

Scholastic Philosophy and Gothic Architecture

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Scholastic philosophy and Gothic architecture are generally considered to be related. Erwin Panofsky, for example, finds that they share more than a "mere 'parallelism'".¹ He describes their development to be "astonishingly synchronous".²

In *Medieval Architecture, Medieval Learning: Builders and Masters in the Age of Romanesque and Gothic*, Charles Radding and William Clark attempt to establish a feature that Scholastic philosophy and Gothic architecture share and which also differentiates them from their predecessors. They find it in the "mental process" of the philosophers and master builders working in the two disciplines.³ They propose that what distinguishes these thinkers is that they constructed integrated systems of solutions to intellectual and aesthetic problems.

I will show that Radding and Clark's thesis is false. I will argue that while they correctly describe the Gothic master builder's cognitive approach to construction, this mental process does not separate him from earlier workers. Then from my discussion I will establish a feature which distinguishes the Scholastic philosopher and the Gothic master builder from their predecessors. It is that they are engaged in an analysis of the languages of their disciplines.

I. Scholasticism versus Pre-Scholasticism

In contrast to Scholasticism's comprehensive approach to problems, pre-Scholastic philosophers considered each question individually. They did not emphasize ascertaining the relationships between issues or their solutions in order to establish a comprehensive system of thought.

Abelard's work, on the hand, is paradigmatic of Scholastic thinking. One of his concerns with the solution to a problem was what were its implications for the solutions to other problems. As a result of his interest in the relationship of implication, Abelard devoted much of his work to the study of logic. Thus in addition to using it as a tool for reasoning he analyzed the language of logic itself. This investigation required a second language, what today is called a "metalanguage".⁴ Consequently, not only was Scholastic thinking distinctive

in its attempt to establish a coherent theory but it also introduced the analysis of the language the discipline employed to express this theory.

Radding and Clark propose that analogous to Scholastic philosopher Gothic master builders took a comprehensive approach to problems. They maintain that the evidence for this type of mental process is found in the edifices. For them a Gothic construction's revealing characteristic is "a space whose unity an observer would readily perceive".(7) They argue that this feature required that "instead of designing architectural elements sequentially as they were needed," the Gothic master builder "differed from earlier builders" and "designed all of these elements in advance of the actual building".(7)

Conversely, then, Romanesque architects' mental processes were supposedly like those of the pre-Scholastics. They considered problems separately, not as a comprehensive plan. Thus Radding and Clark conclude that with Scholasticism and Gothic architecture there was a transformation in cognitive approach: "the shift to handling entire systems of concepts and design elements". (144)

II. The Romanesque at Saint-Dennis

In an effort to establish their thesis as to the difference between Romanesque and Gothic master builders, Radding and Clark offer an interpretation of certain aspects of the church at Saint-Denis. They attempt to show that a difference between features of the church's west facade exemplify their proposed difference in cognitive approaches.

They claim that the Romanesque master builder is responsible for "only the three portals, the strongly projecting pier buttresses between them, and the horizontal molding is indicative of this master builder's manner of thinking. Their reason is that it is approximately 20 centimeters higher on the south side and thus is not completely horizontal. Their explanation for this deviation is that the master builder was attempting to obscure the fact that the north and south portals differ in height. Citing the results of Sumner Crosby's investigations as their authority, their proposed evidence for their interpretation is :

Crosby has argued that the builder first planned the doorways using dimensions based on those taken from the eighth-century nave and transept, and then, to disguise the fact that the heights of the portals differed, accommodated the moldings to the portals.(66)

They conclude that this demonstrates that the Romanesque master builder worked typically "as the philosophical masters had worked before Abelard, taking each problem sequentially, with the solution to one defining a context to which the next had to be adapted."(66)

They claim that the Gothic master builder executed the work on the upper levels of the facade. They note that despite the dimensional discrepancies between the two side sections none of the lateral lines in this area deviate from the horizontal. For them this suggests that "whereas the first builder worked from problem to problem, the second builder . . . worked back and forth between the different architectural and sculptural elements."(66) Thus Saint-Denis' west facade is supposed to demonstrate that what distinguishes Gothic master builders is their attempt to "coordinate design elements into a coherent plan". (122)

III. The Accuracy of Radding and Clark's Interpretation

Before turning to the question of whether Radding and Clark's thesis is correct, I would like to establish whether their argument is consistent. If it is not, then it is impossible for their position as a whole to be acceptable.

Consider what they have to say about a Romanesque edifice the church of san Vivente at Cardona. As I will discuss, their interpretation is true of many other pre-Gothic buildings as well. They emphasize "the thoroughness of the planning" that its design of spatial units required. From this they correctly conclude "thus it is not possible that the combination of piers, pilaster strips, and transverse arches that articulate the space was achieved haphazardly or by trial and error. This effect had to be planned at the beginning".(14)

Note that this mental process is not the reactive, sequential one they attribute to Romanesque master builder, e.g. the one who worked on Saint-Denis' west facade. Rather, this is the approach of "coordinating design elements into a coherent plan" which is supposed to distinguish Gothic master builders. Therefore their interpretation of San Vicente's construction contradicts their thesis as to what differentiates the Gothic from the Romanesque.

Furthermore, their analysis of the formation of Saint-Denis' west facade is unacceptable. Consequently it does not support their proposed difference in mental processes between Romanesque and Gothic master builders. There are several reasons.

First of all, it is questionable whether two separate individuals directed the building of different parts. Crosby maintains that only one person was responsible for the west facade.⁵ This militates against Radding and Clark's claim that the non-horizontal molding over the central portal exemplifies a different master builder and thought than that exemplified by the horizontal ones.

Secondly, the west facade's twin towers and the three portals along with the non-horizontal molding are according to Radding and Clark the product of a manner of reasoning which was "sequential" as opposed to one which "coordinated design elements into a coherent plan". However, Crosby points

out that the facade is not just an "exterior embellishment".⁶ The twin towers, already "developed to such a degree by Norman masons," are set back so they are an integral part of the whole western section of the church.⁶ The result is a westwork, which is of a Carolingian origin and thus a product of well-established construction procedures.⁷ Consequently similar to San Vicente, it is more following a pre-designed plan which was the product of much advanced and traditional thought.

The most telling reason that Radding and Clark's interpretation is unacceptable is that their reading of Crosby quoted above is false. His diagnosis of the non-horizontal molding is opposite from what they claim.

In contradiction to them, his argument is not that this molding was an afterthought whose purpose was to "disguise" the difference in height between the two side portals. Instead, following Suger, the master builder knew in advance through the use of "arithmetical and geometrical instruments" that the side aisles were of different widths, and it is an elementary fact of plane geometry that "triangles with bases of different lengths have apexes at different heights".⁸ The result of the difference in the side-aisles' width is that the south portal is 30 centimeters wider than the north one. Thus its apex is almost a meter than the north portal's.

Crosby proposes that when the entrances were begun the master builder instructed his workmen to employ "normal medieval design procedures". This he maintains was the "cause" of the non-horizontal molding, just as it was the cause of the difference in width and thus in height of the side portals.⁹ So the molding was no more a product of sequential thinking than were the width and height disparities.

Furthermore, Crosby concludes that subsequently the horizontal moldings were constructed in responses to the one over the central portal. It follows from his investigation, therefore, that in contradiction to Radding and Clark they are a product of sequential thinking.

Consequently for Crosby the non-horizontal molding is the result of a mental process which is the opposite from what Radding and Clark claim. This is true of the horizontal moldings as well. Thus Crosby's analysis implies that Radding and Clark fail to establish that Saint-Denis' west exemplifies a transformation in the cognitive approaches to construction between Romanesque and Gothic master builders.

IV. The Unity of Pre-Gothic Space

We have seen that Radding and Clark's own interpretation of San Vicente at Cardona contradicts their thesis as to the difference in mental processes between Gothic master builders and their predecessors. Numerous other pre-

Gothic edifices also negate their proposal. Consider Saint Michaels at Hildesheim. Its design justifies the conclusion that its construction resulted from a comprehensive cognitive approach, the type of thought process Radding and Clark claim distinguished Gothic master builders.

For instance, the exterior manifests a strong east/west polarity. This is prominent in the square towers over both crossings which are conjoined with a stair-turret at the termination of each of the transepts' arms. Analogously, the ground plan follows a rational, organized system. It is sharply divided into modular sections resulting in distinct geometrical relationships. The consequence is an integrated design creating a unified interior space in which proportion is central.

Saint Michaels demonstrates that Radding and Clark are mistaken in claiming that the Gothic "surpassed" its predecessors in "aesthetic coherence". (7) Contrary to them, it is implausible to interpret the mental process which resulted in this earlier edifice to be one which took "each problem sequential, with the solution to one defining a context to which the next had to be adapted". Rather just as with a Gothic building, Saint Michaels is the product of a thought process that prior to construction created a design which integrated the solutions to aesthetic problems into a complete system.

Consequently the conceptual approach Radding and Clark specify does not distinguish Gothic master builders from pre-Gothic. We have seen, though, that it does differentiate Scholastic thinkers from pre-Scholastic. Therefore in the respect Radding and Clark mention pre-Gothic master builders were more advanced in their approach to problems in construction than pre-Scholastic thinkers were to problems in philosophy.

V. Romanesque versus Gothic

We have found that Radding and Clark do not succeed in establishing the respect in which Scholastic thought and Gothic architecture are related uniquely. The reason is that contrary to their general view the interior spaces of buildings of the Gothic's predecessors are unified. This mistake in interpretation prevents them from capturing the differences in the thought processes between pre-Gothic master builders.

In order to determine this difference, I will attempt to establish distinctions between Romanesque and Gothic design which would be indicative of this difference. I will discuss that while the interiors in both Romanesque and Gothic buildings are unified, their space is structured differentially. I will argue that Radding and Clark's proposed difference in cognitive approach does not follow from this formal contrast in spatial unity. I will then consider differences which to follow.

We have seen that both types of design create a unified interior space. However, within this shared coherence there are two important contrasts. One is in the type of design elements employed. The other is in the manner in which these elements are formally arranged. After considering these distinctions, I will discuss the respect in which they are linguistic.

The prevalent Romanesque design elements are volumetric: cubes, spheres, cylinders, pyramids, and cones. They are employed to produce semi-circular arches, groin vaults, domes, columns, and pilasters. The Gothic, on the other hand, created buttress, tracery, pointed arches, and systems of rib-vaulting while simultaneously emphasizing the modeling capacities of light.

Paul Frankl distinguishes three types of forms for interpreting the arrangement of these elements. They are spatial, optical, and mechanical. In response to Radding and Clark's emphasis on spatial unity, the first type is the most relevant. Frankl calls the structuring of interior space into a unified whole the "geometry of aesthetics".¹⁰ Under his interpretation of this concept a building's spatial form is an abstraction analogous to the abstract forms of geometry.

He argues that the Gothic structuring of space results in a style of "partiality".¹¹ The reason is that each section is an incomplete fragment, not an independent whole. It is the result of a division within a whole. Thus the Gothic creates unity through the subdivision of one space.

In contrast, unity is achieved in the Romanesque through the union of several self-contained spaces. The bays illustrate this process. They result in the impression that they form a larger whole by their "addition".¹² Coherence by junction is similarly found in the system of vaults. Since the Romanesque achieves spatial unity through addition, Frankl considers it to be a style of "totality".¹³

Thus Radding and Clark are correct to emphasize the difference between the Romanesque and Gothic approaches to space. They are mistaken; however, they suggest that only Gothic master builders "integrated different design elements into a motivated theme to conclude erroneously that the thought processes unified.

Similar to Frankl, Crosby finds the Gothic to transform the Romanesque "cubic, additive" space into a series of less sharply defined volumes which "can only be experienced in relation to other, adjacent volumes".¹⁴ His description of how this is accomplished provides insight into the contrasting techniques the Romanesque and the Gothic employed in achieving their distinctive arrangements of a unified space:

The massive piers, instead of having their axes parallel or perpendicular to the walls of the aisles, have axes that are on a diagonal, so that the enclosed volumes are octagonals rather than cubes; and the piers attached

to the wall, instead of continuing, or accenting the planes of those walls project diagonally out from them.”¹⁴

along with spatial form Frankl distinguishes optical and mechanical. A Romanesque building's frontal images produce its optical form. The impression of frontality results from the consistent use of 90 degree angles. It is enhanced by surfaces that are either parallel or perpendicular to the principal east / west axis. Mechanical form is found in the Romanesque's emphasis on “the solidity of stone and its capacity to preserve its spatial form under pressure”.¹⁵

With the Gothic, ribs counteract Romanesque frontality while directing the viewer to experience images obliquely. This contributes to a diagonal form. In contrast to the Romanesque mechanical form's sense of permanence, the Gothic's is perceptible as a channel of a continuous upward flow

VI. Structure versus Thought

Notice that the differences between Romanesque and Gothic architecture which I have been discussing are concerned with types of spatial components and the forms in which they are structures. This is not to be confused with a difference in the thought processes by which these elements and their forms were designed or built. For instance, in discussing the Romanesque Frankl urges that the “aesthetic impression of genesis by addition has nothing to do with actual genesis.”¹⁶ Radding and Clark make a similar point when they stress that “*what* was created” must not be confused “*how* it was thought out”. (4. Their emphasis.)

Nevertheless, recall their incorrect description of the mental process of the Romanesque master builder of Saint-Denis' west facade as “sequential”. The explanation of why they gave this interpretation is that evidently they took the additive manner in which Romanesque spatial components are structured to be indicative of the cognitive approach in which they were built. Thus they inferred from the difference in Romanesque and Gothic spatial forms a difference in the master builders' thought processes in the construction of the three forms.¹⁷ Their own inference, then, was the type they correctly criticize.

It is worth noting, furthermore, that in their desire to find a correlation between the Romanesque and the pre-Scholastic they might have also been influenced by the sequential quality for the latter's approach to philosophical issues.

VII. The Languages of Architecture

We have seen that there are fundamental differences between the Romanesque and the Gothic in the design elements they employed and the types of forms in which they arranged them. These distinctions between the two styles

of architecture are analogous to those between the vocabularies and syntax of two languages. This analogy, then, provides a respect in which the contrasts I have been discussing between the Romanesque and the Gothic are linguistic.

Similar to differences between any two languages and their users, these differences between the vocabularies and forms in architecture would turn in differences between the mental processes of the master builders who employed them. It follows, therefore, that a Gothic master builder differed cognitively from his Romanesque predecessor both in terms of the concepts of design elements he employed as well as in the types of forms in which he mentally structured these concepts.

Analogous to Romanesque and Gothic master builders, Abelard also employed a language to create a coherent system, *viz.* logic. Furthermore, he investigated this language. As I noted earlier, this required a meta-language derived from logic. Abelard, then, was employing the constituents of a discipline to analyze the language of that discipline.¹⁸

Panofsky attributes a similar concern to the Gothic master builder. He proposes that "the panoply of shafts, ribs, buttresses, tracery, pinnacles, and crockets was a *self-analysis* and *self-explication* of architecture".¹⁹ It is beyond the scope of this essay to attempt to establish the respects in which this is so. Panofsky suggests, though, that this view of the Gothic would be apparent to "a man imbued with the Scholastic habit", that is, with the desire for complete clarification through a maximum degree of explicitness.²⁰

Panofsky's view of the Gothic master builder contributes to the kind of thesis Radding and Clark tried to establish. It is one which identifies a mental process that is common to Scholasticism and Gothic architecture while differentiating them from their predecessors.²¹ The thesis I would like to propose is that unlike the pre-Scholastic and the Romanesque, and Scholastic philosopher and the Gothic master builder were engaged in an analytical investigation of their disciplines' languages.

VIII. Scholasticism, Gothic Architecture, and Modernism

The preceding conclusion establishes a significant respect in which twelfth and thirteenth century philosophical thought and architecture anticipated the movement called "Modernism" of the later nineteenth and twentieth centuries. In Clement Greenberg's defining essay "Modernist Painting," he takes Modernism to be the use of the "methods of a discipline to criticize the discipline itself".²² He finds this self-analysis to have begun with Kant. In response to Greenberg, Leo Steinberg perceives it in painting as early as Giotto.²³

However, it follows from the above discussion that this type of investigation began even two hundred years earlier with Saint-Denis and Abelard.

Furthermore, this transformation of mental process is the kind Radding and Clark sought in the Scholastic solutions of philosophical problems and in the Gothic forms of architectural space.

Notes and References

- * I am grateful to Professor Cecil Striker for his numerous helpful insights into the analysis of Medieval architecture.
1. Panofsky, p. 20.
 2. Ibid.
 3. Radding and Clark, p. 3. all further references to this work will be made within parentheses in the essay.
 4. Alfred Tarski introduced the concept of a meta-language into twentieth century philosophy for the purpose of resolving certain paradoxes. See W. V. Quine's "The Ways of Paradox" for discussing these paradoxes and the use of a meta-language to resolve them. Radding and Clark allude twice to twentieth century philosophy, pp. 28 and 58. However, they do not recognize that both this period and Scholasticism employed meta-languages, much less than this relationship has a bearing on the significance of twelve and thirteenth century thought.
 5. Crosby (48), p. 15; and Crosby (63), p. 87.
 6. Crosby (81a), p. 17.
 7. For a discussion of some of the detailed preconstruction planning, see Crosby's discussion in Crosby's (81b). Stephen Gardener in "The Influence of Castle Building on Ecclesiastical Architecture in the Paris Region" comments on other aspects of the pre-construction design of the west facade.
 8. Crosby (81b), p. 120.
 9. Ibid. p. 119.
 10. Frankl (62), p. 14.
 11. Ibid, p. 12.
 12. Ibid, p. 10.
 13. Ibid, p.11. For further discussion of the concept of spatial addition, see Frankl (68), p. 29f.
 14. Crosby (63), p. 86.
 15. Frankl (62), p. 11.
 16. Ibid, p. 10.
 17. In Paul Crossley's critique of *Medieval Architecture, Medieval Learning*, he infers a less specific though similar conclusion to the one drawn here. The weakness of his argument is that he fails to recognize that for Radding and Clark's thesis space is the concept central to distinguishing between Romanesque and Gothic design.
 18. Radding and Clark seem to be aware of this aspect of Scholastic thought. (p. 58) They fail to appreciate, however, its significance for the relationship between Scholasticism and Gothic architecture.
 19. Panofsky, p. 59. My emphasis.
 20. Ibid, pp. 30, 58, and 59.
 21. In *Gothic Architecture and Scholasticism* Panofsky proposes an identification between the Gothic and the high Scholasticism of St. Thomas Aquinas. He does not consider, however, the question of distinguishing them from the Romanesque and pre-Scholasticism.
 22. Greenberg, p. 5. Greenberg does not specify the dimension of the discipline which is analysed, in particular the discipline's language.
 23. Steninberg, "Other Criteria", p. 71.

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