Gaudi

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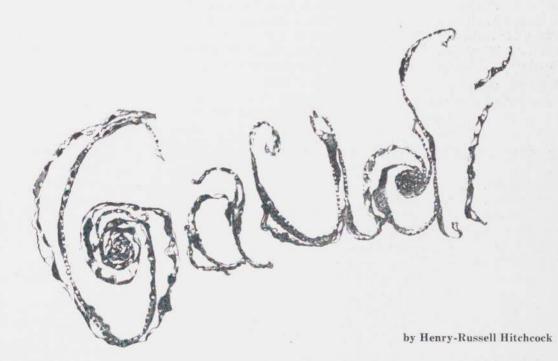
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Copyright 1957. The Museum of Modern Art, New York Printed by Davis, Delaney, Inc., New York Skeleton construction in steel and concrete, and the prefabricated curtain wall, are now used for buildings as different in their requirements as houses and skyscrapers. Even where modern architecture does not depend on these techniques, the characteristic esthetic of its plan and elevation is that of the skeleton cage, with its rectangular grid and precise detail.

That the universally adaptable skeleton cage has great practical value has been amply demonstrated. But given commissions for large-scale public buildings as diverse as laboratories, airport terminals, schools and offices, the architect working within the discipline of the rectangular grid, and its related esthetic of form derived from pure structure, finds it increasingly difficult to give to each building the singularity it deserves. This difficulty accounts in part for the current renewal of interest in an architecture of expressive, plastic form.

Many architects have recently attempted largescale curvilinear or angular structures, the spaces and forms of which are freed from the inhibiting logic of the steel cage. Wallace Harrison's First Presbyterian Church in Stamford, Connecticut; Eero Saarinen's forthcoming airport terminal in New York for Trans World Airlines; Hugh Stubbins' Congress Hall in Berlin; and the churches and warehouses by the Mexican Felix Candela are significant examples.

Until recently the buildings of the Catalan architect Antoni Gaudí (1852-1926) have been known chiefly to architects, historians and citizens of Barcelona. Gaudí's work stands opposed to the main line of development taken by modern architecture since the mid-twenties. This alone has made an objective appraisal difficult: for some architects the bizarre eccentricities of Gaudí's architecture still make any kind of appraisal nearly impossible.

Gaudí's preoccupation with organic forms, his enthusiasm for texture, and the alarming Hansel and Gretel atmosphere his buildings occasionally produce, are today inevitably seen against the background of psychoanalysis as well as of the history of architecture. In such major works as the Sagrada Familia, the Casa Milá and the Park Güell, Gaudí elaborated in three dimensions impulses which today most architects would prefer to dissipate on the analyst's couch. Is it not curious that while psychoanalysis has increased our knowl-

edge of ourselves, in architecture alone among the arts we have not yet made positive use of our new information? Instead we seem to have narrowed the range of permissible effects with new and perhaps unnecessary restrictions.

On this ground alone Gaudi's work deserves attention, but there are other points of view from which it is more likely to be approached. Gaudi regarded himself as an innovator working within the tradition of Gothic building. His research in statics, and his freely inventive use of the column, assure him an audience among architects whose orientation is toward the articulation of structure. As Professor Hitchcock makes clear in the following pages, Gaudi is not an architect to be imitated. But once lured into his world, no one is likely to remain indifferent to his innovations in expressive form.

In preparing the exhibition the Department of Architecture and Design has again enjoyed the collaboration of Professor Henry-Russell Hitchcock of Smith College. As Director of this exhibition Professor Hitchcock traveled to Barcelona to select photographic material for both the book and the exhibition, and prepared the text.

On behalf of the Museum I wish to thank the Amigos de Gaudí, Barcelona, for their generous cooperation, and most particularly Sr. Eusebio Güell Jover, President; Sr. Enrique Casanelles; Sr. Joaquim Gomis, and Sr. Joan Prats. The Amigos de Gaudí has scrupulously photographed and documented Gaudí's work, and for this exhibition has made available to the Museum black and white photographs and stereo slides, as well as casts of Gaudí's models of the nave window, a column, and the sculpture of stars and pigeons for the Sagrada Familia; a replica of a chair designed by Gaudí for the Casa Batlló; and an iron window grill from the Casa Milá.

We are grateful to José Luis Sert, Dean of the Harvard School of Architecture, for his advice and assistance, and to Philip Johnson for his generous support. Our thanks are due to American Export Lines for their kindness in transporting to New York the objects mentioned above.

A list of photographers' credits will be found on page 48; a checklist of Gaudi's work, prepared by the Amigos de Gaudi for their forthcoming publication, will be found on page 14.

GAUDÍ

by Henry-Russell Hitchcock

In the years before and after 1900 creative innovation in the arts was by no means as centered in the great national metropolises, Paris, New York, and Berlin, as was to be the case later in this century. Particularly as regards architecture the boldest new ideas in those days were adumbrated in more provincial centers such as Brussels, Glasgow, and Chicago. In the nineties there were no new French or German leaders as distinguished as the Belgian Horta, the Scottish Mackintosh or the Middle-Western Sullivan. A similar focus of vital activity existed in Barcelona, which must in this connection be considered not so much as a Spanish city secondary to Madrid but rather as the capital of Catalonia.*

Despite the continued popularity of Picasso's Blue Period, it is generally ignored that the prime master of the twentieth-century Ecole de Paris did not settle in France until 1904, even though he had made several previous visits to Paris and had already produced some of his best known early work there. For eight years, ever since his father came to Catalonia to be professor of painting at the local School of Fine Arts, the young Picasso's headquarters were in Barcelona.

Except for the early work of Picasso, the greatest field of Catalan achievement in these years was architecture. The interested visitor to Barcelona will hardly fail to observe the recurrent notes of high fantasy provided by the buildings of the early twentieth century. Moreover, even the most casual foreigner, in Barcelona merely on business, will certainly be struck by the four spires of the church of the Sagrada Familia that tower over the city, and almost certainly also by the two facades of the Casa Batlló and the Casa Milá on the Paseo de Gracia, the local Champs Elysées. These most conspicuous works of Gaudí characterize Barcelona far more absolutely than the works of Sir Christopher Wren do London.

Antoni Gaudít i Cornet was born in 1852 and

*See A. Cirici Pellicer, El arte modernista catalán, Barcelona, 1951.

†The standard monograph on Gaudí remains that of José F. Ráfols (Barcelona, 1929; latest edition, Barcelona, 1954, which includes a complete bibliography). Several new books have appeared in the last few years, the most useful after Ráfols being Joan Bergós' Antoni Gaudí l'home i l'obra (Barcelona, 1954). Then there are two by Cesar Martinell, Gaudinismo, published by the Amigos de Gaudí (Barcelona 1955), and another small book in French consisting largely of excellent illustrations (Milan, 1955).

died in 1926. Among other architects of some reputation outside Spain the American Stanford White and the German Alfred Messel, both born in 1853, were his closest contemporaries; among those of greater international fame, with whom one is most inclined to associate him, only the Austrian Otto Wagner, born in 1841, was older. The Dutch architect H. P. Berlage, born in 1856, and the English C. F. A. Voysey, born in 1857, belonged to Gaudí's generation; Victor Horta, born in 1861, Frank Lloyd Wright, born in 1867, and Auguste Perret, born in 1874, were all considerably younger.

When one has thus placed Gaudí chronologically, the present revival of interest in his work appears an unusual phenomenon. Unlike that of the other men mentioned, most of his production — if ever well known to foreign contemporaries*—was forgotten abroad, though not at home, for nearly a generation.

What is it that has made Gaudi's architecture lately so topical? On the one hand, undoubtedly, it is the latest work of Le Corbusier, most notably his church of Notre-Dame du Haut at Ronchamp in France of 1949-54 and, to a lesser extent, his High Courts at Chandigarh in India of 1950-55. Le Corbusier's work is, of course, not specifically Gaudian, nor is there any evidence that he is especially an admirer of Gaudi's work. But his recent pre-occupation, particularly in the church, with extremely sculptural forms, with much use of curved surfaces in three dimensions, is in such sharp contrast to the line of international modern design leading from the work of Mies van der Rohe, that interest in Le Corbusier's latest buildings has naturally turned attention towards earlier twentieth-century architecture of a similarly plastic character. More subtly - perhaps even half unconsciously - the fact that Gaudi's polychromy, generally executed in a mosaic of pieces of broken tile or broken glass, and his ornament, particularly his ironwork, has some resemblance to the work produced by the latest international movements in painting and sculpture, has played a part as well.

A quarter-century ago, some years after Gaudí's

*An exhibition of Gaudi's work including models, photographs and drawings of projects was held by the Socièté Nationale des Beaux-Arts in Paris in 1910.

†Salvador Dali, "De la beauté terrifiante et comestible de l'architecture 'modern' style", *Minotaure*, Nos. III-IV, 1933.

death, the Catalan painter Salvador Dali in Parist attempted to revive interest in his elder compatriot, but with very little success. Such influence upon architecture from the milieu of Surrealism as there was at that time came rather from the work of the sculptor Hans Arp.

In the 1920's, however, the Einstein Tower at Neubabelsberg near Berlin, by Eric Mendelsohn, was famous both on account of its distinguished tenant and for its extremely sculptural expression of concrete construction - famous but not influential, and certainly not derivative from Gaudí. That was built in 1921 when Expressionism was riding high in all the German arts. But most modern architects of the period - and not least, within a year or two, Mendelsohn himself - rejected completely the plasticity of the Einstein Tower in favor of a planar and rectilinear mode. In Holland, from just before World War I, Michael de Klerk and Piet Kramer developed a somewhat similar plasticity in brick. But quite early in the twenties the Dutch also turned away from this under the influence of Frank Lloyd Wright and the artists of de Stijl. As with Mendelsohn, there is no evidence of influence from Gaudí on the Dutch. The highly emotionalized concrete church architecture of Dominikus Boehm in Germany in the twenties and thirties is likewise an independent development.

It is worth mentioning these less familiar, if not forgotten, aspects of the architecture of the twenties here in order to recall that the flow of international architectural development in the later years of Gaudi's life was not all in a quite opposed direction. The formulation of the "International Style" in the early twenties and its worldwide spread in that decade and the next obscure somewhat the breadth and variety of the modern traditions which we have inherited in the midcentury. The later work of Wright, who was at a nadir of production in the twenties, as well as the post-war work of Le Corbusier, are major reminders that the architectural revolution of a generation ago, in wiping out traditionalism, did not wipe out all other approaches to modern design than those conventionally associated with the Bauhaus.

Gaudi's career can be only loosely correlated with general architectural developments during his long period of active designing and building. His was one of the most intensely personal talents that either the nineteenth or the twentieth centuries has produced. Although his style hardly matured before the late 1890's and his most typical works are parallel, if not exactly related, to the Art Nouveau of 1900, the things he built in the 1870's and 1880's are worth more attention than they have generally received outside Spain. Theoretically they ought to help us to understand his later masterworks; I am afraid that in fact they do so only very partially.

His earliest extant work is at Barcelona's Parque de la Ciutadella, laid out in 1872. While Gaudí was still a student at the School of Architecture, he assisted Francisco de Paulo del Villar y Carmona and the master of works, José Fontseré, in various projects of embellishment there. The elaborate Cascade incorporating an aquarium, on which Gaudí worked over the years 1877-82, seems to derive in the main from the cascade by Henri Espérandieu at the then newly built Palais Longchamps in Marseilles. But some of the detail, both plastic and incised, and above all the metalwork is more comparable to that of the wildest and most eclectic English and American Second Empire work of the previous decade than to anything French.

The first commission for which Gaudí was wholly responsible personally is the house for Don Manuel Vicens at 24-26 Calle de las Carolinas in Barcelona(1). This was built in 1878-80, immediately upon his graduation, and in it no trace of Beaux-Arts or Second Empire influence, French or international, remains. A large suburban villa built of rubble liberally banded with polychrome tiles, the Casa Vicens passes beyond the High Victorian extravagances of such English architects as S. S. Teulon or Bassett Keeling of the preceding decade, into a world of fantasy that only one or two designers such as Frederick Pilkington in Scotland and Frank Furness in America ever entered. Yet Gaudi's main inspiration actually came from the mediaeval past. In Spain that past included the semi-Islamic Mudéjar; and much of the detailing that appears most wildly original to non-Spanish eyes is in fact dependent on local precedent of one sort or another. For example, the floral tiles are merely what the Iberian world knows as azulejos, and these have continued to be used in Spain, in Portugal, and in Latin America down to the present time.

For twenty years Catalan architecture had been dominated by neo-mediaevalism after the French Classical influences of the opening of the century finally ran out. It is an exaggeration to describe the most prominent Barcelona architect of the

period, Juan Martorell, as a Catalan Viollet-le-Duc in the way that P. J. H. Cuijpers in Holland has been called a Dutch one; but the influence of the great French archaeologist was very powerful and general, not least in the Barcelona School of Architecture where Gaudí received his professional education. In other countries as well the ideas of Viollet-le-Duc - advanced, as they must seem to posterity, far beyond his own eclectic practice and illustrated only in certain projects that he published with the second volume of his Entretiens in 1872 - proved catalytic to various young architects of Gaudi's generation. But there were other influences on the young Catalan which should be taken into account: what he knew of metal-working at first hand in his father's country coppersmithy at Riudoms and his early experience as a mechanical draftsman under the engineer Serramolera in the machine shop of Padrós y Borrás. Such influences appeared in the prominent part played by exposed metal construction in his student projects. Yet while at the architectural school he was also known to neglect his own drafting to attend the philosophy lectures of Dr. Llorens y Barba at the University.

If early collaboration with Villar on stairs and a porch before the monastery of Montsarrat (which no longer exist) bent him toward the conventional neo-mediaevalism commonly associated with Viollet-le-Duc, his own experiences of hand and mind led him inevitably toward a freer interpretation of the building traditions of the Middle Ages. What is exceptional is that in Gaudí the wild ferments of the third quarter of the century, elsewhere succeeded by unrelated lines of purely technical advance and of prissy stylistic chastening after 1880, did not die out. Moreover, his conception of architecture remained to the end at once rational in a neo-mediaeval way, craftsmanlike in his preference for almost freehand execution, and philosophical in ultimate intention. Only perhaps in the career of Sullivan can any real parallel be found: his first works in Chicago in the early eighties were quite as wild as the Casa Vicens and he also came to mature achievement in the 1890's.

As in Glasgow and Brussels in the nineties, the pressures towards architectural conformity were less insistent in the Barcelona and Chicago of a decade earlier because those cities were removed from the Parisian center of resurgent academicism. Yet French influences could work in quite contradictory ways upon outlanders of Gaudí's generation: Sullivan as well as McKim had been

at the Ecole des Beaux-Arts for a time; and the masterpieces of the French engineer Eiffel — his great bridge over the Douro in Portugal and his Tower of 300 Meters in Paris — were inspiration to several architects who had no use whatsoever for the Ecole des Beaux-Arts and the leaders of the profession in France.

One may well find it hard, however, to see much promise in the Casa Vicens other than the very excess of its youthful exuberance and its total rejection of French academic ideals. In all the flamboyance the most personal note is certainly that struck by the ironwork - the most personal and also the most fully achieved (2). This is naturalistic in theme and bold in scale; it also includes curious linear elements that wave and bend in a way already more than a little premonitory of the Art Nouveau of Victor Horta in Brussels and Hector Guimard in Paris in the 1890's. The entrance grill is a masterpiece of decorative art of this period, rivalled in quality only by some of Morris's or LaFarge's contemporary stained glass in England and America. Unlike his later metalwork, this is cast, not wrought.

The very utilitarian industrial warehouse for La Obrera Mataronense built by Gaudí in 1878-82 at Mataró, with its great arches of laminated wood, should also be mentioned to balance the account. Here the young architect's prowess as an imaginative constructor—almost as a straight engineer—is very evident. The unfamiliar forms he continually used—the arches here are parabolic as in some of his student projects for metal roofs, not semicircular or pointed—were not a matter of personal crankiness but selected for statical reasons: Gothic in theory, that is, although hardly Gothic in appearance.

In 1884 Gaudí was made director of works for a large new Gothic church in Barcelona. From this time forward a considerable part of his work, extending down through his archaeological and liturgical restoration of the cathedral of Palma on the island of Mallorca in 1900-14, was that of a Gothic Revivalist in the tradition of Viollet-le-Duc's activity as architect of the French Ancient Monuments Service. Toward such a career his own intense piety particularly inclined him, but his career as an ecclesiastical architect was not very productive, if increasingly unconventional and imaginative from the 1890's onward. From the first he designed and executed church furnishings and, while still a student in the mid-1870's he had assisted Villar on a porch and staircase before the monastery church of Montsarrat, as has already been mentioned.

In 1881 Villar was made architect of the proposed Expiatory Temple of the Holy Family (Sagrada Familia) for which a large square site had been obtained on the Calle de Provenza in an outlying part of uptown Barcelona, and the construction of the crypt - intended to enshrine a copy of the Santa Casa of Loreto - of a great cruciform Gothic church was started in 1882. Late the next year Gaudí took over charge of the work, as has been said, completing the crypt by 1891 almost entirely according to Villar's quite conventionally High Gothic design. There followed the construction of the outer walls only of the chevet in a somewhat less derivative Gothic mode; these were finished by 1893. The further history of the church may better be considered later.

Contemporaneous with Gaudi's construction of the crypt and the chevet walls of the Sagrada Familia came four large secular commissions, two of them also quite Neo-Gothic in character and two others of great originality. The Bishop's Palace at Astorga of 1887-93 and the Fernandez-Arbos house, known as the Casa de los Botines, in the Plaza de San Marcelo in León of 1892-94 might well be mistaken for provincial High Victorian Gothic done in England or America twenty or thirty years earlier. But the city mansion of Don Eusebio Güell at 3-5 Calle del Conde del Asalto* just off the Ramblas in the old downtown section of Barcelona, built in 1885-89, is an edifice of the greatest distinction, rivalled for quality in its own period only by the very finest late work of H. H. Richardson in America. The Teresian College at 41 Calle de Ganduxer in Barcelona is also quite remarkable in its more modest way.

Far more suave than his earlier Casa Vicens, the Palau Güell is quite as strikingly novel all the same. At the base yawn a pair of parabolic arches, their tops filled above a plain reticulated grill with sinuous seaweed-like ironwork of the most extravagant virtuosity(3,5). On either side of the entrance and in the projecting first storey, the facade of the Palau Güell is no more than a rectangular grid of stone mullions and transoms, but it is simply detailed in a cranky mediaevalizing way somewhat comparable to the English Philip Webb's contemporary handling of stonework. The rear facade toward the court includes

^{*}Picasso's studio at No. 8 was almost opposite, it may be worth noting.

in the middle a broad bay window with curved corners protected by adjustable blinds and ornamented with ironwork as original but less fantastic than that at the entrance (6.8). The most extraordinary aspect of the exterior is the roofscape(4). Around the almost Borrominian central lantern, which lights the hall two floors below, chimney pots rise like pieces of abstract sculpture above the flat roof and these are entirely covered with mosaics of irregular fragments of coloured tile, broken glass, or rough fragments of crumbly rubble. Here the fantasy of his earlier work is continued and such terminal features remained characteristic of all his later secular works. Thus various decorative themes characteristic of his most mature work after 1900 made a first appearance here.

The interiors of the Palau Güell are extremely sumptuous. There is much use of marble arcades of parabolic arches carried on round columns, both arches and columns being detailed with the greatest geometrical elegance and simplicity yet with considerable variety. Some of the ceilings are of marble slabs carried by visible iron beams, but in the principal apartments there are incredibly elaborate confections of woodwork in the Moorish tradition. Here and there highly original metalwork, more delicate than that on the exterior, wreathes the edges of the stonework (7); and some of the furniture, notably a chaise longue on twined metal legs(43) offers startling premonitions of that of the mid-twentieth century. Even more than at the Casa Vicens the incredible richness of Gaudí's talents is evident. The rooms are doubtless more acceptable to later taste in their present denuded state than when they were fully furnished.

Many will feel that the Palau Güell is one of Gaudi's major productions. It was also the first commission he received from a client who was to employ him over and over again. In this connection the gatehouse and other minor constructions at the Finca Güell in the Avenida Pedralbes in the suburb of Las Corts de Sarriá should be mentioned (9). This work, done in 1887, is more in the line of the Casa Vicens and of the Quijana villa at Comillas near Santander of 1883-85 (appropriately called El Capricho) in the fantasy of its patterned brickwork and plaster than in the severer mode of the Palau Güell. But the Dragon Gate of the Finca Güell(12), unique in its exploitation of metal in various forms, including even woven wire fabric, is one of the extreme examples of Gaudi's virtuosity — terrifying, indeed, in a quite Surrealist way, but as inventive in its use of materials as in the tensile curvilinear forms and the semi-transparent organization of the interwoven planes.

The next years saw a simpler but not less impressive use of brick. The College of Santa Teresa de Jesús(10), built in 1889-94 immediately after the Palau Güell, is naturally much plainer than that great merchant's palace which continues the line of those that late mediaeval and Renaissance magnates often built. Rubble walls banded and striped with brickwork, as already at El Capricho, are pierced alternately by ranges of narrow windows and by small square ventilators closed with quatrefoil grills. The widely spaced windows are capped with steep parabolic 'arches' formed by cantilevering inward successive brick courses in the way of the arches at the Finca Güell. The third storey is all of brickwork panelled with blind 'arches' between the windows and carried up into large, flat, triangular finials along the skyline.

Less ingratiating than the Palau Güell, with its luxurious use of fine materials inside and out, this school is equally regular in composition and no more mediaeval in appearance to a non-Spanish eye; in fact, however, it leans more heavily, and even archaeologically, on Mozarab and Mudéjar precedent than does the Casa Vicens. A certain amount of relatively simple wrought-iron grillwork reflects that of the entrances of the earlier houses (14).

Only perhaps in England and America did the line of descent from the Gothic Revival lead in the seventies and eighties so far away from the standard neo-mediaevalism of the mid-century. But these early works of Gaudí represent only a part — to most critics the least important part — of his production. For strangeness, they can be matched in work of equal consequence in this period only by Louis Sullivan's earliest commercial facades in Chicago, as has been suggested above, and perhaps by the Philadelphia banks of Sullivan's master, Frank Furness.

For all that Gaudí was actually represented at the Paris Exhibition of 1878 — by a glovemakers' vitrine! — and later by pavilions designed for the Compañía Transatlántica in the Naval Exhibition of 1887 at Cadiz and in the Barcelona International Exhibition of the following year, his work was hardly known at all except to his compatriots before the nineties. Even today it is on his better known production of the nineties and the first decade of this century that his growing reputa-

tion is mostly based. But his work of the seventies and eighties illustrates the radical intransigence of his approach from the first and at least suggests the wide range of his creative powers.

Gaudi's activity at the church of the Sagrada Familia in Barcelona went on more or less continuously from 1884 to 1914 and began again after World War I. The most conspicuous portion that has been executed, one of the transept facades. was designed and largely executed in the nineties (76.77). Dominating Barcelona with its four extraordinary towers - not finally completed until after Gaudi's death in 1926 - this facade, begun in 1891, breaks quite sharply with the Neo-Gothic of Villar's crypt and Gaudi's own chevet. The portals with their steep gables still have a generically Gothic ordonnance: however the extraordinary profusion of sculpture, executed from 1903 on, gives them a highly novel flavor. While conventional enough as regards the figures, this is otherwise either very naturalistically floral or meltingly abstract(79,80). It resembles the contemporary Art Nouveau in many minor details, but is generally bolder in scale, more fully three-dimensional and, in places, somewhat nightmarish.

Although only about two-thirds as tall as the cluster of towers designed by Gaudí to rise over the crossing, the four open-work spires above this facade - with the two in the center taller than those on the sides - rise to a wholly disproportionate height in relation to the intended roof of the still unbuilt transept (75,76). At the top they break out into elaborate plastic finials whose multi-planar surfaces are covered with a mosaic of broken tiling in brilliant colours (81). The prototypes for these finials - executed only after Gaudi's death — are the chimney pots of the Palau Güell(4), but here their note of free fantasy is raised to monumental scale. The inspiration of the towers came from things which Gaudí had seen in Africa: such strange primitive forms he first exploited in a project for the Spanish Franciscan Mission in Tangier of 1892-93 which was never executed.

In posse, the Sagrada Familia is perhaps the greatest ecclesiastical monument of the last hundred years; beside it such suave late examples of monumental Neo-Gothic in England and America as the Liverpool and Washington cathedrals lack both vitality and originality of expression, if not nobility of scale. However, Gaudi's church remains still a fragment — and a very incoherent one at that — even though he started work on it

again in 1919 and prepared in 1925, the year before his death, a new project for the nave. But Gaudí really stands or falls by the major secular buildings that he was able to carry to completion, beginning with the Palau Güell of 1886-89, and not (as many of his compatriots assume) by his unrealized plans for the Sagrada Familia.*

His other church, also destined to be left a fragment, was begun in 1898 and initiates the most brilliant period of his career. At Santa Coloma de Cervelló, some ten miles from Barcelona, are the Güell cotton-spinning mills. There Gaudí was asked to build a church, and by 1914 the crypt, all above ground, had been completed; no more of the project was ever carried out. No trace of Gothic form remains here; yet the irregular basket of brick ribs carrying the nearly flat web of the vault recalls some of the boldest structural devices of late mediaeval construction (70-72). Moreover, the whole is worked out in masonry, mostly brick and clinker, but including some very roughly hewn stones used as monolithic piers and jambs, with no structural metal, such as appears in his student projects, or concrete such as he was exploiting in these years in other work. Nothing, except the window grills ingeniously made up of discarded bits of cotton-spinning machines (67,72), is of the modern world here, but the effect is not so much mediaeval as prehistoric — perhaps one should say outside time. The slanting piers, the strange nongeometrical forms of the arches and vaults, the sudden shifts in material: all suggest the work of a genial amateur, master of statics and mad about the expression of forces, rather than an architect working out his buildings on a drafting board with T-square and triangle (70-72). It is as if every brick had been put in place by the designer's own hand, every surface worked by him with some (rather crude) tool. In fact by this time he had at his disposal workmen trained to his ways and could achieve henceforth in all his work that freehand, almost extemporizing, quality which makes his buildings of the next decade examples of what might be called, on the analogy of "action painting", "action architecture".

To determine the forms of the high vaults of the unbuilt upper church, he constructed a model, not

*Work now goes forward on the other transept, but many of Gaudi's admirers regret the fact because of the obvious impossibility of following his designs in detail in the execution. No architecture was ever so dependent for quality, moreover, on its designer's continuous supervision.

as any other architect would have done, in the ordinary dollhouse-like image of a building, but upside down as a diagram of forces, the arches indicated by wires pulled down into various catenary shapes by weights corresponding to the burden they would have to carry (66). Around these threedimensional voids he wrapped, in a perspective sketch, the exterior surfaces (68). Architects are likely to find in the Santa Coloma church the high point of Gaudi's potential. Others, particularly if they have not seen the executed crypt and there experienced the intensity of Gaudi's special preoccupations with structure, are likely to find it merely unintelligible. As always the incidental fittings, especially the ironwork, are of the highest order of original craftsmanship, unequalled certainly in any other church of its period.

But his finished work of this time was all secular and in Barcelona. Gaudi's next city building after the Palau Güell, that built at 48 Calle de Caspe in Barcelona for the heirs of Pedro Martin Calvet in 1898-1904, is much less impressive despite the extreme openness, unusual for the period, of its rarely seen rear facade. Baroque rather than mediaeval in its antecedents, this apartment house is interesting chiefly for the detailing of the ironwork(13) and the furniture, but even that is less remarkable than at the Palau Güell a decade earlier. It is worth mentioning, however, as illustrating the support Gaudí received all along from his fellow citizens, that the Casa Calvet received in 1901 the first annual architectural prize offered by the municipality of Barcelona on the decision of a jury that included the heads of the School of Architecture, of the School of Fine Arts, and of the Association of Architects.

Bell-Esguard, a house just beyond the outer edge of the city above the Plaza Bonanova, was built in 1900-02(11). Like the Casa Calvet, it is full of historical reminiscences, in this case Late Gothic and Early Renaissance, yet the reminiscences are so stylized and the detail so improbably executed in a mosaic of tiny lumps of rubble that the general effect is much more fantastic. His best period was opening at this time, with the construction of the church at Santa Coloma already under way, but it is not this house which signalizes the fact.

A wholly new spirit, comparable in some ways to the Art Nouveau of Horta in Belgium and Guimard in France, and rather different from the spirit of the church at Santa Coloma, appeared in the work that Gaudí did for Don Eusebio Güell over the years 1900-14 at the Park Güell (now the

Municipal Park of Barcelona) on the slope of Monte Carmelo above the city, and in the walls and the entrance built in 1901-2 on the estate of Don Hermenegildo Miralles in the Calle Manuel Girona in the suburb of Las Corts de Sarriá. In the latter all the forms are curved (15) and no more stylistic reminiscence remains than in the Santa Coloma church; but it is, of course, a production of minor importance compared to the park. The park is mostly landscaping but partly architecture, in that it includes several small buildings and much subsidiary construction. Here a sort of Neo-Romantic naturalism, exceeding in fantasy that of the most exotic landscapes designed in the eighteenth century*, controls the whole conception. Sinuous and megalomaniac near-Doric colonnades of pre-cast concrete blocks support in the Ippostilo a flat shellvault of concrete which is of very great interest technically; yet these also suggest, at least, the artificial ruins of the eighteenth-century sort here raised to gigantic scale (20,22). The other porticos and grottos, however, recall no architectural style of the past whatsoever; their rubble columns seem rather to emulate slanting tree trunks; but in fact the profiles were worked out statically from a careful technical analysis of the forces involved (24-25).

The ranges of curving benches surrounding the great open terrace over the Ippostilo, although covered with a mosaic of the most heterogeneous bits and pieces of broken faience, are like congelations of the waves of the sea(21,22). The roofs of the lodges, also tile-covered, toss in the air like coxcombs(16,17). A strange biological plasticity turns whole structures into malleable masses as in some Gulliverian dream of vegetable or animal elements grown to monumental size. Even the ironwork is moulded in three dimensions and tends toward a giant scale(23).

Gaudi's major secular works belong to the same years as the execution of the park. It is hard to believe that the Casa Batlló at 43 Paseo de Gracia in Barcelona, a small apartment house, is not a completely new structure, but merely a remodelling carried out in 1905-07. This fact perhaps explains the relative flatness of the facade. Yet Gaudi made the lower storeys extraordinarily plastic and open, using a bony articulation of curvilinear stone members (28); and the high roof masking the roof terrace is even more coxcomb-

*The fact that the park is given the English spelling "Park" underlines the source of the ultimate inspiration.

like than those of his park lodges (29,30). The upper storeys of the facade glitter with an abstract plaquage of broken coloured glass more delicate in tone than his usual mosaic of faience fragments. But architecturally the facade is handled more conventionally, with most of the windows nearly rectangular, even though the bulging balconettes projecting at their bases tend to disguise their regular shapes. The general effect is slightly Neo-Rococo (30) but not in the historically reminiscent way that the Casa Calvet is Neo-Baroque and Bell-Esguard still Neo-Gothic. The sort of Rococo that this facade recalls is not circumspect French eighteenth-century work but the lusher modes exploited in Bavaria and Austria-and still more appositely in Portugal and Spain and their colonies. The entire wall surface seems to be in motion and all edges waver and wind in a way that even interior panelling rarely did in eighteenthcentury France. This effect of total motion is even more notable in the interiors which seem to have been hollowed out by the waves of the sea (32.34). The furniture is at once highly functional in design and fully involved in the pattern of curves that controls the entire interiors (35).

The rear facade of the Casa Batlló is even more remarkable for its openness than that of the Casa Calvet. The wide window walls of the living room in each flat open on to sinuous balconies which extend all the way across(31). Above, there is a simpler plastic cresting than on the front. Over this the curious forms of the chimney-pots provide a range of abstract sculptural features covered with polychrome tiling, always a favourite theme of Gaudí's.

Much larger than the Casa Batlló is the edifice built for Roser Segimon de Milá in 1905-10 at 92 Paseo de Gracia, appropriately known in Barcelona as "La Pedrera" (the quarry) (47). Surrounding two more or less circular courts, this large apartment house occupies an obtuse-angled site and the entire plan is worked out in curves as well as all the elements of the facade (45,46).

An internal skeleton of widely separated piers, echoed in the visible piers at the bottom of the facade, obviated the need for bearing partitions and thus freed the planning. No two floors are exactly alike, but in all of the apartments—which vary considerably in size—the main rooms flow into one another, while the watery curves of the plaster ceilings and the shell-like forms of the door trim echo the irregular shapes of the various interior spaces (62-64).

The facade of the Casa Milá is not a thin plane, curling like paper at the edges and pierced with squarish holes, like that of the Casa Batlló; instead ranges of balconies, heavier than those on the rear of the Casa Batlló, sway in and out like waves beneath the foam-like cresting of the roof, thus making the whole edifice a very complex plastic entity (50,51). From a distance the exterior of "La Pedrera" looks as if it were all freely modelled in some clay-like substance; in fact it is executed in cut stone with hammered surfaces that appear to result from natural erosion.

There is no external polychromy of glass or tile here and the frescoed colour used on the court walls has suffered such serious deterioration that it is difficult to know what it was like originally (53). On the other hand, Gaudi's plastic detail was never more carefully studied nor more consistent; there are no straight lines at all and in the forms of the piers that rise from the ground to support the balconies of the first storey he suggested natural formations with even greater success than at the Park Güell(51). These elements look as if they had been produced by the action of sea and weather rather than by the chisel, quite as does much of the later twentieth-century sculpture of Henry Moore.

The marine note is seen at its strongest in the ironwork. Strewn over the balcony parapets and across many openings, like seaweed over the rocks and sand of the seashore, the railings and grills are full of intense organic vitality (48-51), with none of the graceful droopiness of characteristic Art Nouveau metalwork such as Guimard's Métro entrances in Paris. Gaudí's metalwork frequently suggests the work of various mid-twentieth-century sculptors in welded metal, quite as his handling of masonry does that of later sculpture in stone. Indeed, his iron grills are often superior to such sculptors' metalwork in richness and variety of form, as also in the fine hand-craftsmanship of their execution.

The detailing on the Casa Milá, whether of the masonry or the ironwork, avoids the nightmarish overscaling of the somewhat similar elements at the Park Güell. The broken faience mosaic he used so much there and elsewhere is restricted on this house to the rooftops, and even there to a white monochrome (54,55,58-60). As regards the masonry, moreover, it is really wrong to speak of detailing, for the very fabric of the structure, not just the edges and the trimmings as on the Casa Batlló, has been completely moulded to the

architect's plastic will(49-51). Not least remarkable is the variety of curvilinear treatments of the plaster-work of the ceilings; but here, as in the interiors of the Casa Batlló, "curvilinear" hardly expresses the delicate convolutions of surface which are as three-dimensional as the stonework of the facades(61-64).

Just before work on "La Pedrera" came to an end — in fact the building was never completely finished, although one is hardly aware of the fact - Gaudí built a small parochial school beside the Sagrada Familia (83-85). This modest edifice of 1909 is structurally one of the most interesting things he ever built. The exterior wall is a continuous series of curves built up of rough builders' tile with small hoods over the doors and windows. at once lyric in design and harsh - not to say hard-boiled — in execution. The concrete slab roof is also curved, warped one might say, in a series of waves that die out as they recede from the sides of the building, the scallops on one front alternating with those on the other. One of the most prophetic of Gaudi's buildings, suggesting as it does some of the forms to which concrete shell construction would be bent by Latin engineers - several of them Spanish, it is perhaps worth noting - in the mid-century, this might have been expected to open a new stage in the career of the 57-year-old architect. Actually he initiated almost no new work after this, devoting himself all but completely to a repeated revision of his designs for the Sagrada Familia. Actual construction proceeded, however, with a snail-like slowness difficult to explain in a city at once so rich and so pious.

His scheme of 1925, the year before his death. for the nave of the Sagrada Familia was his only significant very late work. Studying the forms of the vaulting with an upside-down model of the forces involved, as for the upper church at Santa Coloma, he arrived at a wholly new sort of articulated supporting structure (74). Leaving behind the Gothicism of his earliest studies and the treelike naturalism of intervening ones, he arrived at a skeleton of slanting masonry members whose shapes and inter-relations were worked out in large-scale models of plaster. Thus the Sagrada Familia, on which he had begun to work so long before and whose transept facade is his most conspicuous work(76), became in the models and drawings he left behind the crown of his career (75,78). But architecture is an art of the actual, however exciting the dreams of architects of all

ages may be that have come down to us in drawings and models. Gaudí's genius, then, must be assessed not on the potentialities of this, his last work, which — once he was dead — could never be actualized, but upon a series of executed works of which the Palau Güell, the transept facade of the Sagrada Familia, the crypt at Santa Coloma, the Park Güell, the Casa Batlló and "La Pedrera" are the most masterly. It is not a long list compared to what Wright has produced in a professional career of some seventy years; but between 1885 and 1910 no other architect, not even Sullivan, carried out so many major works of comparable originality and force.

The architecture of Gaudí certainly makes a powerful impression on even the most casual observer - an impression quite as likely to be unfavorable as favorable. His buildings are not easy to understand, particularly the two churches of which only portions were ever executed. The art of Gaudí is so rich, so varied, so impossible to reduce to a simple formula, that he will always be to some extent an architect's architect. Only architects will take the trouble to distinguish, insofar as such distinctions may properly be made, between the various aspects of Gaudí. The constructor Gaudí is to be seen most purely in such an early industrial work as the Obrera Mataronense or such a minor late work as the school of the Sagrada Familia; but this aspect is not less significant in the skeleton structure of "La Pedrera". in the concrete roof-slab of the Ippostilo at the Park Güell, or the statical diagrams for the vaulting of the two churches. More readily recognized are Gaudí, the sculptor of architecture, and Gaudí the virtuoso of "permanent polychrome"; but one cannot ignore Gaudí, the furniture designer, or Gaudí, the master of ironwork. These separate aspects of Gaudí can rarely be isolated; all the Gaudís worked together and not always was the collaboration a successful one. Accustomed as we are in the twentieth century to buildings whose esthetic content is relatively simple and homogeneous - for this is true even of most of the work of Wright and of the latest work of Le Corbusier a Gaudí building is like a ten-course dinner taken in one gulp — "comestible" perhaps, in Dali's favorite image, but indigestible to all but the strongest stomachs. Not since the Baroque has there been architecture so rich in all its aspects. Mid-nineteenth century architecture was often more elaborate and quite as exuberant; but the quality of the orchestration, so to put it, was much

lower, so that in apprehending such a building as Lefuel's New Louvre, or Garnier's Opéra, or even a Butterfield or a Richardson church, there are many aspects of the general complexity that can be happily ignored.

But no aspect of a Gaudí building can be ignored, from his innovations in structure to the specially designed furniture with which his interiors were completed. In the realm of materials and their use both structurally and decoratively, even his masonry ranges from the naturalistically agglutinated rubble of his "colonnades" at the Park Güell and the blackish clinker of the Santa Coloma crypt to the hammered stonework of "La Pedrera" and the polished marble of the interiors of the Palau Güell. Like Wright, Gaudí was fascinated by "the nature of materials", but his feeling for their differing natures was less conventional and more imaginative. It is unlikely that he intended his architecture to appear either edible or terrifying; but there is no question that the emotional responses he evokes are very intense and extend beyond the ordinary boundaries of reaction to architecture. Moreover, the parts of his buildings may seem in many cases to have independent existence as "sculpture" or as "painting" and to arouse more response than the edifices do when considered as total entities.

His ironwork is particularly worthy of being apprehended apart from the buildings it adorns and completes. His "collages" of broken tiles have passages that remind one, when these are seen in isolation, of the work of such painters as Klee or Ernst or even Léger. It is not possible apparently to date precisely the tilework of the Park Güell; if it were, various sections of it might compete for priority with paintings by Kandinsky or Delaunay as the first examples of wholly abstract art. The colored glass decoration covering the facade of the Casa Batlló suggests a much, much later sort of abstract painting; while his whole approach to the assembly of bits of broken crockery, often including fragments of the most vulgar and tasteless origin, parallels Dada and Surrealist practices, and most specifically the Merzbilder of Schwitters.

It is easy with Gaudí, so great is the intrinsic fascination of his decorative devices, to lose sight of the major architectonic qualities of his buildings. There are Gaudí buildings that are, so to say, "easy to take" and others that are "hard to take";

with the exception of "La Pedrera", it is those that are hard to take which are likely to have the greater architectural significance. Unfortunately those that are hard to take are also hard to present in photographs. The sculptural forms of "La Pedrera", the coloured tile mosaics of the Casa Batlló and the Park Güell, are immensely photogenic. But the extraordinary structural devices and the cave-like spatial complexity of the Santa Coloma crypt defy the camera and are only made partially intelligible intellectually by drawings. Emotionally they can hardly be experienced at all at second hand. Even the roof-scape of "La Pedrera", exciting enough in photographs, is of a different order of excitement when one climbs up and down and over its varied levels among the giant chimney pots and ventilators.

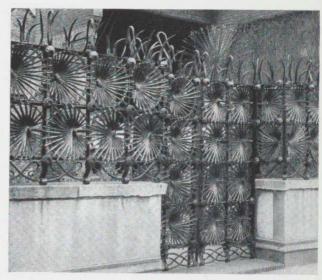
The literature concerning Gaudí and his work is extraordinarly profuse; his buildings, for the most part, are not difficult to find; and they have been documented photographically with unusual completeness. Yet for lack of drawings - plans, sections, structural diagrams - there is much that remains mysterious about them. Only perhaps in the work of Wright and Le Corbusier has the twentieth century been offered anything approaching their conceptual complexity. In all the arts we are necessarily drawn to what is unique, to those achievements of one man that other men cannot hope to equal. In the total picture of the modern architecture of the twentieth century Gaudí stands apart; his uniqueness is of an order no others approach. Not the least value of studying his work is the exhilaration that comes from realizing how vast, how unplumbed, are the possibilities of architecture in our time, how limited the aspects of the building art which most architects are today exploiting.

The art of Gaudí is too personal to be "revived" or imitated; yet by enhancing our imaginative grasp of the possibilities of that large-scale three-dimensional art of form and space, of materials and means of employing them, which is architecture, greater knowledge of his work can help to free us from the dead hand of academicism which in the 1950s, as in the 1880s, seems to be closing in on our ways of building. We need not admire Mies van der Rohe the less because we admire Gaudí as well; but such admiration, kept well this side of adulation, may yet bear fruit — perhaps it has already done so.

EXECUTED WORKS OF ANTONI GAUDI

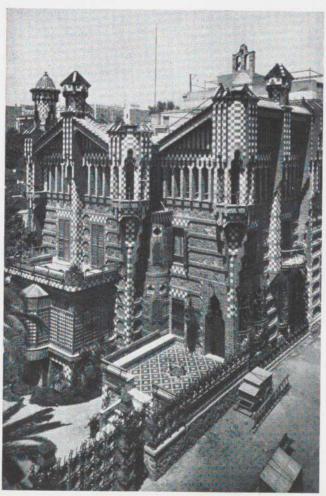
Items marked with an asterisk are illustrated.

- *1878-1880: Casa Vicens, 24-26 Calle de las Carolinas, Barcelona.
- 1883-1885: "El Capricho", near Comillas, Santander.
- 1884-1887: Sagrada Familia, (completion of the crypt), Barcelona.
- *1885-1888: Palau Güell, 3-5 Calle del Conde del Asalto, Las Corts de Sarriá, Barcelona.
- *1887: Finca Güell, Avenida Pedralbes, Barcelona.
- 1887-1893: Palacio Episcopal, Astorga.
- 1887-1891: Sagrada Familia (execution of the outer walls of the chevet), Barcelona.
- *1889-1894: College of Santa Teresa de Jesús, 41 Calle Ganduxer, Barcelona.
- *1891-1903: Sagrada Familia (facade of the Transept of the Nativity), Barcelona.
- 1892-1894: Casa Fernández Andrés, (known as "Los Botines") Léon.
- *1898-1904: Casa Calvet, Calle Caspe, Barcelona.
- *1898-1914: Santa Coloma de Cervelló (The crypt of the church) near Barcelona.
- *1900-1902: "Bell-Esguard", San Gervasio, Barcelona.
- *1900-1914: Park Güell, Barcelona.
- *1901-1902: Casa Miralles, (entrance and walls), Pedralbes, Barcelona.
- *1903-1926: Sagrada Familia (Towers and sculpture of the Transept of the Nativity), Barcelona.
- *1905-1907: Casa Batlló, 43 Paseo de Gracia, Barcelona.
- *1905-1907: Casa Milá (known as "La Pedrera"), 92 Paseo de Gracia, Barcelona.
- 1904-1914: Cathedral of Mallorca (restoration), Palma de Mallorca.
- *1909: School, Sagrada Familia, Barcelona.

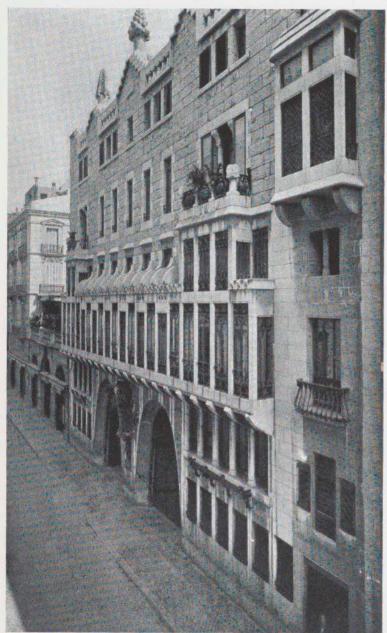


2 Casa Vicens. Entrance gate

1 Casa Vicens, 1878-80

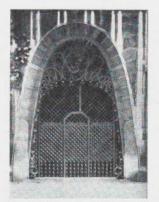








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Palau Güell, 1885-88

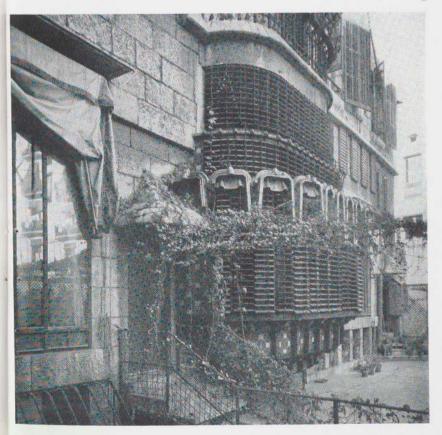
- 3 Street elevation
- 4 Roof
- 5 Entrance grill 6 Rear elevation

- 7 Iron decoration on interior column 8 Bay window with adjustable exterior blinds







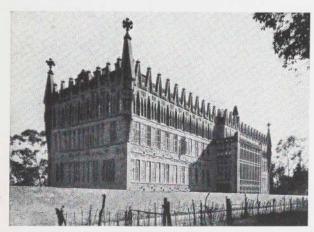




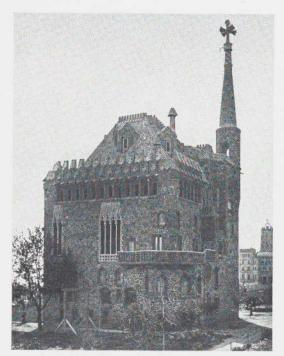
MMA 5582



9 Finca Güell, 1887. Gatehouse

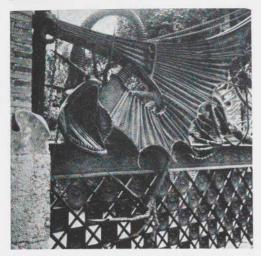


10 College of Santa Teresa de Jesús, 1889-94



11 Bell-Esguard, 1900-02

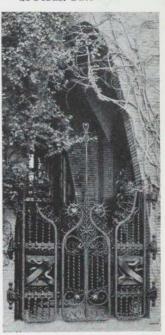
12 Finca Güell. Dragon gate



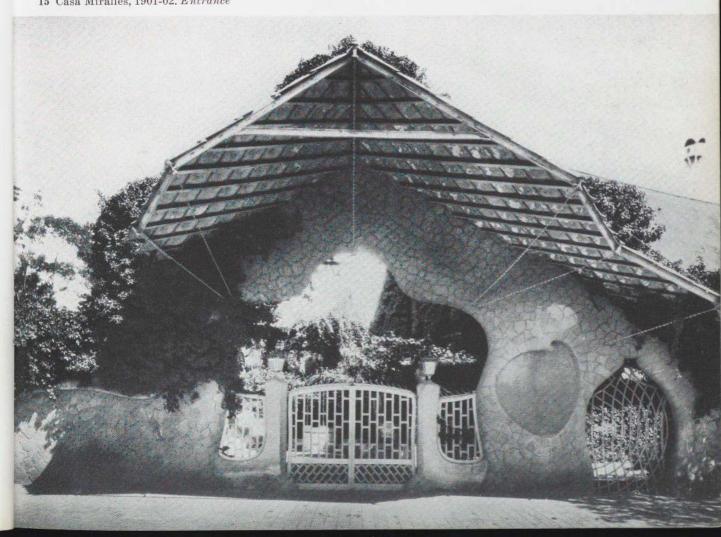


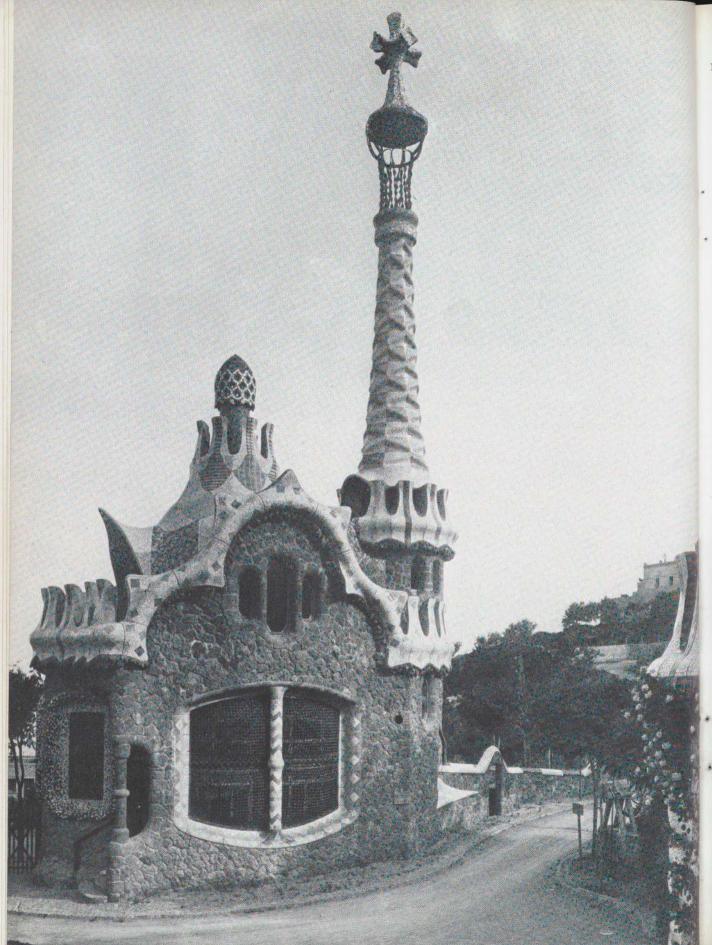
 $\begin{array}{c} \textbf{13} \;\; \text{Casa Calvet, 1898-1904.} \\ Elevator \; gate \end{array}$

14 College of Santa Teresa de Jesús. *Gate*

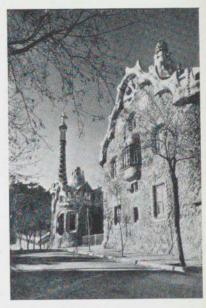


15 Casa Miralles, 1901-02. Entrance

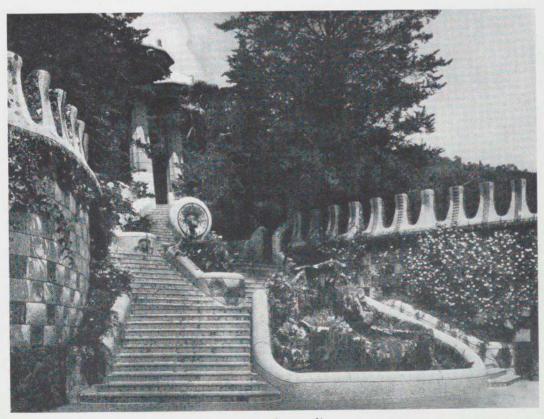




MMA 4622



17 Park Güell, Gatehouses



 $18 \ \, {\rm Park} \, \, {\rm G\ddot{u}ell.} \, \, Entrance \, steps \, and \, {\rm Ippostilo} \, \, (background)$



19 Park Güell. Ceiling detail of Ippostilo



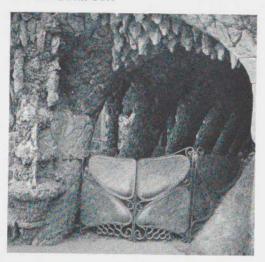


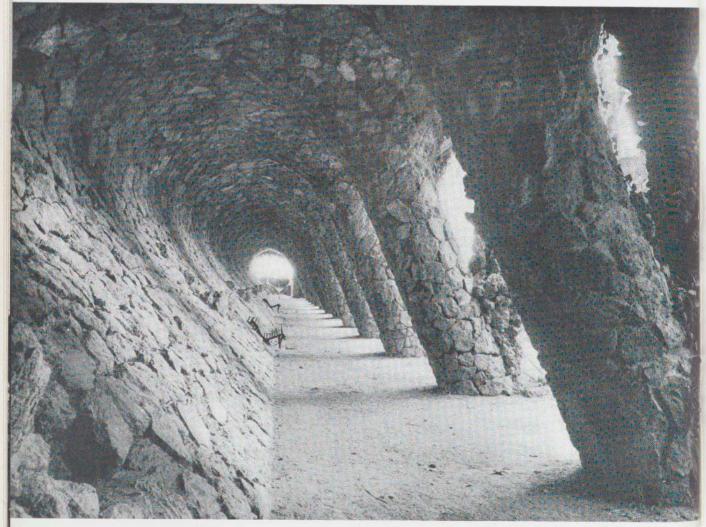
21 Park Güell. Serpentine benches

22 Park Güell. Terrace above Ippostilo

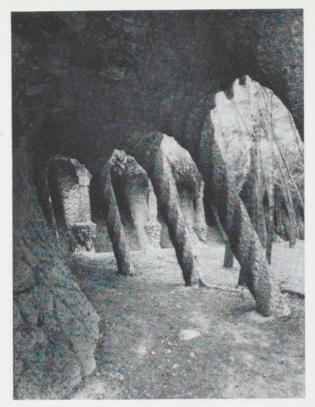


23 Park Güell. Gate





24 Park Güell. Colonnade



25 Park Güell. Colonnade



 ${\bf 26} \ \ {\bf Park\ G\"{u}ell.} \ Promenade\ with\ pillars \\ in\ the\ form\ of\ trees$

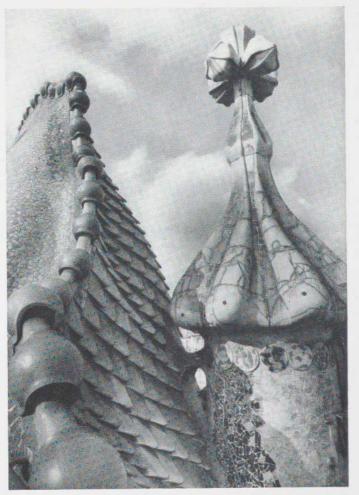


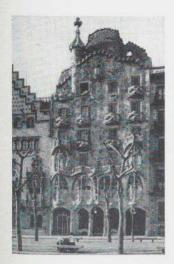
Casa Batlló, 1905-07

27 Balcony 28 Street elevation 29 Roof detail 30 Street elevation 31 Rear elevation

28 MM + 4630











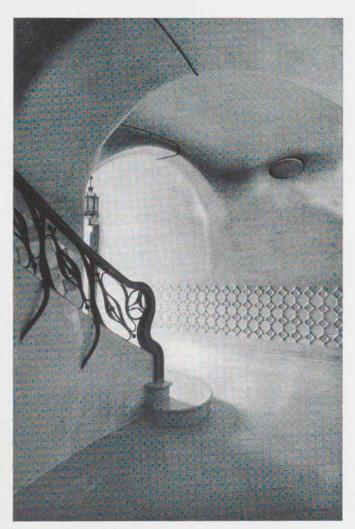
32 Casa Batlló, Salon



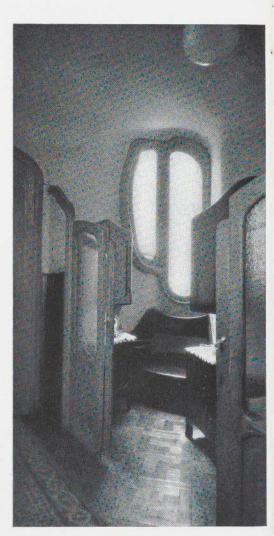


 $34\,$ Casa Batlló, $Dining\ room$





36 Casa Batlló, $Public\ stair$



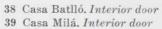
37 Casa Batlló, Window alcove







39



40 Casa Calvet. Table

41 Casa Calvet. Desk and chair

42 Casa Calvet. Chairs

43 Palau Güell. Chaise longue

44 Casa Milá. Chair



42



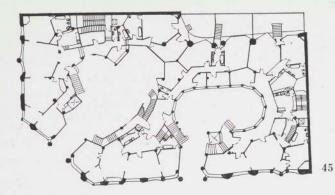


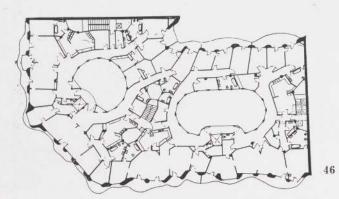
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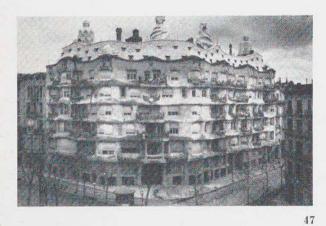


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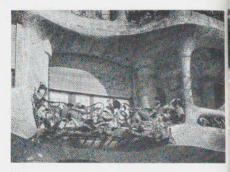








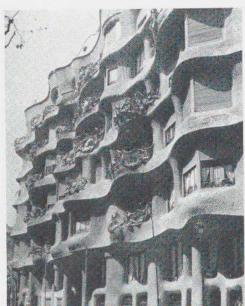


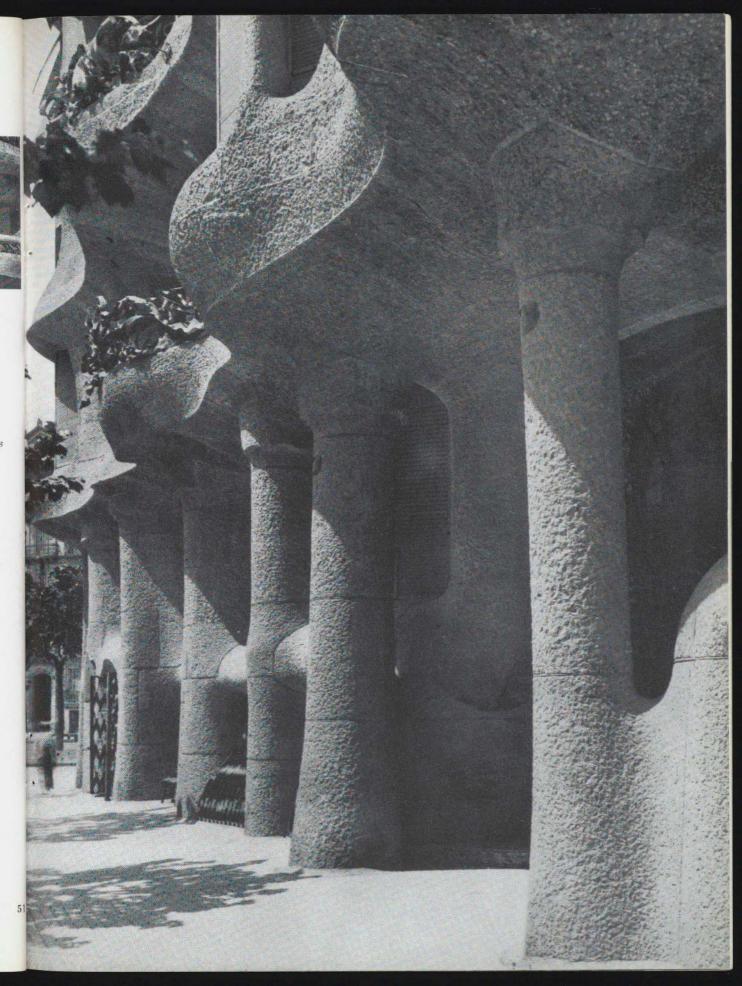


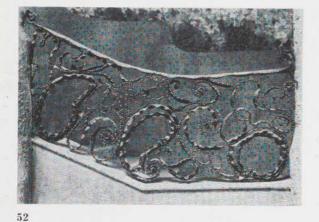
48

Casa Milá ("La Pedrera") 1905-07.
45 Ground floor plan
46 Typical floor
47 Street elevation

- 48 Balcony
- 49 Wrought iron window grills
- 50 Street elevation
- 51 Entrance







Casa Milá

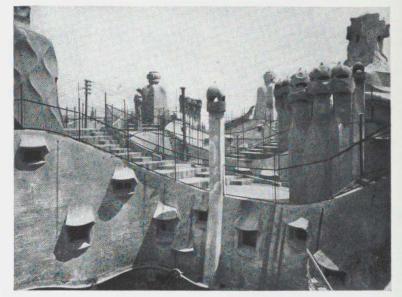
 ${\bf 52}\ Wrought\ iron\ balustrade$

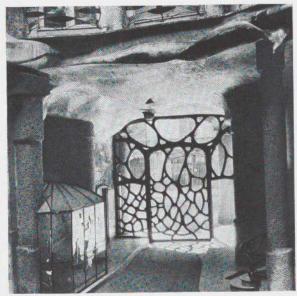
53 Entrance court
54 Roof walkway
55 Roofscape with hooded attic windows
56 Interior court

57 Gate to entrance side



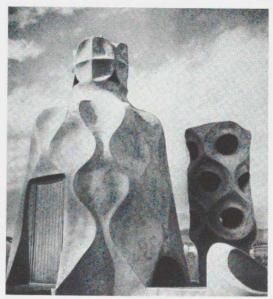






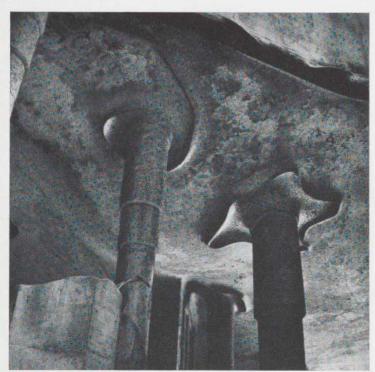








Casa Milá 58, 59, 60 Chimneys and ventilators on roof 61 Columns in interior court





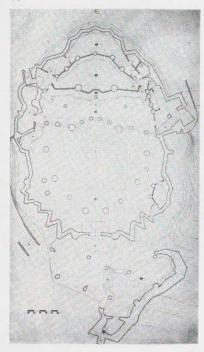


Casa Milá 62, 63, 64 Plaster ceiling decorations



64







66

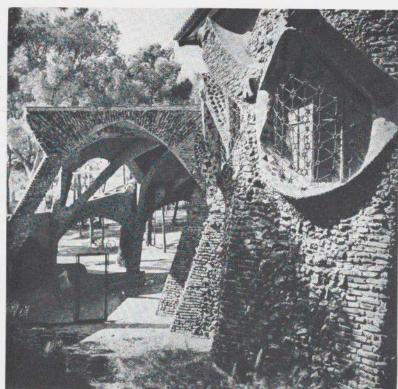
Santa Coloma de Cervelló, 1898-1914

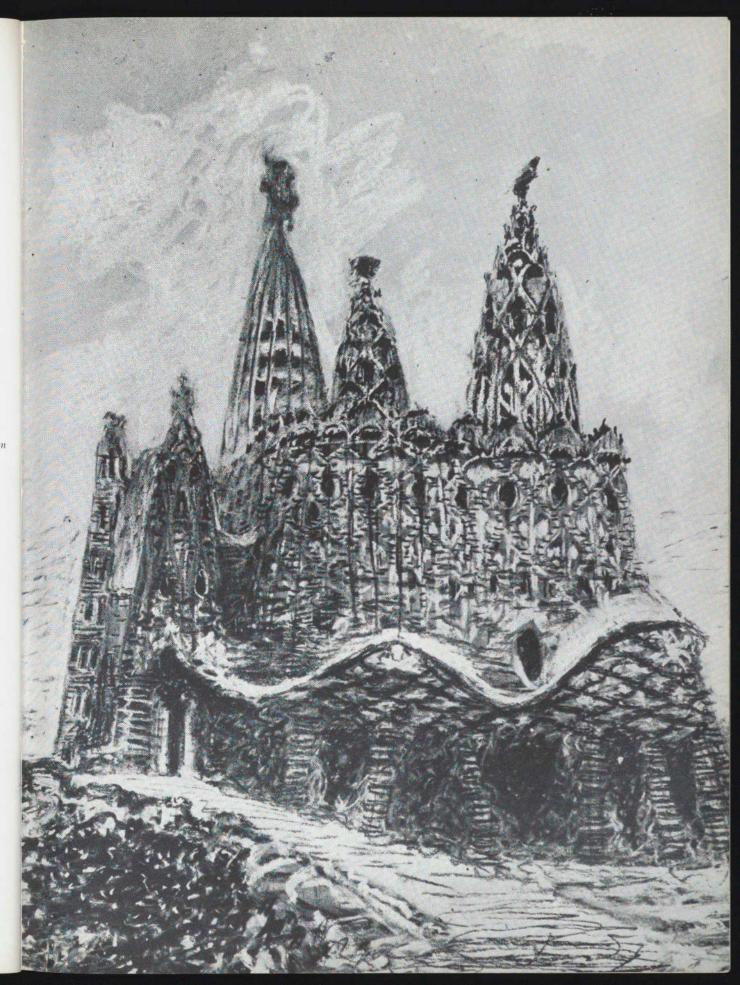
65 Plan of crypt

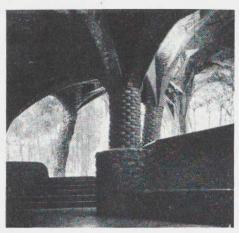
66 Model. Wires weighted with small sandbags were used to determine structural forces. Model was studied upside down

67 Crypt

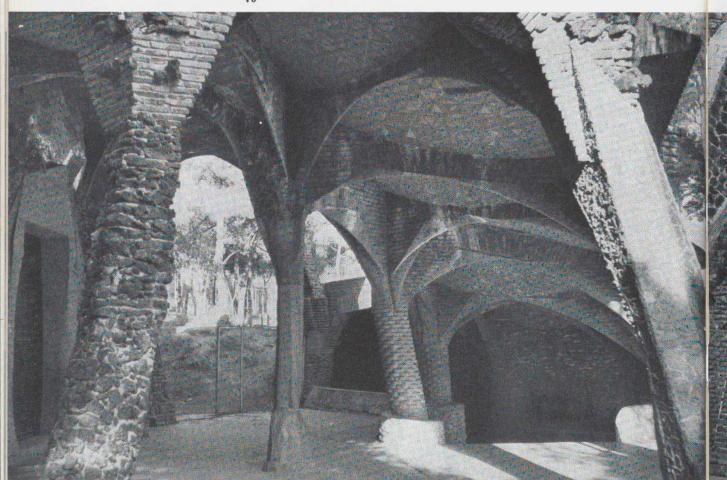
68 Drawing by Gaudí of complete project







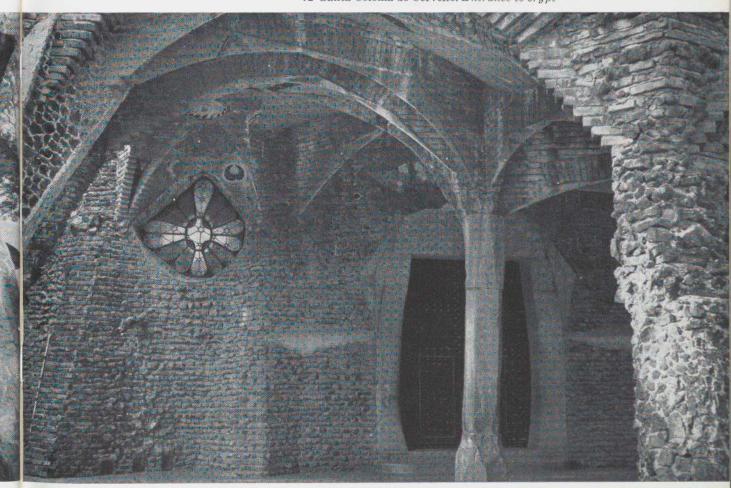
69, 70 Santa Coloma de Cervelló. Porch of crypt

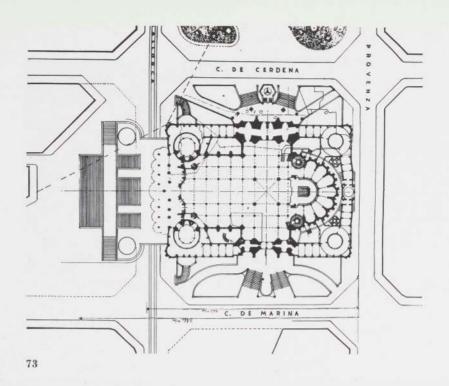


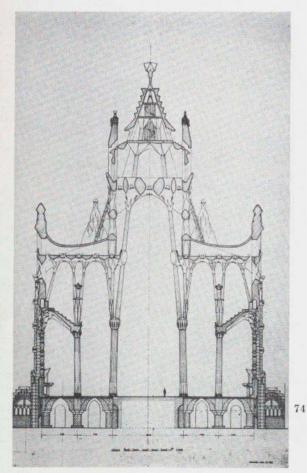


71 Santa Coloma de Cervelló, $Interior\ of\ crypt$

72 Santa Coloma de Cervelló. Entrance to crypt







Sagrada Familia, 1903-1926 73 Plan of complete project

- 74 Section
- 75 Late perspective sketch by Gaudi of complete project
 76 Transept of the Nativity

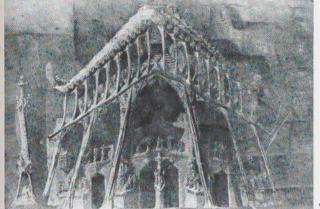


75



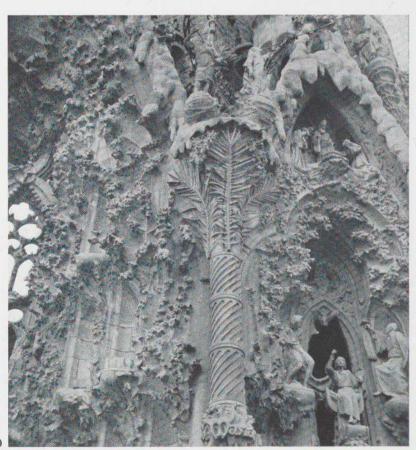


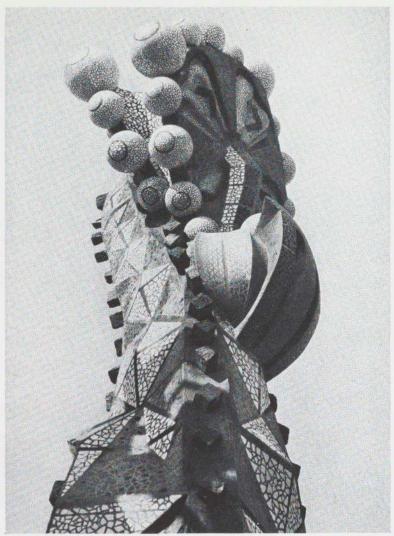
- Sagrada Familia
 77 Transept of the Nativity (photographed at night)
 78 Drawing by Gaudí for Portal of the Passion of Jesus
 79 Sculpture: Angels
 80 Sculptural details





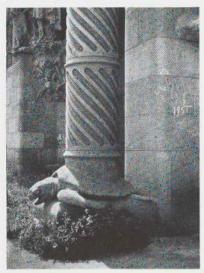






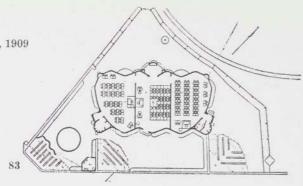
81 Sagrada Familia. Finial of tower

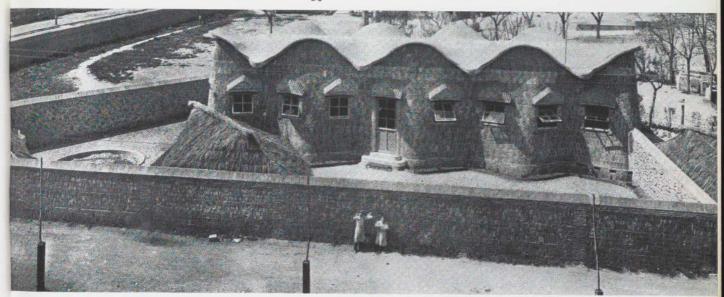
82 Sagrada Familia, Column



Sagrada Familia Parochial School, 1909

- 83 Plan
- 84 Elevation 85 Detail







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