

ON CLASSICISM

THE CLASSICISM OF AUGUSTE PERRET



Auguste Perret: Notre Dame du Raincy

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It seems to me that the most useful contribution I can make towards a realistic appreciation of this well-known taxonomical theme is by concentrating on the extent to which the character of Perret's architecture was a synthesis of the concepts of antiquity and mediaevalism developed theoretically in the late nineteenth century i.e. in the era in which he received his formal education. In this way I hope to dispose of the assertion, (implicit in the phrase "dilute classicism") that Perret's reinforced-concrete architecture was "insipid," in the sense that it demonstrated his inability to liberate himself from the stylistic nineteenth century trappings of neo-classicism. It is true that Perret's classicism was never 160 proof by comparison with that of the Bourbons; but it was certainly not watered down into the industrialized monumentality fostered by Peter Behrens. It was in fact an uncommonly potent, if unpalatable tincture, for which the recipe was, roughly, 50 parts of Classical Rationalism, dissolved in a distilled essence of Gothic Rationalism, plus of course the inevitable slice of lemon peel. The lemon in Perret's later architecture was provided by the taciturn acerbity with which he tried to refute, by his example, the volubly propagated apocalyptic theories of Le Corbusier, an acerbity which deepened into calculated antagonism when Le Corbusier's influence, or Amedée Ozenfant's money, gained control of the periodical *l'Architecture Vivante*, then edited by Jean Badovici. When the magazine had been founded in 1923, Perret was at that time regarded as the leader of the progressive architects, and he had supplied the lapidary definition of a "living architecture" which adorned the first page of *l'Architecture Vivante*. The first issue also contained full coverage of Notre Dame du Raincy, which was clearly intended to illustrate that definition: "Living architecture," he had written, "is that which faithfully expresses its epoch. It will be sought in every domain of building. Works will be chosen which, being strictly subordinated to their usage, and built by the judicious use of materials, attain beauty by the harmonious arrangement and properties of necessary elements by which they are composed."

But at the end of 1926, Badovici announced in an editorial that "Le Corbusier, the last of the present generation of young architects, is at the head of the avant-garde movement," and the 1927 issue saw a complete take-over by Le Corbusier and his friends, to the exclusion naturally, of Perret.

Notre Dame du Raincy has been succinctly described by Henry-Russell Hitchcock as an attempt to provide "what the mediaeval builders of St. Urbain at Troyes or King's College Chapel in Cambridge had obviously sought to achieve, namely a complete cage of glass supported by a minimal skeleton of solid elements." This building must have seemed of particular significance at the time it was built, because Julien Guadet had asserted, in his published lectures on the theory of architecture, that it was *impossible* to design a contemporary church. Now Notre Dame du Raincy has no specific elements of either Gothic or antique reminiscences in the interior. It has, however, obvious mediaeval affinities, whilst many of its features (such as the repetitive use of standardized "claustra," as fenestration units) are also in harmony with the ideals of the late Roman Empire, and hence of the Renaissance. Perhaps it will not be extravagant to compare it to the palace chapel at Versailles, which seems to me to have been a 17th century transmutation of the ideals of the Sainte Chapelle. In this respect it seems worth noting, in parenthesis, that although Perret advised Le Corbusier to visit Versailles, he frequently expressed his disapproval of the palace on the grounds that most of it was shoddily constructed.

As regards Perret's antipathy towards Le Corbusier, this was due essentially to Perret's unshakeable belief—acquired by studying Viollet-le-Duc's Dictionary at an impressionable age—that architectural form is essentially structural form and that, to use his famous aphorism, "architecture is what makes beautiful ruins." This radical difference of viewpoint between the two men is well exemplified by comparing the exterior of Le Corbusier's Villa Savoie, as it appeared in 1966, with the exterior of Perret's church at Le Raincy, photographed in the same year. The comparison is particularly apt in the present context, because it will be remembered that lack of sufficient funds obliged Perret to leave the



Le Corbusier: Villa Savoye (1966)

concrete surfaces untouched after the removal of the formwork—thereby providing the first example of *béton brut* in a monumental building. In this building, we can see exactly what the relationship between construction and architecture implied for Perret and, by contrast with the dilapidated Villa Savoye, what it meant for his erstwhile pupil.

1923 not only saw the completion of Notre Dame du Raincy and the publication of the first issue of *L'Architecture Vivante* it was also the year in which *Vers une Architecture* appeared as a book. And in that book, Le Corbusier vigorously rejected the principles of Gothic architecture as interpreted by Viollet-le-Duc and Anatole de Baudot, by demanding a reversion to the visionary neo-classical principles of Boullée and Ledoux.

For Le Corbusier, the prototypes of the new architecture were to be found in those buildings of the past designed by sculptors, rather than by architects. The lesson of Rome was to be learnt primarily from Michelangelo—whom Le Corbusier claimed to be the equivalent, in our own millenium, of what the creator of the Parthenon had been in the heyday of Antiquity. Moreover, he asserted that it was Phidias, not Ictinus, who had designed the Parthenon. Ictinus, according to Le Corbusier, had been of little consequence in designing the world's greatest example of *Une Machine à émouvoir*—"a machine for arousing passion." Indeed, he had demonstrated his ineptitude by designing other temples which Le Corbusier describes as "cold and rather insensible"—a phrase which suggests that the Temple of Apollo at Bassae should also be classified stylistically as "frozen classicism."

Le Corbusier's total rejection of Gothic Rationalism is here emphasized because it is not always realized that in attacking the academic establishment, he was attacking the synthesis of Gothic Rationalism and Classical Rationalism (and hence the first victory over 19th century Historicism), which had been the great achievement of Julien Guadet twenty years earlier: "I am firmly convinced," writes Gaudet "that, in everything, and especially in architecture, all basic studies should be essentially classical. To be classical is not to give one's allegiance to a party. It is neither exclusive or prescriptive. It is neither wilful blindness, nor self imposed restrictive

prejudice. It is the doctrine that the basis of study should be those elements which have been consecrated by reason, by logical tradition, and by a firm respect for higher principles. The adjective 'classical' implies stable equilibrium..." (It will be noticed that Guadet does not use the noun "classicism" though he had no objection to terms like "liberalism") "But this fine title 'classical' which, in art is the definitive canonisation, is not a matter of origins or of dates, of eras or of geographical locations. Everything is classical which deserves to be so, *without acception of time, of country or of school.*"

It was this doctrine which, in the first quarter of the present century, had been established as the orthodox theoretical basis of instruction at the Ecole des Beaux-Arts. Indeed, 1970 is the first year in which Guadet's famous treatise has ceased to be the standard textbook for French architectural students—thus producing a crisis, not only in French architectural education, but also in the French second-hand book market.

Julien Guadet's great achievement—apart, of course, from the systematic analysis of building-types set forth in his book—had thus been his scrupulous refusal to evaluate architectural merit on a stylistic archaeological basis. For the first time in a century—for the first time since the school was reorganized by Quatremère de Quincy after the French Revolution—the criteria of antique sculpture ceased to be the basis of architectural orthodoxy. Yet it was precisely back to those shackles (from which Guadet had freed Perret's generation) that Le Corbusier seemed evidently intent on leading the avant-garde.

The insistence on a non-archaeological evaluation of architectural merit, and the reconciliation of Classical Rationalism with Gothic Rationalism, is particularly apparent in Volume 3 of Gaudet's Treatise, where he discusses religious edifices. After pointing out the difficulty of dealing with the *theory* (as opposed to the *history*) of church architecture, he expressed the view that, in his opinion, the problem of designing a "contemporary church" was insoluble. One could design, he said, a contemporary hospital or a contemporary law-court, since this involved research into the present and the future. But how, he asked, could one possibly design a



Affleck et al: Place Bonaventure—Detail



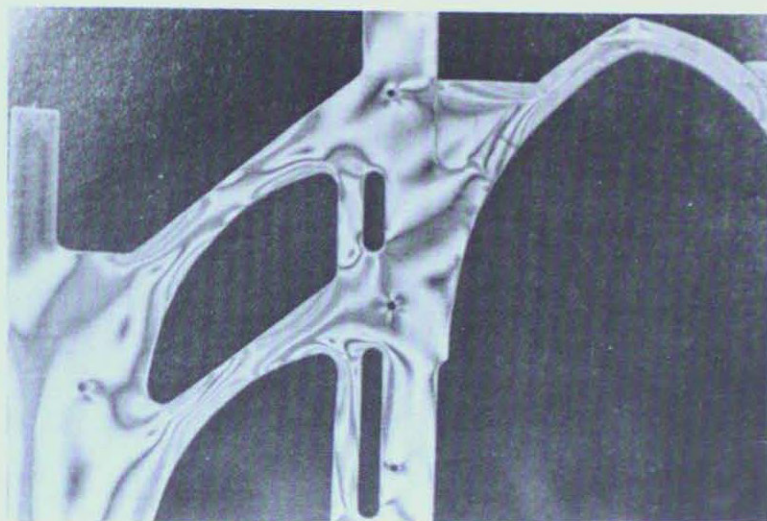
Auguste Perret: Mobilier National—Detail

church without falling back into the confusion between architecture and archaeology which had stultified architectural design for a century? Nevertheless Guadet, in accordance with his mandate, proceeded gallantly to give a general analysis of religious architecture, and it is worth noting that he not only devoted most of his analysis to *mediaeval* churches, but that he classified them by reference to the *structural systems* employed to roof them; concluding with a novel design for flying buttresses, which he and his colleagues had calculated in accordance with the most recent techniques of mathematical analysis. The example selected was the church of Saint Ouen at Rouen. Rather than show you his own drawings, I am here showing you the test models made recently by Professor Robert Mark of Princeton, who, at my suggestion analysed both systems by the most up-to-date techniques at the disposal of structural engineers. And though these photoelastic analyses seem to demonstrate that the *mediaeval* master-masons were as wise as Guadet, the significance of Guadet's academic exercise, and its relevance to the conflict between Perret and Le Corbusier, will be only too apparent.

The nature of the influence of Guadet's theory on Perret's architecture must surely help us to view the latter's work more sympathetically than as simply a superficial manifestation of 19th century Beaux-Arts classicism. Whether or not it is appropriate to describe the Mobilier National, built in the early 1930's, as "dilute classicism," I would certainly challenge the assertion made by our leading lexicographer of 19th and 20th century architecture that: "By 1930, Perret's architecture had definitely begun to date". Surely, the whole significance of Perret's contribution to contemporary architectural theory, at this time, is not that by the 1930's his buildings had "begun to date," but that on the contrary, his buildings had become virtually undateable. If, a thousand

years hence, the fragments of a building constructed by Perret or his pupils were to be excavated from the debris of a World War III, would it be possible for art historians or archaeologists to classify them stylistically to within five years? And would there, in fact, be any virtue in being able to date them thus, merely by inspection? Because if not, one may question the whole relevance of such terms as "neo-neo-classical" with respect to the evolution of twentieth century architectural forms in reinforced concrete and steel. The suppression of masonry and timber construction by the invention of new structural systems has, I suggest, made the continuity of such historical taxonomy entirely artificial and hence virtually meaningless.

Compare, for example, this detail of the Mobilier National with a detail of the Place Bonaventure in Montreal by Raymond Affleck and his partners. The superficial resemblance of the second building to Paul Rudolph's Art and Architecture Building at Yale is only too obvious; and since this kind of detailing which Paul Rudolph made popular, has now, according to the latest architectural magazines, "begun to date," the Montreal building may presumably be attributed with safety to the period: circa 1966. But if, instead of enquiring as to its date, we enquire as to the logic of using 8" thick solid cast-in-place concrete walls as the infilling of what is clearly a reinforced concrete frame, (rather than using thin pre-cast slabs less than 3" thick, such as Perret used in the Mobilier National) we find that we are dealing not solely with an abstract problem of art-historical taxonomy, but also with the much more realistic problem of technological judgement. Whatever may have been the sub-conscious urges of the *Zeitgeist* which prompted Raymond Affleck and his colleagues to be so art-historically contemporary on their surface, there were several very practical reasons—based on the climatic



Robert Mark: Photoelastic Analysis—Amiens Cathedral

conditions in Canada, and the relative financial economy of poured-in-place concrete in this particular structure which (as compared with pre-cast concrete), made this kind of walling virtually inevitable, whatever the detailing of its modénature. But if economic considerations had dictated the use of lighter infilling elements, recessed within the minimal skeleton, and if the climate of the locality had permitted the structural system of the Place Bonaventure to be exposed to the atmosphere (and hence to view), the result must inevitably have been a building which Mr. Affleck, to his consternation, would have found classified by many architectural historians as “frozen classicism,” “pseudo-classicism,” “stripped classicism,” “dilute classicism,” or even “an archaeological reminiscence of the eighteenth century.”

I would suggest, therefore, that such problems of classification are more validly studied in terms of the distinction between load-bearing masonry structures, and structural systems which make more effective and more distinctive use of the building materials of the present century. Whatever the stylistic inadequacies of Perret's buildings after 1930 (as compared with “the more revolutionary modern architects of the second generation”), no architectural historian could possibly be so myopic as to confuse Perret's detailing with that of, Charles Garnier, whose Opera House, constructed basically of carved free-stone, achieves, we are told, “a generically Neo-Baroque effect with elements mostly High-Renaissance in origin...despite...a curiously un-Renaissance spikiness and lumpiness.” Yet Perret and Garnier had this much in common: they both had a scorn for archaeological classifications when disguised as architectural value-judgements.

Garnier's un-archaeological approach, referred to specifically by Henry-Russell Hitchcock is, I believe, worth

emphasizing in the present context, particularly in the light of Garnier's *bon-mot* (here quoted by Pascal in the preface to a posthumous edition of Guadet's treatise) to the effect that “for an architect, everything which has been built merits the title ‘classical’.” No one could seriously assent to such a broad architectural definition; yet anyone who attends a performance in the Paris Opéra today might be permitted the reflection that this building, which has worn so well for a hundred years, and still fulfills its function so superbly, has acquired an architectural dignity which reduces to trivia the unfashionableness of its ornamental details, whether they may be described as neo-Baroque or Second Empire. This type of classicism has nothing to do with the taxonomical concepts implicit in the terms “neo-classical” and “neo-neo-classicism”; for as Guadet asserted in his treatise: “*Le classique ne se décrète pas, il s'impose*”—“Classicism is not simply an awarded title, it is a quality which compels recognition.”

Muarice Besset, in his recent book, *Who Was Le Corbusier?*, states in his preface: “the stage of post-Corbusierism is not yet with us: the challenge, fierce as it is here and there, has not yet resolved itself into a sufficiently coherent movement to mark the opening of a new phase, and with it, to establish for Le Corbusier a definite place in history.” This assertion may well be true of Le Corbusier; but one of the lessons of Perret's buildings is that Perret, in his search for that structural immortality which is the essence of true architectural classicism, had already established a definite place for himself in history by the time he was thirty. Hence any phrase such as “the stage of Post-Perretism” can have no semantic significance, because Perret himself was apparently indulging in flagrant Post-Perretism during the last and most prolific decades of his career.

GENIUS LOCI:

The Historic Continuity of Cities

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One of the most striking and perhaps most disquieting paradoxes of modern architecture is that whereas the "Pioneers of the Modern Movement" as Nikolaus Pevsner called them—"that generation of giants who created a new style independent of the past"—considered that their principal victory lay precisely in the overthrow of the 19th-Century concept of *styles*, no generation of architectural historians has ever classified its contemporary architecture into so many stylistic divisions as our own. "The styles," wrote Le Corbusier, caustically paraphrasing Viollet-le-Duc, "are a lie. Style is a unity of principle animating all the work of an epoch." Yet despite this perspicacious definition, and despite Walter Gropius's vehement assertion that "a Bauhaus Style would have been a confession of failure," the works of these men, like those of their contemporaries, are now being classified stylistically by architectural historians with such chronological exactitude that Pevsner has detected at least 18 recent examples of what he calls "a Return to Historicism" involving "the imitation of styles which had previously never been revived;" that is to say, of recent buildings constructed in *styles* presumably to be considered authentic only in the first quarter of this century. There is already, he explained in a lecture to the Royal Institute of British Architects, "neo-Art Nouveau (which includes neo-Liberty and neo-Gaudi), neo-de-Stijl, neo-School-of-Amsterdam, neo-German-Expressionism, and finally to a certain extent neo-Perret;" and he hinted darkly at the prospect of a Ronchamp Revival and the imminence of neo-Maison-Jaoul.

It must be said at once that the essence of Pevsner's total argument is an entirely convincing plea for the return to the principles of "form related to function," and as such no practicing architect could possibly quarrel with it. On the contrary, most of those who have read his lecture as published in the April 1961 issue of the *R.I.B.A. Journal* will have fully endorsed his general thesis, especially his tacit admission that Art Nouveau and German Expressionism are not only bad in their revived form, but were bad in their original form, and always will be bad, since neither "share with the early Mod-

ern Movement the regard for function." But one may wonder whether some of his examples of "Historicism" really are revivalistic (for that is what "historicism" means for him), or whether these returns to earlier forms are not occasionally justifiable within the principles of modern architecture.

Let us take, for example, one of the most striking buildings included in Pevsner's lecture, namely, the Torre Velasca in Milan by Belgiojoso, Peressutti, and Rogers. Since this building is constructed of reinforced concrete, with an exposed, cast-in-place frame, with intermediate precast mullions spaced at regular intervals, and with precast infilling panels, it might fittingly be included in the category he entitles "neo-Perret," especially in view of its structural similarity to Perret's apartment block in the rue Raynouard, Paris, built 30 years before. Moreover, the fact that one of the three architects responsible for the Torre Velasca published a biography of Perret in 1955 would seem to give weight to such an interpretation. Yet not only does Pevsner not classify it as "neo-Perret" (a term he reserves for Edward D. Stone's Rain-cid precast tracery); he labels it "neo-Art Nouveau" because it bears a superficial formal resemblance to a metal framed office building constructed by G.P. Chédanne in Paris in 1903.

The formal similarity between the upper part of the Torre Velasca and the upper part of the Le Parisien office building in the rue Rœaumur is indisputable; but it can be fully justified on purely functional grounds. The top six stories of the Torre Velasca are apartment floors, whereas the lower part of the building consists of office space, and the enlargement of the upper part corresponds quite rationally to the increased size of floor area demanded. Consider, for example, how the shape of the Torre Velasca was justified by G. M. Kallman, the exponent of "Action Architecture" (and now one of the architects of the Boston City Hall), at the time of its completion. "It is not a self-sufficient structure that could be located anywhere," he wrote in the *Architectural Forum* in February 1958; "instead it is a valiant essay in the neglected art of fitting modern architecture into a historic continuity of building, within which it seeks its own status. Unlike most modern architecture, which is displaced, rebellious, and alien to im-



Torre Velasca, Milan



Auguste Perret: rue Raynouard—Apartment Block

mediate environment, the Milan tower shows a definite response to the forms and figuration of its surroundings... The giant mushroom shape of the tower recalls medieval machicolated defense towers. The cagelike appearance of the exterior frame is more reminiscent of Gothic structure than it is of skeleton frame and curtain wall... *But the tower does not have a deliberately historicized silhouette...* The more closely the tower is studied, the more apparent its complex dialectic becomes—between function and form, construction and ornament, new technology and ancient forms." (Italics mine).

It seems therefore opportune to consider the whole question of "stylistic" imitation in the 20th Century, because it may well be that the depressing conclusions of modern art-historical analysis result simply from a refusal by art historians to distinguish between changes of style and changes within a style; to distinguish in other words, between what biologists would call mutations and variants. In architecture, this corresponds to buildings which are stylistically of a different species, and to buildings which, though stylistically of the same species, are unfashionable or archaic. I shall try to show that whereas stylistic imitation is as reprehensible as ever, variations within a style (that is, within "the unity of principle animating all the work of an epoch") constitute simply what William H. Jordy aptly calls "the overlapping gamut of expressive possibilities."

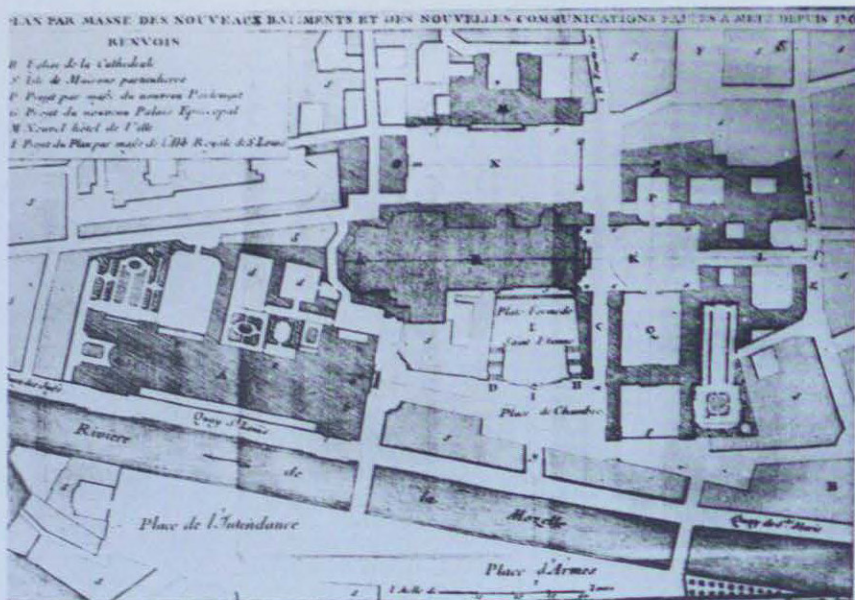
First, let us consider the meaning of the word "archaic." The notion that all living styles develop like living organisms, "and have their birth, growth, maturity and death," is at least as old as Vasari (from whom this quotation is taken), and seems a commonplace of every phase of architectural history except our own. Now archaism (birth and early growth) has two meanings in architecture, since architecture is both a science and an art. Either it means that a form has been scientifically or technologically superseded, in which case we say it is obsolete. Or it means that a form has been artistically superseded, in which case we say that it is unfashionable. The first kind of archaism is purely objective, in that what is technologically obsolete can never cease to be so for a given state of society (though it can nevertheless legitimately be employed—indeed, in my opinion should be employed—

whenever architects are obliged by circumstances to build with traditional building materials and methods). The second kind of archaism is purely subjective, since what was fashionable 20 years ago may well become fashionable again tomorrow. Thus architects should feel no shame at adopting archaic forms and techniques in order to harmonize new buildings with an existing architectural environment, *provided that they do not betray the contemporary principles of stylistic unity*; a unity which, in the 20th Century, is best defined by what John Summerson calls "obedience to the programme" (or as we usually say—functionalism) but which is also to be defined, to my mind, as the notion of the honest expression of the structural means employed.

This problem of creating environmental harmony with new buildings was the subject of a most interesting lecture given at the AIA Seminar at Cranbrook in 1961 by Dean Holmes Perkins. Why, he asked in effect, can we not learn the lesson of Assisi, of Venice, of Paris, where all the buildings, of whatever age, seem infused by some *genius loci* so as to exist in harmony with one another? Why, he asked, as he projected a sequence of splendid coloured photographs of these cities onto a screen in rapid succession, do we not still consider it our duty to fit new buildings into existing urban patterns and textures, as was done so successfully in the past? He gave no examples of how anyone had achieved such harmony in the 20th Century, and when questioned specifically on this point, with respect to Paris, said he did not know of any work by a reputable 20th-Century architect which fulfilled this condition.

Now it is not surprising that he was unable to give examples of harmonious modern buildings in either Assisi or Venice, since these cities are in no sense modern, and indeed for this reason were poor examples to take. But in Paris there is surely a very striking example of this kind of harmony to be found in all the later works of Auguste Perret, and perhaps in years to come, when architects are more concerned with creating humane environments than with becoming Form-Givers, his achievement in this respect may attract the attention it deserves.

There is no need for me to waste time justifying the 20th-



Metz Cathedral—Blondel's Plan



Metz Cathedral—Blondel's Portal



Library, Venice

Century character of 51-55 rue Raynouard from a structural or a functional point of view, since I have already done this in my book, *Concrete: The Vision of a New Architecture*. I would simply observe that by designing the building in accordance with the absolute limitations imposed by the Municipal Building Code, and by proportioning the fenestration in accordance with local traditions, Perret produced a building which is so unostentatious that those who travel through this old suburb of Paris would hardly appreciate that it was designed by a "Pioneer of the Modern Movement" unless their attention were specifically drawn to the plaque recently affixed to the wall. In this respect, it is vastly different from Perret's earlier and universally extolled apartment building in rue Franklin. Everyone knows the practical reasons why he was led to encase the reinforced concrete frame of the latter building in coloured tiles, and why he recessed the facade in the centre. But though this building is "stylistically" acceptable to the art historians (presumably because it is covered with the Art Nouveau decorations of the era, and possesses spatial qualities shared with some of Victor Horta's houses in Brussels), it is, from the point of view of urban environmental harmony, deplorable, since it is completely alien to the other apartment buildings in the same street.

Perret, who in his later years was accused by Le Corbusier of betraying the Modern Movement, undoubtedly lacked that abstract vision of a New Architecture which enabled Le Corbusier to envisage destroying the whole of Paris north of the Seine, and substituting a symmetrically arranged group of widely spaced cruciform glass prisms, 600 feet high. He was conservative, even prosaic, and he may well have inherited too many inhibiting traits from the parsimonious peasant stock from which he sprang. But he was a Parisian who loved Paris; who delighted in its character, its traditions, its atmosphere, and the way of life of its people; and it was in Paris that he mainly built.

If we return to Parisian architecture of the Renaissance period (the period, that is, which Perret's "frozen classicism" is usually accused of "reviving"), we also find examples of deliberate archaism, the most notable being the successive additions to Lescot's Louvre, and the alterations, made by Fran-

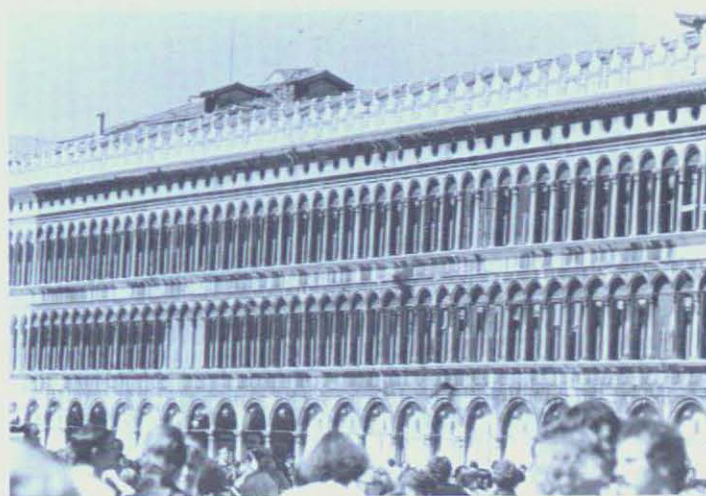


Piazza San Marco, Venice

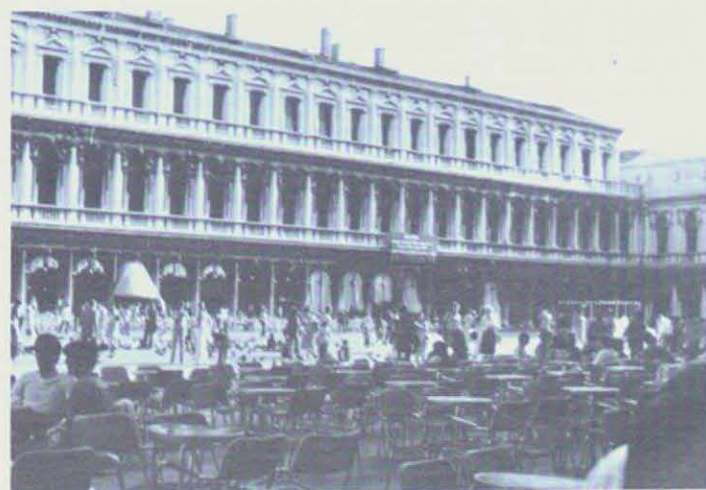
çois Mansart in the 17th Century, to Lescot's 16th-Century Hotel Carnavalet. When describing the latter building a century later (in 1754), Jacques-François Blondel, the future professor of architecture at the Academy School, wrote: "How many architects inferior to Mansart have buried excellent works in oblivion through fear of comparison with their own products, or through the ridiculous vanity of believing that nothing except that which is produced in their own time, or executed under their own orders, is worth preserving?"

Blondel himself later had practical experience of the same problem, and indeed, one of the most instructive examples of deliberate archaism in the interests of environmental harmony is to be found in the porch he added to the west facade of the medieval cathedral at Metz in 1764 (later destroyed to make way for a pseudo-Gothic porch during the German occupation of Alsace-Lorraine). Blondel's problem was to design a porch which would harmonize not only with the medieval cathedral, but also with the new buildings facing it which he was constructing as part of an urban renewal scheme. Now for anyone familiar with the surviving works of Blondel (who was among the leading French architects of his age), the resultant design must seem at first sight inexplicable, since, although it obeys all the principles of classical architecture, it in no way corresponds to the forms normally used by him, or by his more famous contemporaries such as A. J. Gabriel, the architect of the Petit Trianon. But on careful examination, it will be seen that his strange combination of elements (notably the Corinthian columns combined with a Doric entablature—an arrangement admitted by Vitruvius but never normally used—and the rather archaic pediment) are all attempts to create the impression of what we now call "Early French Renaissance," but which Blondel himself described on several occasions as "semi-Gothic." "Thus in its ensemble and its ornaments," he wrote, "the porch at Metz offers a composition in some way analogous with the upper part of this ancient edifice. My drawings will make clear the means used to conciliate this new structure with the ancient Gothic, as well as with the new surrounding buildings."

Admittedly, the porch at Metz is an obscure example. I shall conclude therefore, with the best known example of ar-



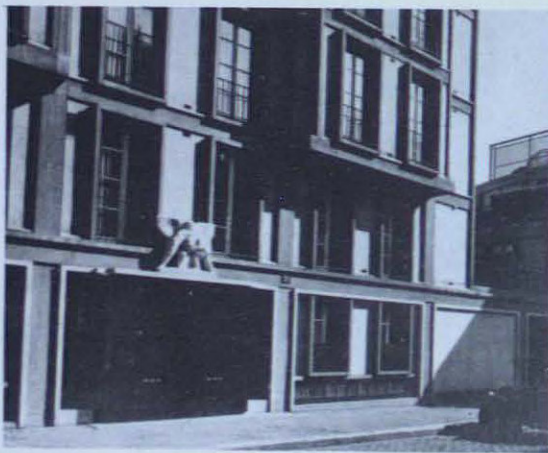
Procuratie Vecchie, Venice



Procuratie Nuove, Venice



Piazza San Marco, Venice—Early Stages



Auguste Perret: rue Raynouard—Detail

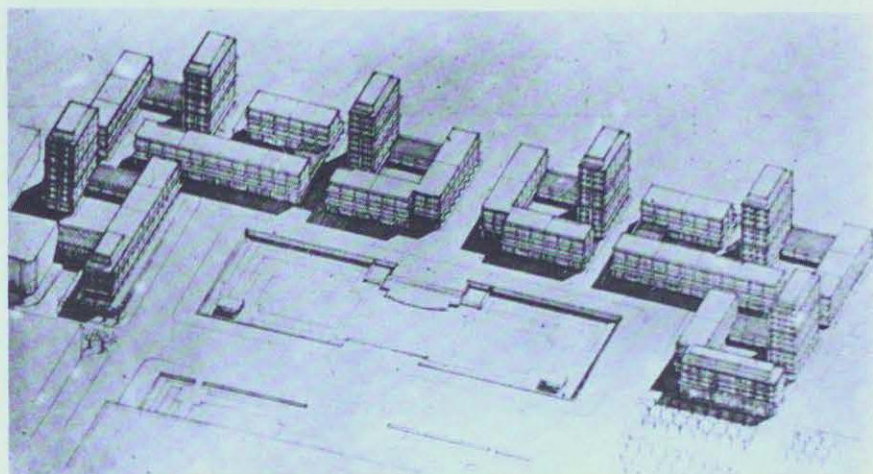
chitectural harmony given in the textbooks, namely the group of facades constituting the Piazza and Piazzetta S. Marco in Venice. These plazas are the classical historical examples of successful urban spaces; yet I have never yet seen any precise explanation of how the success was achieved, nor do I know of any author who clearly indicates that the whole sequence of facades is one of the most subtle examples of deliberate archaization ever built.

The basic civic building around which all others were consecutively assembled was naturally the Doge's Palace, built during the Gothic era. The new buildings, as they stand today, were successively the Procurazie Vecchie, 1520; the Library, 1536; and the Procurazie Nuove, 1584. Now if one inspects them carefully, it is obvious that all these later buildings were deliberately modelled on the Doge's Palace, which, it will be recalled, has two superimposed arcades, the upper arcading being provided with twice as many columns as the lower. The facade of the Procurazie Vecchie copies this rhythm exactly, by simply substituting semicircular Renaissance arches for pointed and trefoiled Gothic arches. The facade of the Procurazie Nuove copies the Library (which it adjoins), and substitutes only the upper story (required for functional reasons) in place of the heavy entablature used by Sansovino. It is the Library itself which is the most brilliant so-

lution of the problem, for not only does it manage to reflect the Palace's top-heaviness and crenellations by means of a classical entablature of unusually heavy proportions, and by means of classical statues, but it recreates the double rhythm of the Palace's upper story by the introduction of a sequence of "Venetian windows," cleverly syncopated by means of small Ionic columns spaced at half the intercolumniation of the larger Ionic columns within the upper superimposed Order of the main colonnade. Interestingly enough, Sansovino's archaism is never regarded as slavish "historicism" by today's architectural historians; on the contrary, his building is widely regarded as one of the greatest buildings of the 16th Century, and it was so regarded by his contemporaries, such as Palladio, who unashamedly "revived" it at Vicenza 10 years later by adopting the "Venetian window" motif for environmental reasons of quite a different order.

The means adopted in order to achieve harmony at Metz and Venice are thus basically identical with those used by Belgiojoso, Peressuti and Rogers in Milan, and by Perret in Paris. Without in any way compromising contemporary principles (which in the 16th Century were based on the classical Orders, and in the present century are based on rational structures and functional plans) all these architects deliberately disciplined their architectural forms to harmonize with earlier buildings nearby. They did not produce anything which art historians could recognize and classify as a new "style." On the contrary, they produced work so unostentatious as to be positively banal, especially if one uses the word in its strict etymological sense of as meaning as "common to all" the buildings around them. Nevertheless, it might not be a bad thing if more facades in our cities were as banal as the facades of Metz and Venice; for a Perret once remarked: "He who, without betraying the modern conditions of a programme, or the use of modern materials, produces a work which seems to have always existed, which, in a word, is banal, can rest satisfied. Astonishment and excitement are shocks which do not endure: they are but contingent and anecdotic sentiments. The true aim of art is to lead us dialectically from satisfaction to satisfaction, until it surpasses mere admiration to reach delight in its purest form."

STANDARDIZATION IN URBAN SPACE



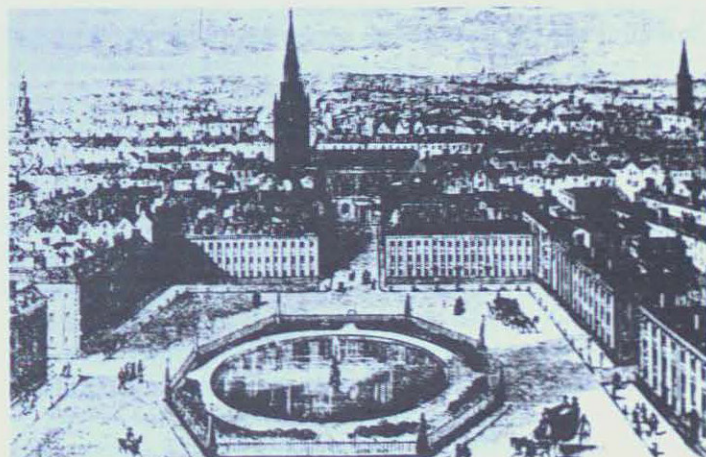
Cité du Havre— City Hall Plaza

Reprinted from a paper delivered as the Preston Memorial Lecture at Cornell University, on February 14, 1978.

Le Havre is the second largest port in France, at the mouth of the River Seine. After the occupation of France in 1940, the Germans used it as their major submarine base for attacking shipping in the Atlantic. For this reason, it was a major target for the allied air forces. The city was bombed 170 times, and the final bombing was an elaborate technique called "pattern bombing," in which waves of bombers went over the town and laid waste half a square mile of the center of the city. They didn't do any damage to the submarines; but they completely obliterated the whole core of the city.

In 1945 this devastation presented one of the major problems of urban reconstruction. The French government asked Auguste Perret, who was over 70 then, to take charge. He formed a team of about half a dozen of his former students to help, and between 1945 and 1947 they elaborated a plan which was based on a grid, with its intersections 21 feet apart. The intersections were to be the axes of the columns. What Perret was trying to do was create an urban environment of a uniform scale; and since the ground was very poor and needed pile foundations anyway, he reckoned that if the columns of the buildings were all spaced on this grid, a uniform scale would be achieved over the course of the years. It was obviously going to take many years to complete this scheme. It involved some very complicated legal manipulations. The old town had contained some areas that were very densely populated and others much less densely populated, so it was decided to disregard the existing medieval street pattern (which had been virtually obliterated) and design a new street pattern based on the grid. This street pattern had as its focus the new city hall with a plaza around it, and it is the area about that plaza and the principles involved that I want to discuss. These principles, as I understand them, are: what historical justification has one for believing that it is possible or desirable to create a plaza in which the structural elements are based on a standard grid? To what extent is this notion of a standard grid compatible with contemporary theories of construction?

Let us consider first an early drawing for the project for



St. James Square, London

St. James' Square in London, and compare it with what actually exists today. The drawing shows that it was originally thought of as being composed of standardized units. It was envisaged as being completely uniform and is an exact square on plan, about 150 yards by 150 yards. The original idea, which was quite clearly derived from French sources, was to have a uniform, harmonious environment in which housing units would be repeated the whole way around. What actually happened was that the various lots were sold to different people at different times, and these people built according to their individual tastes; sometimes even in different materials. It seems to me that these juxtaposed pictures show that there are four basic questions involved in all urban plazas which are created deliberately. Is standardized organization more desirable than the picturesque kind of building, in which there is no attempt to create uniformity? If we assume, for the sake of argument, that it is considered desirable to build according to a uniform standardized scheme, how can this be accomplished and how can the uniformity be maintained? How logical is it, from the point of view of building technology, to build in a completely standardized way? To what extent does that kind of standardization allow sufficient adaptability to suit the needs of individual plans?

The first issue is purely a matter of taste. This can be



Place des Vosges, Paris

profitably discussed; but I am only concerned with the other three issues: namely, to what extent can standardization be achieved and maintained, to what extent does it conform to the norms of standard building techniques, and to what extent does it allow for flexible planning?

As regards the imposition of controls and their enforcement, this is essentially a legal matter. St. James' Square was built on property that was initially owned by the king. If buildings are on crown land or state land, it is possible to establish all sorts of controls that cannot be introduced if the property is owned freehold by separate individuals. In fact, regulations were indeed made for the control of St. James' Square; but they were not enforced.

One of the buildings was designed by James Stuart, best known as one of the authors of *The Antiquities of Athens*. It displays a giant order that could be classified art-historically as both "Palladian" and "Greek Revival." The proportion of window to wall gives an idea of the kind of proportion which resulted, in those days, when an architect was not obliged to conform to a predetermined plan. These proportions do not conform to those of the façades of the earliest houses in the Square; but they do conform to a standard accepted in the 18th century, namely Palladian standards.

It seems to me that one must begin any study of architectural standardization of urban spaces by considering the fundamental difference between the standardization of structural elements which enclose spaces, and the standardization of structural elements assembled to create objects.

The Palazzo Piccolomini at Pienza does both. It was built according to Alberti's theories, and illustrates very well the reason he was so keen on having pilasters carved on the façades. He called the intervening spaces "false apertures," and went so far as to say in his *Treatise* that, ideally, each pilaster should be a single stone. Whether they are made of a single stone or carved out of masonry walling (as at Pienza), you can see that they don't have to be there at all. Yet Alberti, and those who followed him, had a very deep sense of their importance as elements of proportion. Proportion in architecture is not just a mathematical abstraction. Something visible has to be proportioned; and what they proportioned

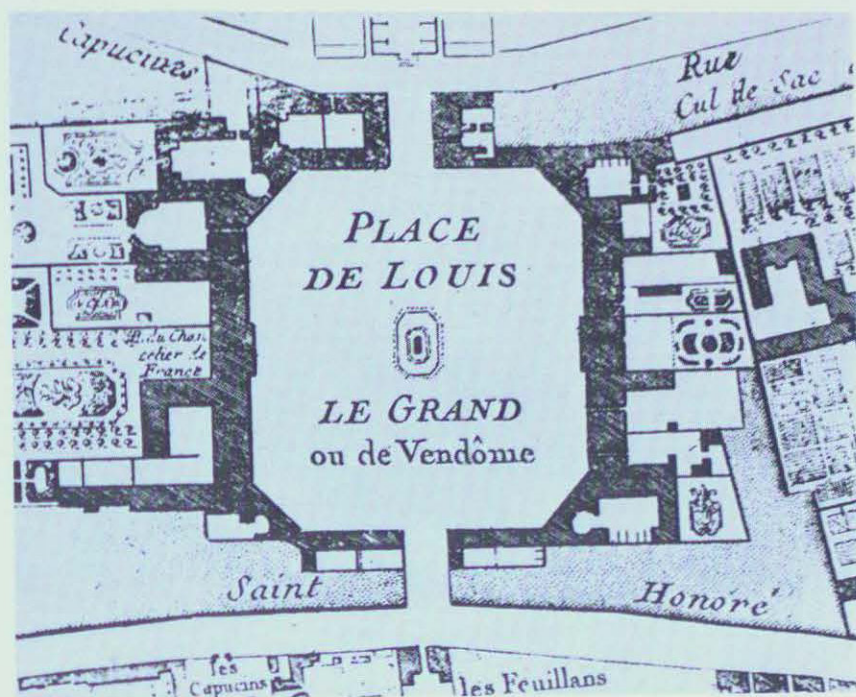
here were the spaces between the pilasters: then considered the very essence of architectural order.

When Mies van der Rohe built the Promontory Apartments in Chicago with a reinforced concrete frame, he left the structural concrete pilasters visible externally. But he realized that the effect produced was disastrous (mainly because he didn't know how to deal with concrete), so he decided that in future he would encase the whole of a building in metal elements that merely looked like pilasters and fill the spaces with glass. One can justify these on structural grounds by saying that they hold the glass in place; but we all know that they are much larger than was structurally necessary. He usually spaced the structural columns at 21 foot centers, and divided this grid into 4 bays, giving a module of 5'-3". This particular module may seem arbitrary, but it is not. It is something that was carefully worked out during preliminary studies as the module most adaptable to rooms of various sizes: one, two or several bays wide.

It strikes me as interesting that when Perret and his team were independently working on the reconstruction of Le Havre, designing apartment buildings to house 40,000 people, they also came to the conclusion that the ideal fenestration module was 5'-3". This must have proved itself as being right, because twenty years later, Mies van der Rohe designed a group of buildings in Montreal using exactly the same module.

These examples may seem to justify the notion which was propagated by Le Corbusier and which became very popular after World War I as a result of the mass production of munitions: namely the applicability to architecture of industrial standardization. But when you look at the totality of Mies's Westmount Plaza in Montreal, you can see something which, to me, is a rather disquieting characteristic of the Bauhaus attitude towards architecture in general, and urban spaces in particular. Westmount Square is not an enclosure of space; it is a series of objects in space. The buildings are objects which do not form the plaza, but stand on the plaza. The plaza itself is not defined as a space, but as a podium or mini-Acropolis.

This kind of architecture is no longer universally admired. Le Corbusier's plans for ideal cities, particularly his



Place Vendôme, Paris

project requiring the demolition of two square miles in the center of Paris, is no longer universally acceptable. And we can now understand why Parisians were not sympathetic to his ideas. You will have noted that at Le Havre the demolition had already taken place. Hence Perret's decision to re-design the whole town on a grid did not involve the negative aspects of Le Corbusier's ideals which so many people find objectionable today.

St. James' Square was obviously envisaged as being like the Place des Vosges in Paris, or Place Royale as it was formerly called. This had been built by Henry IV, grandfather of Charles II, in whose reign St. James' Square was laid out. Charles II, and many noblemen who had remained loyal to him, had just returned from 13 years exile in France; so there can be no doubt that the original concept of St. James' Square was based on the Place Royale. Both were built on ground which had been gardens of royal palaces, and Henry IV's plaza was the same size as the one in London.

It should be noted that although the plaza in Paris is square, the configuration of the total area of the land development is not. Originally, a crucial idea in the development of urban spaces was that once you have established the inner perimeter of the plaza you have a great deal of liberty in the development of what happens behind it. In Paris in 1605 (when the country was recovering from civil war and the Treasury was bankrupt), it seemed that the best way to achieve complete uniformity all around the plaza was to build one side, and then, by legal constraints, oblige every purchaser of the remaining lots to make the façades identical. This legal technique is known as a "restrictive covenant." As part of the contract, the purchaser takes the land on condition that he observes certain obligations; and the obligation imposed on property in the Place Royale was that every house had to be identical, that no property could be subdivided between heirs, and so on. A painting done in 1613 shows that still, after 470 years, the appearance of the plaza is unchanged despite all the changes in use and all the changes in social conditions that could have affected its appearance.

Why did people find such pleasure in an orderly, symmetrical space? Do ordinary people experience the same

pleasure today? Perhaps psychologists have the answers. But I don't think the merits of symmetry would have ever been questioned in the Renaissance, and during the four centuries which followed it. I think symmetrical space was valued for its intellectual quality. Wherever you moved it, you were always aware of its unity, its geometrical perfection. This was surely the main value attached to the notion of creating certain symmetrical urban spaces within the network of irregular street-patterns, such as one finds in Paris.

Another example of a symmetrical standardized plaza in Paris is the Place Vendôme. Again, it was built on the site of a garden: property owned by a single person. It was bought by the king, who originally envisaged having a square open space which would be surrounded by government buildings, and would be open on one side to what was then the main east-west thoroughfare. But he ran out of money and sold the land to the city of Paris, which agreed to buy it on condition that the land should be for domestic architecture. The size of the plaza was decreased to obtain larger lots; and the way uniformity was achieved, in this instance, was by building the facade first, and then selling the land behind it afterwards. The first lots were sold in 1699; and it was 20 years before they sold the last. Progressively, a series of houses were added behind the façade, which was built of masonry propped up by buttresses until party-walls could be added at right angles to stabilize it.

Some of the lots were larger than others, and some, especially those in the corners, involved some very tricky planning. I find it fascinating to study these plans and see how ingenious the architects of that time were. These architects managed to create all the space requirements of their wealthy and exacting clients and yet submit to the constraint of the facade. One of the advantages of this "preconstructed" facade is that it is still very easy to maintain the unity of the plaza when changing the accommodation behind it. For example, one corner of it is now the large modern head-office of IBM in Paris. By contrast, the Ministry of Justice established there before the French Revolution retains its original use. Most of the insides of the buildings have been totally transformed; but the public environment remains intact. The legal



Palazzo Piccolomini—Detail

restrictions imposed by the monarchy no longer exist; but successive municipal governments, concerned with the quality of urban life, have maintained the restrictions originally imposed.

In this plaza the most important module was not so much the size of the window, but the size of the ground-floor openings. These arches had to be wide enough for coaches, and span 9 feet. The window module is 5'-6"; only 3" larger than Mies' window module. The module of the pilasters and half-columns is 2'-6". Every single element is governed by one of these modules.

In our own day the great advantage of standardization, as we see it, is mass production. But these earlier standardized facades were not composed of units stamped out by machines, cast in moulds, or extruded: they were carved by hand. The man in charge of the architectural decoration of the Place Vendôme was one of the leading sculptors of his day, a specialist in architectural sculpture. His name was Jean-Baptiste Poulthier, and he was a member of the Academy of Sculpture.

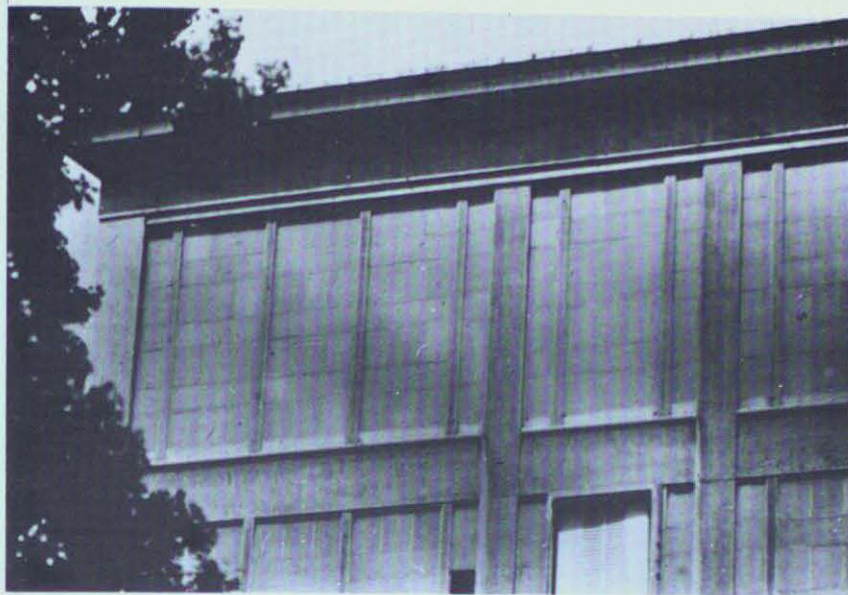
The area of the Place Vendôme is almost the same as the earlier plaza I have mentioned; and I feel certain that the architect who designed it, Jules-Hardouin Mansart, must not only have studied it, but also studied the visual effects of the great courtyard of the palace of the Louvre, a very obvious prototype. The Louvre courtyard was originally planned to be only a quarter of its present size; but it was enlarged in 1624 by adding a pavilion to Lescot's facade and repeating this symmetrically to produce a square, 128 x 128 yards. Its function was different from that of the Place Vendôme; and its third storey was only completed in the mid-18th century. But the heights of both facades were exactly the same in 1699: 58 feet. The main difference at that date was that the height of the masonry facade of the Place Vendôme contained three floors, whereas there were only two stories in the unfinished courtyard of the Louvre. For architects who weren't searching for novelty, but for perfection, the best way to achieve it was to study something which was already done, and see if it could be improved.

During the two centuries after the Place Vendôme was built, the scale of Parisian plazas increased. It increased in the Place de la Concorde, built in 1764. In the plaza built around the great Arc de Triomphe, constructed about 100 years ago by Napoleon III, the diameter of the open space was 240 metres (2.3 times the size of the Place Royale), and the whole significance of standardization tended to change because of the change in scale.

I have tried to explain the concept of standardization in its historical context: to demonstrate the difference between Renaissance notions of standardization, as understood in the 18th century, and the notion of standardization as understood by Mies van der Rohe. I want now to discuss Auguste Perret's ideas, and it will be best to begin by showing you a building that he designed in 1934, the Mobilier National, because this is like the Palazzo Piccolomini, in having an internal courtyard, and being externally an "object in space."

The Mobilier National, perched on a diagonally sloping site, was a difficult problem, because it had to fulfill diverse functions. It was to house all the state furniture (much of which had been confiscated during the French Revolution) still used to furnish embassies, ministries of the state, and so on. It also needed facilities for cleaning and restoring the furniture, for exhibiting parts of the collection to the public, and for administration of all these different operations.

Though with numerous conflicting requirements, Perret decided to adopt a standard column-spacing. Originally the axial spacing was exactly 6 metres (about 20 feet) enclosing a corridor, 3 meters wide, which ran down the middle of the main block. Externally, it was divided very much as Mies would have done it, except that whereas Mies would have used an enclosing skin of glass and metal, Perret used an infilling of precast concrete panelling, and precast window-frames within the visible reinforced-concrete skeleton. As in Mies' multi-storey buildings, everything was standardized. But it must be emphasized that, for Perret, standardization meant something more subtle than "mass production." Everything in the building was "made to measure" and even the precast elements were fabricated on the site.



Mobilier National—Detail

After working on the preliminary drawings, Perret eventually concluded that, with a structural grid of 6m00, the building was slightly too large. He therefore reduced the standard bay by about six inches to 5m84. The resultant standardization only related to this one particular building: a point of particular relevance to the way he was later to develop the plan of Le Havre, especially the city hall square. All his structures, or groups of structures, were thus not merely standardized, but standardized in accordance with each specific problem.

At Le Havre there are also standardized windows and panels of precast elements, and this was the basis for the whole of the plaza in front of the city hall. Perret's office worked it out on the basis of a structural grid of 6m40, with a module of 80 cms (about 21 inches). This again was ultimately modified slightly (to 78 cms) to allow for greater flexibility of the arithmetic multiples. It wasn't a round number; nor was the structural grid (6m24). Everything was finely adjusted to what was required for the internal accommodation. It should be noted that three of these modules make exactly 5'-3", and this was the size of each window.

The plaza was designed to create a focal point: a nucleus for the radiation of the plan. The size of the plaza (46,258 m²) bears a close relationship to that which was ultimately created around the Arc de Triomphe in Paris. When the plaza at Le Havre was completed in the mid-1950's, there was a tendency at the time (since Le Corbusier's ideas on urban planning were still architectural orthodoxy) to dismiss this design as being merely an insipid version of the town hall square at Nancy. It is certainly a version of it: an essentially French concept, reinterpreted by Perret with a new structural system in another French city. The skeleton frame around the plaza is only three stories above the free-standing columns, with shops on the ground floor and apartments above. The tower blocks were placed in such a position as not to destroy the continuous cornice-line of the plaza as seen from within.

Hence Perret, despite all the pressure on architects at that time to "destroy the street," and to design all buildings as objects in space, persisted in his endeavours, even though

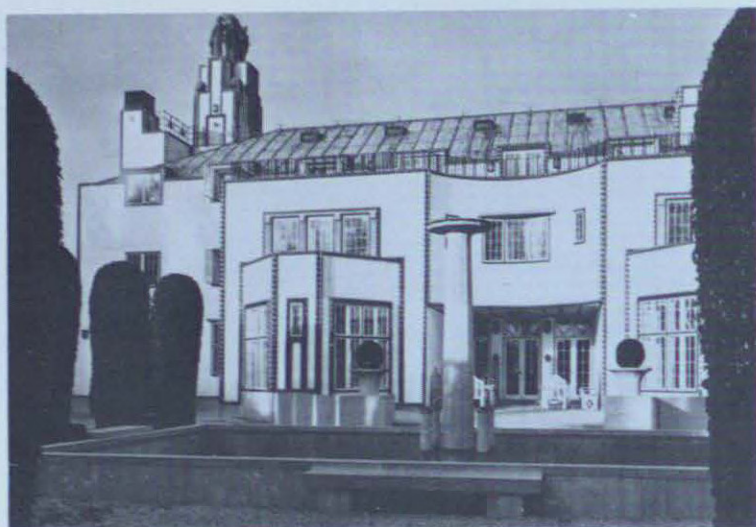
he knew he was regarded as a reactionary. Some critics still dismiss this as "frozen classicism;" but he persisted in his belief that urban architecture was something that *enclosed* space; and insofar as he accepted that certain buildings might appropriately be "objects in space," these were the public buildings of the city.

For it should be noted that whereas the facade of the city hall at Nancy is exactly like the facades of the buildings which flank it on each side, the city hall at Le Havre is quite different. It has a different scale from that of the apartment buildings which surround it, and it is to a totally different design.

Perret shared Le Corbusier's belief that the beauty of the Parthenon resides not so much in the use of standardized forms, as in the delicate refinement of those standardized forms. But unlike Le Corbusier (who never seems to have perceived that mass produced standardization precludes such adjustments), Perret introduced Greek subtleties whenever an appropriate opportunity presented itself. In the larger and more important monuments he built, such as the Musée des Travaux Publics in Paris, he took advantage of the properties of the wooden formwork (which is flexible, as compared to the carved marble of the time of Pericles) to introduce entasis to his 42 feet high monolithic concrete columns. Each is adjusted so that it leans slightly to give horizontal and vertical curvature to the superimposed beam.

The prototype for this Museum was the main facade of the Louvre; but the whole structural system was entirely different. Was Perret simply imitating this kind of classicism because he didn't have any ideas of his own? I think he had ideas which may be very important to architects today, such as a profound sense of *place*. The plaza is in front of the Hotel de Ville at Le Havre is indeed called a "Place." It is imbued with French tradition, and with a sense of environmental identity of which the international style robbed us for half a century. A sense of place is now, I think, beginning to regain its rightful priority in our concept of architecture; and for this reason, if for no other, Perret's buildings can profitably be reappraised today.

FORM FOLLOWS FURNITURE



Josef Hoffmann: Palais Stoclet, Brussels

Robert Schmutzler, *Art Nouveau*

Reprinted from the March, 1963 issue of *Progressive Architecture*, copyright 1963, Reinhold Publishing. This article originally appeared under the title "Furniture Givers as Form Givers."

It was not until about 60 years ago that the ultimate test of architectural genius became whether or not one could design a new kind of chair. There were of course architects in earlier eras who made names for themselves as chair designers, such as Robert Adam. Moreover, as early as 1883, Montgomery Schuyler criticized a building by McKim, Mead & White as looking "less like a work of architectural art than a magnificent piece of furniture." But it was only when the German Arts and Crafts Movement was established at the beginning of this century that the ability to design chairs was regarded as important evidence of architectural aptitude, and the idea of regarding a man like William Morris as the first of the "Pioneers of the Modern Movement" would have been inconceivable before the era of what industrialists call "styling," and what architects (who understandably hate this word) usually term "industrial design."

By a curious paradox, it was largely because of the unquestioned belief, in the mid-18th Century, that architecture was the Mother of the Arts that this new idea asserted itself. Immanuel Kant, in his *Critique of Pure Reason* (1781), used "Architectonics of Pure Reason" as the title of the penultimate chapter of his book, because "architectonics" was the best word he could think of to express the notion of a complex system of rationally assembled components in the domain of abstract ideas. But a century and a quarter later, the word "architectonics" came to be used by German industrialists as a synonym for what they also called "pure functional art" (*reine Zweckkunst*)—presumably because, in some vague way, they thought that "pure reason" could be equated with "pure form."

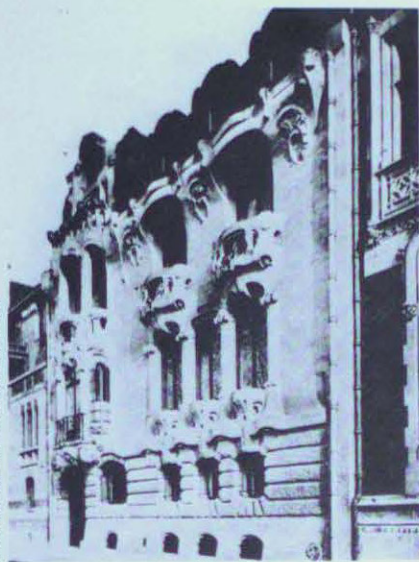
It was in this sense that Hermann Muthesius, the Prussian civil servant who was sent to London in 1896 to study British architecture and industrial design, used the word "architectonics" when justifying the establishment of the *Deutscher Werkbund*. Form, he proclaimed, was above all "architectonic," and he cited the Greek temple, the Roman thermae, and the Gothic cathedral. Most significantly of all, he

also cited "the princely salon of the 18th Century"—i.e., the decoration and furnishing of luxurious interiors, with which, at that time, industrial design (or, as it was then called, "decorative art") was mainly concerned. Thus, the re-establishment of an "architectonic culture" was for him a basic condition for the improvement of all the products of industry. "Germany's vocation is to resolve the great problem of architectonic form...the whole class of educated Germans, and above all wealthier private individuals, must be convinced of the need for pure Form."

Ideals such as these were responsible for the general philosophy of the Arts and Crafts School founded in Germany at this period, the most influential being the school at Weimar directed by Henry van de Velde, the famous exponent of Art Nouveau.

The role played by Art Nouveau in reinforcing the idea that architectural forms are analogous, if not interchangeable, with those of furniture is only too obvious, as anyone can see by comparing the illustrations of Art Nouveau furniture and Art Nouveau buildings in S.T. Madsen's well-documented monograph. Even Sigfried Giedion has remarked that "in Austria around 1900, the movement was from handicrafts to architecture and from architecture to handicrafts," and that "as late as 1914, in Hoffmann's Stoclet House in Brussels, the influence of the cabinet-maker is still evident"—a fact also remarked upon by Eric Mendelsohn. Now Art Nouveau's principal ancestor was unquestionably the Rococo style of the mid-18th Century, and Madsen very properly draws attention to the fact that the city of Nancy, which contains some of the finest architecture of the Rococo period, is also the city where French Art Nouveau first emerged. What he fails to emphasize, however, is that the characteristics generally described as Rococo were, in France at any rate, specifically confined to the interiors of buildings, and that the only Rococo features on the exteriors of the buildings surrounding the plazas at Nancy are confined to the ornamentation of the keystones and the vases which surmount the balustrades.

This fact is of considerable importance in the present context. The façades constituting the two main plazas at

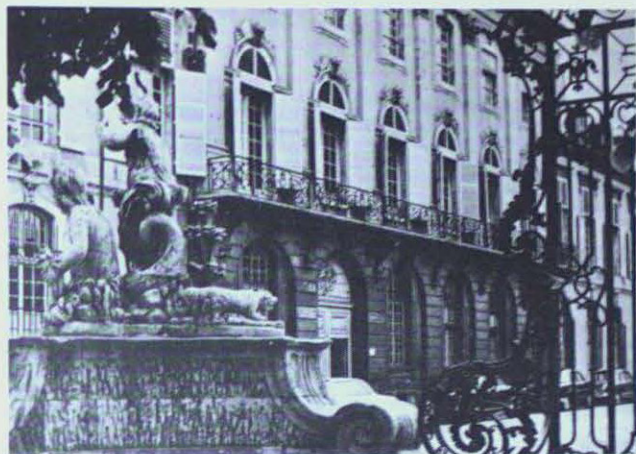


Schoellkopf: Hôtel Guilbert

Nancy were by Emmanuel Héré de Corny (1705-1763), who based them on those of two buildings in Nancy by his master, Germain Boffrand (1667-1754). Boffrand was not only one of the greatest architects of his day, but, together with Jean-François Blondel (1681-1756) and Robert de Cotte (1656-1735), was one of the first to establish himself as an interior designer. His interiors, to which his designs for furniture (such as console tables) were carefully fitted, have been described by one recent author as being among "the great masterpieces of Rococo art." Yet his exterior façades, and those of his pupil Héré de Corny, are as severe and as classical in their use of standardized tectonic elements as those of his own master, J. H. Mansart, and indeed depart little from the French tradition of the previous 100 years.

Boffrand's own views on this matter are quite explicit, and, in view of the popular misunderstanding of the nature of French Rococo, are well worth quoting. "Fashion, at various times (and especially in Italy) has taken pleasure in torturing all the parts of a building, and has often tried to destroy all the principles of architecture, whose noble simplicity should always be preserved," he wrote in his *Livre d'Architecture*, published in 1745. "Ornamentation has (in the work of Guarini and Borromini) passed from the interior decoration of houses, and from the carved woodwork for which delicate work is suitable, to exteriors, and to works in masonry, which require to be worked in a more vigorous and more masculine way."

Since the notions which Boffrand condemned were also popular in Germany, Spain, and the Spanish Netherlands, it is not surprising that a Belgian Art Nouveau decorator should so easily introduce into Germany the idea that architecture and furniture are designed in much the same manner, especially after Muthesius had paved the way. Van de Velde, whose training and experience prior to opening his Decorative Art Workshop near Brussels in 1894 had been that of a painter, naturally showed himself less sensitive than Boffrand to the distinctions between architecture and furniture, or to those between the private, ephemeral interiors of buildings and the public, permanent character of exterior structures. Moreover, not having even been trained as a craftsman in wood or metal, he had no sense of the nature of materials, as

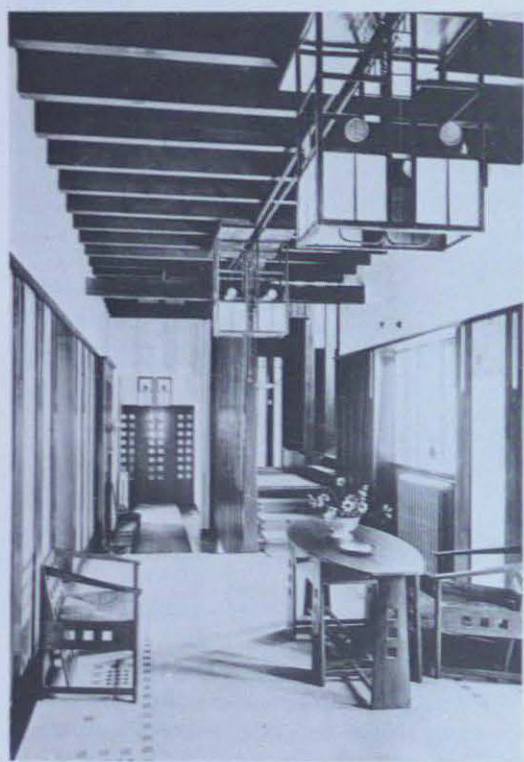


Germain Boffrand: Hôtel de Beauvau—Craon

Auguste Perret soon demonstrated with respect to his facade for the Théâtre des Champs-Élysées (a commission which van de Velde then resigned in Perret's favor). Thus, when van de Velde's attention was called to the fact that his furniture was constructed in open conflict with the nature of wood, he declared, according to Kurt Behrendt, that for a long time he had been convinced of wood's inadequacy as a material for his designs, and that he anticipated the discovery of a more suitable material which could be cast.

Since cast furniture can be mass-produced with relative ease, few people will regret that the influence of Art Nouveau was so short-lived. Indeed, it would not have lasted as long as ten years had not its reputation been artificially inflated by the energetic enthusiasm of Sigfried Bing, who made a living out of selling its more exuberant manifestations, and by the sudden appearance of a number of new Decorative Art magazines. What is surprising is that it was succeeded not by something more rational, but simply by something more angular. Thus whereas van de Velde's chairs, though structurally irrational, were at least sufficiently sinuous to accommodate themselves to human posteriors, those designed by Constructivist, and Neo-Plasticists, such as Gerrit Rietveld (who should have known better, since he was a master cabinet-maker), were pure geometric abstractions, and seem to have had no merit except in terms of the Dutch art movement that was known as *De Stijl*.

The *De Stijl* movement was, in general, undoubtedly instrumental in promoting the cause of non-representational art (if by this one means painting and sculpture). But the *De Stijl* chair was not; for all chairs are nonrepresentational, from the most archaic three-legged stool to the more sophisticated masterpieces of fiberglass and foam rubber produced today. Where the *De Stijl* movement was original, as regards furniture design, was in creating the first chair deliberately designed, not for comfort, not for dignity, not for elegance, not for rational assembly according to commonly accepted principles of woodwork, but simply "designed." Even Theodore Brown, Rietveld's biographer, has had to confess, in the five lengthy pages he devotes to this chair, that "the jagged, angular quality of the piece, as well as its hard surfaces, are not

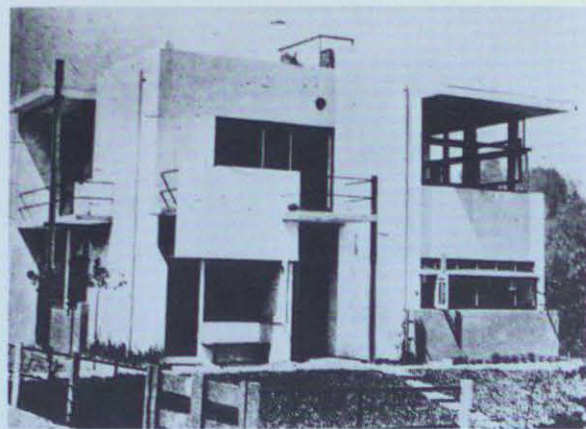


Mackintosh: Hill House—Hallway

conducive to bodily comfort, and those who have used it, including Rietveld himself, have complained about bruising their ankles on it. Obviously factors other than comfort determined its design."

These factors were, according to Brown, economic, social, and aesthetic, but it seems fairly clear that the aesthetic motive predominated, and it was this which caused the chair to be "determinant" (as Brown calls it) of the much publicized house that Rietveld designed for his friend and collaborator, Mrs. Truus Schröder, in 1924. The historical importance of this house (and this is at least the sixty-ninth time, to my knowledge, that it has been discussed in print) resides essentially in the influence it exerted on the teaching methods of the Bauhaus. But it is also important in being the first architectural monument to be designed by a cabinet-maker; that is to say, by a man whose only architectural training, after working as a cabinet maker for 20 years, was gained during three of those years by studying architectural drafting at evening classes. By 1928, he was sufficiently influential to be a founder-member of CIAM.

The influence of Rietveld's chair on the work produced by the Bauhaus under the influence of Walter Gropius—the last of the "Pioneers of the Modern Movement"—is only too apparent. Gropius, unlike his precursor at Weimar, Van de Velde, was an architect by training, and has always been an architect to his very fingertips. But after graduating, he went to work immediately for Peter Behrens, a painter, who at the age of 39 had just been appointed industrial design consultant to the German General Electric Company, and who de-



G. Rietveld: Own House, Utrecht (1924)

signed not only their trademarks, type-faces and electric kettles, but their factories and probably their furniture as well.

Doubtless because of Behrens's influence, Gropius not only accepted Muthesius's interpretation of the word "architectonics" in its totality, but saw the Arts and Crafts Schools as the ideal places in which a New Architecture could be created. He therefore accepted with alacrity the offer to succeed van de Velde in 1919, and, by combining the Weimar School of Arts and Crafts with the Weimar Academy of Fine Arts (i.e., the Academy of Architecture, Painting and Sculpture), he was not only able to take responsibility for training designers of furniture, stained glass, pottery, metalwork, weaving, stage-scenery, wall-painting, and typography, but also for training architects, who had never been linked academically to the so-called "decorative arts" before. No machine technology was introduced into the Bauhaus curriculum until 1923, and even after that date, all architectural students were trained essentially as building craftsmen (whereby "the pupil, if proficient enough, obtained his Master-Builder's Diploma from the local Trades Council"). It is therefore evident that, for Gropius, the principal virtue of the Bauhaus (or "School of Design," to give it its official title) was that all these specializations could be treated as variations of the same kind of activity. The world of furniture could be treated not only as a microcosm of the world of architecture, but also as a laboratory for experiments in the organization of urban space.

When Gropius was established at Harvard (where virtually every element of the Bauhaus curriculum, except for the Basic Design courses, or *Vorlehre*, was abandoned), he still contended that "the approach toward any kind of design—of a chair, a building, a whole town or a regional plan—should be essentially identical, not only in respect to their relationship in space but to social aspects as well." In 1947, he was even more explicit, insisting in his essay "Is There a Science of Design?" that "the process of designing a great building or a simple chair differs only in degree, not in principle."

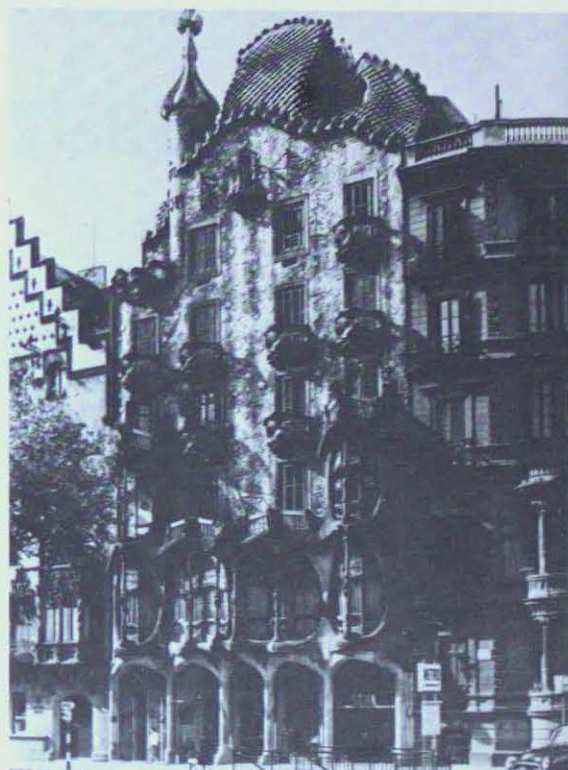
Whether or not Gropius's assertion is true, it is a fact that the only graduate of the Bauhaus to have signally furthered his ideal of "realizing a modern architectonic art" in the



G. Rietveld: Chair Design

purely architectural sense has been Marcel Breuer, who studied only furniture design there (or rather taught himself, since the carpentry workshop seems to have been virtually unsupervised until he took charge of it himself, on graduation, in 1925). Breuer's architecture is probably no more like furniture than that of the other European "Form-Givers." But it is certainly no less. His UNESCO Secretariat stands on legs; its façades may not unfairly be likened to a filing cabinet with the drawers removed; and its compositional form, though obligatorily curved on one side to relate to the Place de Fontenoy, is curved likewise on the other two sides to look good from the air: i.e., from the point of view from which one normally sees furniture when entering a room.

"Aside from the obvious differences in scale," writes Theodore Brown, in *The Work of G. Rietveld, Architect*, "chairs are as much spatial creations as buildings." But the difference in scale is crucial to the whole problem. Whereas architecture is related fairly directly to structural engineering by techniques of assembly, as well as by other factors and objectives (although here again, it is differences in scale which make the two disciplines essentially distinct), it is related only *analogically* to the discipline of furniture design. Undoubtedly, between 1900 and 1930, furniture design, being both functional and nonrepresentational, and requiring a pleasing appearance, proved to be an analogy of the utmost value in allowing architecture to escape from the more inept aspects of Revivalism, and was heuristically far more successful than the other well-known analogies—biological and mechanical—by which architectural theorists had tried to escape from Revivalism during the preceding 50 years. But the linking of architecture so closely to furniture, pottery, weaving, typography, etc., would seem now not only to be less defensible but in some cases demonstrably harmful. For as Arnold Toynbee has observed in the last volume of his *Study of History*: "Two or more phenomena may have facets which genuinely correspond with each other and between which analogies can therefore be properly drawn; but we may fall into error by failing to abstract the genuinely corresponding features precisely, or by making the unwarrantable assumption that an analogy which holds good just for these facets is also



A. Gaudí: Casa Batlló, Barcelona

applicable to the phenomena in their entirety."

With Revivalism no longer a living issue, there seems no good reason why architectural students should not simply study architecture from the very beginning of their course, as they did in the days when the art of building evolved steadily and rationally in harmony with the technological and sociological evolution of the people it was intended to serve. Indeed, such is in fact what generally happens in our leading schools, despite the lip-service paid to the Bauhaus ideal. But this is not to say that architectural students should not also study the design of interiors. On the contrary, the architect's role as a co-ordinator of interiors and exteriors is more vital than ever before. But co-ordination, as Gropius has been the first to insist, must be by means of collaboration, and collaboration implies respect for the peculiar skills which each member of the team brings to the task.

The criticism levelled here is thus aimed not at the idea that certain gifted architects are capable of designing good furniture (which would be nonsensical), but at the notion that there is some mystical skill called "design" which, once it has been mastered, entitles one, without further ado, to design anything from a toothpaste tube to an ocean liner, which obviates the need for a prolonged, specialized study of the respective techniques and materials by which various structures and artifacts are made. It is this notion which has produced the "stylist," and it is the stylists, whether they accept the title or not, who are producing today most of the bad architecture and bad interior designs.

A PRIMITIVE AT HARVARD

A Critique of:

The Carpenter Center



Carpenter Center—Entrance

Reprinted from the March 28, 1963 issue of the *Manchester Guardian*.

Harvard's new Centre for the Visual Arts, the first building to be constructed by Le Corbusier in America, has now been completed, and it has already been described officially as "of historic importance." Needless to say, it has been honoured with the usual flattering display of polite controversy, since if a building nowadays is not controversial it is of no interest at all.

Controversy is considered especially important in a university building, for, as one leading architectural periodical has observed: "To steer clear of the 'safe and familiar' is one of the earmarks of any good university." The safest and most familiar way to avoid being safe and familiar in architecture is to design a building of alien shapes, alien materials, and queer dispositions, and this is what has been done here.

Curiously enough, the shapes have not achieved the shock that was expected, perhaps because the building is almost a replica of one constructed recently by Le Corbusier for a cotton-spinners' association headquarters in India, but mainly because we are now used to seeing Corbusieresque shapes juxtaposed against more traditional buildings in America. Moreover, Harvard's campus has long been a heterogeneous collection of buildings. The only thing that shocks the visitor about this new building is the extraordinary primitiveness of its structure and mechanical equipment.

Disregarding the fact that nearly all the concrete mullions have warped (whereby few of the numerous exterior doors fit), the most disconcerting feature of the building is its air-conditioning equipment. This consists simply of a series of large machines, standing starkly and noisily in the middle of each floor, and looking for all the world like surrealist images of medieval fireplaces. Now the American custom of hid-

ing air-conditioning equipment behind a suspended ceiling may well be reprehensible; indeed, several distinguished architects, such as Louis Kahn, have gone to great trouble to try to integrate this equipment within their structural frames. But Le Corbusier virtually disregards this as a design problem. For him, architecture is simply a matter of abstract sculptural forms, and building technology, one feels, is either left to subordinates or left to take care of itself.

This attitude seems particularly curious for two reasons. One is that Le Corbusier has long taken delight in chiding the Americans on their incompetence and timidity (his most famous *bon mot* being his reply to an American newspaper reporter to the effect that New York's skyscrapers were "much too small"); the other is that his fame as a theorist mainly rests on his plea for technological efficiency, as expounded in *Towards a New Architecture*. But the Visual Arts Centre at Harvard is, technologically, less advanced even than the villas he was constructing 30 years ago, and this must be particularly bewildering to Americans, since mechanisation usually constitutes for them the essential comfort and status symbol of modern life.

Doubtless these artists' studios will function well enough, because their function is so loosely defined. But what of the circulation between them? Access is either by an unobtrusive door on the ground floor or by a flamboyant baroque ramp, which rises to the third-floor level, pierces the building from one side to the other, and leads only to two insignificant studio doorways clearly marked: "Ramp exit closed, use stairway." But perhaps such criticisms will be disregarded as irrelevant for this building is an *objet d'art*, and no future monograph on Le Corbusier (and one's imagination boggles at the thought of how many there will eventually be) will bother to analyse the efficiency of the building, or even to examine how it weathers, since a complete photographic documentation was established while it was still in its pristine state.

The Harvard Centre for the Visual Arts is undoubtedly of historic importance, but at the moment for one thing only, namely as the fulfilment of the primary notion which has dominated all Le Corbusier's earlier work. For him, form has seldom been related to function, but simply to the notion that the ideal building type is that of an artist's studio. His early houses were artists' studios. His *Unité d'Habitation*, at Marseilles, is a collection of artists' studios. His latest building is distinguished historically in that it is actually designed as an artists' studio, and we can see now that the great architectural advantage of modern artists' studios (which do not even need ideal lighting to illuminate a posed model) is that they can take any conceivable shape the architect likes.

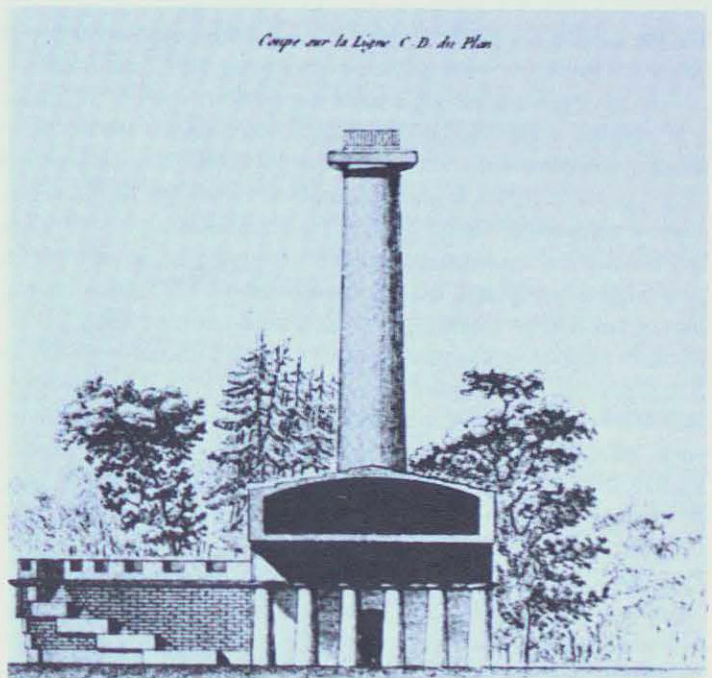
A Review of Robert Venturi's COMPLEXITY AND CONTRADICTION IN ARCHITECTURE

Reprinted from the Journal of the Society of Architectural Historians, Volume XXVI Number 3, October, 1967, copyright 1967 by the Society of Architectural Historians. This article originally appeared under the title "Editor's Postscript" and was the concluding statement to a symposium entitled "Architectural History and the Student Architect."

It may be appropriate to consider the effect which the development of historical studies in architecture is having on current architectural theory; and in this respect, no recent publication could be more worthy of analysis than Robert Venturi's *Complexity and Contradiction in Architecture*. He is not the first influential architect in the last half-century to expound his theory of architecture by reference to buildings of the past. Indeed, as Vincent Scully observes in his characteristically brilliant preface, a comparison between *Complexity and Contradiction in Architecture* and *Vers une Architecture* is particularly instructive and profitable. Yet whereas Le Corbusier made no pretence of exceptional art-historical scholarship, the recondite and numerous precedents cited by Robert Venturi seem to be a deliberate testimony of the influence which the New Architectural History is having on today's leading practitioners and teachers of architectural design.

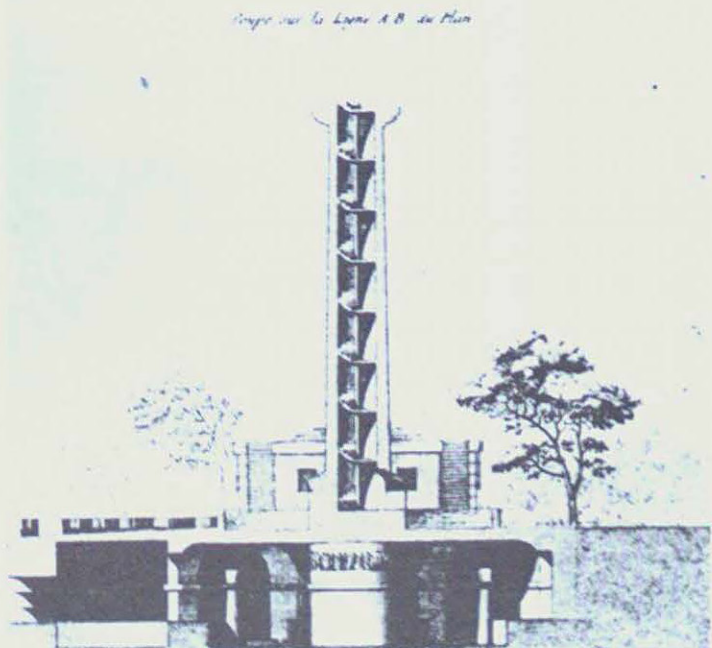
Hence this recent book must inevitably interest all teachers of architectural history; but it should prompt them to evaluate more cautiously the current relationship between history and theory, since it raises the issue of the extent to which creative artists really do need historical support for their ideas. Robert Venturi's book professes to put forward a philosophy demonstrated by historical precedent. But in fact, this philosophy seems to be supported solely by historical forms, rather than by historical ideas; hence it seems debatable whether the type of validity he claims for those forms is really justified.

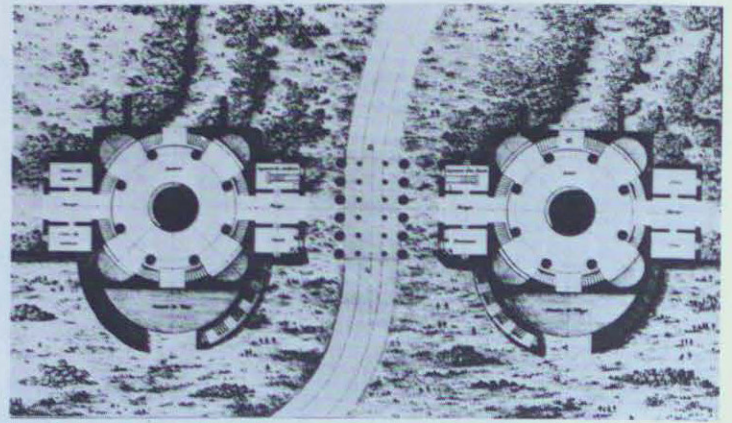
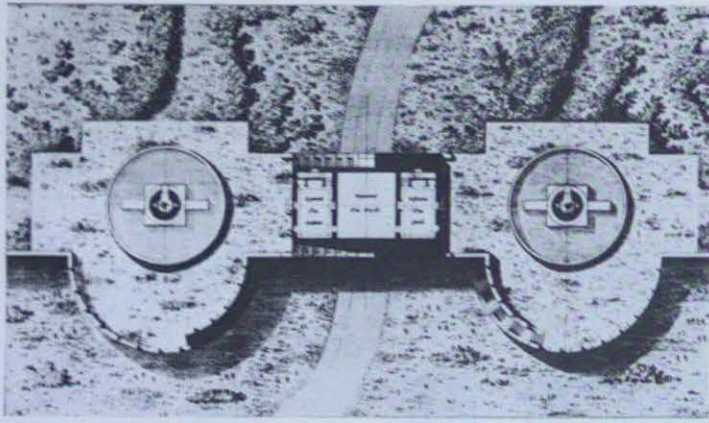
He attempts to justify his thesis by associating it with Mannerism, and defends Mannerism on grounds similar to those employed by John Summerson in *The Classical Language of Architecture* (1964), where Bramante's work is classified as "prose" whilst Giulio Romano's is classified as "poetry." This view of Mannerism is also, of course, at the root of Le Corbusier's panegyric on Michelangelo, though in the 1920's the lack of the necessary art-historical terminology prevented Le Corbusier from stating his case with the same clarity as Robert Venturi. Yet although the latter seems to employ a specifically historical scholarship, one may wonder whether he is not, like Le Corbusier, simply exercising the artist's right to be inspired by whatever forms take his fancy, and using history only to illustrate rather than to justify his choice. To put it more bluntly, is the extensive erudition which he crams into seventy-five pages really a historical proof of his



Bourneville—Park Entrance

Michel Gallier, Le Mans





thesis, or is it a subtle device for by-passing-historical proof under a smoke-screen of name-dropping *kuntwissenschaft*?

In my opinion his argument needs no historical support; but assuming this to be of value, his argument would have been more forceful if he had selected fewer examples, and given these a fuller historical analysis—though the psychological advantage to be gained by bludgeoning his readers with historical monuments at the average rate of seventeen per page should not be underestimated. But architectural historians and architectural critics would probably find his arguments easier to assess—though far less stimulating—if the many controversial examples (such as the chapel at Fernes) had been weeded out, and more space devoted to the structure, planning, and sociological context of the examples which remained. Indeed, some examples are only relevant if one ignores completely their historical and even their literary context.

For example, figure 58 shows the facade of Ledoux's "Gateway at Bourneville."¹ No plan is reproduced, but the accompanying text on pages 44-45 states; "In the project for a gateway at Bourneville by Ledoux, the columns in the arch are structurally rhetorical if not redundant. Expressively, however, they underscore the abstractness of the opening as a semicircle more than an arch, and they further define the opening as a gateway." Now an inspection of the plan shows not only that the columns are far from being structurally redundant (since the monumental "arch" is subdivided inter-

nally to contain rooms for two guards and gardener); it also shows that the giant flanking columns, which are even more "rhetorical," stand on windowless cylindrical substructures which in fact house a dairy and a laundry respectively. In other words, although Robert Venturi's theory seems (and unquestionably is) extraordinarily pertinent and valid, Ledoux's theory was the complete antithesis of the ideals which he is urging.

It may be said, then, that although (as Eduard Sekler points out above) architects may well derive the essence of their theory of architecture from a study of architectural history, they will presumably only do this if they derive it from total history rather than from the forms which constitute its visible photographable records. Le Corbusier considered the curve of the echinus to be "as rational as that of a large shell." Whether the analogy was with a sea-shell (like the ceiling of Ronchamp chapel) or—as the original text of *Vers une Architecture* makes clear—with an artillery shell, is as immaterial as the analogy with the Parthenon. The important fact is that he was not inspired by the history of obsolete artifacts, but by the artifacts themselves; and it is only by emphasizing this fundamental distinction that the appropriate character of history courses in schools of architecture can be established, and their validity assessed.

NOTES:

1. Christ refers to it as the gateway to the park of Bénouville; but despite the omniscience associated with the author's name, there seems no evidence that the engraved title was misspelt.

