Warning Concerning Copyright Restrictions
The copyright law of the United States (Title 17. United States Code) governs the reproduction and distribution of copyrighted material. Under certain conditions specified in the law, libraries and archives are authorized to reproduce materials. One of these conditions is that the reproduction not be "used for any purpose other than private study, scholarship, or research." Any person who copies or re-distributes this material in any way inconsistent with Title 17 and its "fair use" provisions may be liable for copyright infringement.
I

Order in Building

• Catalogues and recipes • Skeptics, critics, and romantics • The Beaux-Arts and the Ecole Polytechnique • Imitation of the primitive hut • The end of metaphor • Return to sources
For much of the twentieth century the words “academic” and “classical” have been terms of abuse—or at least of disapproval—among artists, particularly when they were linked. They implied stale routine, submission to outworn rules for which universal validity had once been claimed. In architecture these rules were associated with the five orders of columns. During the sixties and seventies there came a renewal of interest, not in the long-despised and long-forgotten rules but in the outward show of classicism, as a protest against the naked economy of commercialized modernism.

In spite of the periodic appeals to return to an “order,” a “canon,” fustian classicism had long been opposed to an elegant and exhilarating modernism. The promise it held became a wretched actuality as modernism was identified with the exploitation of mechanized building methods. The growing problems and miseries of overdeveloped cities led many people to see even the fustian, as long as it recalled something of the past, as a lost treasure. “Classical” became a blanket term of approval when fragments and caricatures of the orders sprouted in all sorts of “appropriate” and “inappropriate” places.

Everyone knows what an order looks like. From Anchorage to Cape Town, from Vladivostock to Rio de Janeiro there are ministries and cathedrals, institutes, libraries, and even private houses whose entrances are porticoed and walls are scored with columns carrying arches, beams, and pediments that most passersby will recognize as classical. For most purposes, that implies “Roman,” “Latin,” and/or “Greek”—the last carrying the more refined and respectable associations.

The column and the beam that it carries, when they are combined so as to be recognized (however approximately) as belonging to a definite type, are called an order. The type may be established either by the proportions of the thing or by the ornaments which stigmatize it; usually it is determined by a combination of both. There is a large repertory of these recognizable types, both “ordinary” (that is, classical) and exotic, but the classical core is fixed at five orders. Three are Greek: Doric, Ionic, and Corinthian. Two are more or less Roman: the first, of supposedly Etruscan origin, is known as Tuscan; the second, the only one of the five whose label does not refer to a place, is the Composite.

Catalogues and recipes

Four were described and named by the Roman architect Vitruvius in the first century BC; of his Ten Books on Architecture much of the second, third, and fourth book are devoted to setting out their detailed prescription and accounting for their origins. Since it was first printed (perhaps in 1486) many have glossed or illustrated that text, and these woodcuts and engravings have had an overwhelming influence on Western architecture.

Several other treatises have included a special section on the orders, which in some cases has virtually become a separate book. In time every systematic writer on architecture was obliged to include such a section in his work, some of which masons and carpenters would use as a pattern for copying, without any reference to the text. Sebastiano Serlio, a Bolognese architect and the first to publish an architectural picture book (as against the more usual thing, an illustrated book on architecture), devoted the fourth of his seven books to the orders. It was he who fixed the list of five orders and also devised the name “Composite” for the additional variant on the Corinthian.
Yet the notion of an order had not been formulated. Leon Battista Alberti, writing about 1450, still uses the word *ordo* to mean the most general, abstract “order”; but also to mean “a row of columns” or a contignation of them, “a story”; and much more simply, “a layer” or “course” of stone or brick. The kinds of columns, on the other hand, are the familiar ones: Doric, Ionic, Corinthian, which he details following Vitruvius (but also Pliny). To these he adds the Italian, which is to combine the ornaments (and the virtues) of the other three: the Doric egg-and-dart echinus, the Ionic volutes, the Corinthian leaves and stalks. However, his rationale was not taken up.

Nor was there, when Alberti wrote (and even when his book was printed—in AD 1485/6, after his death), any generally accepted idea of a set or canon of columns. Francesco Maria Grapaldi, author of a compendium of building terms, has no comment on this word in connection with building. Filarete and Francesco di Giorgio have no use for it either. Nor does the first translator of Vitruvius, Cesare Cesariano, a Milanese disciple of Bramante. It appears first in the modern sense in a letter of Raphael. The exact transformation that leads from occasional mentions to the fixing of its sense in Serlio’s book has not been traced, though there is nothing improbable about it. Serlio had been the faithful disciple of and had taken over the stock of drawings that had been left by Baldassare Peruzzi, who counts as Sienese (though born in Etruscan Volterra). Peruzzi had been very much a member of Bramante’s and of Raphael’s circle: the use of the word and the canon set of five orders must have been fixed sometime between the printing of Alberti’s ten books (1486) and of Serlio’s fourth (1537), probably by someone or some group in Raphael’s circle. It was seen as a formulation from which there could be no appeal after the earliest of Sebastiano Serlio’s architectural books appeared; there were five orders, and their arithmetic and geometrical characteristics as well as all their sculptural decoration were fixed.

Serlio’s Composite fifth order was also quickly generally accepted, although there was no written antique authority for it. Many “deviant” forms of the Vitruvian orders had in any case been known from antique monuments. There was also an impressive witness to the extra order in the Roman Colosseum, a building whose prestige was as vast as its physical bulk. Each bay of the four-story Colosseum exterior was made up of three arched openings one over the other, framed by half-columns that rose from Doric/Tuscan to Ionic to Corinthian; the top story was a blind wall framed by pilasters with Corinthian capitals, but the shafts were more slender than was usual for that order. In Serlio’s Composite, the more elaborate capitals that crowned the columns of the triumphal arches of Titus and of Septimius Severus on the Roman Forum were set on the slender Colosseum shafts. These capitals, which combine the Corinthian leaves with Ionic volutes, gave the order its name.

Serlio’s publications show just how things stood in his time: that fourth book—entirely devoted to the orders—was published first, as a kind of *ballon d’essai* for the whole enterprise, and indeed it might as well be considered the first of all order books. It is certainly the first piece of architectural writing in which the five orders were canonized, and the word *order*, a word previously used both quite generally in architecture—much as it is still used in western Indo-European languages (*ordre, ordine, orden, Ordnung*)—and for such generic things as a row or a story, was applied specifically to the proportions and decorations of columns. It was advanced to the specific meaning which has been borrowed in almost every attempt to “systematize” architecture; no other word will quite do for the arrangement of
The five orders. Woodcut from S. Serlio.
beam and column, and no arrangement other than that canonized by Serlio can be accepted in the long run: “l'Architecture n'a que cinq Ordres qui lui soient propres.”

From 1537 when Serlio’s fourth book was first printed until our time there would be a new order book or two published most years. Architects, contractors, masons, carpenters—anyone connected with building—would acquire at least one of them, even if sometimes these would be mere flyleaves for workshop use. Ever since formal architectural training moved into schools during the eighteenth century and replaced the old and haphazard methods of apprenticeship, the schools would lay in stocks of such books for their students and even patronize or publish their own.

Skeptics, critics, and romantics

1 Charles Chipiez These treatises provided the staple diet of most architectural students, yet surprisingly little attention was paid to the way in which the canon was first constituted. Over a century ago a critical account of the subject was last attempted: Charles Chipiez published the Critical History of the Greek Orders in 1876. He was outside the mainstream of academic
French architecture, but something of a disciple of Eugène-Emmanuel Viollet-le-Duc, and also became a teacher at the Ecole Spéciale, the protesting architectural school that for a time stood apart from the French government-licensed system. His maturity coincided with the Franco-Prussian war, and one of his best-known buildings was a memorial of the siege of Paris at the Château de Buzenval. Chipiez’s energies were mainly devoted to the work of reconstructing—in large drawings—a series of monuments from the remote past (such as the Jerusalem temple), which he presented in successive Salons and at the World’s Fair of 1889. A complement to this work was his collaboration with the historian-archaeologist Georges Perrot on a vast eight-volume History of Art in Antiquity, which appeared between 1882 and 1889; Chipiez died in 1901.

His book on the orders was written at the time when Schliemann had begun digging at Hisarlik (which was to be generally recognized as Homer’s Troy) and at Mycenae, though only the preliminary report on Troy had been published* and nothing was yet known of the Minoans and very little of the Hittites. Still, Chipiez showed himself aware of the context in which antique (or at least Greek) architecture had grown, particularly of its links to Near Eastern and to Egyptian building. The Perrot-Chipiez joint history, which is familiar to archaeologists and historians, has been persistently ignored by architects, as has Chipiez’s book on the orders. It is only at the very end of the century that Auguste Choisy’s History of Architecture with its marvelously lucid wood engravings interpreted archaeological material as complex as Perrot’s and Chipiez’s through a constructional rationale. Choisy’s notion of “a timber masonry” seemed to reconcile the conflicting accounts of the timber origin of the orders with the demands of stone construction; his book was to become essential reading for Auguste Perret and for Le Corbusier.

But throughout the nineteenth century, architects were content to use various hand-me-down copybooks, of which the most popular was the one first published by Charles Normand in 1819 and constantly reprinted until the 1940s without any substantial modifications. Normand’s Parallele, though quite lavish at first, was (like some of his other works) a how-to manual, unconcerned with “why?” or “when?” He took the need for his manual for granted: it was to become the obvious model for all those order books issued in schools of architecture, so that it must have been the best-selling architectural book of the nineteenth
the famous sixteenth-century book on the orders prepared by another Bolognese architect a generation younger than Serlio, Jacopo Barozzi da Vignola; but this was even more of a copybook, and had no text to speak of. In fact the pedagogic usefulness of the orders was hardly ever questioned during the eighteenth and for much of the nineteenth century. If nothing more, the orders were considered drawing exercises, much in the same way as Latin grammar was thought to be good for the adolescent mind. The orders were taught as a foundation course in which the beginner could learn draftsmanship, presentation, rendering, the casting of shadows, and other such skills while acquiring—by osmosis—the refinements secreted in the models he copied. In the course of their training, architects were constantly presented with the orders as the axiomatic model of historical precedent, and the pressure for an unquestioning acceptance of such teaching (while their real attention was focused on gaining control of the very profitable contractual side of a rapidly expanding and increasingly mechanized building trade) is one explanation for the very limited appeal of Chipiez’s work.

2 Charles Blanc  It seems as if any book that discussed the visual arts in general and architecture in particular (and some such books were inevitably read by some architects at least) also had to pay a great deal of attention to the orders. Charles Blanc’s very popular Grammaire des Arts du Dessin, for instance, discussed the orders as part of a general history of design and had some reflections to offer on the parallel between the horizontality of classical architecture and the lines of a serene human face. To Blanc this parallel seemed to demonstrate that the architecture of beam and column inevitably suggested calm, submission to fate, long duration; his unstated confidence in empathy led him to deduce a universally valid, physiologically based aesthetic theory from this phenomenon. He acknowledged the central idea to the Dutch connoisseur, artist, and cosmographer Pierre Humbert de Superville, who had attempted to develop a system of absolutely fixed signs in works of art, both of colors and linear elements, and who had been only the first of many theorists in Britain, France, and Germany to attempt the construction of a “scientific” or “objective” aesthetic system. For the rest, Blanc was
mostly interested in the relation between the timber origins and the stone forms of the orders as they were recounted by Vitruvius.

3 G. W. F. Hegel, Arthur Schopenhauer, and Jacob Burckhardt The same is true of the account of the origin of the orders that Hegel gave in his Aesthetics: he was, I am sure, simply reasserting the commonplace when he stated categorically that the three Greek orders—Doric, Ionic, Corinthian—were the most famous, and “that for architectonic beauty and fitness for purpose nothing better had been found, either before or after.” The beauty of the orders had a finality in Hegel’s aesthetic system, since architecture belonged to the earliest, the symbolic, stage of development in the arts and had long ceased to be of interest to the Spirit whose dialectical realization through physical entities constituted the history of art as far as he was concerned. Strangely enough, his most violent opponent, Arthur Schopenhauer, took an anal-
ogous view of architecture, though his aesthetic was genetic rather than historical. The four stages of mineral, plant, animal, and human development constituted the basis for a system in the arts: in Schopenhauer's view (and in his terms) the aesthetic moment occurred when the will was no longer engaged in perception, and the perceiving subject arrived at the still moment of pure representation. Of course, it was not some immanent Spirit whose truth was revealed to the perceiver through the materiality of the work of art. No; what the perceiver obtained through the work of art was insight into Platonic Ideas—archetypes of every category.

As far as the art of building was concerned, these moments occurred at the lowest stage, the mineral. Building (classed with gardening and water management) could only deal with categories such as weight, cohesion, rigidity, fluidity, and light. Schopenhauer's best-known dictum on the matter was that all the arts aspire to the condition of music, since only the higher arts—of which music (in Hegel's system it had been poetry) was the very highest—could allow a view of more exalted archetypes. For him, it meant (in terms of building) that "the column is the very simplest, the purpose-determined form of support. The spiral column is tasteless. The square pier is really not as simple... The forms of the frieze, the beam, the arch and dome are determined by their very structure..." Wood architecture is no architecture; Gothic architecture is based on the fiction of weightlessness and inferior to the antique. The ornament of capitals belongs to sculpture, not architecture. It is the measured and even display of column and beam, of weight and its support, refined through such notions as entasis and the thickening of the corner column in Doric temples, that allows the most immediate aesthetic access to the simple Platonic ideas which architecture can display. The latest measurement taken at Paestum, which found such refinement in Doric temples, confirmed Schopenhauer in his view.15

Schopenhauer's senior by a decade (whom he disliked almost as much as he did Hegel), Schelling, took a rather different yet almost equally un-Hegelian view of the orders. In his system, the three "substantial" (reale) arts were music, painting, and the plastic arts, of which last architecture was a part. But equally the guiding structure of art was displayed by the "ideal" art, poetry, through its three modes: lyric, epic, and dramatic. Music might analogously be triply articulated according to rhythm, harmony, and melody, and architecture—which he considered a kind of rigidified music—according to its orders: rhythm was represented by the Doric, harmony (rather Vitruvianly) by the Ionic, and melody by the Corinthian. This led him to consider mathematical factors as essential to architecture as they were to music. The echo of his ideas, however little they were to the taste of Schopenhauer (or of Hegel), had a crucial effect on doctrines of geometry in architecture in the nineteenth century.16

Another very powerful testimony to the universal authority of the orders (and speculation about them) is the description of the Doric temples the young Jacob Burckhardt had seen in Paestum, which opens his Cicerone; he saw the column and its entablature entirely in empathetic, bodily terms.

The Greeks worked through the idealized treatment of form rather than through mass... The first device is the narrowing of the column at the top... which assures the eye that the column cannot be overturned; next are the flutes. They signify that the column is condensing and hardening, as it were, gathering its strength. At the same time, they emphasize the upward thrust... The powerful pressure [of the beams] spreads its upper ending
out into a swelling—the Echinus. . . . Its profile is the most important measure of strength in every Doric temple; at its base it is edged by three channels, like the folds of a delicate, slack outer skin.

To Burckhardt it seemed evident that the “Doric order is one of the most exalted creations of Man’s feeling for form.”

That notion of Burckhardt’s about the Doric he owed to German romantic historiography, with all its insistent belief in the organic development of nations and of “style,” which goes back to the Neapolitan philosopher Giambattista Vico. Burckhardt made this approach his own during his student days in Berlin, where he also absorbed the idea that the Germans, and perhaps the Prussians most particularly, had a kind of inner unity with Greek tribes, especially with the Dorians.

Later, Burckhardt would find confirmation of some of his ideas about Doric materiality in Schopenhauer, whom he admired. But he would see analogous Vican ideas developed sympathetically by French historians, particularly by Michelet and Quinet; Coleridge had given these ideas currency in Britain through his *Philosophic Lectures*, and they had been taken up both by Carlyle and Ruskin. But Burckhardt’s exaltation of Doric, written in the 1850s, marks yet another change. Friedrich Schinkel, who had Greekified Berlin and had died some fifteen years before Burckhardt wrote that passage, had used the Ionic order for preference on civil buildings such as the Schauspielhaus and the Altes Museum. The new historiography that had so influenced Burckhardt in Berlin saw the Dorians as the core Greeks and Germany, particularly Prussia, as the Dorian state come again. And that gave the Doric order a new status as the “order of orders.”

4 John Ruskin More surprisingly, John Ruskin also needed to justify much of what he wrote by reference to some such ideas about the orders. There were, as far as he was concerned, only two of them—“and there can never be any more till dooms day”—the Doric and the Corinthian, the convex and the concave. Whatever else may have been more perfect and exalted in Gothic, the elemental alternation of concave and convex “was first invented by the Greeks, and it has never materially been improved. . . .” All the orders beside these two archetypes were debasements, since convexity and concavity were the two dialectical principles of order and no other was necessary.

The Beaux-Arts and the Ecole Polytechnique

During the first half of the nineteenth century, and well beyond it, there was therefore a scission between what was known and discussed among the general public (for whom I have made Hegel, Ruskin, and Blanc token spokesmen) and what was taught in the professional schools. This teaching was dominated by the method of the Parisian Ecole des Beaux-Arts, where the orders were considered the perfect type of historical form. Historical forms did not radiate the exalted clarity of geometry, nor did they display a manifest obedience to natural forces, such as could be read into yet other forms—those derived from the nature of materials and the needs of manufacture. They were only guaranteed by their antiquity, their familiarity.

This threefold division of all architectural forms into geometric, historical, and those derived from the nature of materials was taught from the chair of architecture at the Ecole
Polytechnique by J.-N.-L. Durand for the first thirty years of the nineteenth century. With metaphors he wanted no truck. The orders were ancient and venerable, but any attempt to derive their forms from the human body was only worth holding up to ridicule. With Vitruvius’ other “fable,” that the details of the orders were derived from ancient timber construction, he did not even bother. Instead, he directed his attention to rebutting a popular account of the origin of the columns and the temple form from a primitive hut. 21 It was from Durand and from his disciples at the new Ecole des Beaux-Arts that postulant engineers and architects—first French, but soon also Italian, German, English, and Balkan (later even American and African, Chinese, and Japanese)—learned the nature of a new schematic and universal classicism. In fact the two Ecoles provided the whole world with a model of architectural education for over a century; their pupils and their pupils’ pupils bore this doctrine abroad throughout the world. The method of design and the historical doctrine of the Ecole followed the teaching that Durand had originally proclaimed for the Ecole Polytechnique, and the Beaux-Arts never developed a rival doctrine. Columns were its primary building elements. It made his dogmatic planning method, by which a pupil proceeded from the general to the particular, moving from the main axes to subaxes, and then to planning grids; on the grid, the student would locate the main point-supports—that is, columns—and finally consider the enclosing walls, which left the columns as freestanding as possible. Durand’s teaching had to be apodictic, since the insistence on the primacy of column over wall could not be justified either by an appeal to geometry or to statics. It had been formulated—almost exactly as he taught it—some fifty years earlier, and it derived from the conviction that a primitive hut built of tree trunks was the true archetype of all human building. Durand’s covert dependence on this teaching gave his irritated dismissal of the argument all its sarcastic virulence.

**Imitation of the primitive hut**

The teaching about the absolute priority of the primitive hut had been advanced about the middle of the eighteenth century by the Abbé Marc-Antoine Laugier in a brief *Essay* that was to become the architectural ordinance of the Enlightenment. It provided a contractual view of architectural origins, the form of the pedimented temple being the “natural” man’s instinctual answer to his physical needs—much as the nuclear family provided the natural sanctioning type for Rousseau’s conception of the social contract. Laugier’s account of the first hut was conflated with the older legends that Vitruvius and other ancients told about a primitive wooden architecture from which the stone architecture of the Greeks had derived. In the eighteenth century there was hardly any archaeological evidence available against which those legends could be examined, nor were the ancient historians read as assiduously as they would be in the nineteenth. Even the self-appointed guardian of the old teaching against such innovators as Durand, Antoine-Chrysostome Quatremère de Quincy, from his beleaguered position as secrétaire perpetuel of the Académie des Beaux-Arts (to which the Ecole was only nominally subject), had to account for the imitation of wooden architecture in terms that—rather reluctantly—took Laugier’s primitive hut into consideration. Thus the Doric order did indeed imitate wooden construction, but not some wretched “ouvrage grossier d’un besoin vulgaire”; the exalted stone forms must have derived from an already refined and courtly wooden construction. 22 The schools of architecture had little time during the busy nineteenth century for the subtler teaching of Quatremère.
Though he had no such prejudice against “primitive” origins for the Doric order, the most subtle historian among the architects, Gottfried Semper, rejected both the eighteenth-century myth of the hut as the prototype of the antique temple and the older Vitruvian account of architectural origins: he did so largely because the transition from timber to stone—or rather from primitive, friable materials to more permanent ones such as those used in classical Greek buildings—seemed to him a constant of all monumental architecture. The primitive huts of ancient peoples, of which no trace remains, cannot be reconstructed back from these transformations: even our speculations about them must remain summary. Huts of modern “primitives” offer the only possible substance for our speculations, since to their inhabitants the sacrality of dwelling is incarnate in a twin archetype: the hearth and the double-pitched roof over it.\(^{23}\) In that sense, of course, the supports, which keep the roof over the hearth and which were the main preoccupation of theorists from Vitruvius to Laugier, have no function at all as part of the archetype, whatever their structural role.

Still, Semper’s influence on contemporary architectural thinking (beyond the two schools of architecture at which he taught in Dresden and Zurich) was surprisingly slender. Though architects and historians of art forgot him, anthropologists were to become interested in his ideas a generation or two after his death. The lack of enthusiasm on the part of architects is due, I suppose, to the suspicion with which any teaching that relied on an idea of “imitation” was regarded by many nineteenth-century theorists. Many architects would not sink into the torpid eclecticism implicit in the teaching of the Ecole; and yet all “modern” teaching seemed to reject the old imitative doctrines. The only alternative was an adherence to the belief, also current since the eighteenth century,\(^{24}\) that a stone monumental architecture had a completely independent development. The arch-rationalist Viollet-le-Duc for one—whatever his differences with Quatremère over Gothic\(^{25}\)—needed to satisfy himself that the perfection of Greek architecture (the only one that to his mind could rival the ultimate accomplishment of French thirteenth-century Gothic) was achieved by ways quite different from those that ancient writers described. The shape of the column, as he saw it, was imposed by methods of transportation, and its various refinements were introduced as a result of observing the first rude structures under the bright sunlight. The old fables, known largely through Vitruvius even when corroborated by other ancient writers, Viollet treated as later interpolations or as corruptions introduced by Renaissance scribes.\(^{26}\)

It is therefore very interesting that throughout his critical book on the orders, Chipiez did not find it necessary to refer to Viollet’s *Entretiens*,\(^{27}\) which was by then fifteen years old and one of the most popular architectural books in the French language. Chipiez was perhaps the first modern to take Vitruvius’ legend at face value, but then he did not want to frame the orders in a system of his own devising; his concern was to show the slow and majestic transmission of forms, from Mesopotamia and Egypt to Greek lands, and to inquire as to the possible changes of value and meaning through which individual features passed in their wanderings. He ends on a paean to the “bold metaphor”\(^{28}\) by which the Greeks compared the column to the human body: that bold metaphor, which takes up much of Vitruvius’ account of the orders, seems even more vital to me than it did to Chipiez.

**The end of metaphor**

Metaphors, as I have already pointed out, had been of no concern to Durand, nor to most nineteenth-century architects: it was from Durand’s follower, Normand, or one of his coarsen-
ing imitators that they learned the orders. If called upon to rationalize their use of them, they would probably have provided some form of Durandian argument—as did the last official theoretician of the Ecole des Beaux-Arts, Julien Guadet, at the end of the century. 29

Strangely, the Anglo-Saxons were rather late in the field. 30 It was not the few Britishers who went as students to the Ecole who proclaimed the Durandian doctrine to the English-speaking nineteenth century, but books. Of these, the most important certainly was the humorless (and grossly overindustrious) architect-polygrapher Joseph Gwilt's *Encyclopaedia of Architecture*. 31 It opened with a long historical introduction, in the course of which he discussed the orders as part of Greek architecture and suggested their Egyptian derivation. But
the doctrinal teaching about the orders came in part 3 (Practice of Architecture), which is introduced by an essay on "Beauty in Architecture" in which aesthetics are dismissed as "a silly pedantic term[,] ... one of the metaphysical and useless additions to nomenclature in the arts, in which the German writers abound ... ." Gwilt presents himself throughout as the man of good sense, to whom beauty in architecture is, in fact, the true result of a fitness for purpose that is as valid for buildings as it is for machines.

He justifies the special attention he gives to the orders by arguing they are a particular case of beauty resulting from fitness. Gwilt claims to draw his basic ideas from a Scottish philosopher, Archibald Alison, though he probably first learned of them at second hand from J. C. Loudon's *Encyclopædia*, a popular building handbook for the decade before Gwilt's replaced it. Durand was easy to read in this key. After all, he also maintained that the different heights of columns were simply due to the different requirements of loading. And when it came to the rules of composition, Gwilt deferred to superior authority and quoted Durand extensively—and by name.

The decisive American contribution came very much later; William R. Ware had organized the very first American architectural school at MIT in 1865 and moved to start another one, at Columbia University, in 1881. For the benefit of his Columbia students he composed *The American Vignola*, which remained in print for many years; in 1977 it was republished in a paperback abridgement and dedicated by its editors in the service of a "new Renaissance"—much as the old edition had served the "American Renaissance" that followed the Chicago Columbian exhibition of 1892. Ware's coarse, mechanically printed hand-me-down inevitably claimed Vignola's clear and proud copper engravings as precedent: it is a mark of those first American teachers' servitude to the Beaux-Arts that Vignola is adopted as the model preferred to any other. In France his eminence had become such in the nineteenth century that his name came to stand for any book of rules.

In the preface to *The American Vignola*, Ware tells of an incident from his early career: he had entered the office of Richard Morris Hunt, the very first American pupil at the Ecole, who is now remembered mostly for the Metropolitan Museum building and the socle of the Statue of Liberty (though he was in fact one of the most prolific and successful architects of his day). Young Ware was struggling at his drawing board with details of the Doric order out of one of the many Vignola reprints, when Hunt observed him, took the pencil from his hand, and showed him the "rule" for drawing the capital and cornice by a sleight of hand that makes all moldings and ornaments from the multiples of one-sixth of the column diameter. This shortcut, which Hunt said he had learned as a student at the Beaux-Arts, was of course not devised by Vignola, as Ware (and perhaps also Hunt) seemed to think. It came directly from the very thorough reinterpretation of the orders by Claude Perrault, the author of one of the most ambitious of all the seventeenth-century order books and the best translator-commentator of Vitruvius until that time. Such imprecisions were symptomatic of the philistine and antihistorical character of that early-twentieth-century "Renaissance" that Ware had served.

Yet even at the time of that renaissance, whose heroes on either side of the Atlantic are now seen to have been Stanford White and Edwin Lutyens, there were vast numbers of architects who ruled their designs by the orders, though they would not see them exclusively through eighteenth- or even nineteenth-century pattern books; they had available up-to-date handbooks, most of them shoddy reprints of older ones. The bulk of institutional and colo-
nialist architecture of the late nineteenth and twentieth century was done by them: not only the British in India and South Africa or the French and Italians in North Africa, but even the Japanese in Manchuria produced such building.

Still, there were architects who wanted to appeal to the raw antique, to come to terms with ancient models and rejuvenate them in spite of the bulk of institutional vacuities. Auguste Perret’s heroic attempt to pour a classical architecture of reinforced concrete into the primitive timber archetype of shuttering and scaffolding—much as Choisy’s Greeks created their stone columns by petrifying timber construction—deserves a more generous treatment than I could afford it here. But other major and innovative architects adapted the existing orders to their own use. Antoni Gaudi was a conspicuous example, perhaps because he made the appeal so sparingly. And of course he was much more “Gothic” than “classical,” a self-confessed disciple of Viollet-le-Duc. In one important building, he used the Doric order impressively: the Parc Güell in Barcelona, which was to have been the central open space (called by Gaudi “the Greek Theater”) of a new garden-city, or more precisely, of a residential urban park, organized somewhat on the lines of Bedford Park in London but set on the slope of the Muntanya Pelada instead of the flatland of a London suburb. This garden-city did not turn out a success.

Return to sources

1 Antoni Gaudi The main entry into the park was a monumental stairway up to a Doric Ipostilo (hypostyle hall). It was to be the colony’s market. Eighty-six Doric columns support a Catalan vault of reinforced brickwork. It is edged by a cornice, which in turn carries the meandering ceramic-covered parapet bench to enclose a wide esplanade (now a place of nursemaids, prams, and ice creams) with a grandiose view over the city and the sea, over the vaults of the hypostyle—just like the stage of many an ancient theater. The esplanade cuts into the hillside, is enclosed by it, so that the natural lay of the land really does resemble that of
Parc Güell, Ipostilo. Antoni Gaudi. Detail of capital; photo by author.

Parc Güell, Ipostilo. Antoni Gaudi. flank. photo by author.
many Greek theaters. It is not clear whether the idea was Gaudi's or the Hellenophile Güell's, but it is Gaudi's only explicit reference to Greek architecture, and explicit it is not only in the detail but in the context and implications of the project, which is in fact a very personal interpretation of Mediterranean unity. The shafts of the columns are as thin as those in very late Hellenistic examples, and very narrow at the top; the echinus is very widely flared, with a deep necking, like those of some archaic examples, while the abacus of the capitals is octagonal instead of the almost universally used square.

Each column is made up of eleven preformed, hollow concrete drums; the upper eight are fluted, the lower three flat and covered with chips of glazed white tile, as is the vault, so that the interior of the shady hypostyle is lit up by a strange reflected light. The cornice is about a third of the height of the shafts, heavier than most of the ancient examples. While the refined "correct" swelling of the shaft called entasis is not used, there are other strange optical devices, thoroughly "unclassical" ones: the outer columns are inclined inward, like flying buttresses, and much of the ornamental detail is improvised.

Gaudi admired Greek architecture for its "simplicity of form and ornamentation.... The superposition of the pieces subject only to the action of gravity is achieved with a delicacy of outline and joint, of mass and carving, all of which are minutely studied and corrected." But this admiration does not extend to contemporary "classicists": "the Parthenon is the product of necessity but the Paris opera.... merely has a stupidly sumptuous facade...."

Of course, Gaudi was not a scientific student of archaeology. The strange arrangement of the Güell Doric was derived from the most obvious sources. The partly fluted shaft has a fairly well known Italian and Hellenistic precedent, the so-called temple of Hercules at Cori, which was the subject of an early plate in Hector d'Espouy's Fragments d'Architecture Antique, though Gaudi may well have known it from other publications, such as Piranesi's. His other notable precedents, the temples of Athena ("of Demeter") and of Hera (which had been known as the "Basilica") at Paestum, were also represented in splendid Piranesi engravings. The "Basilica" was particularly important, since it was thought to have been a civil building and was restored as such by Henri Labrouste. That restoration Gaudi certainly knew, since it was published (without acknowledgment) in Luigi Canina's huge History of Ancient Architecture. Still, whatever his sources, none of his exemplars looks quite as heavy and fierce as Gaudi's Doric. The barbaric grandeur of the thing was plainly intended to provide as authentic a primitive Greek experience as was possible in moderniste Barcelona.

Gaudi's primitivism has an instructive counterexample: in 1918-1920, some ten years after the Parc Güell, Gunnar Asplund built the little crematorium known as the Woodland Chapel in the Southern Cemetery of Stockholm. It is entered through an extremely widely spaced Doric porch, three columns deep, four columns wide. Because of that wide spacing, the columns (which are in fact canonically proportioned, 1:7) look extremely thin. They support a vast hipped roof of creosoted wooden shingles, more than three times the height of the columns, while the roof covers both porch and chapel within; they carry no cornice, nor do they have bases—the columns rest directly on the pavement. The interior of the rectangular chapel is articulated by a ring of eight columns in a circle supporting a skylit dome, which takes up most of the volume of the roof, turning the whole thing into a toy Pantheon.

2 Gunnar Asplund Although Asplund's chapel has the high and rather effete finish typical of the best Swedish building of the time, it is obviously intended to look primitive, even primal.
The columns standing in the pine wood are assimilated to the straight, narrow trunks. Their wide spacing, the absence of a cornice, the bulk of the roof all suggest archaic wooden construction; Doric, Tuscan, yes—but also Nordic. It is almost as if in the presence of death Asplund was attempting a regeneration of those forms, which were both national and timeless, classical. However inspired it may now seem, Asplund must have considered this way of designing to have failed him. Apart from one or two tombs, his only use of classical columns after this were the “Pompeian,” toylike attenuated herms and Corinthian columns of the Skandia cinema in Stockholm of 1922–1924. Before the decade ended, he had abandoned all classical details, and the 1930 Stockholm exhibition shows him as a fully fledged and highly inventive modernist.  

3 Adolf Loos Another clamorous twentieth-century example never got beyond the drawing stage: Adolf Loos’ entry for the Chicago Tribune Building competition of 1922 was in the form of a Doric column in polished black granite. Its shaft was to house offices and stand twenty-one stories on an eleven-story high podium. The building was entered by a portico recessed in the square base, with two Doric columns in antis that carried the appropriate cornice; the column building carried only the stump of a block, invisible from the ground, and no cornice at all. Some critics have bypassed the scheme as a prank, but no one seriously interested in Loos and his work could ever maintain such a view. As a well-known antiornament publicist, Loos had to defend (or so he felt) his frequent use of the orders on public buildings, and his most famous contribution to the Viennese townscape, the Goldmann and Salacz Store (now simply known as the Looshaus), has a rather curious and abrupt ground piano nobile whose bay windows and columns make the sort of Chicagoan reference most of his contemporaries inevitably missed.

He made the Chicago Tribune project his most aggressive homage to the Greek column. One other scheme (of 263!) in that competition was to propose a whole building in the form of a column—but it looks vulgar and ham-fisted beside Loos’ solemn and grandiose folly. At the time it might have come as rather a surprise that there were not more columniform schemes entered for that competition. The most influential architectural text about skyscrapers, Louis Sullivan’s “The Tall Office Building Artistically Considered,” insisted on the tripartition of the building into base, shaft, and capital, even if Sullivan denied invoking any direct analogy to the column. That essay appeared in Lippincott’s for March 1896, just as Loos, Sullivan’s “brother in the spirit” (though very much his junior), was leaving the United States to return to Europe.

Loos almost certainly read that text before he designed the Chicago Tribune building. He had been sent a copy of it in March 1920 in the hope that he would find a European publisher for it; at any rate he considered that he was offering American architects the true solution of the skyscraper problem with which they had still to grapple. When he published the scheme in Vienna after its rejection by the jury, he wrote that when approaching the design he had ruled out the possibility of inventing any new form, since new forms are too quickly consumed and would not answer the promoters’ desire to “erect the most beautiful and distinctive office building in the world,” as the competition conditions demanded.

He did not really consider alternative solutions to the problem (Loos wrote in a Viennese professional magazine) of offering a type for the American skyscraper. After all, he continued,

Woodland Chapel. Plan by Asplund, after Ahlberg.

Woodland Chapel. Sections by Asplund, after Ahlberg.

Order in Building
Chapter I
representative examples [of skyscraper building] could, at the beginning of the movement, be distinguished from each other. But now it is already difficult for the layman to tell whether he is looking at a building in San Francisco or Detroit. The writer chose the form of the column for his project. The motif of the free-standing giant column was provided by tradition. Trajan's column already served as the prototype of Napoleon's in the Place Vendôme.51

The wordplay on the column of type and the column building for a newspaper, which was offered as an arbitrary justification of the form, seems too weak for this eccentric and powerful project. Loos was very conscious of the anomalous nature of his enterprise. In the apologetic article I have been quoting (headed “Should a Habitable Column be Allowed?”), he refers to other skyscrapers—such as the Metropolitan and the Woolworth buildings, both in New York—which were based on historical types (the Mausoleum of Halicarnassus, a Gothic spire) not originally intended for habitation, and which provoked no objection. Loos was also quite aware how awkward the office accommodation in his cylindrical shaft was bound to be, yet what really mattered to him most was the display of the giant column on its pedestal as an isolated and solemn prophetic object for the Windy City. Indeed Loos deliberately separated the granite-faced base of the building from the other low “functional” brick workshops behind the column to emphasize its splendid isolation, its monumental character. He was convinced that the building of such a column would have a beneficial effect on all the architecture of the future; the envoy of his essay is a vers libre quatrain, which he had printed in English:

Chicago Tribune Building.
Sketch plan, from Loos-Archiv.
Albertina, © Verwertungs-
gesellschaft bildender Künstler.
The great Greek Doric column must be built.
If not in Chicago, then in some other town.
If not for the “Chicago Tribune” then for someone else.
If not by me, then by some other architect.\footnote{22}

What Gaudi had attained by twisting the order to his peculiar missionary and structural purposes, Loos could only assert by isolation and gigantism: the supremacy of value pitted against the city of brute fact. The Doric order appeared to have been the ultimate historical form, the great human building achievement, unfettered by structural contingency or the base need for shelter. All of them—Gaudi, Sullivan and Loos, and Asplund—saw the Doric order as ultimate, though perhaps only for Loos did that imply the last ever, the last possible.

Gaudi’s Doric order became a fragment among other fragments—the broken ceramics, the monstrous animals. Yet he considered all structural forms (and this included “his” Doric columns) as in some way “natural” responses to the ultimate architectural problem of defeating gravity. The Doric order offered that particularly refined response: a civic response, which he saw as ennobling the particular setting.

In any case, for Gaudi the very heterogeneity of the pieces became a kind of guarantee of the homogeneity of the whole. Loos, on the other hand, asserted the otherness of his form against an environment apparently homogeneous. His fragment is a monstrum: “monster,” but also “exemplar.” As for Gaudi, so for Loos, a selection from among existing forms is the unavoidable way, since the history book from which they selected was already complete; all possibilities of ornamental invention were exhausted and his designs would have to be recorded in some quite different way, perhaps not in a history book at all—in a new kind of book, whose compilation had not yet begun.

Yet for Loos certainly, for Gaudi less definitely, the Doric order provided the unique figure that might ennoble the base need for shelter. The grandiose and primal form seems to spring directly from the instinct to build with such vigor that it had to transcend necessity. Each of my twentieth-century masters knew, nevertheless, that the ancient forms were no hand-me-downs, that they would not submit gracefully to the architects’ different and contingent demands; all the projects had therefore to violate the limits of the formal convention.