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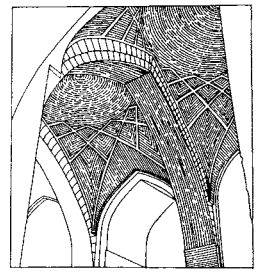
The First Gothic Cathedrals

ALMOST at the same time as Suger's re-building of Saint-Denis, the cathedral of Sens, the first cathedral in Gothic style, was built. Its main nave is still of squat proportions, less upward-striving than many a late-Romanesque minster, and originally, before the windows of the clerestory had been erected and the spaces between the vaulting filled in, it seemed even more solid. Nevertheless, the rib vaulting, and the way in which its sinews run together like a bundle of shafts and continue to the ground, is thoroughly Gothic. The logical coherence of the Gothic style of construction is already there, seemingly at one stroke.

Whence came the idea, and also the technical knowledge, without which no one would have been able to build these audacious arches? Certain elements are already present in Romanesque architecture, but the decisive model derives from far away, namely from Islamic art, with which the Franks had for long (since the beginning of the Christian reconquest of Spain) been in touch, and which now from many sides, at the time of the crusades, exerted an influence on the European world of forms. It is important to remember that from the year 1100 Jerusalem was the capital of a Frankish kingdom, and that the Order of Templars, which was founded in 1118 under the spiritual protection of St. Bernard of Clairvaux, raised on both sides of the Mediterranean its own army of building workers.

In Moorish Spain, in Córdoba and Toledo, there were cupolas supported on intersecting stone ribs. Closer to the Gothic style, however, are certain cupolas that are found in North Africa and, in their purest form, in Persia. They are characterized not only by being loosely set on a framework of ribs, but by spanning therein several surfaces or facets. In this way the ribs are scarcely visible on the inside of the cupola, but appear on the outside—usually a timber-clad roof—as pectinate ridges, which support the vaulting by their curved span. This unusual building technique, which differs from that of Gothic, arose because the cupolas, with their ribs, were built over a basket-like framework made of twigs. This could not be done in stone; in the case of stone, the ribs had first to be constructed for themselves, and only when they were entirely firm could the shells be placed on or between them. The ribs were thus transmuted from purely spanning to bearing elements.



Brick vault in the Great Mosque at Isfahan.

That one should find the model for Gothic vaulting in medieval Persia is not surprising: French culture of the twelfth and thirteenth centuries readily adopted forms from the Islamic world, with which it was in touch, and especially those forms that were of Persian origin. This elective affinity is to be seen not least in the knightly epics of both sides. The generally Islamic influence, however, is prevalent in almost all the knightly forms of the medieval West; minnesingers and troubadours were stimulated by Arabo-Persian models, and the Christian knightly orders themselves would have been inconceivable without their Islamic predecessors, which based themselves on the Koranic precept for the Holy War.

What Gothic architecture has in common with its Islamic prototype is its joy in the geometrical play of lines, as well as its endeavour to overcome any impression of mass and weight. Both characteristics came increasingly to the fore as the Gothic style developed, right up to the geometrical web of late-Gothic vaulting. What is completely foreign to the Islamic prototype, however, is the way in which

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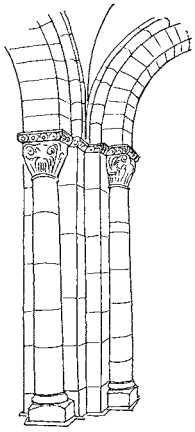
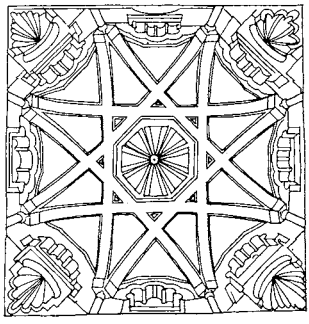
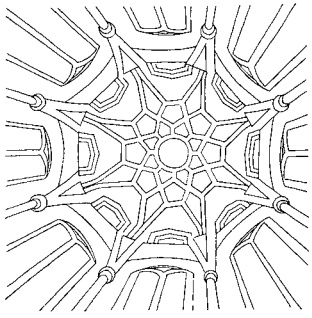
Pillars in the nave of Sens cathedral. Above the arcades, which open onto the aisles, runs the triforium, and above this is the clerestory, which originally was lower, so that the vaulting, in the manner of a dome, reached down to the windows.



Articulation of the pillars in a West-Romanesque cross-vault.

the Gothic style incorporates the roof, stretched between the ribs of the vault, into the rest of the building. The 'braided' cupola of Islamic buildings seems to hover; it is only imperceptibly supported by the walls. Gothic vaulting, on the other hand, delivers its arches and ribs directly onto the pilasters and, through them, right down to the ground. This way of doing things was already present in French Romanesque architecture, in the clear articulation of the pilasters, directly linked to the ribs and the wall arcades of the cross vaulting. The architectural logic was already there and, in the Gothic style, the pillars corresponded exactly to the ribs of the vault as they converged downwards into a single bundle. It was because of this downward continuation of the ribs into the pillars that the walls became analogous to the shells between the ribs of the vaulting. Like these shells, the walls were little more than delicate partitions spanning the space between the pillars. The walls only assumed this character to the full when, thanks to the buttresses providing support from without, they finally became as it were translucent tapestries. Until that occurred, the interior of the cathedrals, throughout the whole of the early Gothic period, retained something of the weighty structure of Romanesque churches, even if the apparently elastic power of the arches, and the shafts rising to the vault in an unbroken stream and descending again to the ground as it were in a downpour, conferred on the whole building a hitherto unknown rhythm and tension, which, in place of the contemplative repose of Romanesque architecture, proclaimed a new upward flight of the will.



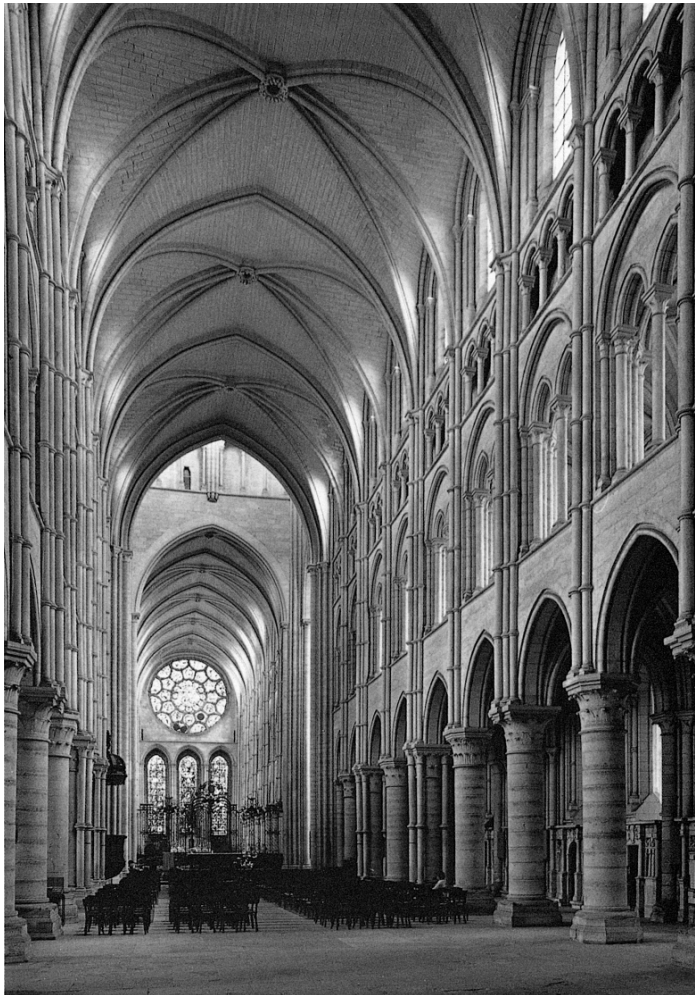


A dome mounted on ribs from the Great Mosque at Córdoba and the interior of a late-Gothic tower-top from Strasbourg cathedral.

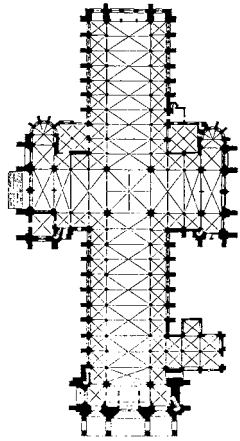
Romanesque architecture lets stone be stone; but it does enable its inert mass to be subordinated to a spiritual principle. Gothic architecture, on the other hand, introduces into stone an as it were upward-striving life and imperious will of its own.

This voluntaristic element in the Gothic style is connected with the fact that the predominantly monastic culture, which had given its stamp to the art of the eleventh century, had now been replaced by a knightly culture, which increasingly influenced life styles in the twelfth and thirteenth centuries, but which, having undergone excessive refinement at court, finally gave way to a purely city culture.

The knight is a man of will; for him, the whole value of existence lies in freedom of the will. But within the framework of medieval culture, this freedom had a completely different meaning than it had for the men of the Renaissance. *Vis-à-vis* his fellow men, medieval man was free through his dignity, which no one might impugn – and one must not forget that in the Middle Ages every social station or



View into the nave of Laon cathedral. The wall is divided into four sections, namely, arcades, galleries, triforium, and clerestory.



Groundplan of Laon cathedral. Each six-part vault over the nave corresponds to two bays in the aisle. The longitudinally quadripartite vaults of the transept are of later construction.

'caste', every trade or profession, possessed its own dignity and honour; such men were free in their own eyes, in that they were able firmly to follow a resolution once made; neither whim nor self-will, but fidelity to one's given word proves the inward freedom of man.

It has rightly been said that no other culture accorded such a high value to the pledged word. In fact, the social structure of the Middle Ages was completely based on concern for the inward freedom of the person, and this was so despite the distinction made between high and low, a distinction which, according to modern ideas, seems to disregard the freedom of the majority. Admittedly – and this is inevitable – outward freedom was unevenly distributed, whether because of difference in physical and moral heredity (on which, precisely, the natural order of

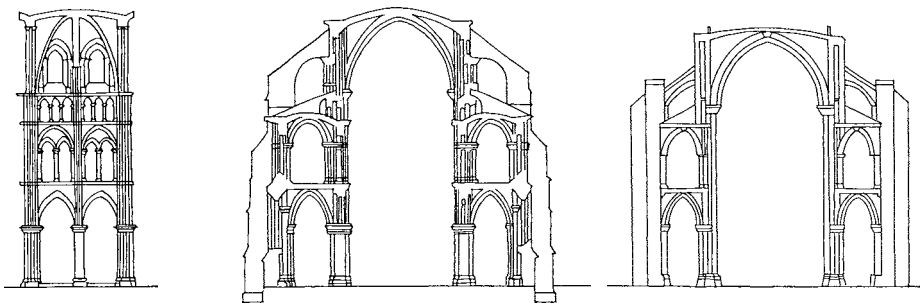
social stations or 'castes' is founded), the presence of exceptional qualities, or merely property; but the hierarchy of rank remained just, as long as freedom and responsibility held the balance: the king or prince, who enjoyed the greatest freedom as regards authority over others, at the same time bore the greatest burden of responsibility, while the bondman or unfree peasant, despite his menial station, enjoyed the privilege of not having to worry about anything other than his own plot of land. He was tied to the soil, but he could not be driven from it; he was under the protection of his landlord, and as such, he could not be compelled to do military service.[39]

Even the king did not have the right, over the head of his vassal, to give orders to the vassal's men, for every relationship between lord and servant rested on reciprocity; the whole structure of the state consisted of a concatenation of alliances, which were maintained because they redounded to the advantage of both parties, but which fundamentally were guaranteed by loyalty alone, by the freely-given promise of the individual. What is important here is not whether this principle was followed everywhere and always; what constitutes the character of a culture is the universally recognized prototype. How highly loyalty was esteemed is directly proved by the outrage which any breach of loyalty provoked, and by the severity with which it was punished.

Characteristic was the rite of the oath of loyalty, by means of which the vassal pledged to his liege-lord the highest that he possessed, namely his free will, in return for the protection of his lord and authority over a certain domain: the vassal knelt down and placed his folded hands between the hands of his lord; the lord, to confirm the alliance, kissed the vassal on the mouth.

It was no mere coincidence that, at the time of the Gothic style, the practice of genuflection, with palms pressed together, was introduced into divine worship; an ancient Germanic custom and an essentially Christian conception here came together, for loyalty also puts an obligation on God; nothing puts an obligation on God more than the free gift of one's free will. Oaths of loyalty and vows both loomed large in the lives of medieval men. Sometimes these two forms of sacrificing one's own will coincided, as in the case of the symbolic investiture of the French king with the standard of St. Dionysius.

The factor of loyalty reconciles free will and hierarchical law. This is why the volitive element in Gothic art never assumes the titanesque or fantastical character which later, from the Renaissance onwards, became the characteristic of the creative will. In Gothic and, especially, early Gothic art, noble freedom and impersonal law are so closely wed, that it is impossible to separate them; and it is precisely from this that the liberating beauty of their forms derives.

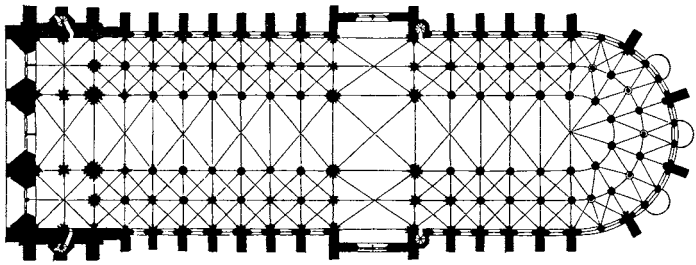


Elevation of a bay and cross-section of Laon cathedral; also, cross-section of Noyon cathedral. The supporting pillars and buttresses do not belong to the original form of either church; they were added in the thirteenth century with the completion of the main vault.

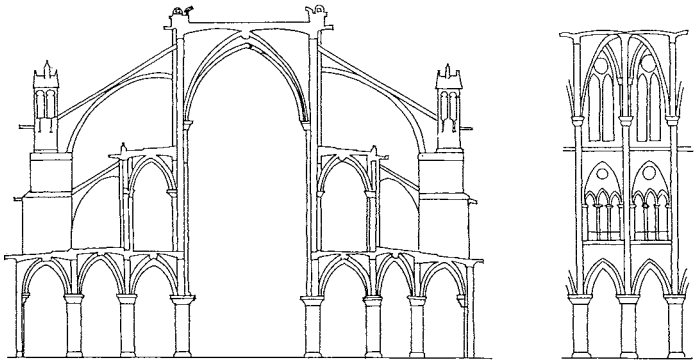
The hierarchical law shows itself in the geometrical structure of the building: the cathedral of Sens was still built *ad quadratum*, as the Romanesque scheme, with its cross vaulting, was called. According to this scheme, every square bay in the nave has, corresponding to it, two similarly square bays, in each of the aisles. In their Gothic articulation, the vaults of the nave thus become six-part, for four of the ribs descend onto the supports of the main vault and two onto the middle pillars of the pair of vaults in each of the aisles.

The same quadratic arrangement, with six-part vaults in the nave, is also to be found in the cathedrals of Noyon, Senlis, and Laon, the building of which had begun about the middle of the twelfth century. It was first in Chartres that the cross vaults of the nave and the two aisles kept pace with a variety of breadths.

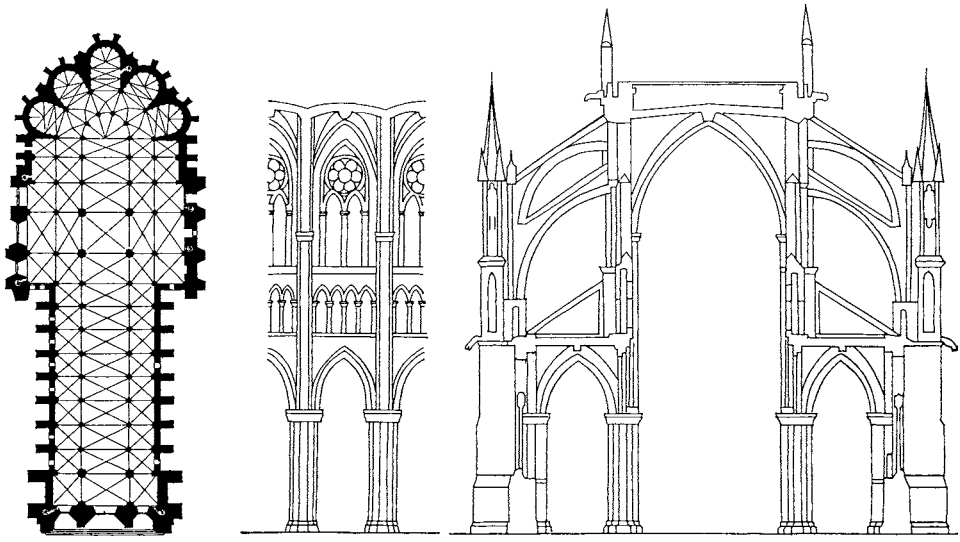
Without flying buttresses, which opposed the thrust of the vault from without, one could make the nave higher and slimmer only by means of support from the vaults of raised galleries at each side. In this case, the windows of the nave were limited to the uppermost of four stories, but light also streamed in through the raised galleries, which no longer looked like dark cavities, but rather, as in Hagia Sophia, like a translucent sheath. The cathedrals of Noyon, Senlis and Laon were built in this way. The cathedral of Notre Dame in Paris (with nave and two pairs of aisles), the first stone of which was laid in 1163, was, in its earliest and original form, also built according to the same principle.



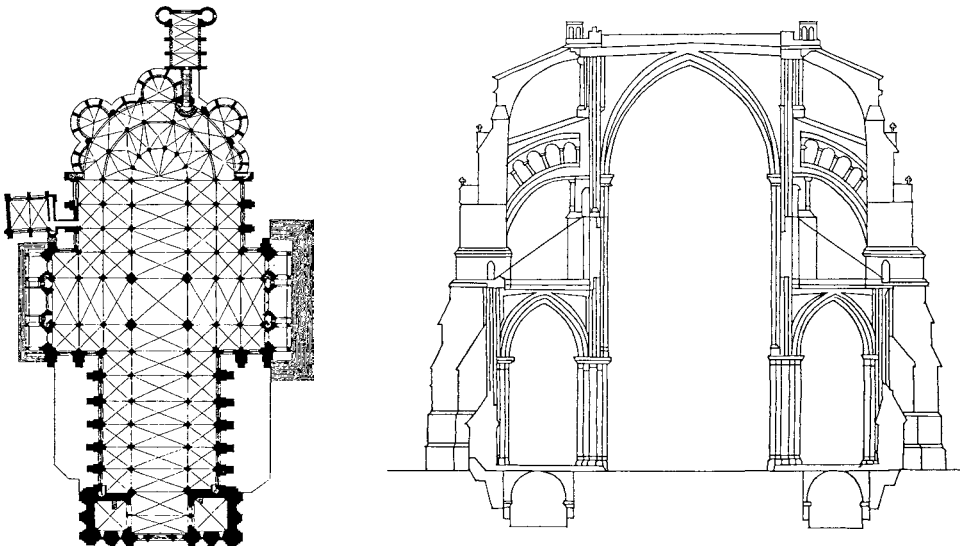
Groundplan of Notre Dame cathedral in Paris, in its original form, before the addition of the side chapels which today occupy the spaces between the individual flying buttresses.



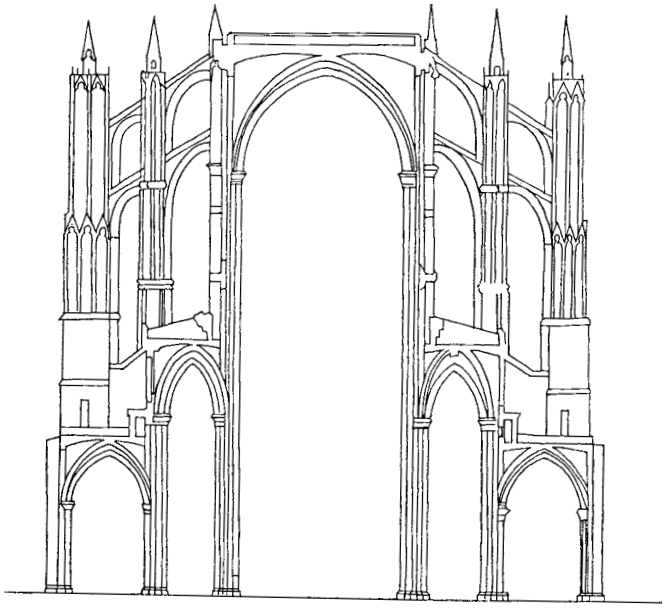
Cross-section and elevation of a bay of Notre Dame cathedral in Paris. Only the nave and the two pairs of aisles belong to the original form of the building (not the supporting pillars and arches).

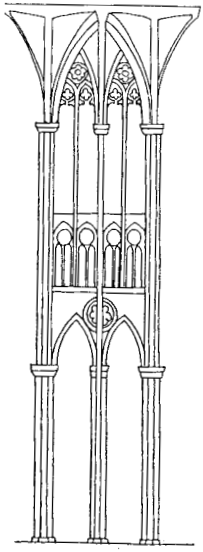


Groundplan, inner wall and cross-section of Rheims cathedral. This is an example of mature Gothic construction, without raised galleries and with wide flying buttresses, which by themselves almost completely provide the illumination for the nave.

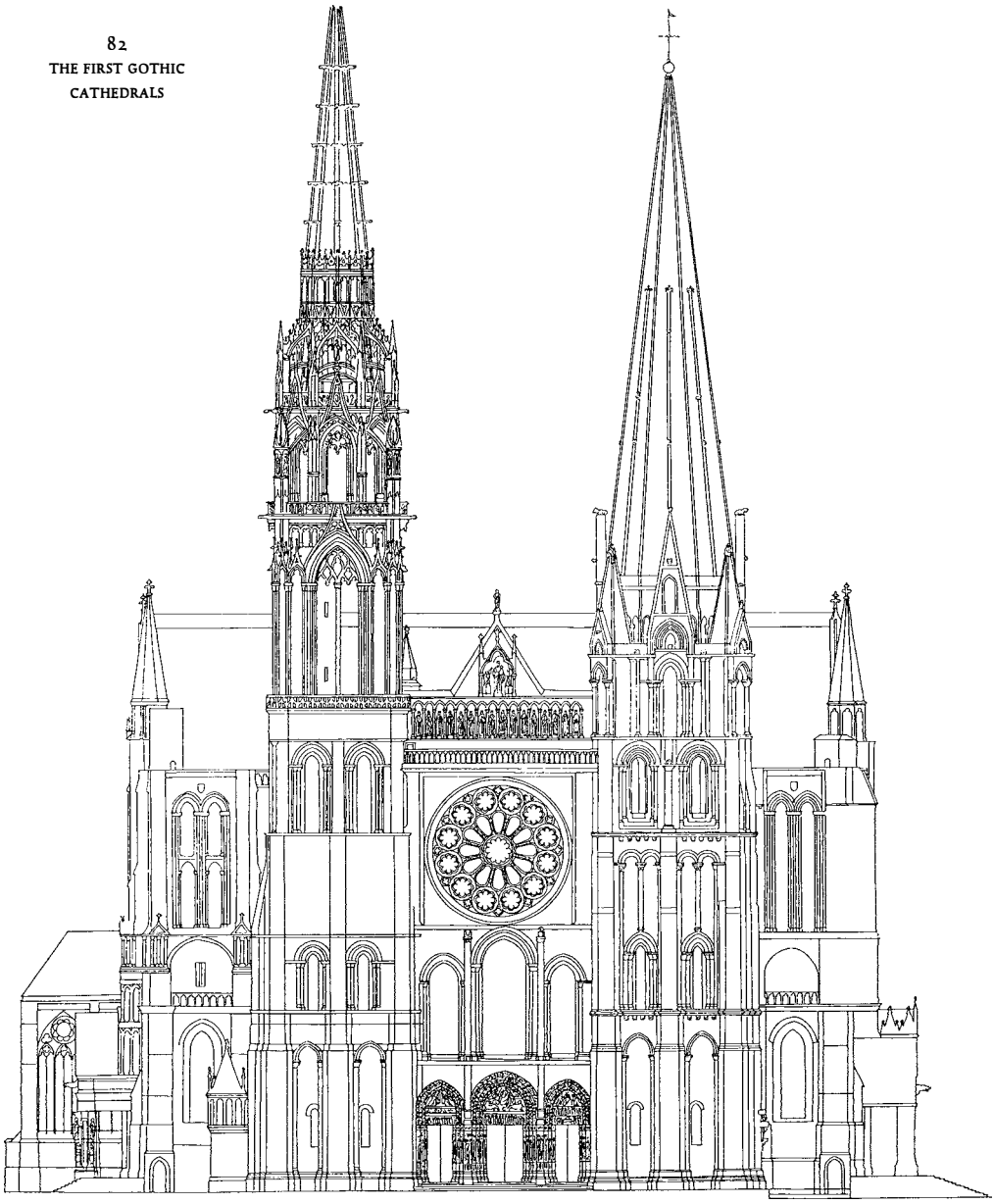


Cross-section and groundplan of Chartres cathedral, with its three-storey construction and its unique flying buttresses, adorned as it were with the spokes of a wheel. Underneath the aisles are the longitudinal crypts from the Romanesque phase of construction.





Cross-section and elevation of a bay of Beauvais cathedral, which represents a highpoint in Gothic pillar construction. Here even the blind zone of the triforium (the gallery under the saddle-roof of the aisles) is absent; the side walls of the nave, from below upwards, merge into a transparent grill of windows and arcades. The pressure of the vaulting is borne by a delicate forest of supporting pillars surrounding the nave.



The west front of Chartres cathedral. On the left, the northern tower, with the Romanesque base and Gothic spire; on the right, the southern tower, which was built in its entirety in the twelfth century. Before the fire of 1194, the façade between the two towers consisted of only two stories: the doorway, and the three windows surmounting it. (Above these windows one has to imagine the gable of the erstwhile nave.)

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