ARC 331/435: Theory Excerpts

EUGÈNE-EMMANUEL VIOLLET-LE-DUC, *LECTURES ON ARCHITECTURE* (1872)
TRANS. B. BUCKNALL. (NY: DOVER, 1987).

Lecture X

There are in architecture two indispensable modes in which truth must be adhered to. We must be true in respect of the program, and true in respect of the constructive processes. To be true in respect of the program is to fulfill exactly, scrupulously, the conditions imposed by the requirements of the case. To be true in respect of the constructive processes is to employ the materials according to their qualities and properties. What are regarded as questions purely belonging to art, symmetry, and external form are only secondary conditions as compared with those dominant principles.

In architecture truth is not sufficient to render a work excellent; it is necessary to give to truth a beautiful or at least appropriate form—to know how to render it clear, and to express it felicitously. Indeed, in the arts, although we make use of the most rigorous and logical reasoning, we often continue obscure and unpleasing; we may, in fact, produce what is ugly. But while conceptions based on the soundest reason sometimes produce only repulsive works, true beauty has never been attainable without the concurrence of those invariable laws that are based on reason. To every work that is absolutely beautiful there will be always found to correspond a principle rigorously logical.

It is not enough to have succeeded in conveniently disposing the services of a public building or a private dwelling; to have succeeded in giving these arrangements the aspect befitting each of them. There must be a connection between the parts . . . the materials must be judiciously employed, according to their qualities; there must be no excess on the side of strength or slightness; the materials used must indicate their function by the form we give them; stone must appear as stone, iron as iron, wood as wood. . . . The various materials we use possess different properties; and if we succeed in expressing these properties by the forms we give to our materials, not only do we thus open a vast field for variety and take advantage of infinite resources, but we likewise interest the public by this constant endeavor to give every object the form that befits its nature. . . . Not to deceive is the first rule that persons of taste lay down for themselves; how then can we credit with taste artists who in their works heap falsehood on falsehood?

Lecture XII

While wrought iron is very useful in masonry when suitably employed, cast iron may serve numerous purposes. Cast iron notoriously possesses great rigidity; it is extremely durable, for it is less liable to decay than wrought iron; and when exposed to the air, as in supports, and when complicated joints and causes of fracture area avoided, it may be regarded as unassailable by time. But it is evident that, in employing this material, forms of a suitable character should be given to it, and that it would be absurd to simulate in cast iron, for example, columns of a diameter proper to stone supports. . . . Grand results might, nevertheless, be obtained by so employing it, on condition of adopting the equilibrated structure successfully carried out in our country by the medieval architects. In fact, while iron serves scarcely any purpose in monumental masonry such as we now conceive it, which is based on the principle of massive and concrete structure, it would find a rational and useful function in equilibrated masonry, by employing cast iron for rigid supports or wrought iron for ties. With these appliances we might erect vaulting in masonry on very slender supports, a thing hardly ever done.

[Iron] is destined to play a more important part in our ceilings; it should certainly furnish very strong and slender supports, but it should also enable us to adopt vaulting at once novel in plan, light, strong, and elastic, and bold constructions forbidden to the mason. . . . if we would invent that architecture of our own times that is so loudly called for, we must certainly seek it no longer by mingling all the styles of the past, but by relying on novel principles of structure.

If we propose to use iron conjointly with masonry, we must give up the traditional methods of Roman structure. We have no longer to contemplate erecting buildings based on inert immovable masses, but to provide for elasticity and equilibrium. The distribution of active forces must replace an agglomeration of passive forces. For the attainment of these results, the study of the structure of the French medieval buildings can be of great

service, for the architects of that period had already substituted the laws of equilibrium and elasticity for those of Roman structure; but it does not follow that we should imitate the forms they employed—forms that are admirable where masonry only is used but are unmeaning where iron and masonry are simultaneously employed. Had the medieval architects possessed the products of our metal manufactures, they would assuredly, in virtue of their logical and subtle intelligence, have adopted other forms.