

# TOWARDS A NEW ORNAMENT

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All architects agree that architecture is something more than just plain, honest, straightforward building, but it is becoming increasingly doubtful, as the variety in contemporary monumental buildings increases, whether they agree as to what that "something" is. It is clear, for example, that many buildings serving the same function, such as the latest university buildings constructed in England and America, have little in common with one another (apart from the use of modern building technology) except "the rejection of the trappings of the historical styles"; that stirring but superannuated war-cry which was the inspiration of the early pioneers. But whereas the importance of these buildings is widely accepted, and their architectural qualities frequently discussed, the nature of the factors which differentiate these qualities from purely technological qualities has yet to be unequivocally defined. It cannot be simply a matter of good proportions, because proportion has little relevance to Giedion's theory concerning the Interpenetration of Space, whether it be Baroque space or Cubist space. Moreover, it is clear from at least two recent competitions (the Sydney Opera House and the Toronto City Hall, where the proportions of both winning entries have had subsequently to be considerably modified because of the structural inadequacies of the original designs) that proportion is not considered an important criterion. The distinction must therefore lie in something else.

In the nineteenth century, the majority of theorists had no doubts whatsoever about the nature of this distinction, since they generally agreed with James Fergusson that architecture was "nothing more or less than the art of ornamented and ornamental construction."<sup>1</sup> The problem which obsessed them was to decide what was the correct type of ornament. There were, of course, one or two eccentrics who rejected the idea of ornament altogether. J. N. L. Durand had insisted, at the beginning of the century (when the French state was in fact too poverty-stricken to ornament new public buildings even if it wanted to), that beauty in a building resulted naturally and necessarily from the most economical structure imposed on the most economical plan. Horatio

Greenough, still smarting over the rejection of his nude statue of George Washington, similarly insisted on the total rejection of ornament, and used arguments which were later to be employed by Adolf Loos. But the nineteenth century in general approved unquestioningly the desire for ornament, which Owen Jones, for example, believed "must necessarily increase with all peoples in the ratio of the progress of civilization."<sup>2</sup> As a result, ornament, far from being rejected by the leading architects, became more luxuriant and more extravagant as the century proceeded, until it culminated in the rich overall surface decorations we associate with the nineteenth-century buildings of Louis Sullivan and Frank Lloyd Wright.

Curiously enough, the problem which occupied the most thoughtful and progressive mid-nineteenth-century theorists was not so much concerned with the nature of ornament as with the nature of plain straightforward building. Two answers were put forward; the first, making use of an analogy with literature, claimed that plain building was comparable to vernacular speech; the second, making use of no analogy at all (a singularity at a time when analogy seemed to most theorists to be the only alternative to archaeology) claimed that plain building was nothing more nor less than civil engineering itself.

The belief in the virtues of "vernacular" structures was the basic tenet of the Queen Anne Revival, first proposed exactly a century ago by the Rev. J. L. Petit, a well-known belligerent of the Battle of the Styles, and probably inspired by Scott's *Remarks on Gothic Architecture* (1858), where the relationship between "vernacular domestic architecture" and the ecclesiastical architecture of the thirteenth century was fully discussed. At a lecture given in May 1861, he suggested that if his audience were to look at the best monumental buildings of Queen Anne's reign, they would see that these were simply vernacular buildings plus ornamentation of a very appropriate kind. As a result, they harmonized with the character of the houses men built when they built without reference to style, and were guided solely by the consideration of their own requirements, the state of society, climate and materials.<sup>3</sup> It was a style, moreover, which was perfectly suited to the wants of their own day; "expressive, or capable



of being made expressive of the spirit of the age; and sufficiently comprehensive to embrace both vernacular and monumental works, and that large class which partakes of both characters."<sup>4</sup>

The significance of this proposal, as far as more recent developments in architecture were to be concerned, was threefold. Firstly, it deliberately broke through the archaeological barrier which in England and America had separated architecture from life for nearly a century, and substituted the idea of selecting architectural forms on the basis of their appropriateness, and according to the designer's unfettered choice. The Queen Anne period was taken as a suitable precedent because many buildings constructed then were characteristic of what Sir John Summerson has called "artisan mannerism"; the unsophisticated mixing of various tectonic and decorative elements without that antiquarian pedantry which in the following reign so often typified the architecture of Palladianism. Moreover the Revival itself went even further; it often employed motifs that were not eighteenth-century at all, but more strictly Jacobean. In other words, the "Queen Anne" style in England was really the equivalent of the "Francis I" style in France, when Renaissance decorative motifs were applied undogmatically to freely-planned compositions (as on the Francis I wing at Blois) without strict reference to antique precedents or rules.

Secondly, the Queen Anne Revival introduced into England the philosophical notion of Eclecticism. This word is frequently misused to signify an indiscriminate use of styles, such as was exemplified by those architects who designed Palladian buildings one day and Gothic buildings the next without any apparent misgiving. In this sense, it corresponds to what theologians more correctly term "Indifferentism." The true meaning of Eclecticism is defined in the *Encyclopædia Britannica* as "a composite system of thought made up of views selected (ἐκλεγω) from various other systems," and it was in this sense that it was proposed by César Daly in the *Revue Générale de l'Architecture* in 1858.<sup>5</sup> The idea undoubtedly stemmed from Victor Cousin's series of lectures entitled *The True, The Beautiful and The Good*, published five years earlier, in which the historical method was applied to philosophy in the same way that Darwin was then applying it to biology and architects were applying it to architectural design. Victor Cousin claimed that one should not pedantically accept any one philosophical system to the exclusion of all others, but decide rationally and independently what philosophical facts were true, and then recognize and respect them in whatever historical contexts they appeared. The history of philosophy thus became, he asserted, "no longer a mass of senseless systems, a chaos, without light, and without issue; but in some sort a living philosophy." If, in this sentence, we substitute the word "architecture" for the word "philosophy," we have the basis of the theory proposed by César Daly, elaborated by Guadet, and still taught in most of our schools.

Thirdly, it introduced the notion that the basis of a living architecture was, in J. L. Petit's words, "our ordinary or vernacular architecture." The important effect of this on subsequent architectural theories cannot be exaggerated. In the first place, it undermined the old idea of relating monumentality to temples and churches by giving minor domestic architecture a predominant influence over architectural theory. Thus the houses designed by the pioneers of modern architecture became the most influential means by which new forms and ideas were introduced. In the second place, it challenged the Italian Renaissance doctrine—introduced into architectural education in 1806 with the foundation of the

Ecole des Beaux-Arts—that architecture was essentially one of the three Arts of Design; for by insisting upon the analogy between architecture and literature (in which composition also makes use of a vocabulary of standardized elements), it separated the theory of architecture from that of sculpture and painting; arts in which, as Susanne Langer has observed, a vocabulary of elements plays no part. Lastly, it established the doctrine that this vocabulary must consist of tectonic elements corresponding to what in traditional structural systems called "vernacular"; a name used because the elements were established by local craftsmen on purely practical grounds, and assembled in accordance with the requirements of functional plans.

The only problem to decide was what, in the 1860's, corresponded to "vernacular" building, and it is to James Fergusson's credit that he seems to have been the first to perceive that the supersession of traditional building materials and techniques by the new materials and techniques of the Industrial Revolution was precisely the reason why any New Architecture was really necessary at all. The new vernacular, he said, was to be found in the works of the engineers, since these were the people who now followed "the commonsense principles which guided builders in all previous ages." If the architectural profession were to be properly organized, the engineer would merely be "the architect who occupied himself more especially with construction and with the more utilitarian class of work" whilst the architect, properly so called, would be "the artist who attended to the ornamental distribution of buildings, and their decoration when erected."<sup>6</sup>

The fact that no New Architecture appeared until the very end of the nineteenth century, despite the hopes placed in frames of cast and wrought iron, was a result of the fact that no radical technological innovation was economically utilizable as a complete structural system until steel frames and reinforced concrete frames (i.e. frames in which the vertical as well as the horizontal members were resistant to tensile stresses) were introduced after 1880. Even then, the need to cover steelwork with fire-resistant faience, and the difficulty of making concrete surfaces homogeneous, encouraged an even greater use of ornament, whilst providing the most convincing justification for separating the concept of ornament from that of the structure which it concealed. But between 1900 and 1950 a highly complex and varied vocabulary of new and elegant structural components was gradually evolved, until at the present day the nineteenth-century dream of a new tectonic "vernacular" has become a reality. The problem now is: has this vocabulary become so rich that architecture can be produced by merely combining these tectonic elements into the most rational and economical arrangement required by a particular programme, or does the essence of architectural composition still consist of honest straightforward building plus something else?

In the 1920's and 1930's, the pioneers of our own architecture seem to have had only a vague presentiment of the difficulties which this problem would eventually produce. In 1935, Walter Gropius accurately recorded that the "first or rationalizing stage" of modern architecture was only "a purifying process," and that the ultimate goal was the "composite but inseparable work of art, the great building in which the old dividing line between monumental and decorative elements will have disappeared for ever."<sup>7</sup> But being unwilling, because of his rejection of history, to refer to any historical precedents, his only hint as to the nature of this new monumentality, of the *differentia* which would distinguish monu-



mental architecture from just good plain building, was merely that it would be found "in those simple and sharply modelled designs in which every part merges naturally into the comprehensive volume of the whole,"<sup>8</sup> a definition which at best only paraphrases the standard classical aphorisms enunciated from the time of Alberti to that of J. F. Blondel.

Le Corbusier's early writings appear more helpful, since he not only distinguished between the "engineer's aesthetic" (which produces only harmony) and the "architect's aesthetic" (which produces both harmony and beauty), but made specific recommendations as to how this beauty was to be attained. Yet even Le Corbusier's speculative contribution has turned out to be largely illusory, for he has now abandoned his early system of "regulating lines" (which was in fact little different from the standard method of proportioning then use at the Ecole des Beaux-Arts), whilst his latest buildings clearly owe nothing to the machine-precise profiling, or *modénature*, which he recommended as exemplified in the Parthenon. *Towards a New Architecture*, with its constant appeal to the authority of ancient temples and churches of various historical periods, in fact made little methodological advance on nineteenth-century Eclecticism, whilst his deliberate omission of Gothic monuments brought the historical basis of his theory completely in line with that of the devotees of Queen Anne.

Probably the only really frank examination of this problem within the last century has been that formulated during the Queen Anne Revival itself by Robert Kerr, professor of the Arts of Construction at King's College, London, and one of the most caustic critics of the architecture of his age. In a lecture given at the RIBA in January 1869, he put forward the view that since architecture was obviously just a dress by which the artist's pencil, like a magician's wand, transformed a structure from a dull lifeless piece of building into something eloquent, it ought more fittingly to be called the Architecturesque. This dress was constituted, he said, primarily by ornament, the desire for which, more than anything else, separated the intelligence of man from that of the lower animals, and urged him to strive after perpetual novelty. What people had been in the habit of calling "the principles of architectural design" were simply the principles of architecturesque treatment. Good architecture was true architecturesque, bad architecture spurious architecturesque, and the means of obtaining both were fourfold: structure ornamentalized (or rendered in itself ornamental), ornament structuralized (or rendered in itself structural), structure ornamented, and ornament constructed.

Now preposterous as Robert Kerr's argument may seem, his terminology is not inappropriate to some of the more publicized monuments of to-day. There can be no disputing the fact that architecture is becoming increasingly "ornament structuralized," if not "ornament constructed," for the whole trend of Le Corbusier's powerful influence has been moving in this direction for some time, and is now bearing fruit on both sides of the Atlantic. Is Chandigarh an example of what J. M. Richards once called "the sincerity which is at present architecture's special virtue, and the inevitability which it gets from its appearance being so closely related to its structure?"<sup>9</sup> If so, we should examine carefully what we now mean by "structure." Or must we admit, to continue Richards's phraseology, that modern architecture is becoming "merely decorative, an imitation of itself?"<sup>10</sup>

It has long been recognized that the ideal of creating monumental architecture solely by the consideration of our own requirements, the state of society, climate and materials

is quite impractical without some additional quality which, in fact, is nothing more nor less than the artist's creative intuition. This must either order, proportion, refine and embellish a basic economic structure and composition, or create shapes which greatly transcend the mere economical fulfilment of practical needs. But refinement and adornment were both included in what the eighteenth- and nineteenth-century classical theorists understood by "ornament," as when the Abbé Laugier wrote: "the flutings and other enrichments with which the sculptor's chisel charges different elements are true ornament, because they can be accepted or suppressed without altering the nature of the Order."<sup>11</sup> By rejecting the idea of "ornamentalized and ornamented structure," and disregarding the principle enunciated by Fénélon when he remarked (concerning the superiority of classical architecture over gothic) that "one must never allow into a building any element destined solely for ornament, but rather turn to ornament all the parts necessary for its support," we seem to have been led to adopt "structuralized and constructed ornament," and this charge was levelled against Le Corbusier and his friends as early as 1925: "Nobody speaks now of anything but straight lines, essentials and construction; but if one looks closely, it is obvious that ornament is still the only thing that matters, so that there are finally more useless things than ever before. These useless elements are so rigid and bare that the uninitiated assume them to be necessary; thus the error is all the more serious for being dissimulated."<sup>12</sup>

One cause of the present luxuriation in suspended concrete awnings and extravagant concrete roofs has lain, initially, I think, in too hastily rejecting nineteenth-century rationalist principles when discarding nineteenth-century imitative practices. As a result, all the leading post-1930 theorists except Mies van der Rohe threw away the baby with the bathwater. The great mid-nineteenth-century rationalists, such as Charles Barry in England, and Henry Labrouste in France, had applied the right principles to the wrong materials, an error for which they were hardly to blame, because the proper materials had not yet been perfected. But the twentieth-century theorists, following the lead given by Etienne-Louis Boullée a century before, not merely rejected superfluous ornament and the tyranny of past styles; they rejected also the classical definition of architecture as "the art of building," claiming that Alberti and his successors had foolishly mistaken the cause for the effect. They did not, like Boullée, preface their treatises with the words *ed io anche son pittore*, but they might fittingly have done so, for the principles they substituted were mainly concerned with light, shade and space.

Their reason for doing this must, I think, be obvious. During the nineteenth century, architecture had been brought into disrepute by the archaeologists and antiquaries, whose wrangles had culminated in the Battle of the Styles. To avoid the same error, the theorists who tried to create a New Architecture sought to avoid all references to the history of architecture. But if one cannot theorize with reference to the architecture of the past, one cannot theorize about architecture at all. The only alternative is to rely in analogies. The French and English theorists of the nineteenth century sought analogies with biology, machinery, speech and, in at least one instance, gastronomy. But the leading German theorists of the twentieth century, perhaps through a Spenglerian fascination for "space," and a mystical attachment to the philosophical notion of "architectonics,"<sup>13</sup> preferred an analogy with painting, sculpture and industrial design, espe-



cially when these so conveniently developed into "abstract art."

The theory of those who, pursuing the ideals of nineteenth-century rationalism, opposed this attitude, is not easy to define with certainty, because its exponents were usually taciturn men, who felt that a few epigrams were quite adequate to explain their work to those who really wanted to understand. But its general principles can, I think, be summarized under three headings corresponding to the planning, construction and appearance of buildings, or, if one prefers, to the Vitruvian categories of commodity, firmness and delight. As regards "commodity," they believed that since the purpose of architecture is to create useful, interesting, varied and harmoniously related spaces, urban architecture is superior to rural architecture because it not only defines indoor spaces, but also combines to create plazas, courtyards and streets. Thus, even when developing new cities, they were led to study the appearance of buildings in terms of contiguously aligned façades. It may be true that "the basis of the Victorian view of architecture was as large-scale sculpture,"<sup>14</sup> but such sculpture was not thought of as isolated in a void, or seen from above, like Malewicz's "Architectonics," but as contributing to a perspective seen from the ground. The pioneers of contemporary architecture, under the influence of the "Queen Anne" tradition (which based its theory of a "vernacular" architecture on suburban villas), and of Constructivist sculpture, were unable to conceive of architecture except as isolated elements, visible from all round; and it is typical of the confused reasoning in *Towards a New Architecture* that, although virtually all Le Corbusier's published domestic projects were designed in this way, the historical example he uses to support his views (namely a Pompeiian house) exemplifies exactly the opposite principle, in that here the exterior has no visual significance, and all the open spaces on the site are obtained by means of courtyards inside.

As regards "firmness," the nineteenth-century classical rationalists realized that a minimal structure is not only unnecessary in small spans, but is probably incalculable, since the forces are so varied. Moreover, as Léonce Reynaud had pointed out, "one must not conclude that all the parts of our structures must be submitted to the laws of mechanics, for it is evident that the prescriptions of science can lead to great difficulties of execution."<sup>15</sup> But they considered that there should be an economical correspondence between the forces to be resisted and the structure designed to resist them,<sup>16</sup> and believed, like Viollet-le-Duc, that "Construction, for the architect, is the employment of materials with the preconceived idea of satisfying a need by the simplest and most solid means."<sup>17</sup> At the end of the last century, and at the beginning of this, they used frames rather than elaborate cantilevers, because the leading building contractors had shown these to be the most economical way of erecting multi-storey buildings when no question of aesthetics was involved. They were not unmoved by the sight of great halls built for international exhibitions, but they did not regard their roofs as structural paradigms for spaces of a fifth the span.<sup>18</sup> Similarly, they would have studied an engineer's architectural structures, rather than his bridges, if they had wanted to apply his principles to the problems they were studying themselves.

As regards "delight," the nineteenth-century classical rationalists believed that the only difference between architecture and plain, honest, straightforward building was that architecture was both sensitively proportioned and pleasingly detailed, whereas plain building was not. In this their ideas seem to have been in harmony with those of every other

period of European architecture, except the Italian Renaissance and the German Baroque. If we compare an early stone cotton mill (such as the mill at Curbar illustrated in J. M. Richards's *Functional Tradition in Early Industrial Buildings*) with any of the really important classical rationalist buildings in England, such as Charles Barry's Bridgewater House, we can see that the differences have nothing to do with "the trappings of the historical styles," but are simply due (apart from variations in size and plan, resulting from the difference of function) to the fact that the apertures and volumes are more carefully proportioned, and the surfaces more carefully worked. If we take the worst possible French example, namely Garnier's Paris Opera House (which even in its own day was criticized for its excessively Italianate Renaissance and Baroque polychrome ornamentation), we see that in the one part comparable in composition and plan to the mill at Curbar—namely the six-storey administrative office block which constitutes the northern end—a similar policy has been observed. And whatever one may say of the rest of the Paris Opera House, there is no doubt that unlike Boullée's or Utzon's designs for opera houses, this building can be clearly seen, by its compositional elements, to be a theatre, and by its detailing to be the most important theatre in the state. As J. F. Blondel once observed, the more accurately we can express the relative importance and function of buildings by this means, the closer are we to achieving "that infinite variety between different buildings of the same type or of different types" which is the essence of style. "Style, in this sense," he explained, "is like that of eloquence; it is the poetry of architecture."<sup>19</sup>

The mid-Victorians, who hated insipidity, were usually over-fond of ornament (which they regarded as the natural expression of wealth), but even so, the best architects who pandered to their tastes realized that the essential difference between architecture and plain building lay not in complexity and extravagance (whether this be thought of in terms of construction or of the interpenetrations of space) but in proportion, refinement, and, if appropriate, adornment. As a result, their buildings have a scale and tactile richness which can only be appreciated by walking amongst them, and looking at them close to. The best urban buildings of the nineteenth century are seldom very interesting when seen from the air. They certainly have not the same compositional interest which models of important modern buildings usually possess. But at ground level they have a warmth and humanity found in the best architecture of all ages except our own, and this is becoming more and more obvious as old and new buildings become more frequently juxtaposed.

It is no longer possible to use the word "ornament" in Alberti's sense of an "auxiliary brightness," because this word, thanks to Adolf Loos, is now regarded as obscene. But there is no virtue in banishing obscenity from our vocabulary unless we also banish it from our practices, and if we have no choice, as seems likely now, between ornamenting our structures or constructing abstract ornament, it is perhaps time we seriously reevaluated nineteenth-century rationalism in terms of the potentialities of the second Machine Age.

#### NOTES:

1. James Fergusson: *A History of Architecture* (1865), vol. i, p. 9.
2. Owen Jones: *Grammar of Ornament*, first sentence of chapter 1.
3. It required a theorist who was not a professional architect to perceive the importance of this characteristic of vernacular building. Another thoughtful layman, Dr. John Robison, had remarked on the same thing in his lectures on *Mechanical Philosophy* given at Edinburgh University at the end of the eighteenth century: "In the simple unadorned habitations of private persons, every thing comes to be adjusted by an experience of inconveniences which have resulted from too low pitched roofs,



and their pitch will always be nearly such as suits the climate and covering. Our architects, however, go to work on different principles...We cannot help thinking that much of their practice results from a pedantic veneration for the beautiful products of Grecian architecture...Since stone is the chief material of our buildings, ought not the members of ornamental architecture to be refinements on the essential and unaffected parts of a simple stone-building?" (1822 ed. p. 555).

4. *The Builder*, vol. xix, p. 351. The fact that this idea was put forward very soon after the Battle of the Styles (i.e. The Foreign Office Competition controversy of 1857-59) is clearly of great importance when assessing the significance of the Queen Anne Revival. In the sole authoritative monograph on this subject (AR July 1943, p. 16) Dudley Harbron was only able to trace the style back to 1874. The first Queen Anne Revival building, according to Professor Hitchcock, was the lodge at Kew Gardens, dated 1867.

5. This, as Professor Pevsner has kindly pointed out, is contemporary with Scott's correct use of this term in his *Remarks on Gothic Architecture* (p. 265), published in the same year. But whereas Scott demanded unity of style (i.e. based on thirteenth-century Gothic) and believed that "like all genuine styles," the style of the future must have "its roots in the temple" (p. 273), the essence of Daly and Petit's advocacy was to disregard archaeological classifications, and to accept all buildings of the past as a potential "portfolio of motifs." It is worth noting that Diderot, in the *Encyclopédie* of 1755, defined it rather differently from both and in a way typical of classical rationalist thought. "An eclectic," he wrote, "is a philosopher who treads underfoot prejudice, tradition, seniority, general consent, and authority, and...goes back to the clearest general principles, examining them, discussing them, and accepting nothing except it be on the evidence of his own experience and reason." We may compare this with the remark of J. F. Blondel (who contributed the articles on Architecture to the *Encyclopédie*): "The ancients can teach us to think, but we must not think as they did..." (*Cours*, vol. iii, p. lv).

6. James Fergusson: *ibid.* vol. iii, p. 474.

7. Walter Gropius: *The New Architecture and the Bauhaus* (1935), p. 44.

8. *Ibid.* p. 32.

9. J. M. Richards: *An Introduction to Modern Architecture* (1940), p. 13 of revised ed.

10. *Ibid.*

11. M. A. Laugier: *Essai sur L'Architecture* (1755), p. xvi.

12. Auguste Perret, quoted in *L'Amour de l'Art* (1925), p. 174.

13. Cf. the quotation from Muthesius' *Stilarchitektur und Baukunst* (1902) given by Reyner Banham on pp. 73-76 of *Theory and Design in the First Machine Age*: e.g. "the re-establishment of an architectonic culture is a basic condition of all the arts & c." (p. 76). In this wide sense, the term is clearly a garbled derivative of the penultimate chapter of Kant's *Critique of Pure Reason* (1781).

14. J. M. Richards: *ibid.*, p. 26.

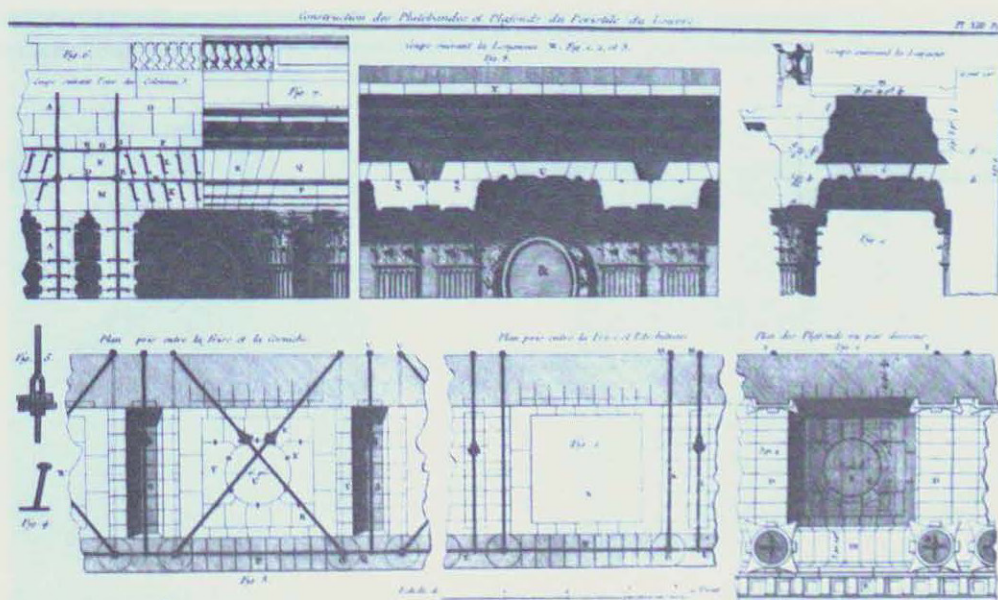
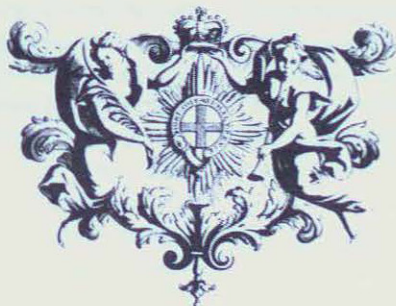
15. L. Reynaud: *Traité d'Architecture* (1860 ed.), p. 6. It is in the writings of Reynaud, Choisy, and other mid-nineteenth century professors of architecture at the French Engineering schools (Ecole Polytechnique, Ecole des Ponts et Chaussées, Ecole de Génie Militaire) that the clearest exposition of classical rationalist principles is to be found.

16. P. L. Nervi foresaw that the proportions of Utzon's design for the Sydney Opera House would have to be changed. "The fact is that this building is an eloquent example of the most open anti-functionalism in statics and construction, and a consequence of the arbitrary nature of their forms, which clearly run against the laws of static construction. One can easily imagine the brilliant feats of calculus, technique, and the waste of materials which will be necessary even if they succeed without substantial formal and other modifications, in keeping it standing." *Casabella* (July 1959).

17. E. Viollet-le-Duc: *Dictionnaire Raisonné de l'Architecture Française, XIe-XIe Siècle*, vol. iv, p. 1.

18. It is now almost a tradition for the leading architectural historians to speak slightly of Perret's use of reinforced concrete frames in multi-storey buildings, by contrasting them with some other designers' spiral stairways, winch towers or 200-ft. span vaults. But it is obvious, from the evidence of Perret's own work (e.g. the stairway in his own office, the reservoir tower at Saclay, and several of his single-storey buildings) that he himself avoided frame construction where it was inappropriate. The continued popularity of frame construction among building contractors for multi-storey offices and apartment blocks suggests that it is still one of the most efficient systems in its proper place.

19. J. F. Blondel: *Cours d'Architecture* (1771), vol. iv, p. lv.



Pierre Pate, Mémoires sur les objets les plus importants de l'Architecture.