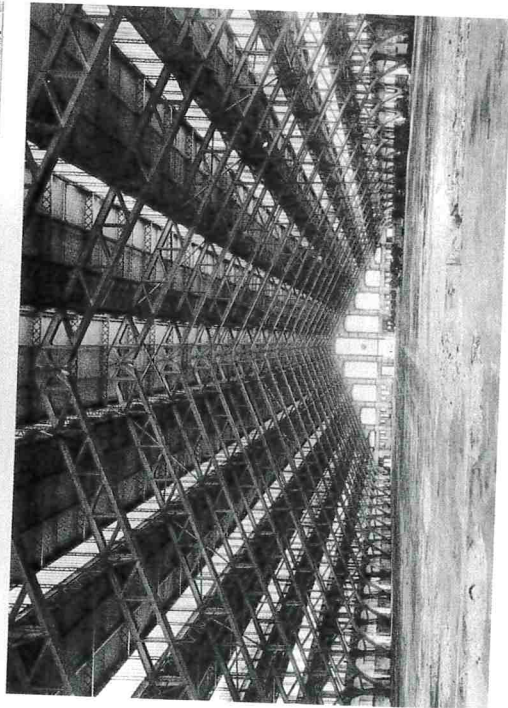
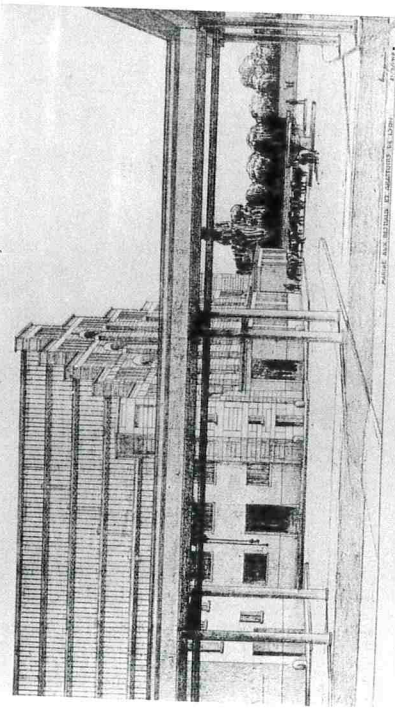


Unlike Ebenezer Howard's garden city model of 1898, which was realized as a developmental strategy at Letchworth Garden City in 1903, it could hardly be referred to as a proven model. These two alternatives could not in fact have been more opposed, for where Garnier's Cité was inherently expandable and graced with a certain autonomy due to its base in heavy industry, Howard's Rurisville was limited in size and economically dependent, with its base in light industry and small-scale agriculture. And where Garnier's Cité, in conjunction with Jausse's Barcelona project of 1904, was to influence the theoretical planning models developed during the first decade of the Soviet

Union, Howard's schema was to lead to the reformist proliferation of 'garden city' communities and eventually to the equally pragmatic New Town programme that emerged in England after the Second World War.

Garnier's urbanistic thought was expressed in his *Grands travaux de la ville de Lyons* of 1920, his abattoirs of 1906-32, his Grande Blanche hospital of 1909-30 and his Etats-Unis quarter, designed in 1924 and built by 1935. Each of these complexes amounted to a city in miniature that reassessed through its amenities the sovereignty of the city as a civilizing force - a mission for which the Anglo-Saxon garden city had little capacity.



83 Garnier, abattoir, La Mouche, Lyons, 1917.

Auguste Perret: the evolution of Classical Rationalism 1899-1925

In the beginning architecture is only wooden framework. In order to overcome fire one builds in hard material. And the prestige of the wooden frame is such that one reproduces all the traits, including the heads of the nails.

Auguste Perret
Contribution à une théorie de l'architecture
Paris, 1952

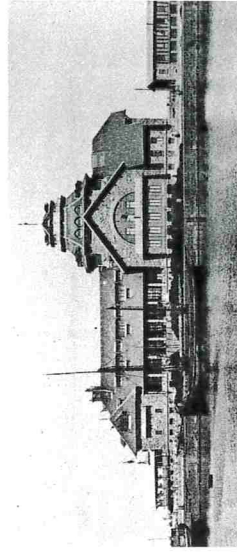
In 1897, after abruptly terminating a brilliant career at the Ecole des Beaux-Arts, Auguste Perret left the academic guidance of his master Julien Guadet to work for his father. This move consolidated his previous part-time involvement in the family contracting firm. Of his works from this period, starting as early as 1890, those designed after Perret left the Beaux-Arts are the most interesting, since they set the stage for the rest of his career. Of these, two are of considerable significance: a casino at St Malo, of 1899, and an apartment building in the Avenue Wagram, Paris, of 1902. Where the one was a Structural Rationalist essay in the 'national-romantic' style then being popularized in the rustic villas of Hector Guimard, the other was an eight-storey Louis-Quinze-cum-Art-Nouveau essay in dressed stone. Of the two, the latter has to be regarded as Perret's essential point of departure, since it demonstrated his conscious return to the Classical tradition, a return that even anticipated, by a few years, the 1907 'crystallization' of the Secession Style in the work of such men as Behrens, Hoffmann and Olbrich.

The Avenue Wagram building projected by a bay-window depth over the pavement as it ascended to its colonnaded sixth floor. This swelling stone profile was subtly complemented by a carved vine ornament which rose

sinuously from the threshold to blossom forth in petrified abundance under the plinth of the sixth-floor colonnade. Attached to Symbolism, Perret had designed the masonry of this structure so as to evoke the floral imagery of the Belle Epoque. At the same time, not wishing to violate the *ordonnance* of a Parisian street, he took care to align its moulded openings with those of the Classical façades on either side. All this, however, contradicted the Structural Rationalist canon, for it was patently not the architecture of articulate structure such as had been advocated by Viollet-le-Duc. Nor was it the naturally expressive and vernacular use of structure which Perret had displayed in the Casino at St Malo.

Two books seem to have been influential in bringing Perret to adopt a trabeated concrete structure for his apartment block in the Rue Franklin of 1903: Auguste Choisy's monumental *Histoire de l'architecture* (1899) and Paul Christophe's text on the Hennebique system, *Le Béton armé et ses applications* (1902). Where the first cited Greek trabeation as the Classical precedent for such structures, the second provided a definitive technique for the fabrication and design of a reinforced-concrete frame.

84 Perret, Casino, St Malo, 1899.

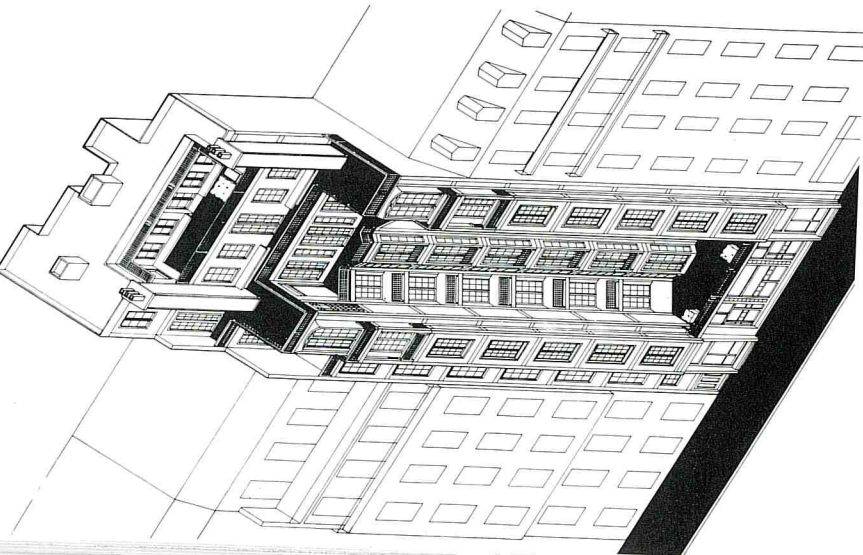


this school, Choisy saw nothing irrational in the Greek transposition of timber forms into the masonry components of the Doric order.

Perret's initial use of ferroconcrete accorded more closely with Choisy's characterization of the Gothic as an architecture of rib-work and infill. In compositional terms, the Rue Franklin block compressed the format adopted one year earlier in the Avenue Wagram. In each case street façades, divided into five bays, with end bays corbeling out over the pavement, rise five or six storeys in height and terminate in an additional 'capping' floor, before setting back. This floor in the Avenue Wagram is emphasized through an attached colonnade, while in the Rue Franklin its elemental character is stressed by the frame of two open loggias. There, however, all correspondence ends, for whereas the Wagram building is monolithic and horizontally expansive, the Rue Franklin block is articulated and vertically attenuated. The articulation of its columns and the rise of its high pitched set-back roof give something of a Gothic feeling to this otherwise orthogonal structure, recalling the 17th-century work of Mansart. This was the closest that Perret was to come to the detailed prescription of Viollet-le-Duc. The reason for its hollow, U-form front, so suggestive of the attenuations of the Gothic, was in fact eminently pragmatic: Perret could get more floor area by providing the regulation court at the front, rather than the rear. With equal ingenuity, he clad the rear wall of the building with glass lenses in order not to infringe an easement.

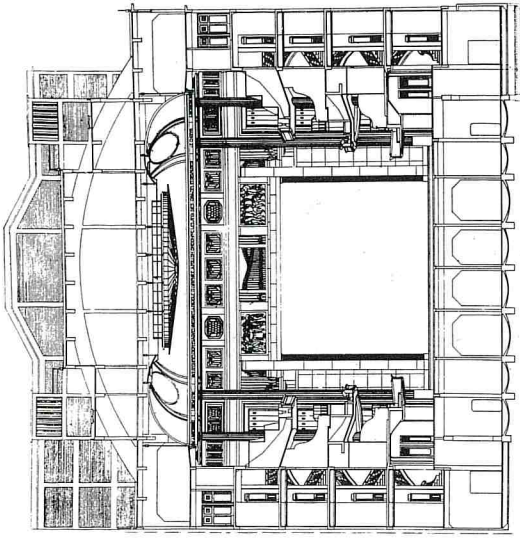
After 1903 Perret, like Choisy, regarded the *charpente* or structural frame as the quintessential expression of built form. The ferroconcrete frame of the Rue Franklin block was titled in such a way as to suggest post and lintel construction in wood — the remainder being either windows or solid panels faced in ceramic mosaic. While the tessellated sunflowers of the latter gave the building that quality of fossilized Art Nouveau so peculiar to the end of the Belle Époque, the frame itself, and the open planning it permitted, pointed towards Le Corbusier's later development of the free plan.

The firm of Perret Frères, consisting of Auguste and his brother Gustave, played an



85 Perret, 25 bis Rue Franklin, Paris, 1903.

Choisy, Professor of Architecture at the Ecole des Ponts et Chaussées, cultivated a deterministic view of history in which he argued that the various styles had arisen not as the sports of fashion but as the logical consequence of developments in building technique. His preferred examples of such technically determined styles were (after Viollet-le-Duc) the Greek and the Gothic, although it was, of course, his reference to the former that made him the last influential theorist of Classical Rationalism. Choisy succeeded a long line of such Rationalists, dating back like Guadet and Labrousse to the 18th-century theorists Cor-demoi and Laugier. Like most proponents of



86 Perret, Théâtre des Champs-Élysées, Paris, 1911-13. Section of the large auditorium, with reliefs by Bourdelle.

modated exactly within the confines of the site. Little of this dynamic structure is expressed on the exterior, which at the back and sides is generally rendered as a trabeated frame filled with brick. The main façade, however, is Classically treated, being faced with stone in a regular manner which is only tenuously related to the rich columnar subdivision of the foyer within. At the same time, the Symbolist culture of Paris, inherited from the Belle Époque, still found a certain expression — both internally and externally — in the low reliefs and friezes of Antoine Bourdelle, and in the mural paintings of Maurice Denis. This nostalgia for a mythological antiquity found further reflection in the handrails, light fittings and furnishings designed by Perret himself.

In the decade following the inauguration of this theatre in 1913, Perret Frères were occupied with a remarkable series of utilitarian ferroconcrete structures, including dock buildings in Casablanca and various workshops in the vicinity of Paris. Then suddenly, in 1922, came Auguste Perret's first church commission, Notre-Dame du Raincy, completed in 1924. Here Perret arrived at the most pure formulation

essential role in the development of Perret's style. In 1905 they erected a remarkable four-storey mechanical stacking garage in the Rue de Ponthieu. This was followed in 1912 by a house designed by Paul Guadet, Julien Guadet's son. Executed in reinforced concrete and rising in each instance to an attic floor or frieze capped by a projecting cornice, these works show the progressive refinement of a rational, trabeated Perret 'house-style'. Where the former may be regarded as having anticipated the format of Perret's later ecclesiastical style, the latter must be seen as the prototypical Perret façade, a modulated format that was given its ultimate expression in his reconstruction of Le Havre after the end of the Second World War.

In 1911-13 came the tour de force of the Théâtre des Champs-Élysées, following the unhappy confrontation between Auguste Perret and Henry van de Velde. Commissioned by the theatrical director G. Astruc in 1910, Van de Velde soon realized that on such a restricted site it was necessary to work in reinforced concrete, and he therefore hired Perret Frères as contractors. The decision was unfortunate, for Perret challenged the structural feasibility of his design, and proposed a similar scheme of his own. Within six months Perret's views had prevailed and Van de Velde had been reduced in status from collaborating architect to *architecte-consultant*.

While the plan and elevation of the Théâtre des Champs-Élysées were essentially Van de Velde's, its realization proved both Perret's mastery of detail and the technical prowess of the firm of Perret Frères. The programme required three auditoria, seating 1,250, 500 and 150 people respectively, with full ancillary space comprising stage, backstage, foyers, cloakrooms, etc., all on a site some 37 metres wide and 95 metres deep (120 by 310 feet). Perret suspended his main circular auditorium within a perimeter of eight columns and four bowspring arches, both elements being integral with a continuous monolithic frame that rose from a raft foundation. The basic matrix of the skeleton was augmented by the intelligent application of cantilevers and trussed girders, so that the required volumes could be accom-

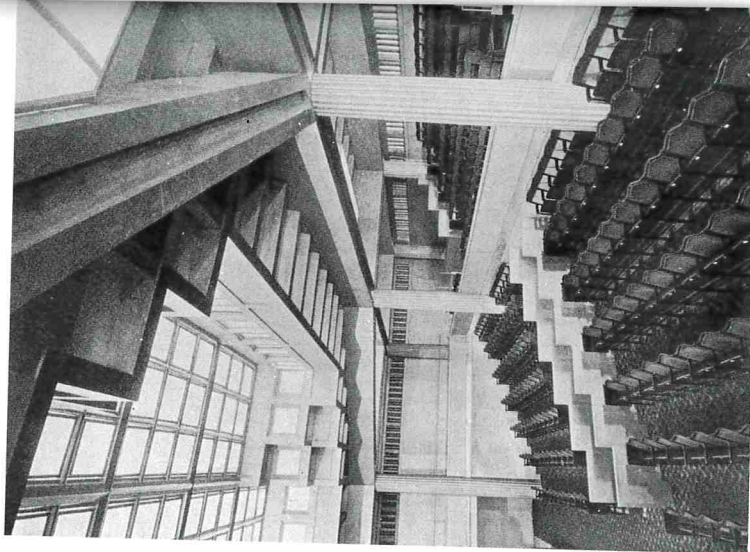
of his ferroconcrete style, almost twenty years after it first appeared in the Rue Franklin. The church was important not only for its elegant proportions and syntactic refinement but also for its formulation of the cylindrical column articulated within a non-load-bearing envelope. The precepts of Choisy were respected throughout, from the perforated, prefabricated wall screens to the fluted, tapered columns – each component reduced to its most explicit structural essence.

Immediately after Le Raincy, there came two temporary structures which were the climax of Perret's early career: his art gallery, the Palais de Bois, built in 1924 of standard timber scantlings which were reused after dismantling, and his small arena theatre in the Exposition des Arts Décoratifs of 1925. Whereas the art gallery, like the Le Raincy church, was one of Perret's most articulate structures, the temporary theatre of light-weight construction was designed to simulate a heavy monolithic frame. The actual structure consisted of circular timber columns carrying a grid of steel-reinforced light-weight clinker beams. The whole was finished internally in lathe and plaster and clad externally in synthetic stone. As such it was certainly removed from the structural purity that had always been essential to the Rationalist thesis. This 'deception' was excused by the designer on the grounds that had it been permanent he would have built it in reinforced concrete.

For all its impurity, the Arts Décoratifs theatre was the most lucid and lyrical statement that Perret ever made. Eight internal free-standing columns supported a ceiling 'ring' beam which through ingenious transformations across its four diagonal corners supported a gridded and coffered skylight over the cruciform arena. The transverse loads of this inner structure were to be transferred to a perimeter beam, supported by a system of free-standing columns regularly spaced around the outside of the auditorium. Externally, however, the expression remained awkward and these apparently 'redundant' columns that articulated the blank exterior reflected Perret's preoccupation with the creation of a new 'national-classical' style, an obsession that was severely to limit the development of his later work.

Apart from the lucidity of his architecture, and the extraordinary refinement attained in his built work, Perret's significance as a theoretician lay in his aphoristic, dialectical turn of mind – in the importance that he attached to such polarities as order versus disorder, frame versus infill, permanent versus impermanent, mobile versus immobile, reason versus imagination, and so on. Comparable oppositions may be found throughout the entire corpus of Le Corbusier's work. In the Exposition des Arts Décoratifs of 1925, however, the ways of these two figures had already begun to diverge, and not only in their respective exhibition structures, but also at the level of theory, for nothing could have been more removed from Perret's precepts than *Les 5 points d'une architecture nouvelle* that Le Corbusier published a year later in 1926.

87 Perret, theatre, Exposition des Arts Décoratifs, Paris, 1925.



Chapter 12 The Deutsche Werkbund 1898–1927

Britain, the pioneer, found it more profitable to invest her surpluses abroad than to modernise her home environment and production. This meant that the élan of 20th-century industrialism did not emerge in Britain. It emerged in a newer industrial nation like Germany, which, wishing to penetrate into new overseas markets traditionally preserved by the older maritime powers, systematically studied: the products of her competitors, and by typological selection and re-design helped to forge the machine aesthetic of the 20th century.

C.M. Chipkin
'Lutvens and Imperialism',
RIBA Journal, 1969

With the Prussian suppression of the Saxon Revolt in 1849 – a revolt in which both Mikhail Bakunin and Richard Wagner played prominent roles – Gottfried Semper, architect and liberal revolutionary, fled from Dresden, first to Paris, and then two years later, as the result of a special commission, to London. There, on the occasion of the 1851 Exhibition, he wrote his famous essay *Wissenschaft, Industrie und Kunst (Science, Industry and Art)*, published in German in 1852, where he examined the impact of industrialization and mass consumption on the entire field of applied art and architecture. A decade before William Morris and his associates produced their first domestic objects, Semper crystallized his critique of industrial civilization: 'We have artists but no actual art.' In tough-minded opposition to the Pre-Raphaelite dream of returning to a pre-industrial era, Semper took the view that

Unremittingly science enriches itself and life with newly discovered useful materials and natural powers that work miracles, with new

methods and techniques, with new tools and machines. It is already evident that inventions no longer are, as they had been in earlier times, means for warding off want and for helping consumption; instead, want and consumption are the means to market the inventions. The order of things has been reversed.

Later in the same text, he analyzed the impact on design of new methods and materials:

the hardest porphyry and granite are cut like butter and polished like wax, ivory is softened and pressed into shapes, caoutchouc and gutta percha are vulcanized and used to produce deceptive imitations of carvings in wood, metal, or stone, whereby the natural aspects of the simulated materials are greatly surpassed. . . . The abundance of means is the first serious danger with which art has to struggle. This term is in fact a paradox (there is no abundance of means, but rather a lack of ability to master them), yet it is justified in so far as it correctly describes the absurdities of our situation.

He then went on to ask:

Where will the depreciation of material that results from its treatment by machines, from substitutes for it from so many new inventions, lead? And where the depreciation of labour, of paintings, of fine art and furnishings, which originates from the same causes. . . . How will time or science bring law and order into this until now thoroughly confused state of affairs? How will it prevent the general devaluation from expanding into the area of work which is executed by hand in the true old fashion, so that one may find in it more than affection, anti-quarianism, superficial appearance and obstinacy?