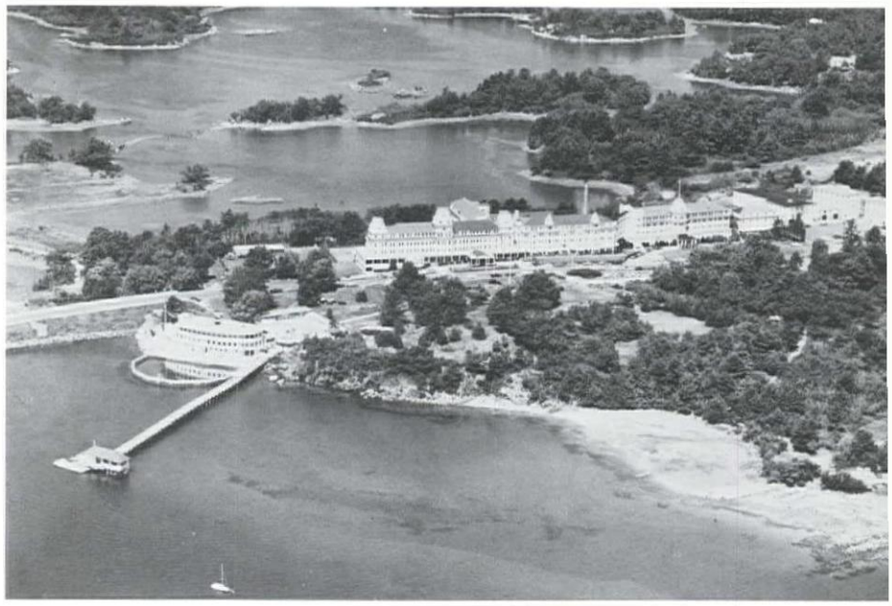


8 Pullman Palace Car.

9 Wentworth-by-the-Sea.

Although the tubercular pallor was fashionable at springs and spas until the late 1890's, a craze for outdoor life and sport began to affect vacation patterns in the early 1880's. The closing of the frontier and the frustrations of organized industrial life contributed to a romantization of the rugged outdoor life and primitive codes of honor. American sports moved outdoors in a decade. Resorts, always quick to respond to changes of taste, began to offer every imaginable outdoor activity, from hiking, hunting, boating, and golf to later automobile and bicycle courses.

Travel had become increasingly easy and comfortable. The Palace railway car, with its fine woods, carpets, and elegant furnishings, was a hotel on wheels (**8**). Its expense made it exclusive. One could travel coast to coast in secure luxury with virtually no contact with the world outside its plate glass windows.



The railroads also constructed resort hotels along their routes. Wealthy patrons not only stimulated travel on these lines, but were potential investors in local businesses and railroad-owned lands. Hotels were the centers of new communities and symbols of the power and taste of their builders.

Competition among rival hotels centered on the attributes of their sites and the reputation of their patrons. With the increase in the number of first-class resorts in all parts of the country, offering more or less similar facilities, hotels began to adopt distinctive styling—though appropriate to the character or history of the site—to create a unique and memorable place. This was a visual age. New techniques for graphic reproduction created a virtual explosion of travel books and magazines which exposed the public to a wealth of images and associations. Hotels were free to adopt a stylized package for they were free from the restrictions of serious art and the growing emphasis on realism. Like expositions, they embraced fantasy to create a world apart. And like exhibitions, they found it necessary to expose the technology and techniques which made the fantasy possible. The immensity of the undertaking and the problems overcome captured the public's imagination and made the hotel a symbol of personal achievement and national potential. Some of the best of the grand resort hotels of the '80's and '90's will provide illustrations for these generalizations. A thematic arrangement of them is too complicated for this short article. They will be presented by location, north to south, east to west.

The Wentworth was a simple clapboard box of 80 rooms set atop a beautiful island near Portsmouth, New Hampshire when it opened in 1873. By 1879 a new owner had added a floor, with a mansardic roof with tower pavilions and an elaborate stick style piazza to make the buidling the peak of fashion. The photo shows the building as it is today (**9**). The "boat" pool house was added in the 1920's. The hotel's elaborate scrollwork was removed at that time in an effort to modernize. Bruce Price's West End Hotel addition of 1878 for Bar Harbor fused the stick style and a picturesque red-shingled room inspired by the chateaux of the Loire in an sttampt to find a style suitable to the simple life of the seaside (**10**). It was not as refined as many of Price's later chateauesque hotels and derived much of its character from the exploitation of color and its crude materials.

10 West End Hotel.

11 Poland Spring House.

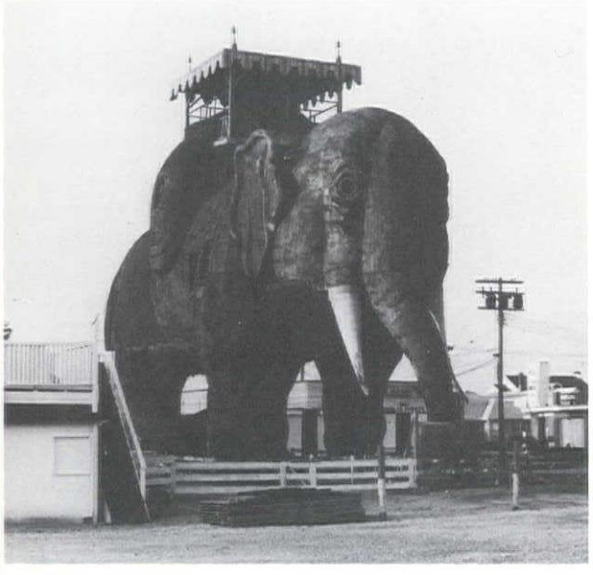
12 Lucy the Margate Elephant.

13 Mohonk Mountain House.

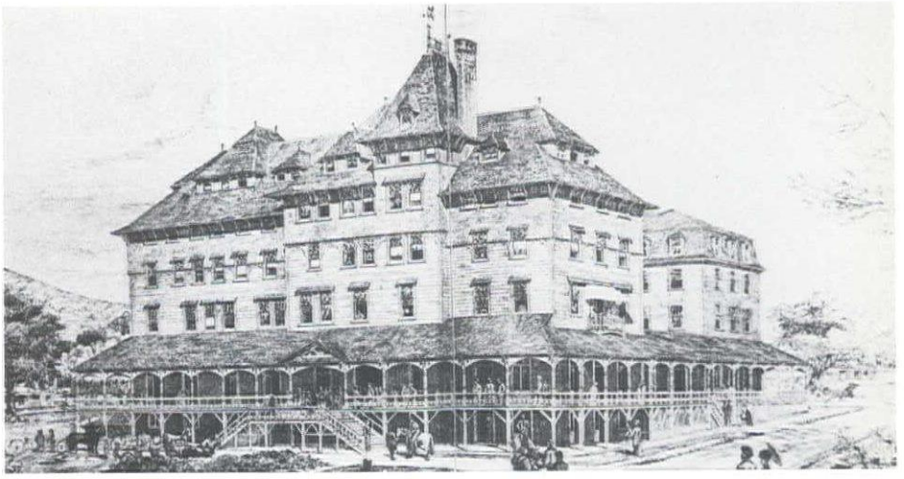
The shingle style hotels which dotted the coast from Maine to New Jersey shared much of the West End's exuberance in adapting traditional materials and exaggerating and combining colonial elements. Their architects created inventive and powerful compositions of gables, towers, dormers, and deep porches, but with little of the interior spatial freedom and innovation of the residential shingle style.

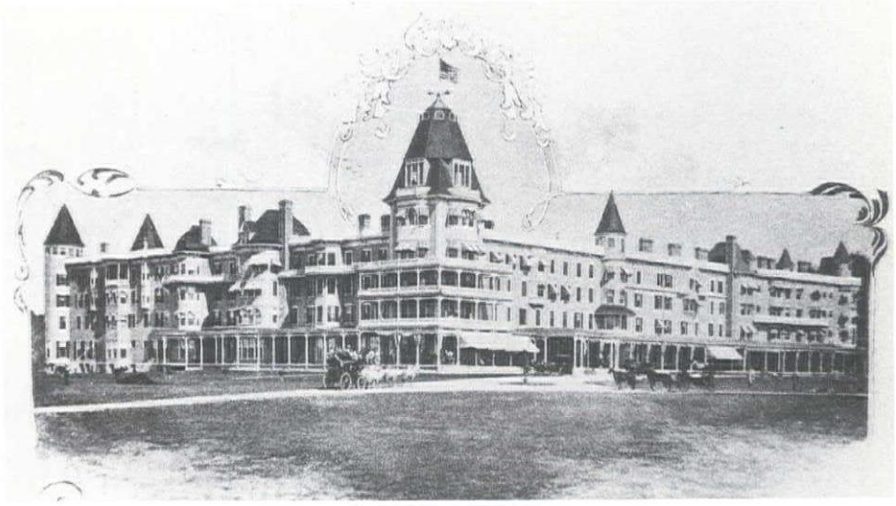
Although not a shingled structure, the Poland Spring House by Stevens and Cobb illustrates the point. Its exterior composition of towers, bays and dormers is merely decorative and has little if anything to with the straightforward plan of the rooms within (**11**).

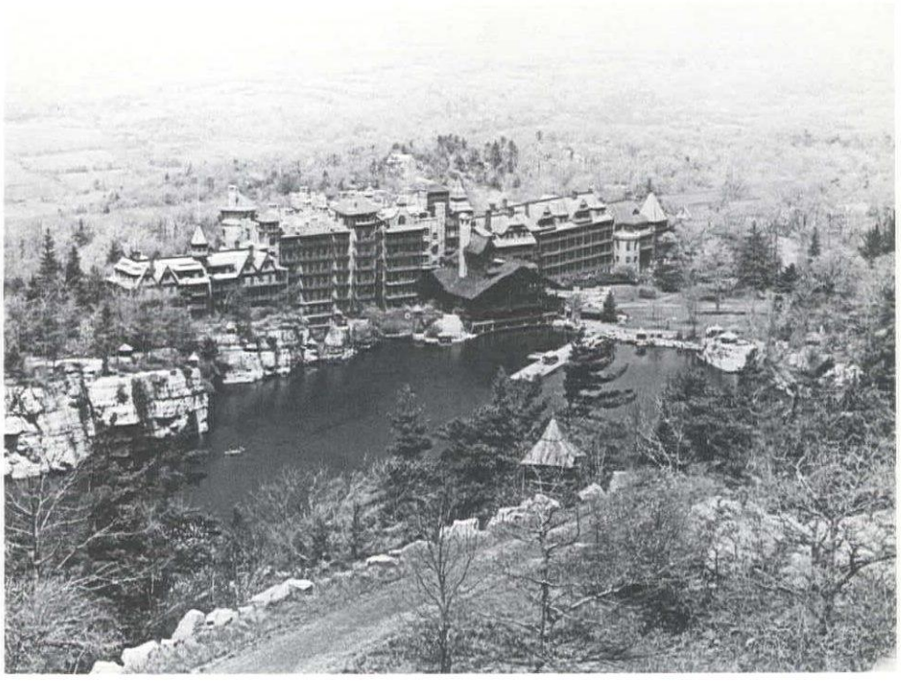
The Margate Elephant hotel of 1881 shows just how far this carefree extravagance of form could go. This tin-skinned pacaderm was commissioned by J.V. Lafferty as an attraction for a land promotion scheme on the Jersey shore (**12**).



While most hotels were built as speculative propositions, some were the focus of religious and intellectual concerns. The Mohonk Mountain House, for example, was built by two Quaker educators (**13**). It was a center for groups concerned with Indian affairs, pacifism and educational reform.



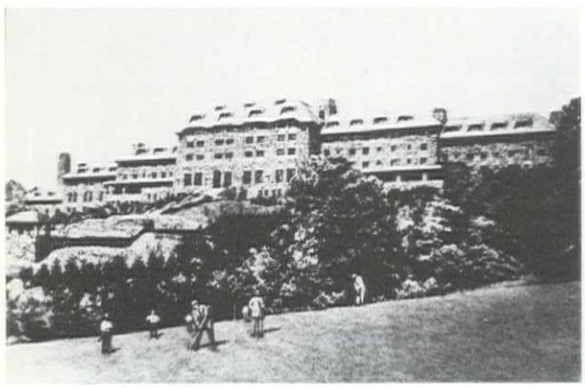




14 Cresson Mountain House.

15 The Kenilworth, 1891.

16 Grove Park Inn, F.L. Seeley, 1894.



The Cresson Mountain House near Pittsburgh was more typical of the normal development pattern. The Pennsylvania Railroad first promoted the springs as a health spa in the 1850's. In 1881 they backed the construction of a large "Queen Ann and Oriental" hotel (**14**). Its convenient location and climate mad it a favorite of Washington political figures and Pittsburgh tycoons. But the depressions of the late 1890's caused it to fail. By 1916 it had been sold for scra lumber.

The attempt to find a style both appropri ate to the site and out of the ordinary lec Price and Price to build what they called a Scottish castle for the mountains near Asheville, North Carolina (**15**). The Kenilworth broke from the long verandas and grid of windows of the typical hotel. It employed an unusual Y plan with the lobby at its core. The great ston base and chimneys seemed to grow from the rocky hillside.

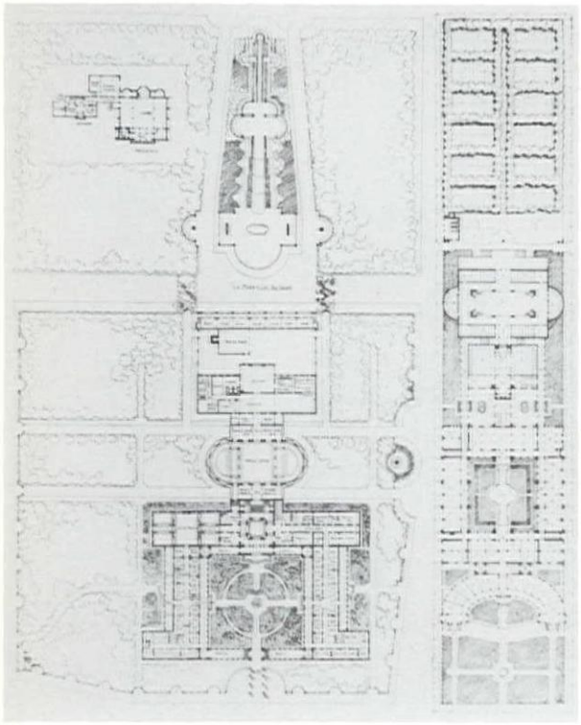
The nearby Grove Park Inn put aside overt romantic imagery for the Craftsman ideal of rugged simplicity (**16**). The 160 room structure was reinforced concrete faced with rubble stone from nearby Sunset Mountain. All the interior furnishings and fixtures (now gone thanks to modernization) were designed and manufactured by the Roycrofter's Studios. The Inn's literature went to great lengths to reassure its readers that the hotel's rustic simplicity had been achieved with great care and expense.

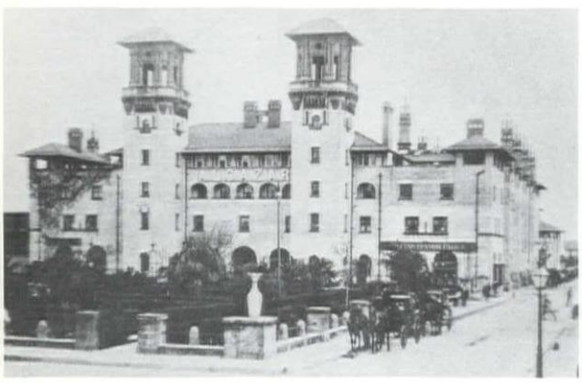
The opening of Henry Flagler's Ponce de Leon in Saint Augustine, Florida, was the first major step in the development of the state as a tourist attraction. Flagler, a partner in Standard Oil, had been impressed with the potential of the area. He hired Thomas Hastings, the son of the family minister, and his partner John Carrere to design the world's finest hotel. Working in the style of the Spanish Renaissance, they designed a 540 room structure of reinforced concrete using local coquina shell aggregate (**17**). Most of the building's elaborate ornamenta-

17 Ponce DeLeon Hotel, 1889.

18 Plans, Ponce DeLeon (left), Alcazar (right).

19 Alcazar, 1889.





20 The Royal Ponciana, 1894.

tion was the work of young Bernard Maybeck, who forced his employers to take flights of fancy they would not normally have attempted. The result was magic: a pleasure palace of garden courts, rotundas, and galleries with stained glass, murals, electric lights, and costly furnishings. The $2,500,000 structure also had the distinction of being the first $100 a day hotel in the country. It was an immediate success.

The demand for less expensive accommodations had been anticipated and later the same year the Hotel Alcazar opened across the street (**18**). The Alcazar was based on the castles of Seville and was four stories high with roof gardens, a court and shopping arcade, and an elaborate entertainment (**19**). The hotel was every bit as popular as its lavish neighbor. Maybeck reportedly took a large hand in its design and was later dismissed for his playful attitude.

The hotels in Saint Augustine were only the first of Flagler's Florida investments. Over the next decade he established a network of well planned railroads down Florida's east coast, developing palatial hotels and fashionable communities as he went. The most outstanding of these later efforts was the Royal Poinciana at Palm Beach (**20**). This immense yellow and white clapboard Georgian building was six stories tall and nearly half a mile long, stretching along an isthmus between Lake Worth and the Atlantic. It offered every sort of warm weather sport from boating to bicycles as well as gala social events and extensive tropical gardens. It was soon one of the most fashionable gathering places in the country.

Not to be outdone, railroad and steamship tycoon Henry Plant, whose lines ran down Florida's west coast, built a hotel at Tampa to rival the Ponce de Leon. The $2,000,000 Tampa Bay Hotel was an immense colored brick structure sporting Moorish keyhole arches and silver Turkish minarets. Its interiors were filled with antiques and exotic discoveries from Plant's European shopping sprees (**21**). Although architecturally no match for the Ponce de Leon, the Tampa Bay was both extremely popular and representative of the hotel as a personal symbol of achievement.

1 Tampa Bay Hotel, J.A. Wood, 1891.

22 Grand Hotel.

23 Hotel Lafayette, 1882.

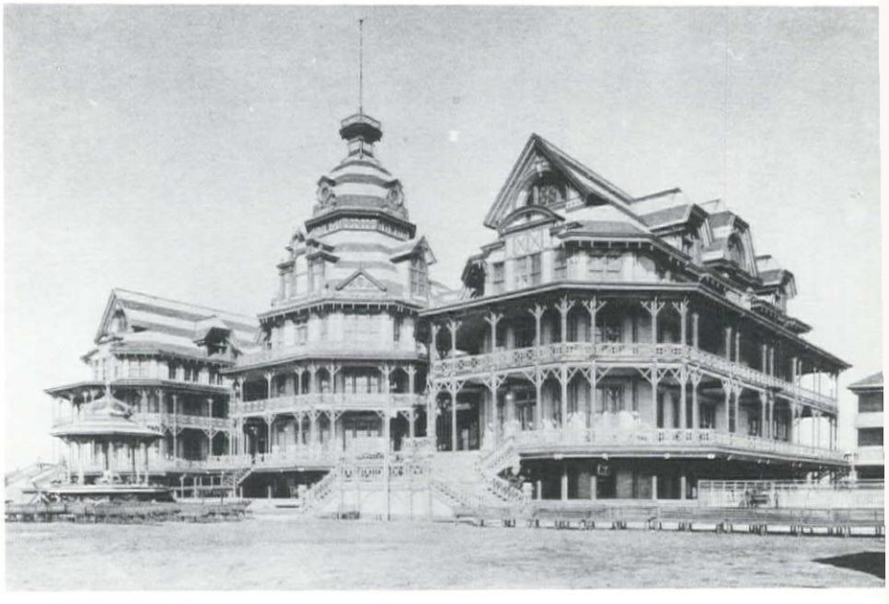
24 Galveston Beach Hotel, 1883.

While Eastern hotels looked to local tradition or exotic lands for their forms, the new hotels of the Mid-West and West attempted to escape the stigma of provincialism by being as Eastern or properly European as possible. The Grand Hotel at Machinac Island, Michigan was an elegant Greek Revival building of white pine built by a partnership of three transportation companies (**22**). It soon became a center of summer fashion for the wealthy of Chicago, Saint Louis, and Detroit.

The Lafayette on the shores of Lake Minnitonka, Minnesota was the first of many hotels built by the Great Northern Railway (**23**). The gold and olive stained, red-roofed shingle style building was 745 feet long and could accommodate 800 guests. Its two identical facades took full advantage of its commanding isthmus site. The Lafayette was destroyed by fire in 1891.

The Galveston Beach Hotel by local architect Nicolas Clayton was a stick style extravaganza (**24**). The E-shaped building of mauve walls, golden green eaves, and red and white roof was placed on piles driven into the sand. The hotel was the terminus of the local railroad and was a mecca for vactioning Texans beofre it burned in 1898.

Many western vacation hotels leaned heavily on the patronage of Eastern tourists as opposed to local or regional trade. Raymond and Whitcomb Travel Agents of Boston had begun to offer package tours of the West in 1881. Those who had "done" the Eastern resorts and Europe and were not yet accepted at Newport or the Hamptons could add visits to the spas and sites of California and Colorado to their accomplishments. The trip was expensive, and an air of exclusiveness and gentility was carefully maintained. Every detail was arranged, from Palace car and hotel accommodations to side trips to recommended scenic wonders and curiosities. The tourist lived in an insulated, idealized world complete with manicured landscape.

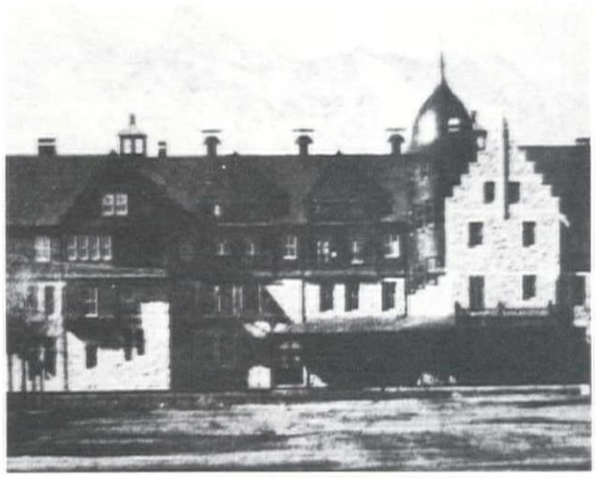


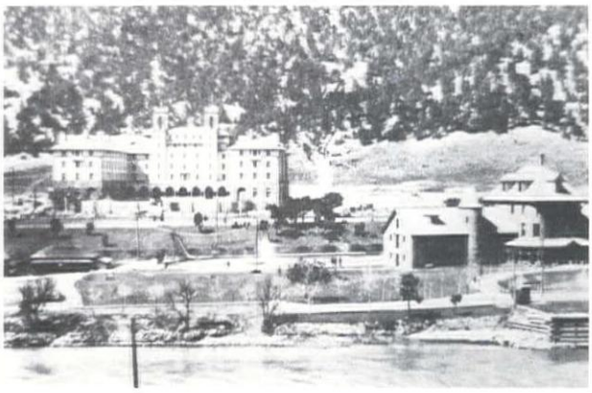
25 Second Montezuma, 1885.

26 First Antlers.

27 Second Antlers.

28 Hotel Colorado.





One of the first Western resorts for Easterners was the Santa Fe Railroad's Montezuma at Las Vegas Springs, New Mexico. It was a symmetrical shingled Queen Anne affair which made no attempt to adapt to the conditions of its site. It was destroyed by fire two years after its opening. Burnham and Root of Chicago redesigned it using native red sandstone, red-stained shingled walls, and slate roofs and towers to harmonize with the rugged landscape (**25**). The building's form was picturesque Queen Anne with paneled interiors, spindle work, and massive Gothic revival fireplaces. Epicurean meals were provided by Fred Harvey. The Montezuma was an Eastern resort set in the mountains of New Mexico.

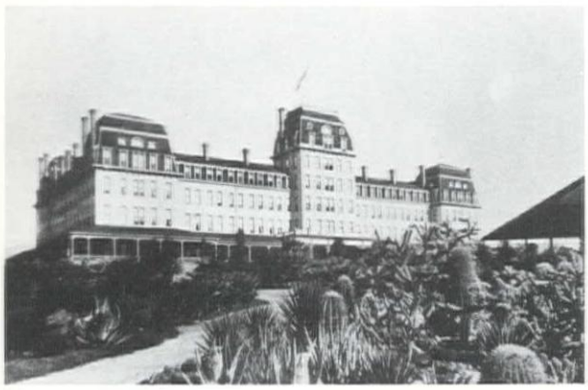
Colorado Springs was already a thriving outpost of Eastern culture with a large British colony when General Palmer of the Denver and Rio Grande Railroad built the Antlers in 1883. The stone and shingled Queen Anne building was designed by a Boston architect (**26**). It quickly became the social center of the region and along with the nearby Broadmoor casino drew great numbers of New Englanders. When the building burned in 1898, Palmer held a national competition for its redesign. The winning entry by hotel and commercial specialists Varian and Sterner of New York was modeled after Italian Renaissance palaces (**27**). Its interior boasted Roman mosaics, Gobelin tapestries, carved Flemish beams, and elaborate Spanish furniture. It offered every activity from polo to guided hunting expeditions. Prices were sufficient to turn away undesirables. Colorado Springs had become the Newport of the West.

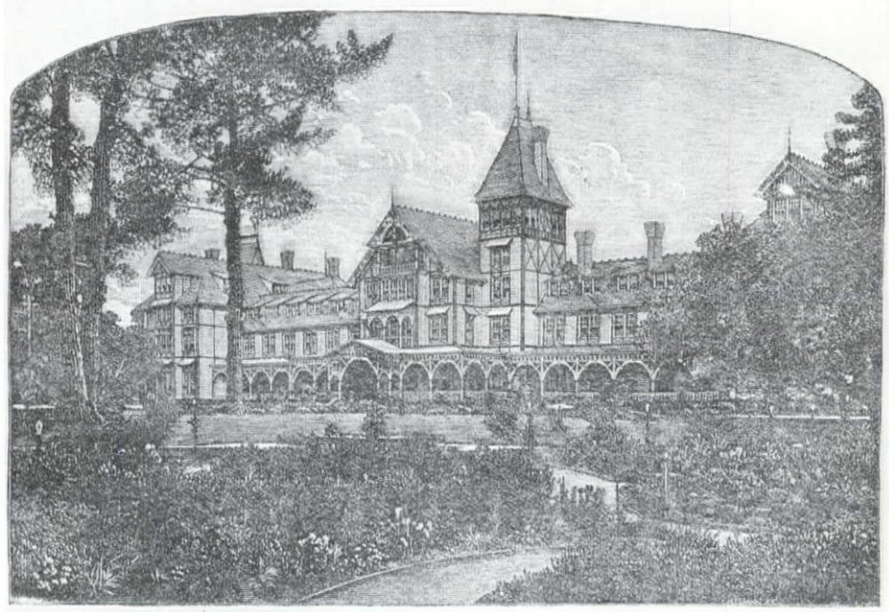
The Hotel Colorado at Glenwood Springs was even more exclusive. This Italian villa of red sandstone and cream brick was built on the site of an earlier health spa (**28**). Its 200 rooms were elegantly appointed and the cuisine was the best in the state. All the employees were carefully trained in Boston, for the local residents were not allowed in the build-

29 Raymond, 1883.

30 Hotel Del Monte, 1880.

31 Hotel Del Monte, plan.





ing. The Colorado was Theodore Roosevelt's base camp for his celebrated forays into the Rockies, roughing it in the height of style.

The promoters of California felt their state lacked an appropriate romantic history. They sought to manufacture one from whole cloth by comparing its climate and scenery with the Mediterranean, Switzerland, or the popular resorts of the East. Resort hotels were styled accordingly. For example, the Raymond was a French Empire city hotel placed among the orange groves and gardens of Pasadena (**29**).

When architect A. Page Brown designed the first Hotel Del Monte for the Southern Pacific Railroad, the last thing he wished

to emulate were the "primitive" Spanish buildings of nearby old Monterey. The Del Monte was a stick style building described as Swiss (**30**, **31**). It offered facilities for every popular sport laced through lush gardens described as 126 acres of Paradise. Despite prophesies of economic disaster, the hotel's proximity to San Francisco's social whirl quickly made it the most fashionable resort on the West coast.

In California, more than elsewhere, resort hotels were closely linked with real estate promotional schemes. The Hotel Del Coronado was built to stimulate investment in Coronado Island near San Diego (**32**). Elisha Babcock, an ex-railroad executive who had come west for his health, hired brothers James and Merrit Reid to design the greatest attraction in southern California. They succeeded in less than a year. Chinese labor and lumber were brought down from north-

32 Hotel Del Coronado, 1888.

33 Hotel Del Coronado, billiard room.

34 The Traymore, 1906.

35 West Baden Springs Hotel, atrium.

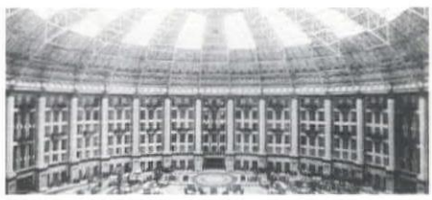
36 The Homestead, 1901, tower addition, 1928.

ern California. Millwork, iron work, and brick making were done right on the site. Most of the hotel was worked out from sketches as it went up (**33**). The result was a bold exaggeration of the Queen Anne and shingle style hotels of New England, overlooking the Pacific. Great clapboard and shingled wings enclosed a lush garden courtyard. The hotel had one of Edison's first electric plants and the unusual feature of wall safes in every room. Even the critical Henry James found the Del Coronado worthy of the scenic grandeur of the Golden State.

By turn of the century, American resort hotels had become insulated stagesets for ordered social contacts and the display of wealth. The hotel spirit symbolized American life. But the creation of coherent, convincing fantasies on a large scale required vast amounts of money and managerial skill. The hotel business was becoming professionalized and standardized. Hotel design was becoming an architectural specialty. Interiors were often done by a rising group of contract furnishers and outfitters. The eccentric owner-builder with a grand dream was slowly displaced by the businessman and the hotel chain.

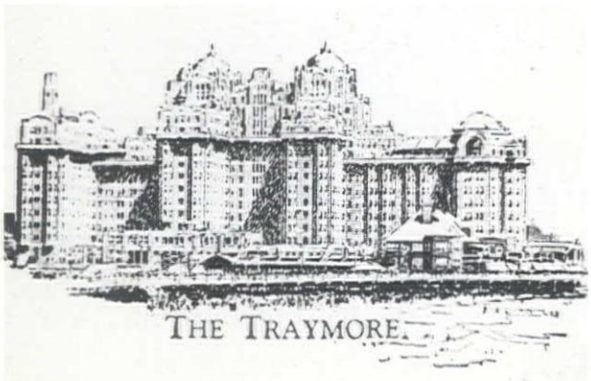
Tastes in both architecture and recreation were changing as well. The desire for order and clarity and some degree of timeless beauty led many architects toward literal eclecticism. Contrary to the dogma of modern architecture, the results were often delightful—especially in situations where some degree of fantasy was desired. The Traymore Hotel at Atlantic City is an example (**34**). Land values and construction costs dictated a highrise structure of reinforced concrete. Architect William Price responded with an 18 story palace topped with Byzantine domes and terraces. Its pre-art deco ornament and the Submarine Bar's fish-tank skylite were nationally famous.

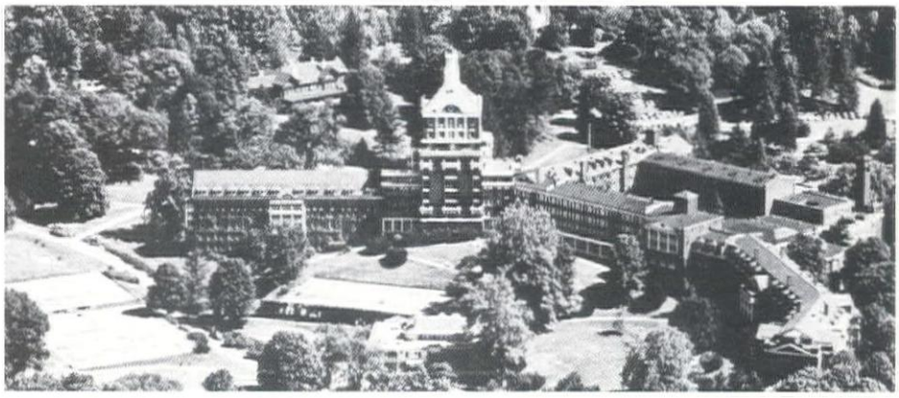
The West Baden Springs Hotel in Indiana combined vaguely Moorish brick forms with a 200 foot diameter steel and glass dome to create a six-story high all-weather atrium (**35**).



The venerable hotels at Virginia Hot Springs (**36**) and White Sulphur Springs (**37**) were extensively enlarged in the popular Georgian style to bring them up to modern standards.

Although major established resorts remained popular, by the turn of the century back-to-nature sentiments had begun to affect vacation patterns. The attractions of a simple life in the wild found expression in a host of campgrounds and rustic lodges in the mountains of the East. It also stimulated an interest in the unspoiled grandeur and native inhabitants of the West. For years, its Indian and Spanish heritage had been regarded with embarrassment. But now promoters began to see its value as





37 The Greenbrier, 1913.

38 Glenwood Mission Inn, 1903.

39 Alvarado, 1901.

unique local color. They began to urge a revival of traditional styles as suitable to the climate and relaxed way of life. Los Angeles, which only a few years before had boasted of the near absence of Spanish architecture, soon adopted a laundered version of it as a romantic backdrop.

One of the first hotels in this Mission Style was the re-built Glenwood Mission Inn in Riverside by Arthur Benton (**38**). In the next decade the style gained wide acceptance and a good deal of elaboration.

The Mission Revival also became the established style for western railroad stations after 1900. The Santa Fe, especially, began to stress the Indian and Spanish West in their advertising and commissioned Charles Whittlesly of Chicago to design a number of Spanish station-hotels. The Alvarado at Albuquerque was one of the first and largest (**39**). The station, hotel and restaurant were arranged around garden courtyards and tied together with arcades and low walls. Spanish motifs were used sparingly in the upper parts of the facades and major interior spaces.

The Mission Revival was felt to be an appropriate response to the western landscape. But it was only one of many rustic, woodsy styles associated with the Craftsman Movement. The English Cottage, Bavarian Lodge, Swiss Chalet, the Colonial Revival or Shingle Style of the East and the Mission and Oriental styles of the West all shared a feeling for the picturesque natural landscape, rustic simplicity and honestly and artistically expressed wood construction. The hotels of the developing western national parks found combinations of these styles appropriate to the rugged grandeur of their surroundings.

El Tovar, perched on the rim of the Grand Canyon, was described as a boulder and log country clubhouse or Norwegian villa. Its architect, Charles Whittlesly, intended its muted colors and rustic materials to harmonize with the spectacular site (**40**). Its peeled log and tinted plaster interiors featured Craftsman furniture and Navajo artifacts (**41**, **42**). The Santa Fe still found it necessary to explain the technical difficulties overcome to produce a primitive setting with no loss of quality or convenience.

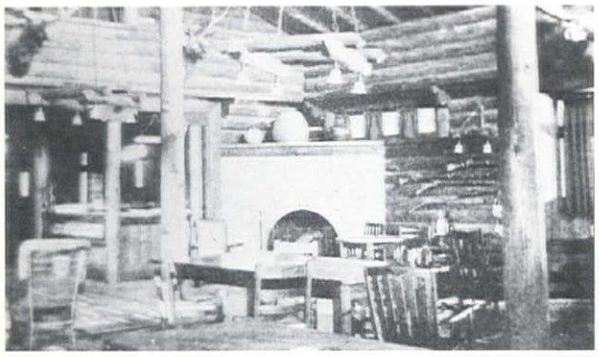
40 El Tovar, 1901.

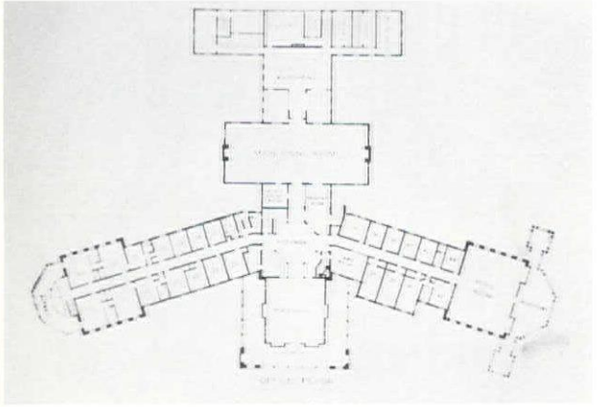
41 The Rendezvous, El Tovar.

42 El Tovar, plan.

43 Old Faithful Inn.

44 Old Faithful Inn, lobby.





Robert Reamer's Old Faithful Inn of 1903 at Yellowstone combined aspects of the shingle style, Tudor and the chateauesque in a rugged mountain of shingles, stacked and peeled logs and stone (**43**). Its main hall was a vast cathedral-like volume defined by a forest of peeled log columns and beams (**44**).

45 Canyon Hotel.

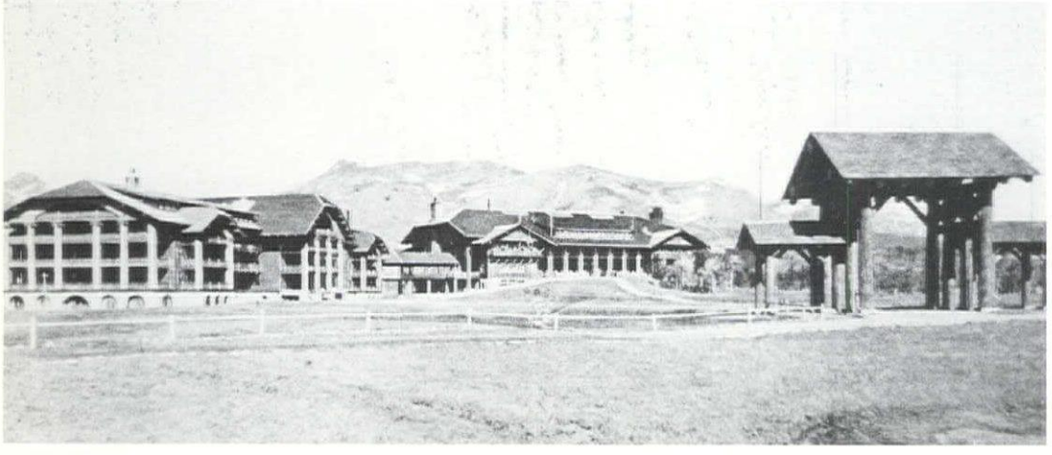
46 Canyon Hotel, main lounge.

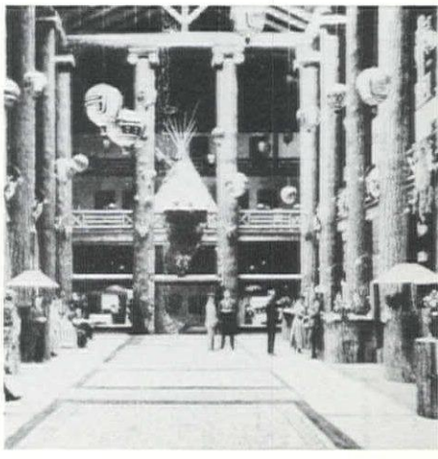
47 Glacier Park Hotel.

48 Glacier Park Hotel, lobby.

By 1911, Reamer had abandoned log construction. His Canyon Hotel shows the influence of the Prairie School and Japanese architecture in the horizontal emphasis of the exterior shingling, window bands and the continuity of the roof (**45**). Its interior makes the most of carefully articulated exposed structure and integrally designed furniture (**46**).

The hotels at Glacier National Park were built in the Swiss Chalet style (**47**). But their interiors were an improbable but effective blend of gigantic treetrunk columns, Japanese-inspired woodwork and furnishings and Blackfoot Indian artifacts (**48**).





49 Broadmoor, 1918, Maxfield Parrish painting.

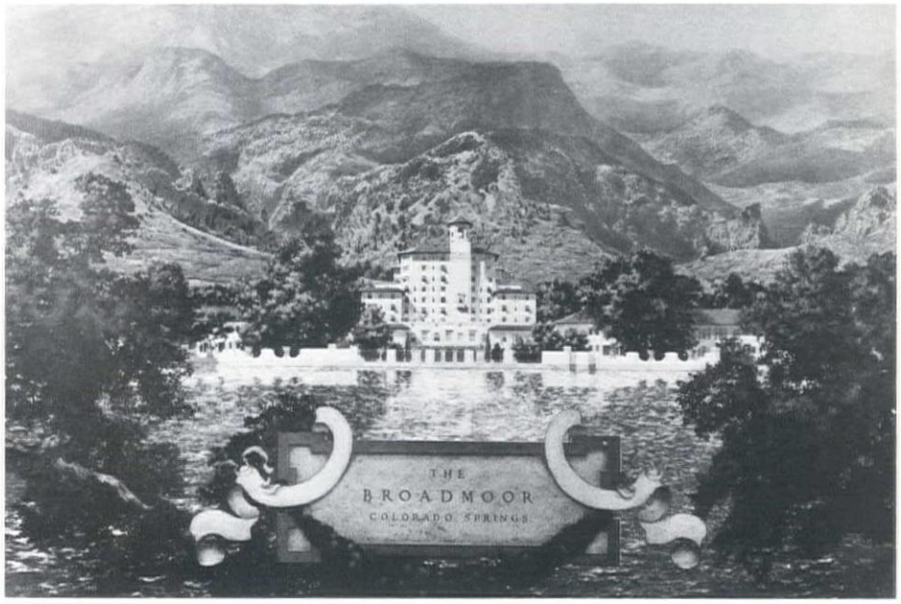
American entry into World War I caused a slowdown in hotel construction and patronage as men and money were diverted to the war effort. Many of the older, less popular resorts never recovered. But the war's greatest effect on resort culture—income tax—would not be fully apparent for a decade.

The war left Americans disillusioned with long-cherished beliefs. Big business, organization and conformity seemed the way of the future. Under the impact of the mass media and a national scale of business, the distinctions between regions and social origins began to blur. Faced with conformity, many of those who could afford it sought to purchase uniqueness by self-consciously selecting an image or setting appropriate to their lifestyle and aspirations.

This was an age of images. Film, books and magazines provided a wealth of ready-made dreams and associations. Anything seemed possible. One could live in the world of his choosing and yet enjoy all the comforts of modern life.

The architecture of the 1920's culminated the movement toward the creation of believable and consistent fantasy settings which began in the 1880's. Now, however, the technology which made the dream possible was no longer exposed or explained, lest it jar the atmosphere. But the building's function was rarely compromised by the quest for character. In most cases, the public areas were treated as a stageset while functional necessities were either incorporated into the image accommodated safely out of sight. The most interesting buildings were those which created a coherent image or system throughout: buildings wholly of a style rather than those with an applied veneer of decoration.

The Broadmoor at Colorado Springs is an example of the latter. Mining magnate Spencer Penrose hired Frederick Sterner, the architect of the nearby Antlers, to design the building. Sterner's scheme called for a romantic Italian palace to be placed on the shore of a small lake facing Pike's Peak. Unfortunately, the plans were too extensive and Warren & Wetmore of New York were called in. Despite the difficulties of war-time construction, they carried out a reduced version of the original concept (**49**). The result, magnificent as it was, was a collection of simple volumes with consistently applied decoration. Functional spaces were designed for austere efficiency and tucked out of sight.

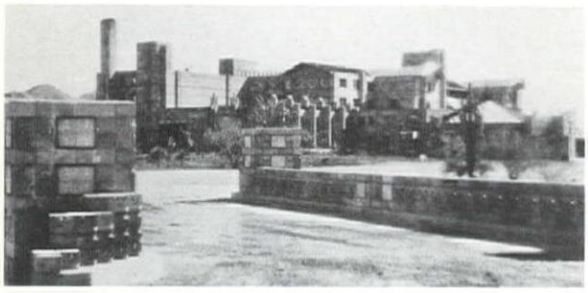


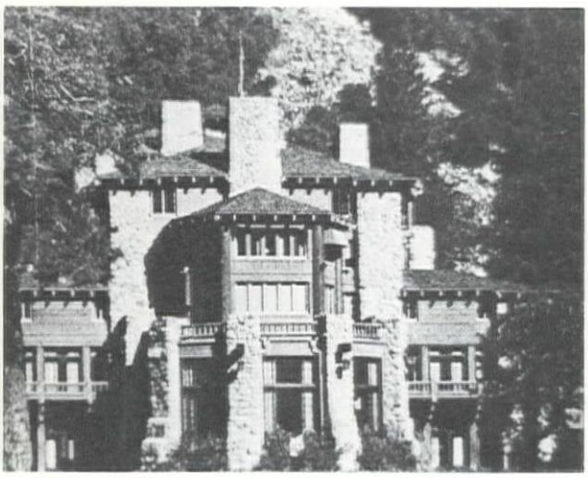
50 Arizona Biltmore, 1929.

51 Ahwahnee, 1927.

52 La Fonda, 1921.

53 Santa Barbara Biltmore.





The Arizona Biltmore by Albert McArthur with the assistance of Frank Lloyd Wright, achieved both harmony with its site and internal consistency through the use of Wright's textile block system of construction. Picturesquely massed pressed and perforated concrete block drew on the desert's materials and the geometric patterns of its plant and land forms to enhance the sense of a unique desert place (**50**).

Hotels in rustic or regional styles were particularly suited to consistently constructing the romantic image rather than applying a stylish veneer. Yosemite's Ahwahnee Hotel by Los Angeles architect Gilbert Underwood drew its colorful decorative elements from a wide range of sources: not only the geometric ornamental patterns of the local Indians, but furniture, fabrics and fixtures from Europe and the Orient. But these diverse elements achieve harmony and warmth against the power and consistency of the Ahwahnee's great stone piers and carefully articulated wooden walls and beams (**51**).

La Fonda Hotel in Sante Fe, New Mexico reflected the growing regional awareness of the Southwest. The Spanish-Italian style of architecture which developed from the earlier Mission Revival was becoming the dominant regional style. Architects Rapp & Rapp self-consciously rendered local forms in stucco-covered concrete and hollow tile (**52**). The picturesque character of La Fonda's battered walls, balconies and vegas was carried to the interior as well. Thick plaster walls and ceilings of logs or carved beams were complemented by Indian artifacts and heavy Spanish furniture and fixtures.

The Spanish Colonial Revival became the dominant regional style in Santa Barbara and much of Southern California (as it was with variations in Florida). One of the most beautiful commercial examples of it was the Santa Barbara Biltmore of 1927 by Reginald Johnson (**53**). The hotel nestles into 21 acres of beautiful groves and gardens at the edge of the Pacific. Once again, from the one and two story concrete, plaster and tile-roofed wings, garden courtyards and Spanish ornament to the furnishings and fixtures of its interiors, every part of the complex reflects the Spanish explorer theme (**54**).

The fabulous Mission Inn at Riverside, California is harder to classify. The structure had grown continually over the years to accommodate owner Frank Miller's expanding collection of Spanish, Indian and Oriental art and furnishings. In 1910 Arthur Benton added the Cloister Wing and gallery to his Mission Revival building of 1903. Myron Hunt was responsible for the fashionable Spanish Colonial Revival dining room, kitchens and courtyard of 1914 (**55**). G. Stanley Wilson designed the flamboyant Churriguresque International Rotunda of 1930 (**56**). Despite its dazzling weaving of stylistic motifs, archeological fragments and art objects, the Mission Inn was a lovingly crafted, remarkably consistent magical place.

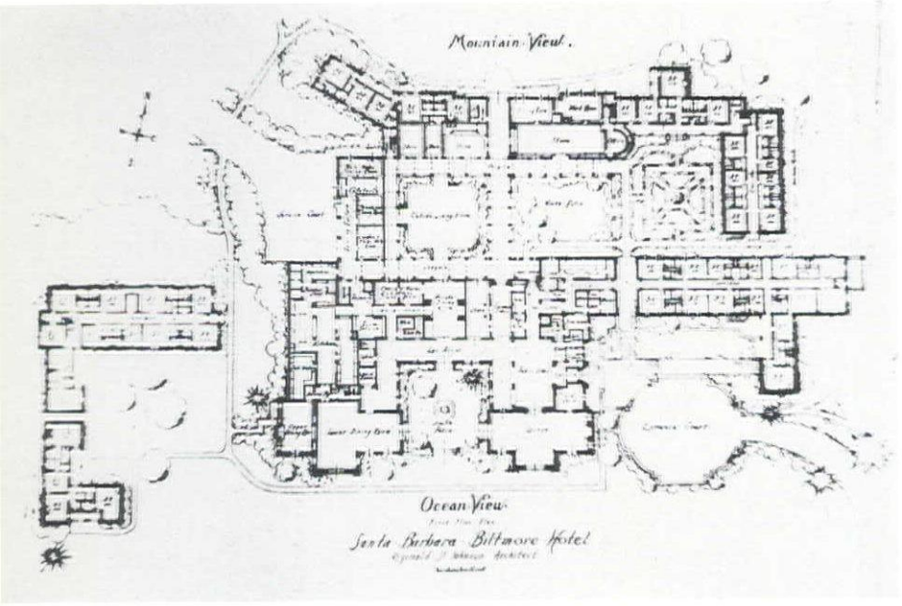
Even as the resort business was expanding during the prosperous 20's, the era of the grand resort hotel was coming to an end. The professionalization and standardization of the hotel business had reduced most of the new resort structures of the mountain and coastal land booms to little more than stylized boxes containing thinly decorated theme rooms: the English bar and grill, the Tahitian room, the Spanish sunporch, French ballroom etc. Stylistic consistency and quality began to deteriorate under economic priorities.

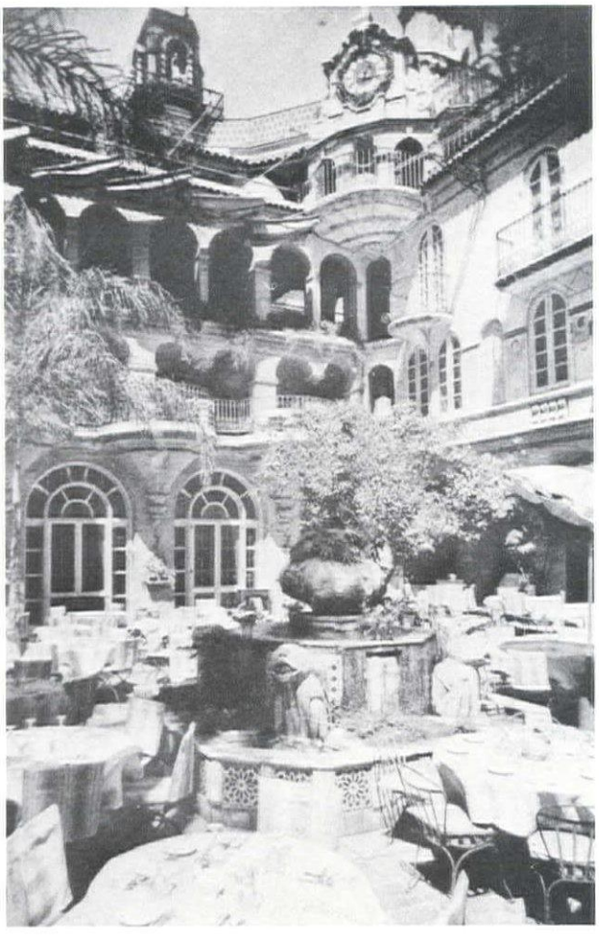
The introduction of the automobile on a mass scale also had a tremendous effect on the nation's vacation patterns. Stays of several weeks or longer were reduced to day trips and overnight hops. The roads which served the automobile often bypassed the older hotels. After the crash of 1929, railroads began to cut back on their unprofitable resort excursions, leaving many hotels isolated.

54 Santa Barbara Biltmore, plan.

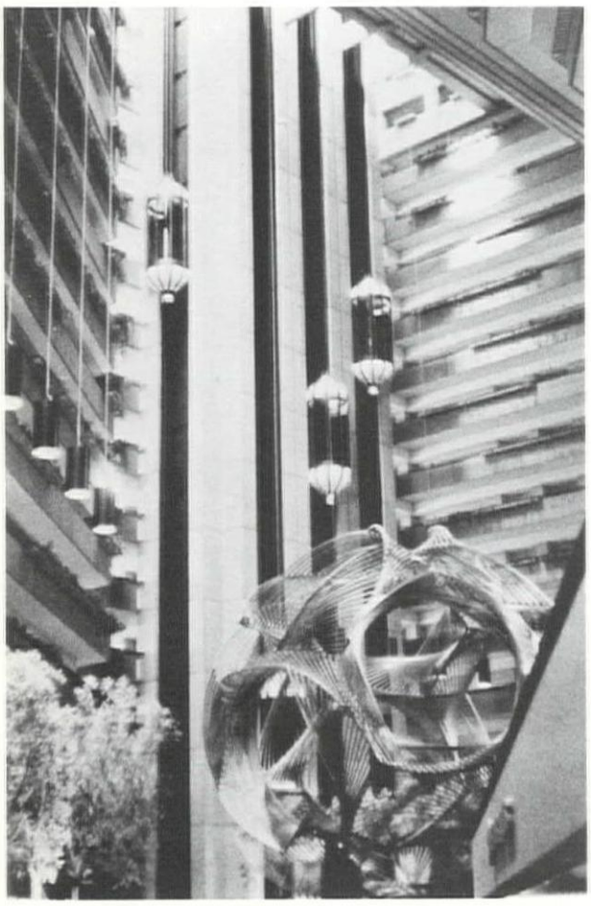
55 Mission Inn, Spanish Patio.

56 Mission Inn, International Rotunda.





57 San Francisco Hyatt Regency.



Of course, the Depression was the major factor in the decline of the resort business. Few people could afford the old style of life. Hotel construction came to a standstill. Those which managed to remain solvent did so by catering to the convention crowd. Many were forced to close, falling gradually into ruin, being destroyed to reduce taxes or being converted to schools or apartments.

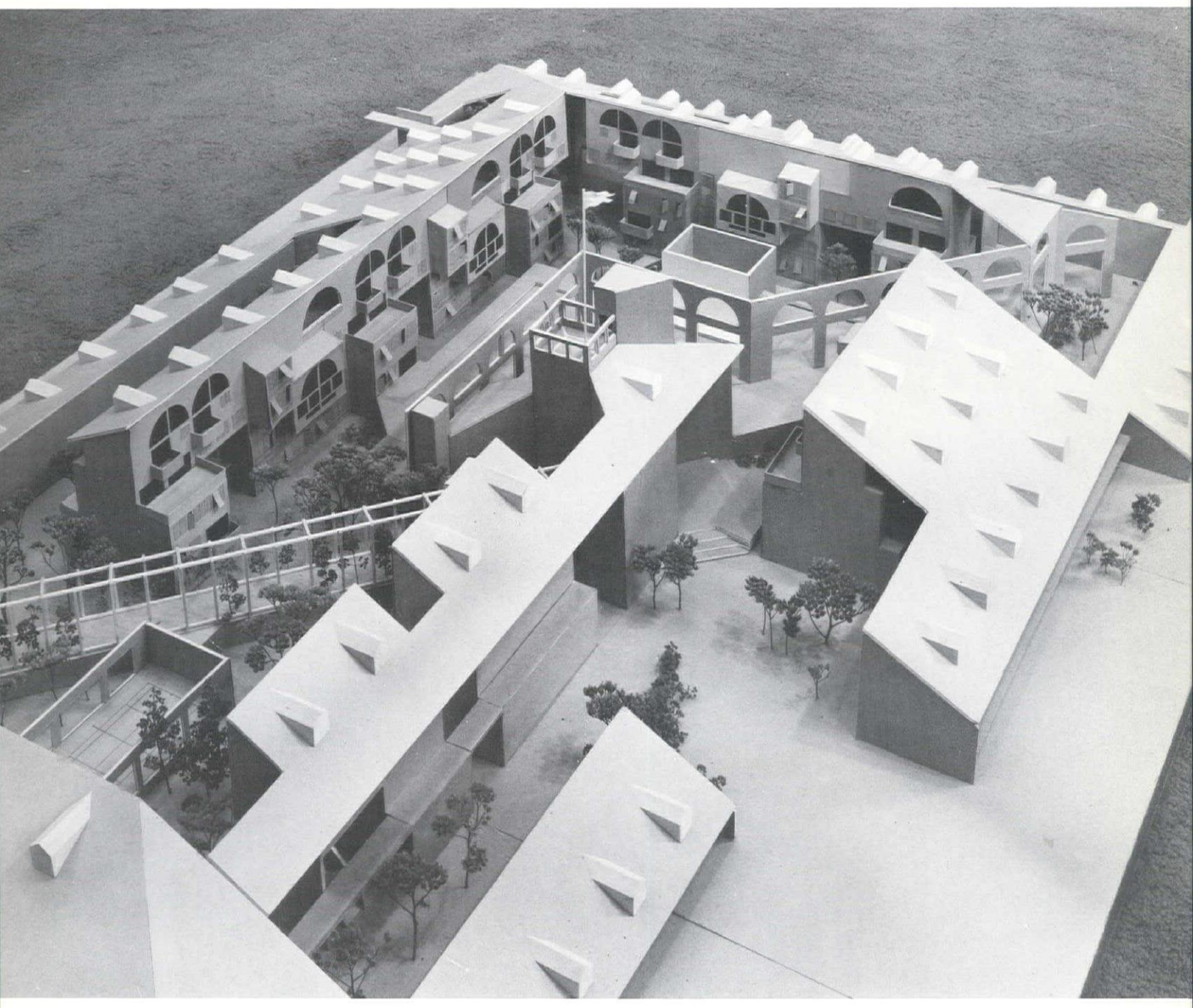
When construction did resume after World War II, it was directed toward motels and auto-oriented chains. Economic factors were the determinants of design, producing a series of standardized boxes expressing little more than their cheapness. Stylistic elements had become a separate, thin applique of abstracted and institutionalized images. Some of the grand hotels which survived were modernized to the same level of acoustic-tiled blandness. As a result, hotels all but lost their power to speak to our imaginations and aspirations.

There are notable exceptions which manage to retain something of the fascination and exuberance of the old resorts. Although many find Morris Lapidus' hotels at Miami Beach hopelessly vulgar, his careful attention to their stageset qualities, based on a movie version of luxury, gives his patrons a chance to feel like someone special in a very special place. Even architects are charmed by John Portman's revival of the grand space (**57**). He has rediscovered America's fascination with the sublime and the technological magic that makes the dream work, from exposed elevators and revolving restaurants to recorded birds in the trees.

Charles Moore has long been interested in the creation of special, memorable places. Xanadune, his condominium project for Saint Simons Island, blends recollections of the great shingled and dormered hotels of New England with an interior fantasy world sparkling with his own version of Moorish palaces and the Spanish Colonial Revival (**58**). The recent rash of new resorts along every habitable stretch of beach in the Caribbean emphasizes the qualities of a unique place quite different from the reliable sameness of the typical highrise hotel. Many go so far as to offer their guests a choice of alternative lifestyles where most traces of modern commercial life are discreetly absent—until the bill catches up to you back home.

What all this affirms for me is our need for places where the cares, roles and responsibilities of the everyday can be set aside for a time: where we can pretend, imagine and become absorbed with our fantasies like a child at play. This, to me, seems every bit as important as the creation of "serious" architecture. Orthodox modern architecture has weakened itself by its insistence on the logical and straightforward expression of some organizational, structural or intellectual idea at the expense of visceral qualities. Long after intellectual notions become meaningless or seem downright silly and not worth their pretensions, architecture's mood, character and delight live on. This gives a special significance to the grand resort hotels whose essence was an attempt to create fantasy and delight so often missing from our lives.

58 Xanadune.



Moore
Drawings by William Hersey and John Kyrk

Grady
Photographs courtesy Archives, Atlanta Historical Society
12 *Jon Carlsten*
16 *Tommy Thompson*

Hildebrand
1, 2 *Photographs by Joseph Klima, courtesy Mrs. Barnett Malbin*
3, 5, 6 *Courtesy Ford Archives, Henry Ford Museum*
4, 7, 10, 11, 12, 13, 14, 15, 16 *Courtesy Albert Kahn Associates, Inc.*
8, 9 *Redrawn from original working drawings by Lois Wardell*

Gutman
2, 34, 57 Diner Magazine
3, 5, 7, 8, 10, 11, 12, 13, 15, 26, 27, 29, 30, 32, 38, 39 *Courtesy the Mahoney family*
4 *Courtesy John Baeder*
9, 14, 16, 17, 18, 19, 20, 21, 22, 23 *P.J. Tierney Sons, Inc. Catalogue* 36, 37 Restaurant Management Magazine
40, 50, 51, 52, 53, 54, 55 *Kullman Dining Car Co.*
42 *U.S. Patent Office*
59, 60 *Valentine Manufacturing, Inc. Catalogue, 1947*
Other photographs by the author

McCoy
2, 20, 21, 22, 23, 24, 25 *Marvin Rand*
3, 4, 5, 6, 7, 10, 12, 13, 14, 19, 26, 27, 28, 29, 30 *Julius Shulman*
8, 9, 11 *Charles Eames*
15, 16, 17, 18 *James Reed*

Longstreth
1, 11, 14, 20 *College of Environmental Design Documents Collection (U.C.B.)*
21 *Courtesy of Mrs. H.C. Forney*
22 *Courtesy of Carleton Winslow, Jr. and the California Department of Parks and Recreation*
Other photographs by the author

Limerick
3, 37 *Courtesy The Greenbrier*
4, 5, 6, 8 Leslie's Illustrated
7, 10, 19 American Architect and Building News
9 *Courtesy Wentworth-by-the-Sea*
13 *Courtesy Mohonk Mountain House*
14 *Courtesy Cresson Public Library*
17 *Courtesy Flagler College*
21 *Courtesy James Bacchus*
22 *Courtesy Grand Hotel*
23 *Minnesota Historical Society*
24 *Courtesy Rosenberg Library*
29 *Courtesy Art Galleries, University of California*
30 *Courtesy Southern Pacific Railroad*
32, 33 *Courtesy The Del Coronado*
35, 52, 55, 56 Hotel Monthly
36 *Courtesy The Homestead*
41 *Fred Harvey, Inc.*
43 *Courtesy Old Faithful Inn*
49 *Courtesy Broadmoor*
50, 53 Architectural Forum
58 *Courtesy Charles Moore*