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Gottfried Semper

In Search of Architecture

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OA Funding Provided By:

National Endowment for the Humanities/Andrew W. Mellon
Foundation Humanities Open Book Program.

The title-level DOI for this work is:

[doi:10.7551/mitpress/3331.001.0001](https://doi.org/10.7551/mitpress/3331.001.0001)

*Influence of Historical Research on Trends in Contemporary Architecture**

[*Historical Development of Science*]

Science ended the first stage of its development by an unquestioning acceptance of things; it then passed on to criticism and became fragmented into hundreds of doctrines; finally, it endeavored to grasp and formulate a generalized idea that alone gave value and direction to specialized research and resolved the conflicts that criticism had brought to light, which then was no longer divisive, but unified.

During its youthful, heroic age Science mastered what it had so far acquired by its creative imagination, ordered what was not known by analogy to what was known, and constructed its own well-ordered artificial world of perception. The Greeks reached this stage, for instance, in the natural sciences. But as the spirit of Plato and Aristotle continued a phantasmagoric existence conjured up by monkish spells, as the antique form thereupon became the palladium of ignorance, and as the great Bacon adopted skepticism—from then on Science dissipated its energy more and more in speculation and experiments; it burrowed into the earth to look for treasures, was glad if it found earthworms, and produced a chaos of erudition without coherence or principles. Out of this chaos the men of the seventeenth and eighteenth centuries, the Newtons, the Laplaces, the Cuviers, and the Humboldts,¹ created a new form of Science generated by a universal world view [*Weltidee*].

Other doctrines passed before our eyes, as it were, through the first stages of their development; some still grope unsteadily within the

¹Preface to “Comparative Building Theory” (“Vergleichende Baulehre,” 1850): MS 55, fols. 1–13.

second. For instance, since Lavoisier everything in chemistry is directed toward specialized research and every apprentice at a pharmacy adds spice to his exam with a newly discovered alkaloid.

It can be predicted with certainty that this Daedalus will become regulated within a more advanced, still undiscovered system.

[Abundance of Specialized Architectural Literature. Durand, Rondelet, German Architects.]

This also seems to be the case in the science of building, where every pensionnaire returning from his journeys unfailingly endows the Academy with a specialized contribution. [fols. 1–2]

The store of erudition consisting of a measureless and daily growing mass of writing and collection has been more than we can cope with; we have lost direction and are at the end of our tether.

In order to get out of this predicament, the vastly increased material has been divided into different subjects, each of which has begun to take form as a separate doctrine.

Many of these doctrines have been the work of nonarchitects, in particular the doctrine that deals with the historical or philosophical aspect of architecture.

The authors of other writings are men of practice; although they know their subject matter thoroughly, they often lack the ability to adopt a wider point of view.

Thus we have a mass of books on aesthetics and the history of architecture, on theories of design, construction, and materials, on building by-laws, on estimating, etc., not to mention the numerous auxiliary branches of Science. In addition, there are a great number of special works on specific subjects: domestic and religious architecture, civil and military engineering, instructions on timber and brick building, and so forth; all are works that contain rich stores of knowledge and experience and, at times, intellect and talent.

But only a few writers have tried to show the interrelation of these doctrines, and these few have kept to the grooves of the trend especially familiar to them. They are thus distracted from the goal they have set themselves—the reunification of arbitrarily separated doctrines into a general theory of building.

The French architect Durand came closest, at least superficially, to this goal. But having been charged with drilling students of the Polytechnique to become architects in the shortest possible time and lacking practical experience, he often got lost in lifeless schematism; in this he was possibly also influenced by the then fashionable trend

[neoclassicism]. His representations of monuments are incorrect and his reconstructions arbitrary. But in spite of all these shortcomings, his handbooks are still the most valuable for beginning architects.* [fols. 3–4]²

The work of Rondelet, on the other hand, is purely practical; in spite of progress since made in the field, his handbook—dealing with all doctrines relating to design and execution, with the science of materials, with construction, administration, and the technical side of architecture in general—is still the most complete so far. Yet how the elements whose mastery he taught, when joined by more intellectual elements, together bring forth an organic art form—this, the true theory of building, lay beyond his field of inquiry.

We Germans can boast even less of having demonstrated with any success as a general principle that the combined effect of all actual or potential intellectual and material factors results in architectural works of art; on the other hand we are blessed with a host of books on specialized subjects.

The history of architecture was for the first time, and the most successfully, dealt with by us. The same is true of aesthetics. The scientific-technical part of the science of building is also represented in our country by numerous and often excellent writings, although we lack the practical experience, sustained by costly experiments, of the French, English, and Americans.

The abundance of unrelated teaching material that our architects are expected to master, resulting in self-consciousness, inexperience, and irresolution, is in my opinion one reason why our works lack originality and why they are not equal to the progress achieved during this century.

[Classification of Modern Architectural Trends: Historians, Aestheticians, Materialists]

Lacking spontaneity, our architects have followed three different directions; they can be called the historical-eclectic, the aesthetic, and the materialistic directions. [fols. 4–5]

The Historians. The historical-eclectic school, the one to which most architects belong, came about through the ease with which monuments of all times can now be studied and through the great diversity of taste created thereby.

*Durand, *Traité d'architecture*, II Vol. ditto *Parallèles*, etc.

The school finds it more convenient to reproduce existing works unchanged or, at least, to fashion works after whatever the given task requires, in an arbitrary and unnatural manner; it finds this more convenient than the reverse method of letting the task evolve freely out of its requirements into an independent work, yet at the same time showing the necessary and clearly felt connection not only with related ideas gradually brought forth in time but also with adjacent works as spatial and temporal conditions require.

The Aestheticians. If the theory of taste were a perfect science, if it were not so deficient and, for lack of clear concepts, so full of undefined and probably erroneous notions, especially when it deals with architecture, it could fill the gap and join the separate yet intellectually related doctrines into a coherent building theory.

But philosophy, when applied to art, is in the same position as is mathematics when approaching problems of physics where many immeasurable but interrelated forces and quantities are involved. The most gifted artists hardly take note of aesthetics in its present state; only the so-called art experts favor its rules and formulas—partly arbitrary, wrong, or at least unproven, partly too general and uncertain—by which they assess the value of a work; they have no standard of their own and believe they can apprehend the secret of architecture in a dozen precepts, whereas the infinitely varied architectural forms assume their characteristic quality and individual beauty only through exceptions to the rules or, rather, deviations from the system.

In no way could it be said that schematism is the most noticeable fault of present-day achievements, whereas it was predominant toward the end of the sixteenth century on account of the rediscovery of the Vitruvian books and the firm and confident bearing of the great Italian masters during the glorious era of the fifteenth and sixteenth centuries. Once before, at least in Germany, it had been apparent in the geometrical forms of the so-called Old Germanic or Gothic style. [fols. 6–7]

However, a certain school in Germany, which cannot free itself from the domineering influence of a late master's genius [Schinkel], cannot be wholly acquitted of aesthetic schematism in spite of the good number of undoubtedly talented adherents who wish to pursue in a free manner of their own choice what, in occasional episodes, proves to be a success. All the same, the works coming from this school still reveal some faith and conviction, whereas the historical trend proper indulges in romantic or classical notions.

The Materialists. Our present artistic attitude has been influenced even more powerfully by those sciences that teach mastery over the building material. The subject has been treated with exhaustive thoroughness, and the material has often been given precedence over the idea; by professing that the store of architectural forms was exclusively conditioned by and evolved out of the material, one has placed the idea in iron fetters.

Regarding construction as the essence of architecture, the Materialists stray almost as far from the goal [of a unified building theory] as those who think of architecture as a kind of sculptured or painted decoration to be applied to houses.

Material must always be subservient to the idea and should never direct it. This is how nature works; it is the example nature has set. Although this *Urmeisterin* [primordial matriarch] chooses and uses her material in conformity with this law, she nevertheless imprints shape and character on her formations according to the ideas that are embodied in them; but because the most suitable material is chosen for their embodiment, her formations gain beauty and expression through the emergence of the material as a natural symbol. [fols. 7–8]

This gives us the measure of the part that technics plays in architecture; it shapes the forms of architecture according to natural laws as conditioned, on the one hand, by the changing purpose of the thing to be formed and, on the other, by the properties of the material to be used.

Those architects who attribute a decisive influence to material for the genesis of architectural forms belong to the third, the materialistic school. In a sense they are the extreme opposite of the Eclectics (Historians), but both have, as is common with extreme positions, similarities and points of contact in their errors. Both arbitrarily abandon the traditional standpoint: the [Historians] by becoming engrossed in a past or alien world that is no longer understood and can be made to fit our present conditions only with difficulty; the [Materialists] by constructing the given task only out of the task itself and out of the relevant and often unusual materials.

They will always remain isolated in their work and, even given great ability and favorable opportunity for building, will never exert a lasting influence on the direction of architecture.

Although architecture produces original formations and is not an imitative art like painting and sculpture, it has over the centuries created its own store of forms from which it borrows the types for new creations; by using these types, architecture remains legible and comprehensible for everyone. The architect who spurns these con-

ventional forms is like an author who constrains his own language by adopting an antiquated, foreign, or self-invented order of words and mode of expressions. He will be understood only with difficulty and, at least as an author, will not make his fortune, whereas he would have lost nothing in originality had he used simplified but intelligible terms.

[Semper deleted the next two sentences: The reproach is being made, more or less justifiably, that our times lack originality. This has induced many architects to follow the route hinted at without having yet become prophets and even less messiahs of a new art. If one bears in mind how imperceptible and slow had been the transition from one artistic trend to the next even during creative periods, one would realize that the rise of a new architecture could not possibly be perceived in the present and that only the spirit of the age, and not frail individuals, will be able to deliver it from the womb of the past.

[Essence of True Theory of Building]

Architecture creates original formations, which are not contingent on fully finished natural forms but which have evolved historically according to natural laws and to the human mind's inclination toward order; to a certain extent the formations have been fixed, though this does not prevent their further improvement and development. [fols. 9–10]

These formations are called organic if they spring from a correctly conceived basic idea and if they make evident the rule of law and inherent necessity, the two qualities that make nature appear admirable and perfect in everything she creates.

The power of a genius may subconsciously achieve such nature-like creation. But the task of an intelligent architect should be to seek and pursue the rise and development of basic ideas and to reduce to its simplest expression the law that lies hidden within the artistic covering.

In this search, the architect will encounter so many difficulties and complications that he will be able in a few cases only to hear the mysterious passage of man's thought throughout the centuries. But he cannot fail to have some success if, guided by this, he explores the domain of architecture and selects from the infinite variety what is most outstanding, groups what is related into families, and reduces what is derivative and complex to its original and simple state.

In the end he will realize that in the same way that nature, for all her abundance, is thrifty in her motifs, in the same way that she

modifies the few basic forms a thousandfold according to the evolutionary stage reached by living beings as well as according to varied living conditions—making some parts short, some long, some fully developed while others are only hinted at—in the same way architecture, too, is based on certain standard forms which, contingent on an original idea, through constant reappearance make possible infinite variations that are conditioned by particular needs and closely defined circumstances.

It will certainly be important to trace these standard forms and the idea inherent in them. Not only will the overall view and the understanding of what exists be made easier, but it will also be possible to derive an architectural theory of design and inventiveness that shows how nature works and avoids equally both monotony and fancy notions.*

Once a standard form has been established as the simplest expression of the idea, it will come to life, modified according to the conditions of the site, the period and its customs, the climate, the material to be used, the idiosyncrasies of the client as well as of the artist, and many more incidental circumstances.

To make the basic idea visible within the great variety of formations and to create a whole that has individual character but, at the same time, is in full harmony with itself and the environment—therein lies the great secret of architecture. [fols. 11–12]

If the author, guided by these ideas, uses this time of involuntary leisure to journey through the domain of architecture, he does so without presuming to present a theory of building in the sense outlined here. This task would be beyond his faculties and means. But he hopes to have stimulated the reader and to have produced a useful handbook for disciples of art by weaving into the subject matter (arranged according to a schema set out on the next page) everything he thought, observed, and collected in his former position as teacher and practicing architect. [fol. 13]

Gottfried Semper, Paris, May 4, 1850

*By the shell we know the nature of the kernel, in the same way that comparative natural history can build up the animal from the bone structure. Works of architecture are the shells of nations and of individuals, expressing in a clear and intelligible way these organisms long since dead.