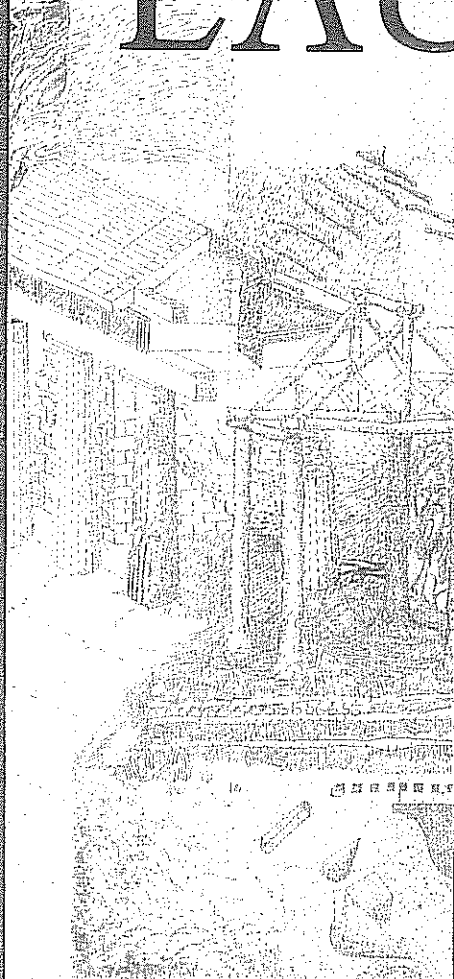


MARC-ANTOINE
LAUGIER

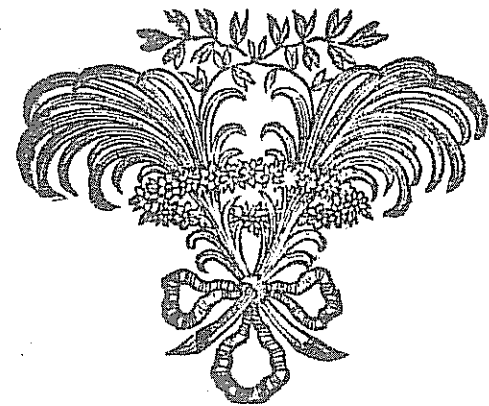


AN ESSAY ON
ARCHITECTURE

TRANSLATED AND WITH AN INTRODUCTION BY WOLFGANG AND ANNI HERRMANN



ESSAI
SUR
L'ARCHITECTURE.



A PARIS;
Chez DUCHESNE, rue S. Jacques, au
Temple du Goût.

M. D C C. L III.

Avec Approbation & Privilège du Roy.

architect, I cannot speak with sufficient knowledge. This, surely, is the least of all difficulties; every time we watch a tragedy, we judge it without ever having written a single word. Nobody is barred from knowing the rules, although to apply them is given only to a few. One should not cite respectable but by no means infallible authorities as evidence against me, since to judge what should be by what is would spoil everything. The greatest men have sometimes gone astray—to take their example always as a rule is therefore not a safe way to avoid errors. No one should try to check me in my course on the pretense of fancied difficulties; idleness finds many, where reason sees none. I am convinced that those of our architects who are genuinely eager to bring their art to perfection will be grateful for my good intentions. They may find in this essay thoughts that had not occurred to them before; if they consider them to be sound, they should not be too proud to make use of them; this is all I ask. *[Therefore to see only with regret that an alien hand carries the torch of truth into mysteries not yet penetrated, to reject out of repugnance to the source from which it comes a light which is offered, to meet with blind contempt an amateur eager to try and find routes leading to the goal missed by other routes, to be passionately against the success which his efforts could attain out of fear of finding thereafter critics more attentive and judges more severe, such a frame of mind is merely that of artists devoid of talent and feeling.]*¹

¹Passages set in italics and enclosed in brackets are additions made by Laugier for the second edition of 1755.

Chapter I

General Principles of Architecture

It is the same in architecture as in all other arts: its principles are founded on simple nature, and nature's process clearly indicates its rules. Let us look at man in his primitive state without any aid or guidance other than his natural instincts. He is in need of a place to rest. On the banks of a quietly flowing brook he notices a stretch of grass; its fresh greenness is pleasing to his eyes, its tender down invites him; he is drawn there and, stretched out at leisure on this sparkling carpet, he thinks of nothing else but enjoying the gift of nature; he lacks nothing, he does not wish for anything. But soon the scorching heat of the sun forces him to look for shelter. A nearby forest draws him to its cooling shade; he runs to find a refuge in its depth, and there he is content. But suddenly mists are rising, swirling round and growing denser, until thick clouds cover the skies; soon, torrential rain pours down on this delightful forest. The savage, in his leafy shelter, does not know how to protect himself from the uncomfortable damp that penetrates everywhere; he creeps into a nearby cave and, finding it dry, he praises himself for his discovery. But soon the darkness and foul air surrounding him make his stay unbearable again. He leaves and is resolved to make good by his ingenuity the careless neglect of nature. He wants to make himself a dwelling that protects

but does not bury him. Some fallen branches in the forest are the right material for his purpose; he chooses four of the strongest, raises them upright and arranges them in a square; across their top he lays four other branches; on these he hoists from two sides yet another row of branches which, inclining towards each other, meet at their highest point. He then covers this kind of roof with leaves so closely packed that neither sun nor rain can penetrate. Thus, man is housed. Admittedly, the cold and heat will make him feel uncomfortable in this house which is open on all sides but soon he will fill in the space between two posts and feel secure.

Such is the course of simple nature; by imitating the natural process, art was born. All the splendors of architecture ever conceived have been modeled on the little rustic hut I have just described. It is by approaching the simplicity of this first model that fundamental mistakes are avoided and true perfection is achieved. The pieces of wood set upright have given us the idea of the column, the pieces placed horizontally on top of them the idea of the entablature, the inclining pieces forming the roof the idea of the pediment. This is what all masters of art have recognized. But take note of this: never has a principle been more fertile in its effect. From now on it is easy to distinguish between the parts which are essential to the composition of an architectural Order and those which have been introduced by necessity or have been added by caprice. The parts that are essential are the cause of beauty, the parts introduced by necessity cause every license, the parts added by caprice cause every fault. This calls for an explanation; I shall try to be as clear as possible.

Let us never lose sight of our little rustic hut. I can only see columns, a ceiling or entablature and a pointed roof forming at both ends what is called a pediment. So far there is no vault, still less an arch, no pedestals, no attic, not even a door or a window. I therefore come to this conclusion: in an architectural Order only the column, the entablature and the

pediment may form an essential part of its composition. If each of these parts is suitably placed and suitably formed, nothing else need be added to make the work perfect.

We still have in France a beautiful ancient monument, which in Nimes is called the *Maison Carrée*. Everybody, connoisseur or not, admires its beauty. Why? Because everything here accords with the true principles of architecture: a rectangle where thirty columns support an entablature and a roof—closed at both ends by a pediment—that is all; the combination is of a simplicity and a nobility which strikes everybody. [*The author of the Examen*¹ disapproves of my intention to establish a strict relation between all parts of our buildings and those of the rustic hut. He should have explained to us in detail the laws which make this relation faulty because if it is based on solid grounds, as I maintain and as all masters of the art have suggested, then no way exists any longer of attacking the rules which I establish in the articles that follow. They are all necessary consequences of this simple principle. If I am to be refuted, the whole line of action amounts to this: either show that the principle is wrong or that the conclusion does not follow from it. One will strike in vain as long as one does not use one or the other of these two weapons against me. All declamations, even all insults will be to no purpose. The judicious reader will always come back to this question: is the principle wrong or the conclusion? The only reason brought up against the proved relation between our buildings and the rustic hut is that we should be allowed to move a little away from this coarse and shapeless invention. We have, indeed, moved far away from it through the grand gout of the decoration which we have put in place of the careless faults of such crude composition, but the essential must remain—the rough sketch which nature offers us. Art must only make use of its resources to

¹*Examen d'un essai sur l'architecture*, Paris, 1753. See p. 148. (Translator's note.)

embellish, smoothe and polish the work without touching the substance of the plan.]

Let us now consider in detail the essential parts of an architectural Order.

Article I The Column

(1) The column must be strictly perpendicular, because, being intended to support the whole load, perfect verticality gives it its greatest strength. (2) The column must be free-standing so that its origin and purpose are expressed in a natural way. (3) The column must be round because nature makes nothing square. (4) The column must be tapered from bottom to top in imitation of nature where this diminution is found in all plants. (5) The column must rest directly on the floor as the posts of the rustic hut rest directly on the ground. All these rules find their justification in our model; all deviations from this model without real necessity must, therefore, be considered as so many faults.

1. Fault: when columns, instead of standing free, are engaged in the wall. The column certainly loses much of its grace when even a small obstacle obscures its outline. I admit that circumstances frequently seem to rule out the use of free-standing columns. People want to live in closed spaces, not in open halls. Therefore, it becomes necessary to fill in the space between the columns and consequently to engage them. In this case, an engaged column will not be regarded as a fault, but as a license sanctioned by necessity. It should, however, always be remembered that any license points to an imperfection and must be used cautiously and only when it is impossible to find a better way. If, therefore, the columns have to be engaged, the degree of engagement should be as small as possible—a quarter at most or even less so that, even

when constrained, they retain some quality of the freedom and ease which gives them so much grace. We must avoid getting into the awkward situation where engaged columns have to be employed. It would be best to reserve the use of columns for peristyles where they can be completely free-standing and to omit them altogether whenever necessity compels us to back them onto a wall. After all, even though we have to submit to *bienséance* why should we not disengage the column so that it can be seen in the round? Would the facade of St. Gervais not be improved if the Doric columns were free-standing like those of the upper Orders? Is there anything impossible in this? [*The architect, who to justify this fault shelters behind the argument that the part of the architrave over the center door looked too weak to carry the entablature and the crowning pediment, does not notice that instead of preventing one irregularity he sets up two which are considerably worse. What necessity is there for a complete entablature if its weight cannot be carried by the architrave? Will he even have us maintain that the first pediment is within the rules? Had the columns of the first Order been free-standing, the upper Orders would have had nonetheless all the necessary diminution because of their smaller module and greater lightness.*]

To dare criticize a work which the public commonly takes for a faultless masterpiece suggests that one defers little to public opinion. However, pointing out the defects of this building gives me the right to be unsparing in my criticism of any other building without hurting anybody's pride. That is why I shall speak bluntly. After what I have said, it will be less surprising that the connoisseurs set so little value on the Church of the Jesuits in the rue St. Antoine. Without counting other faults, of which there are many, the effect of the three Orders of engaged columns is most disagreeable. This, as M. de Cordemoy so adroitly says, is no more than architecture in relief to which the eyes of enlightened people will

never be reconciled. I have often bemoaned the craze of architects for engaged columns, but I should never have believed that it could occur to the mind of a thinking person to engage one column into the other. No fault is more unbearable, more shocking than this. Even those new to architecture will agree on this, and yet this fault is repeatedly committed on all four sides of the inner courtyard of the Louvre. Such a glaring blunder on such a magnificent work of art ranks among the degradations of the human spirit.

2. Fault: when instead of round columns pilasters are used. Pilasters are only a poor representation of columns. Their corners indicate a constraint of art and deviate noticeably from the simplicity of nature; their sharp and awkward edges hurt the eye, their surfaces, not being rounded, make the whole Order seem flat. They are not adaptable to that diminution which makes columns so attractive. Pilasters are never necessary; wherever they are used, columns could be applied just as advantageously. They must, therefore, be regarded as a bizarre innovation, in no way founded on nature or authorized by any need, which can only have been adopted out of ignorance and is still tolerated only by habit. The fashion for pilasters has triumphed everywhere: alas, where are they not to be found? Yet to realize how distasteful they are, one only needs to think of the grand effect which columns always make, an effect that is unfailingly destroyed by pilasters. Change the coupled columns of the Colonnade of the Louvre into pilasters and you take away all its beauty. Compare the two wings of this superb facade with the pavilions at both corners: what a difference! Even valets and maidservants want to know why the pavilions are different from the rest. This vexation is aroused by the taste for true beauty, a taste that is natural to everybody. The identical architectural Order extends over the whole facade, but the main part has columns, the pavilions have pilasters; this difference alone is enough to disturb the pleasure that a more

unified whole would have given. [*It is of no avail to say that diversity, so precious in art, demands variation in the decoration of the pavilions. No doubt one must, if possible, make variations, but without departing from the laws of nature. Otherwise who will prevent an artist, intent on even more variation, from replacing round columns with oval ones or prism-shaped ones or with pillars having five, six or eight faces? By which principles would it be possible to forbid him these extravagances (bizzareries)? It is even less reasonable to plead in excuse the impossibility of harmoniously linking the facade of the porticoes with the one facing the river. The pilasters on the second facade need only be suppressed to visualize one of better taste.*]

On entering the nave of the Chapel of Versailles everybody is struck by the beauty of its columns, by the picturesque vista (*àpreté*) through its intercolumniations; but as soon as one approaches the apse, there is not a person who does not notice with regret the stupid interruption of the beautiful row of columns by a depressing pilaster. One can, therefore, be quite certain that the use of pilasters is one of the great abuses that have found their way into architecture, and since an abuse never comes alone we have been presented with folded pilasters in corners, with curved pilasters in circular buildings, with pilasters lost in the confused interpenetration of one into the other. The pilaster is a frivolous ornament which has been put to all sorts of uses; it has even been married to a column which, it seems, is there as its inseparable companion. Has there ever been a more ridiculous match? What does the engaged column mean behind a free-standing column? Honestly, I do not know and I defy anybody to explain it. Does it make sense to unite two things which are quite incompatible? The column has its diminution, whereas the pilaster could not have any which is the reason that the latter will always look either too narrow at the bottom or too wide at the top. Whenever there is a void to be filled, one fills it

with a pilaster; whenever there is a fault to be covered up or a place to be embellished, one cuts out one half or one quarter of a pilaster. The ancients were not more scrupulous about this matter, at times even less particular, than the moderns, since they built colonnades where they mixed columns and pilasters. In short, the pilaster is a thing I cannot bear. This is an inborn aversion. The more I studied architecture, the more I found in its true principles the justification for my own aversion. [*Besides, while on the subject, it is not at all my personal taste which I set up as rule; it would be quite unfair to allege that I only condemn pilasters because of my blind aversion. The reasons I gave for it prove that my hatred is well founded.*]

It will be said that pilasters are used so as to avoid the excessive cost of columns. To that I answer: if the column is barred only for reasons of economy, all that is needed is a decision to suppress architectural Orders altogether. Beautiful buildings can be created without their help, but if one wants to employ the five Orders I shall never forgive cutting out the column which is their most essential part.

3. Fault: to give a swelling to the shaft at about the third of its height instead of tapering the column in the normal way. I do not believe that nature has ever produced anything that could justify this swelling. Let us do justice to our artists who a long time ago have given up spindle-shaped columns which are not to be found on any recent work. Rusticated columns are no less faulty than spindle-shaped columns. Philibert de l'Orme had a high opinion of rusticated columns and covered the Palais des Tuileries with them. His taste, however, was not sufficiently refined to make them admissible on his authority alone. This great man deserves to be highly praised and will always be counted among the great masters of architecture. We owe to him the rebirth of this beautiful art in our country, yet his work still savors of the depraved taste of the preceding centuries. Rusticated columns

are only a capricious fancy; we do not see a whole column but various drums of a different scale piled up one above the other, producing an effect which is rather mean and infinitely harsh. The beautiful Palais de Luxembourg is quite disfigured by these rusticated columns. Far worse are spiral columns. Whoever thought of them was certainly skillful because it needs much skill to make them well; but had he had judicious taste, he would surely not have taken so much care in carrying out such a foolish invention. Spiral columns are to architecture what the bandy legs of a cripple are to the human body; yet at first their peculiar appearance pleased some people who were enemies of the natural and who believed the work to be beautiful because it was difficult. Others, more eccentric still, have offered us stumps of straight columns on which they had mounted in a most miserable manner two-thirds of a spiral column; others again, prompted by the same taste but defeated by practical difficulties, wanted at least the satisfaction of twisting the flutings of straight columns. These absurdities have been reserved mainly for altars. I admire the baldachins of St. Peter's in Rome, of the Val de Grâce and of the Invalides, but I shall never forgive the great men who designed them for using twisted columns. Do not let us be deceived by false jewels: they only demonstrate the failings of a genius. Let us keep to the simple and natural; it is the only road to beauty. [*Against this it is said that in light and elegant constructions which do not demand great solidity spiral columns, far from hurting the eyes, "will always give pleasure" and be willingly accepted. The reason on which this opinion is based is that of diversity. But, once more, does the wish for diversity authorize every kind of fancy? Would columns fluted in twisting spirals be proper for a light and elegant construction even though solidity would not be affected? Undoubtedly not, because they would be contrary to nature. Therefore, one must always come back to nature to forestall flights of fancy*

and must not believe one has given unanswerable proof of it when saying: "This is accepted practice, therefore it is good; this is irregular but has gained the right to please, therefore one must be very careful about banning it." One day, somebody said to me: "Monsieur, why do you condemn things which please me?" I answered: "For the same reason, Monsieur, that you condemn the farces of the charlatans which please many people."]

4. Fault: when the columns, instead of resting directly on the ground, are raised on pedestals. Since the columns are, if I may say so, the legs of a building, it is absurd to give them another pair of legs. The pedestals I am speaking of have been invented out of misfortune. If columns were found to be too short, it was decided to put them on stilts in order to make up for the lack of height. The same difficulty led to having recourse to double pedestals when a single pedestal was not sufficient. Nothing makes a building look more heavy and clumsy than these huge angular masses which serve as substructures to the columns. The colonnade of the Hôtel Soubise is unbearable because of these hideous pedestals; but if the columns were rising from the ground, it would be a charming building. Columns may rest on a massive, continuous wall, that is to say on a simple socle without base, without cornice and of medium height; and this will be done whenever a colonnade is being built and the level of the inner floor is higher than the surrounding ground. Far from criticizing this practice, I am convinced that it will always be successful. Sometimes too, when the intercolumniations are filled by a balustrade as at the bay of the Chapel of Versailles and of the Colonnade of the Louvre, each column may rest separately on a small socle. This second manner is less perfect and would even be defective if it were not justified by the necessity of having a balustrade on a colonnade which is erected on the first floor; but to place pedestals under columns at ground level is an inexcusable fault. Nearly all the

altars in our churches present this ridiculous sight. Columns are needed here but they would cost too much if they were on a scale large enough to make them rest directly on the floor—hence one needs pedestals. This is the reason why the columns at the main altar of the Church of the Jesuits in the rue St. Antoine are set on two pedestals, one above the other. Only this once shall I cite this shocking work. All one can say about it is that none of the glaring blunders that architects can make has been forgotten here. [*Objections are raised against the ridiculous effect of columns placed on the floor as part of the altar table. Never, I reply, has it been my intention to make use of sham columns with which one decorates retables. If, however, one insists on such a decoration, I think that a demi-dome where columns, placed on the floor, have their entablature surmounted by a demi-cupola with the altar standing free in the center would be preferable to all those columns on stilts which make the altar table look like a miserable stylobate.*] In short, pedestals are only good for carrying statues and to make them serve any other purpose is essentially bad taste. However much it is said that pedestals have been admitted at all times, that Vitruvius and all his commentators assign to each Order its particular pedestal and that they are to be found on the most beautiful buildings of antiquity, I have my principle which I shall never give up. Any device—even if approved by great men—which is either contrary to nature or cannot be convincingly explained is a bad device and must be proscribed.

[*The author of the Examen opposes this principle by saying that we should not approach nature too closely and lose the opportunity of making our enjoyment more lively through the fortunate effect of an approved irregularity. "Let us not," he says, "be slaves to primitive practices; let us not demand too strict a correlation with them in our formations when the length of time and the force of an ancient habit have authorized these." This means that irregularities can in time*

become legitimate, and that whereas the ancients had the right to condemn certain abuses while they were novel, we are not allowed to proscribe them, since they have been sanctioned by the length of time and the force of habit. This way of thinking which makes what is right simply dependent on custom seems to me a very easy expedience for ignorant and lazy artists but it obstructs the progress of the arts too much to be generally adopted. I have always believed that what is originally an abuse does not cease to be one by having become customary. In matters of reason and taste, what has once been condemned should always be condemned. In this sphere good and bad produce two indelible qualities the essence of which neither length of time nor prolonged habit can change or destroy. If only arbitrary rules are wanted for the arts one can insist on custom, but if the processes of art must go back to fixed principles it is necessary to appeal to reason against custom and to sacrifice to the light of one the force and sway of the other.]

Article II

The Entablature

The entablature is the second part which appears in the model of the rustic hut. The pieces of wood which rest horizontally on the vertical posts to form a ceiling are represented by what we call the entablature. Adhering to our model we come to these conclusions: (1) that the entablature must always rest on its columns like a lintel (*en plate-bande*); (2) that in its whole length it must not have any corner or projection. From there follows condemnation of the following faults:

1. Fault: instead of giving the entablature the form of a true beam carried solely by free-standing columns, to support it by wide arches, a far too common practice in our churches

and elsewhere. Arches are faulty: (1) Because they require massive piers and imposts which, backed against columns, take away the air of lightness (*dégagement*) which is the main beauty of columns and make the whole structure look heavy. (2) Because with these piers we are back to pilasters and their drawbacks. Piers present us with squares, angles and corners, that is, with forms which stray from the natural and savor of constraint; their appearance could not have the unspoiled grace of exquisitely rounded columns. (3) Because arches are used here for a purpose contrary to nature. Arches are vaults. Vaults must always be carried and can never serve as supports. Now, here, they serve no other purpose than to carry the entablature, for if this is not their function of what use can they be? (4) Because arches by their thrust force the columns to give lateral support which, again, is against nature, since columns are made to give vertical support only. Therefore, arches are undoubtedly defective.

I go further: arches are entirely useless. An entablature extended *en plate-bande* over columns does not need arches for support. I know that when a lintel is to bridge an excessively large span, it will not stay up because its supports are too wide apart. But what need is there to make architraves span distances so great that the sight would be frightening? Why be sparing with columns when a judicious increase in numbers will always give singular pleasure? Architects know how far one can extend the width of intercolumniations without reducing in any way the solidity of a building. The ancients have left us infallible rules on the subject; the moderns have discovered the secret which allows more room to move: they thought of coupling columns, a delightful idea which had never occurred to the ancients. Why wish to go beyond it at the risk of replacing delicate elegance by massive heaviness? If it is still maintained that straight architraves (*en plates-bandes*) are incompatible with solidity, then I refer to the evidence of the peristyle of the