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PARIS AND THE ORIGINS OF RAYONNANT GOTHIC ARCHITECTURE DOWN TO 1240

ROBERT BRANNER

By the middle of the thirteenth century Paris had become the leading foyer of a new phase of Gothic architecture. The work undertaken in the 1240's at such sites as St. Denis and the Ste. Chapelle formed the first comprehensive statement of Rayonnant design, and from Paris it spread far and wide, to Beauvais, Strasbourg and Troyes as well as to Burgundy, the Rhône Valley and Languedoc. Created within the framework established at Chartres in 1194, Rayonnant represented first and foremost a refinement of High Gothic, the development of a very light skeletal structure with enormous, all-pervading windows and a unified treatment of the sculptural effects of the masonry.¹ But Rayonnant also went beyond High Gothic in several ways. It speculated on elegance of scale rather than on the immensity or the configurations of space, it was precise but not always forthright and it appealed to the intellect through subtlety and sometimes even surprise rather than through clarity and balance. The work of Pierre de Montreuil, the Master of the Ste. Chapelle and probably also Jean de Chelles,² in the 1240's, was largely prepared by the work of the preceding ten years in Paris. It was there and at that time that the new directions were first clearly announced. They were stimulated by Amiens, begun only a decade before, but they were also to a definite degree based upon much older Parisian traditions. Rayonnant design very probably could only have come into being in Paris, for the particular conditions necessary to its formation obtained nowhere else in northern France.

The architecture of Paris in the late twelfth century was dominated by the Cathedral (Fig. 3). The Master of the nave of Notre-Dame, in office from the late 1170's on, continued the work of his predecessor but introduced some important modifications that became part of the local tradition.³ He thinned the walls and piers, using colonnettes *en délit*, or detached shafts, for the responds, and he created flying buttresses above the tribunes, as additional lateral braces for the great six-part vaults. But he retained the four-story scheme and the bay design, in which there was no alternation and the wall-responds rose from capital to vault departure uninterrupted by moldings. The slight, unaccentuated bay division, the thin-wall structure without passages⁴ and the absence of a grid of horizontals and verticals were among the chief characteristics of Notre-Dame and the Parisis in the later twelfth and early thirteenth centuries.

This was in sharp contrast to Chartres, which drew heavily upon the architecture of northeastern France, such as Noyon and Laon (Fig. 4). There wall passages and multiple window openings marked the general skeletonization of the structure, and the four stories of the elevation were ex-

1. H. Focillon, *Art d'occident*, Paris, 1938, pp. 178-184.

2. Jean de Chelles is known only from the inscription on the south transept façade of Notre-Dame in Paris (M. Aubert, *Notre-Dame de Paris, sa place dans l'histoire de l'architecture du XIIe au XIVe siècle*, 2d ed., Paris, 1929, p. 138), which indicates he began the façade in 1258. He is also generally credited with the design and execution of the north transept façade, probably in the early 1250's. But in the preceding decade he may have been in charge of rebuilding the nearby abbey church of Chelles (Seine-et-Marne), which burned in 1226 and was rebuilt soon after. See *Gallia christiana*, VII, c. 564; *Monasticon Gallicanum*, pls. 64-65 and A. Clément,

"Deux architectes de Notre-Dame de Paris. Jean et Pierre de Chelles," *Chelles. Quelques évocations de son passé*, Chelles, 1959, pp. 29-31, with plan of the abbey church, fig. 4.

3. Aubert, *Notre-Dame*, pp. 45ff. and 103-107, and pl. x. J. Bony ("French Influences on the Origins of English Gothic Architecture," *Journal of the Warburg and Courtauld Institutes*, XII, 1949, pp. 1-15, pl. 8) has shown that some of the parts for the nave must have been ready by 1178.

4. On the "thin" and "thick" wall techniques, see J. Bony, "La technique normande du mur épais à l'époque romane," *Bulletin monumental*, xcvi, 1939, pp. 153-188.

pressed by a prominent, closely woven grid of responds and string-courses. The Master of Chartres retained and emphasized this surface pattern, but he profoundly modified the elevation of the earlier monuments. He suppressed the tribunes, relying on the flying buttresses to sustain the main vaults, and he was thus able to reorganize the interior into a balanced, three-storied elevation. He also rejected six-part vaults and the alternation of weak and strong supports in favor of repetitive forms and one-to-one relationships, making the single bay the unit of design. Each bay is isolated and framed by shafts descending to the pavement in two stages—the wall-responds above, with their own bases and plinths, and the large colonnette engaged into the pier below. There are two kinds of piers in the main file, the *pilier cantonné* with four colonnettes, and a reduced version with only one colonnette, employed in the hemicycle and now invisible beneath the modern decoration.⁵ In both cases the distribution of effects on the nave-side was the same, however, for each bay was outlined by projecting shafts that rise from the pavement to the peak of the clearstory windows, and all three stories were placed in a single, flat plane. It was within this framework that the major developments of the next half-century were to take place.

The clarity and regularity of Chartres had immediate repercussions in northern France. Perhaps its most formidable affirmation was Reims, begun in 1210. Even before 1200, however, when Chartres had just begun to rise from the ground, its influence was already being felt. Soissons, begun about 1197, is a smaller version with different clearstory windows and a thinner structure, and the nave of St. Lomer at Blois, almost a replica of Chartres, was undertaken at about the same time. To this small group of early followers must be added the façade of Notre-Dame in Paris.

The nave and façade of the Cathedral of Paris are quite different from one another in character, even though the conjugation of three portals and five aisles in plan was suggested by a single monument, Suger's St. Denis.⁶ The façade of Paris is bold and massive, and the repetition of rectangles gives it an air of repose and stability that may justly be likened to the same qualities in the nave of Chartres. The western end of Notre-Dame in fact reflects the conception of a new master and seems to correspond to a new campaign of construction.⁷ The Master of the Façade, as I shall call him,

5. See A. Mayeux, "Étude sur l'abside de la cathédrale de Chartres," *Mémoires de la société archéologique d'Eure-et-Loir*, XIII, 1901-1904, pp. 49-62 and E. Houvet, *Monographie de la cathédrale de Chartres*, Chelles, 1919, I, pl. 1.

6. For Suger's plans, which were never carried out, see S. McK. Crosby, *L'abbaye royale de Saint-Denis*, Paris, 1953, pp. 48-50.

7. For alterations to the façade proper during the course of execution, see W. Sauerländer, "Die Kunstgeschichtliche Stellung der Westportale von Notre-Dame in Paris," *Marburger Jahrbuch für Kunstwissenschaft*, XVII, 1959, pp. 1-56. Sauerländer seems to err in reading Aubert's plan of the Cathedral literally and in placing a break between the peripheral wall and the strong tower piers, on the one hand, and the weak tower piers and the western nave piers, on the other (Aubert, *Notre-Dame*, fold-out plan); Aubert's color-scheme and legend, which, contrary to Sauerländer's statement, do not seem to me to differ at all from Jalabert's (D. Jalabert, *Notre-Dame de Paris*, Paris, 1948, following p. 128), were intended merely to emphasize the lateness of the last-named parts with reference to the former ones (Sauerländer, p. 16 n. 56). The consoles beneath the bases of the weak piers on the eastern side of the north tower (mentioned by Sauerländer but missing from his fig. 84 f), and the denticulations in the *cavetti* of the bases of the responds surmounting the eastern pair of Chartrain piers (see Fig. 1), indicate an extremely rapid advance in style; both features were probably the first of their kind in Gothic architecture, but they must not necessarily be taken as indicating a late absolute date. There could not, in any event, have been a major change of plan within the western part of the monument as it now stands, for the peripheral responds indicate that eight-part

vaults were planned beneath the towers when the outer walls there were undertaken, and consequently the weak tower piers must have been foreseen at that time. A more fundamental error in Aubert's plan is the failure to distinguish the whole western end of the Cathedral as a separate campaign. This may be explained by the remarkable continuity of forms with those of the nave, as if the Façade Master continued to employ the masons whom he found already working in the shop. The break must have occurred in the sixth bay (counting from the east), although all traces of a suture, if, in fact, there were one, must have been removed when the nave chapels were opened in the outer walls. West of this line, in addition to the new features mentioned in text, one finds: in the ground story, a change in the height of the plinth and new plinth and capital forms; and in the tribunes, similar changes of height and form in the plinths and capitals, as well as in the imposts and the rib profiles. Furthermore, one must also note the very different levels of the chambers vis-à-vis the tribunes, which are no less than 3.02 m. apart (*Monographie de Notre-Dame de Paris . . . précédée d'une notice . . . par M. Celtibère*, Paris, 186-, pls. 54 and 56-57). The fact of the matter is, the Façade Master seems to have elongated the nave by two bays, pushing the still unexecuted façade westward to its present position. The trench for the foundations of the first project was most likely dug in 1186, when relics seem to have been found on the site of the old apse of the church of St. Etienne (M. Aubert, *La cathédrale Notre-Dame de Paris*, new ed., Paris, 1950, p. 7 and note 1). The apse must have lain close to the present north file of piers in the vicinity of the seventh bay from the east, that is, on the axis of the building excavated on the *parvis* in 1847 and west of the parts of the Gothic nave that were already under construc-

must have been at Chartres for a few years after 1194, and he must have remained in contact during the next decade, for only there could he have found the ideas and forms that he introduced to Paris.

As has long been noted, the four western piers of the nave of Notre-Dame are Chartrain (Fig. 3).⁸ One pair, to the north and south beneath the major transverse arch, has single colonnettes on the nave-side, unlike the file of smooth, cylindrical shafts to the east. The other pair, beneath the minor transverse arch, oddly enough, are *piliers cantonnés* and are even heavier than the first. Both suggest that four-part vaults were at one time under consideration for these bays. The wall-responds above the western piers, like those in the tower bays (now largely hidden by the organ), differ in form and structure from the responds in the earlier parts of the nave. The three colonnettes are grouped around a small pilaster, the central one is larger and projects farther from the wall, and the whole element is constructed of regular masonry courses. This form had been used in the chevet and was later employed at Mantes, where the pilaster was omitted in the alternate bays. Similar responds were undoubtedly planned above the eastern pair of Chartrain piers at Notre-Dame, as is indicated by the extraordinary setback of the pedestals there (Figs. 3, 1). It is important to note that the colonnettes in these groups would have supported the transverse and diagonal ribs of the vault, rather than the transverse and wall ribs, as is now the case. But the plan was altered, probably to conform more closely with the older work, and the respond was constructed of detached shafts. This "retrogression" was crowned by the renunciation of the four-part vaults. The elements in the western bays are nonetheless sufficient to show us the Façade Master's intention, a more vigorous delineation of the bay, reaching down to the very pavement as at Chartres.

Among other Chartrain features in the third campaign at Notre-Dame are the construction of some of the vault departures in horizontal beds and from single stones, a technique known as the *tas-de-charge*, and a detail of certain pedestals, where the spur, or *griffe*, of the base does not sit on top of the plinth but is hollowed out of it (Fig. 2).⁹ Both forms permit the dating of these parts of Notre-Dame with some accuracy. The departure *en tas-de-charge*, found in the western bays of the tribunes, seems first to have been employed in the main vaults of the nave of Chartres, in preparation perhaps as early as 1205. The depressed spur, occurring in the chamber of the south tower and on the respond bases above the *piliers cantonnés* at Notre-Dame, appeared at the Cathedral of Troyes, together with other Parisian details, about 1215.¹⁰ Since this type of spur was first employed in the intermediate bases of the ambulatory at Chartres, a tight sequence of dates can be established for the western portions of Notre-Dame: the tower chambers seem to have been under construction about 1205-1210, and the two western bays of the nave about 1210-1215; the periphery of the ground story may therefore have been begun about 1200 or very shortly before.

If Chartres exerted an influence upon Notre-Dame, it failed however, to have a decisive impact on Parisian design at large. One of the reasons for this undoubtedly was the limited extent of the third campaign at Notre-Dame—the body of the monument was already up and there was little the Façade Master could do to alter it. But the inertia of local tradition also played a considerable role

tion. Such an order of events parallels precisely that at Reims Cathedral, where the nave was constructed over a clearly planned length stopping short of the façade bay, which was also to have heavier piers, and was then extended two more bays to the west when another façade design was actually undertaken. The third Master at Paris might have felt obliged to shift the façade if the foundations of the first project had already been laid (in the years between 1186 and his arrival on the scene a few years after 1194) and were insufficient for the massive masonry he intended to place upon them. The case for a move to the west would be proven if Coyecque were correct in affirming that Maurice de Sully began to rebuild the Hôtel-Dieu, as part of an overall plan for the environs of the Cathedral, as early as about 1165 (E. Coyecque, *L'Hôtel-Dieu de Paris* [Société de l'histoire de Paris et de

l'Ile-de-France], I, Paris, 1891, pp. 155-159). Parts of the new hospital would not have been erected on a site destined for the fabric of the Cathedral, only to be torn down as early as 1206-1208.

8. E.g., C. H. Moore, *Development and Character of Gothic Architecture*, London, 1890, pp. 62-67; A. K. Porter, *Mediaeval Architecture*, II, New York, 1909, pp. 270-271.

9. For the *tas-de-charge*, see E.-E. Viollet-le-Duc, *Dictionnaire*, IX, pp. 9-10; and J.-A. Brutails, *Précis d'archéologie du moyen âge*, 2d ed., Toulouse-Paris, 1924, pp. 142-143. According to F. Bond (*Gothic Architecture in England*, London, p. 303), it was also used at Glastonbury, and this would have been about 1185-1190.

10. R. Branner, "Les débuts de la cathédrale de Troyes," *Bull. mon.*, CXVIII, 1960, pp. 111-122.

in the resistance to Chartres.¹¹ If the three-storied elevation was in vogue in and around Paris during the first third of the thirteenth century, it was nearly always one with false tribunes or a false triforium, rather than with a triforium passage.¹² Clearstories remained short or were reduced to circular openings in the peak of the lunettes (Fig. 5), and twin lancets, last seen in the choir of St. Germain des Prés in the mid-twelfth century, did not reappear until about 1220 in the city and even later in the region.¹³ Detached wall-responds above columnar piers were also the rule, and if a few masters framed the central story with horizontal moldings, they rarely prolonged them across the responds to form a grid pattern.¹⁴ The influence of the third campaign at Notre-Dame can be discerned, but it was limited and late.¹⁵ Before it had had an opportunity to affect the region, moreover, Amiens had been constructed and the whole outlook of High Gothic had changed.

The nave of Amiens has essentially the same structure and format as Chartres (Fig. 6). There are the same three stories, with a triforium passage, a tall clearstory with an exterior passage and flying buttresses. But it is both thinner and taller than Chartres. The supports are not stabilized at the very top of the edifice by heavy arches framing the windows, while on the other hand the responds are engaged into the wall rather than detached from it. The bay is even more consistently delineated than at Chartres, for one shaft of the *pilier cantonné* rises directly to the vaults without changing size. It is flanked above the main impost by two smaller shafts supporting the ogives, and in the triforium by still smaller ones for the formeret and window tracery. The frame thus becomes more complex as the eye mounts upward, and this is emphasized by the design of the upper stories. The triforium is no longer a row of identical arches but is now composed of two units of three arches, each surmounted by a "relieving" arch. The units are repeated on a different pattern in the clearstory, where there are four lancets, and the clearstory is linked to the triforium both by the formeret responds and by a central shaft.

The structural thinness of Amiens was probably suggested by Soissons and also by Bourges. Combined with the great height of the edifice, however, it amounts to a repudiation of the heaviness of Reims, which less than a decade before had enlarged and solidified Chartres. Anti-Rémois, also, is the continuous shaft framing the bay, for at Reims the discontinuity between pier and respond was emphasized by a voluminous, elaborately carved capital. The shaft of equal diameter in all stories goes back to Bourges and ultimately to Romanesque times.¹⁶ The three colonnettes of the wall-respond at Amiens are similar to those in the hemicycles of Chartres and Soissons, but their respective

11. Cf. J. Bony, "The Resistance to Chartres in Early Thirteenth-Century Architecture," *Journal of the British Archaeological Association*, s. 3, XX-XXI, 1957-1958, pp. 35-52.

12. The triforium passage was used in the region before 1230, but very inconsistently and without consequences for the local scene: for instance at Juziers, about 1170 (M. Thibout in *Congrès archéologique*, CIII, 1944, pp. 151-160), at Nesles-la-Vallée, about 1200 (B. Monnet in *ibid.*, pp. 118-131) and at Auvers, about 1220 (L. Regnier in *Cong. arch.*, LXXXII, 1919, pp. 70-76).

13. One of the first thirteenth century doublets in the city may have been in St. Nicolas du Louvre, probably begun after 1217 and dedicated between 1228 and 1231 (A. Berty, *Topographie historique du vieux Paris*, I, Paris, 1866, pp. 109ff.); outside the city, the form appeared at Pacy sur Eure (G. Quesnel in *Cong. arch.*, XLVIII, 1881, pp. 456-473); St. Laurent at Beauvais (begun soon after 1227; L.-E. Deladreur, "Notice," *Mémoires de la société académique d'archéologie, sciences et arts du département de l'Oise*, IX, 1874, pp. 123-146); Chennevières (M. Thibout in *Cong. arch.*, CIII, 1944, pp. 18-26); Créteil (G. Dumoulin, *Paris et la Seine* [Les églises de France], Paris, 1936, pp. 314-317) and later in the chevets of Champeaux (J. Messelet, "La collégiale de St.-Martin de Champeaux," *Bull. mon.*, LXXXIV, 1925, pp. 253-282) and Lagny (J. Vallery-Radot, "L'ancienne abbatale

St.-Pierre de Lagny," *ibid.*, CVI, 1948, pp. 95-110). For the resistance to the tall clearstory, see Bony, "Resistance" (1957), *passim*.

14. This was done in the twelfth century naves of St. Germer (most recently, P. Héliot, "Remarques sur l'abbatiale de St.-Germer . . .," *Bull. mon.*, CXIV, 1956, pp. 81-114) and Chars (E. Lefèvre-Pontalis, "L'église de Chars," *Bull. mon.*, LXV, 1901, pp. 7-29), and at Arcueil, in the early thirteenth century (M. Thibout in *Cong. arch.*, CIII, 1944, pp. 230-235).

15. Chartrain piers may have been used in St. André des Arcs, between 1211 and 1220 (Berty, *Topographie*, v, Paris, 1887, plate following p. 162 and L. Halphen, *Paris sous les premiers Capétiens, 987-1223* [Bibliothèque d'histoire de Paris], Paris, 1909, pp. 25 and notes, 105), but this is not certain and the form of the capitals is of course completely unknown. Other *piliers cantonnés* with distinctly Parisian capitals and responds are at Donnemarie (A. de Maillé, "L'église de Donnemarie-en-Montois [Seine-et-Marne]," *Bull. mon.*, LXXXVII, 1928, pp. 3-28) and at St. Nicolas, the parish church of the abbey of St. Maur des Fossés (Dumoulin, *Paris*, pp. 405-406); a variant is found in the north file of St. Ayoul at Provins (A. de Maillé, *Provins*, Paris, 1939, II, pp. 57-70).

16. Cf. P. Héliot, "L'ordre colossal et les ordres superposés," *Revue archéologique*, 1960, pp. 183-202.

functions differ, for in the hemicycles the smaller shafts support formerets rather than ogives. Furthermore at Amiens they surmount full *piliers cantonnés* rather than piers with single colonnettes, and of course they are not *en délit*. Strange as it may seem, the responds at Amiens are very close in conception and design to those executed and planned in the western bays of Notre-Dame in Paris and they are identical with the weak responds of late twelfth century Mantes. This suggests that Robert de Luzarches may have been in Paris about 1210-1215 and that he was familiar with Parisian traditions.¹⁷

The twin-unit triforium of Amiens was an old Romanesque form known from Mont-Saint-Michel.¹⁸ It was revived in the 1140's at Sens and used in the Sens succession, for instance in the choir of St. Germain des Prés, in a reduced context at St. Martin at Etampes, and then as a wall-passage in the destroyed chevet of Arras Cathedral, where there were actually three units containing two arches each.¹⁹ Twin units were also employed at Canterbury, by William of Sens, and in two Burgundian churches of the late twelfth century, St. Eusèbe at Auxerre and the choir of Vézelay as it was originally planned (ca. 1185).²⁰ After about 1220 the form was again revived on the Continent in a very broad geographical distribution, in such places as Boiscommun (Loiret), Chaumont and Joinville on the upper Marne, in the naves of Bourges and Lyon and at Le Mans and Coutances. Paris and the surrounding area adopted the form very readily after about 1220, in both the two and the three-unit types (Fig. 7).²¹ Amiens thus seems to have participated in a revival that undoubtedly marked a general dissatisfaction with the plain band triforium.

The linkage of triforium and clearstory has a less complicated history. The first known example, probably based on an English design with a totally different purpose, was at Arras, and the oldest extant examples are found in the Arras succession, at St. Remi at Reims and Notre Dame en Vaux at Châlons sur Marne.²² The 1220's were also critical years for the design, for at that time it was revived, altered and expanded, at St. Jacques at Reims and at Orbais, for instance, and in the hemicycle of Reims Cathedral and later at nearby Essomes (Fig. 8). While Amiens once again had no

17. Robert de Luzarches had many connections with Paris. His probable birthplace lies only 20 miles from the capital, and among the sculptors he employed at Amiens were men who had worked on the façade of Notre-Dame (cf. F. Wolff Metternich, "Zum Problem der Grundriss- und Raumgestaltung des Kölner Domes," *Der Kölner Dom*, Cologne, 1948, pp. 51-77, esp. note 2; L. Lefrançois-Pillion, "Relations de la sculpture à la cathédrale d'Amiens avec celle de Notre-Dame de Paris," *Bulletin trimestriel de la société des antiquaires de Picardie*, 1952, pp. 141-145, and Sauerländer, "Die Kunstgeschichtliche Stellung" [1959], p. 49 n. 7). The differences of design between the façades of Paris and Amiens (for the latter, see A. Katzenellenbogen, "The Prophets on the West Façade of the Cathedral at Amiens," *Gazette des Beaux-arts*, s. 6, XL, 1952, pp. 241-260, pp. 243-244) do not disprove this hypothesis, for the Amiens façade is a very special design, unlike any of the earlier French façades in its position and structure. The aisle windows at Amiens suggest that Robert de Luzarches may have been at Reims about 1215, when the radiating chapels there were being built. G. Durand (*Monographie de l'église Notre-Dame, cathédrale d'Amiens*, Amiens-Paris, 1, 1900, p. 15) suggested that the fire that destroyed the old Cathedral of Amiens may have occurred in 1218, and this would make the chronological sequence between Paris and Amiens a little tighter.

18. R. Branner, *Burgundian Gothic Architecture* (Studies in Architecture, 3), London, 1960, pp. 29-32.

19. See the interior view in P. Hélot, "Les anciennes cathédrales d'Arras," *Bulletin de la commission royale des monuments et des sites*, IV, 1953, pp. 1-109, fig. 9.

20. Branner, *Burgundian Gothic*, p. 33. In view of the relationship between Vézelay and Arras, it is difficult to accept Salet's view that the chevet of the Madeleine was planned for

two six-part vaults (F. Salet, *La Madeleine de Vézelay*, Melun, 1948, p. 72). The twin-unit design became almost a standard form in parts of England after Canterbury.

21. The twin-unit type is found at Brie-Comte-Robert (J. Vallery-Radot, "L'église de Brie-Comte-Robert [Seine-et-Marne]," *Bull. mon.*, LXXVI, 1912, pp. 144-164); Royaumont (H. Gouin, *L'abbaye de Royaumont*, 2d ed., Paris, 1949; while no interior view of this destroyed church is known, the triforium can be reconstructed on the basis of the remains from the northeastern corner of the transept); St. Quiriac at Provins, transept (Maillé, *Provins*, 1, pp. 107-110; the date of 1238, rejected by Maillé, seems perfectly acceptable); St. Severin in Paris (J. Verrier in *Cong. arch.*, CIV, 1946, pp. 136-162); Triel, transept (E. Lefèvre-Pontalis in *Cong. arch.*, LXXXII, 1919, pp. 187-209); Thiverval (*Encyclopédie d'architecture*, IX, 1859, pl. 18 [Plates, V, 1860]) and Gonesse. The three-unit type is found at Cambronne lès Clermont (dedicated in 1239; E. Lefèvre-Pontalis in *Cong. arch.*, LXXII, 1905, pp. 43-47) and Cormeilles en Vexin (*idem* in *Bull. mon.*, LXXV, 1911, pp. 265-276), either of which may later have inspired the chevets of St. Mâlo (R. Cornon in *Cong. arch.*, CVII, 1949, pp. 298-308), Dol and Ste. Gudule in Brussels (Pl. Lefèvre, "La collégiale des SS.-Michel-et-Gudule à Bruxelles," *Annales de la société royale d'archéologie de Bruxelles*, XLIX, 1956-1957, pp. 16-72), and the north transept of Lagny (Vallery-Radot, "Lagny" [1948] and *Monasticon Gallicanum*, pl. 67).

22. See J. Bony in P. Hélot, "Les oeuvres capitales du gothique français primitif," *Wallraf-Richartz-Jahrbuch*, XX, 1958, pp. 98-99. The design may have been inspired by such a work as the gate-house at Bury St. Edmund's (G. Webb, *Architecture in Britain, The Middle Ages*, Baltimore, 1956, pl. 56).

exact prototype, Arras was probably the closest in spirit, combining linkage and composed triforium in an elevation of great slenderness and *élan*.

The mastery of Robert de Luzarches lay in bringing these sundry features together and welding them into a single design of great coherence. He retained the general grid pattern of Chartres by encircling the responds above and below the triforium with string-courses. He also treated the combined area of the two upper stories as a unit, reproducing the grid pattern there at a smaller scale by extending the imposts around the minor colonnettes. But his use of shafts has still other meanings. At Chartres the elevation is perfectly flat: the main spandrels, triforium, and windows form a single plane in front of which the horizontal moldings and responds are set. At Amiens each successive story of the elevation is slightly recessed. The triforium, for instance, is placed a few centimeters behind the spandrels of the main arcade, the distance being clearly marked out by the formeret responds. This design recalls the setback of the central story at Fécamp, in the 1170's.²³ At Amiens the triforium itself has two distinct planes, the spandrels and the tympana, and there is a similar recession in the clearstory, for the moldings of the oculi and smaller lancets are placed behind those of the larger lancets and rose. A recession may even be suggested in the main arcade, as if the spandrels were placed behind an invisible plane demarcated by the large colonnettes on the piers. The very subtle layering of the wall prefigures the skilled use of thin screening effects at mid-century, for instance in the transepts of Notre-Dame. At Amiens, however, the fundamental change from Chartres lies in the treatment of the wall. It is no longer a flat surface at all, but a series of "tubes" with membranes of glass or masonry stretched between them.

Robert de Luzarches' work had an immediate effect in Paris, where it touched off a number of experiments. His success, where the Master of Chartres had "failed," was in part due to the differences between the two monuments and the somewhat closer relation of Amiens to Parisian traditions, as was stated above; but it was also in part due to the waning strength of the traditions themselves. The result was a new direction that was to culminate in the Rayonnant style. The work of the 1230's is to be found principally at St. Denis, where Abbot Eudes de Clément decided, in 1231, to terminate the work left unfinished by Suger, and at Notre-Dame, where the chevet was revised as early as 1225-1230 and the nave immediately afterward.²⁴ In one way or another these

23. See J. Valléry-Radot, *L'église de la Trinité de Fécamp*, Paris, 1928, fig. p. 41.

24. See Aubert, *Notre-Dame*, pp. 138-140 and 149-150, and Crosby, *L'abbaye royale*, pp. 57-60. I should like here to add a few notes to Crosby's very clear analysis of St. Denis. The first work undertaken by Abbot Eudes in 1231 was the reconstruction of the hemicycle piers and the next two pair to the west (including the extra supports in the crypt, of course). The imposts of Suger's building seem to have been braced up, while the piers were rebuilt beneath them, and then they were "modernized" by chamfering the corners. Such a procedure would explain the awkwardness of the new colonnettes, which pass through nicks in the imposts, and it may be confirmed by the fact that in every case where the shafts project beyond the imposts, extra pieces of stone had to be added. By 1236 the eastern aisles of the present transept were well advanced. The *Annales de Saint-Denis* recount the translation of the relics of St. Hippolytus, in that year, "in novum oratorium in sinistra parte novi operis," that is, in the eastern aisle of the north arm (E. Berger, "Annales de Saint-Denis," *Bibliothèque de l'École des Chartes*, XL, 1879, pp. 261-295, pp. 281 and 290); furthermore, under the year 1231, the *Annales* say: "Odo . . . perfecit illud usque ad finem chori, hoc excepto quo(d) turre ubi sunt cinbala a parte revestiarii non erat perfecta, nec voltatus erat chorum, sed a parte sancti Ipolitii totum erat perfectum et etiam voltatum erat a parte vestiarii," that is, finished up to the eastern terminal of the monks' choir, including the vaults over the eastern aisle of the transept, to both north and south, and

the northeastern tower, but not the sanctuary and choir vaults or the southeastern tower. In point of fact, the northeastern tower is the oldest in the transept (Crosby, pl. 32), and the parts below it, where the altar of St. Hippolytus must have been located at that time, were probably terminated by 1236. Despite restorations and arguments to the contrary, the capitals of the compound piers of the choir seem to be similar to those on the intermediate piers of the eastern aisle of the transept and to those on the periphery in these parts of the monument, but distinctly earlier than those on the piers flanking the eastern side of the main volume of the transept, which alone may be likened to the capitals in the Ste. Chapelle. This suggests that the compound piers of the choir were made in the last phase of this campaign, and another argument can be advanced to the same effect. The string-course at the base of the triforium in the transept, which obviously is part of the later work executed by Pierre de Montreuil, is two masonry courses above the same part of the first choir bay, and the latter is above the level of the triforium in the bays to the east, as Professor Jean Bony has pointed out. But all three levels belong to the newer work, for another thin course of masonry can be seen just above the arcades in the hemicycle and choir bays, and this probably represents the level of the triforium planned in the 1231 campaign. The presence of this course in the eastern spandrel of the first bay, above the compound pier, suggests that the latter was in place before any plans were made to raise the level of the triforium. Furthermore, work did not stop in 1236, for money was left for it in 1238 and by 1241 Abbot Eudes is said to have spent a total

two monuments provide us with examples of bay design, piers and windows, and of structure, massing and effects, that is to say, virtually all the features of a Gothic church.

Paris had rarely adopted the grid pattern of the elevation current in northeastern France, and it rejected this feature of Amiens in the 1230's. The uninterrupted respond was practically *de rigueur*, as we have seen, and the woven pattern within the bay also seems to have been generally rejected as late as 1235.²⁵ When the composed triforium of two or three units was employed, with horizontal moldings above and below, for instance, it was not linked to the clearstory, even when the latter was tall and articulated (Fig. 9). This gives special meaning to the new experiment with the sharper delineation of the bay. Robert de Luzarches' bay, completely outlined by a slender, uniformly thin shaft, seems to have opened up new vistas for the Parisians. The architect of St. Denis preferred a circular pier with colonnettes added only to the nave-side, however, as if to harmonize with Suger's adjacent columns, and he made the colonnettes rise in a single, uninterrupted movement to the vault departure. The first examples were in the hemicycle of St. Denis (Fig. 10) and in the nave of Mantes, both shortly after 1230. The design at once affected the choir of Beauvais,²⁶ and it was repeated at Gonesse (Fig. 11) and later at Dourdan.²⁷ Simple as it seems, the uninterrupted shaft represented a profound alteration of the design of Amiens, for the absence of string-courses leading from one bay to the next meant that the pattern traced on the walls would now be restricted to the area within the bay.

Such a reaction to Amiens is evidence of contact, however, and in the ground story of the chevet of St. Denis, there is ample evidence of the study of Robert de Luzarches' work, as well as an advance beyond it. The piers flanking the easternmost straight bay are columnar with three shafts on the nave-side, as if the responds of Amiens had been prolonged to the pavement, and also like Amiens, two additional shafts spring from the imposts. In the hemicycle, where there were to have been fewer ribs in the vault, a reduced form was used, the pier having a single shaft and the respond three. Although we cannot know with absolute certainty what these various members were to support, since everything above the main arcades was built in a later campaign, it is nonetheless reasonable to assume that the long shafts were for the three major ribs and the short ones, stopping at the imposts, for formerets. The recession of the main arcades to the depth of just one colonnette behind the shaft(s) engaged to the piers is distinctly Amiénois. Furthermore, in view of the twin colonnettes and clearly separated planes of tracery that were used in the aisle windows of this campaign at St. Denis, as we shall see below, it is likely that Robert de Luzarches' solution, namely, still another pair of colonnettes starting in the triforium and supporting the framing arch of the clearstory window, had also been planned for the upper stories of St. Denis in 1231. If this were the case, then the triforium and the clearstory would have been reunited in a single plane recessed one stage behind the main arcade spandrels, as they are now. Finally, since the composed triforium was widely used in the Parisis at this time, we may perhaps assume that a similar design was intended at St. Denis, although whether it was to be linked to a four-lancet window or not is more conjecturable. The nave of nearby Gonesse, although very eclectic and differing slightly from St. Denis in the arrangement

of £ 30,000 Par. on the monument (M. Félibien, *Histoire de l'abbaye royale de Saint-Denis en France*, Paris, 1706, pp. 234-245). The southeastern tower may have been erected at that time (see J. Formigé, *L'abbaye royale de Saint-Denis*, Paris, 1960, fig. 89). I have assumed, with Crosby, that Pierre de Montreuil was not in office until the 1240's (p. 59).

25. The only example of linkage in the vicinity of Paris that is known to me is at Nesles la Vallée.

26. The northwestern pier of the original choir at Beauvais was prepared in the same manner as the others, with a sharp break between the upper and lower shafts; but before it was erected, the impost was chiseled off to form a smooth colonnette and a new wall-respond was planned above it. For the

start of Beauvais in 1225, see R. Branner, "Historical Aspects of the Reconstruction of Reims Cathedral, 1210-1241," *Speculum*, xxxvi, 1961, pp. 23-37, n. 26, and *idem*, "Le maître de la cathédrale de Beauvais," *Art de France*, II, 1962, pp. 77-92.

27. The form is also found at Meaux, perhaps begun before 1240 but largely executed much later; at Ourscamp and Agnetz (Oise), and toward the end of the century at Vitry sur Seine. Interestingly enough, it also appeared shortly after 1235 in Burgundy (e.g., Semur en Auxois, nave), the Rhône Valley (e.g., Lyon Cathedral, nave), Normandy (e.g., Sées, nave) and later in Flanders (e.g., Furnes).

of the wall planes, was related to this work at the abbey church and may reflect some aspects of the original design.

The High Gothic *pilier cantonné* not only articulated the supports in the ground story of the building, but it also provided the columnar core with accents on the major axes. The pier created at St. Denis in the 1230's was an endeavor to adapt the reduced version, deriving from the hemicycle of Chartres, to the context of the continuous frame. The experiment apparently was not considered successful, however, for the last piers to be built in the choir of St. Denis, probably before 1236, are compound ones with no less than fourteen shafts, of which five project on the nave side. This form had been employed in the mid-twelfth century, in the alternate system at Sens and in a regular succession at Creil, and it was later used at Le Bourg Dun in Normandy.²⁸ The group of five shafts supporting three major ribs and two formerets is also found in the eastern bays of the nave of Noyon, at Senlis and in the nave of St. Germer, and it had probably first been used in a Chartrain context in the choir of Troyes Cathedral, shortly after 1220. In the early Ile-de-France group, in Normandy and at Troyes, furthermore, the shafts were continuous from pavement to vault departure and were not encircled by string-courses. The compound pier at St. Denis can thus be considered in the nature of a revival, marking the rejection of the Chartrain pier and its variants. In a way, this was comparable to the rejection of the band triforium in favor of the twin-unit design at Amiens.

There was also a positive reason for the use of the compound pier at St. Denis. The aim of the architect seems to have been the repetition, at ground level, of the effects recently achieved in the upper stories of Amiens and planned in the abbey church. At Amiens the colonnettes of the triforium pier were placed immediately next to those of the respond, and the small but strong pilaster that intervened between these parts at Chartres was moved in front of the formeret shaft and reduced to a thin line. At triforium level the pier thus became a veritable fascies, of which nine shafts were visible on the nave-side, and which led naturally and rhythmically to the adjoining arcade. At St. Denis there were probably to have been eleven shafts, the same number as at Gonesse, where they are most likely arranged in a slightly different pattern. The intention of the design, however, was not so much in the number of shafts employed as it was the repetition of effect above and below, in both the triforium and the ground story. The triforium arcade obviously could not be present in the lower story, but the oblique faces of the pier undulate with shafts of different sizes, even the thin lines of pilasters are present, and the contrast between the fascies of the respond and the smooth surface of the columnar pier has been obviated. Thus both ground story and triforium were to have been treated in a harmonious, nearly identical manner. This was an important step in the general integration of sculptural effects that was later to characterize Rayonnant style.

The respond formed of very thin shafts was also employed in the 1230's in the chapels added to the nave of Notre-Dame, where, as if to confirm a common parentage, the arches are identical with those in the hemicycle arcades at St. Denis (Fig. 12).²⁹ The Notre-Dame responds consist of three minuscule colonnettes of the same size, the central one placed only slightly forward of the others, and the pattern is repeated in the arch above. The capitals are surmounted by a wafer-thin impost with only a small triangular projection to indicate the axis. These forms clearly reveal the emergence of a new aesthetic by their proportions, scale, and discretion. The sharp differentiation between

28. For Creil, see E. Lefèvre-Pontalis in *Bull. mon.*, LXXIX, 1920, pp. 165-182, and for Le Bourg Dun, Dr. Coutan in *Cong. arch.*, LXXXIX, 1926, pp. 332-355. The same form is found in the eastern bay of Poissy (F. Salet in *Cong. arch.*, CIV, 1946, pp. 221-268), but three of the shafts on the nave-side support a transverse arch in two orders and there is no formeret. At Chars, there is a similar design with sixteen shafts, an extra pair being added on the aisle-side, as in the eastern bay of Creil. The piers in the nave of Cambrai Cathedral (destroyed), begun in 1148-1150, also had sixteen shafts,

but their respective functions cannot be established with any certitude (P. Hélot, "La nef et la clocher de l'ancienne cathédrale de Cambrai," *Wallraf-Richartz-Jahrbuch*, XVIII, 1958, pp. 91-110).

29. Aubert, *Notre-Dame*, pp. 139-140. It is generally assumed that the twin-lancet windows in the first and third chapels on the north (counting from the west) were somewhat earlier, since the design is similar to that of the clear-story windows.

support and arch has been so reduced that the articulations once expressing real structural relationships have become mere reminders. Graphism of surface pattern has here become dominant. Such effects as these are generally found in a much later period of the thirteenth century—even the most recent work of the 1230's at St. Denis maintained the prominent differentiation of sizes—and they must be regarded as the outcome of a very rapid advance in thought, an experiment that was not to be digested for some years to come.

The thin structure of Amiens was also important for Paris, where it coincided with the local concept of the later twelfth century. The various revisions undertaken in the mid-1230's in the nave of Notre-Dame seem to have been part of an overall scheme.³⁰ This included enlarging the windows and altering the tribunes, as in the chevet, but it also embraced new flying buttresses resting on longer *culées*, between which deep chapels could be added at ground level. The flying buttresses move in a single span across aisle and tribune to the clearstory wall, without the assistance of an intermediate pier. This was the first time such a long sweep had been attempted, but we must recall that Notre-Dame was the cradle of the flying buttress and that it still had tribunes to provide a general support above the ground story. The new form had an immediate success, however, particularly among the following of Bourges, where twin aisles were virtually a necessity.³¹ It represents a kind of structural virtuosity and marks an advance beyond Amiens in the extensive refinement of High Gothic engineering.

Another kind of thin structure, this one in widespread use after 1210 and not Amiénois in origin, was employed in the aisle of St. Denis. There the window wall was placed at the outer edge of the thick dado, leaving space for an interior passage.³² The Rémois passage, as it should be called, was employed in Burgundy, parts of Champagne and Normandy in the 1230's, and it represents the adaptation of thick-wall technique to the aisle, providing a distinctly layered effect and reducing the quantity of masonry in the wall.

Perhaps the clearest relationship between Amiens and Paris in the 1230's can be seen in the development of the composed window with bar tracery and mullions, a form destined to play an outstanding role in Rayonnant design. The enlargement of the clearstory windows and the admission of more light into Notre-Dame certainly mark the continued influence of High Gothic thought in Paris (Fig. 13). But the new windows are not as wide as they might have been, for they were simply fitted into the old openings and extended downwards into the triforium oculi.³³ This restriction was not due to structural considerations but probably to the old Parisian tradition of window openings sharply limited in size. The panels of wall surrounding the opening were to inspire the designs in the aisles of Beauvais and Strasbourg, perhaps also in the nave of St. Nicaise at Reims (Fig. 15), and ultimately an alternate form of developed Rayonnant in the late thirteenth and fourteenth centuries.³⁴ If the new windows at Notre-Dame did not lead directly to the prodigiously large openings of the 1240's by their size, however, they nonetheless provided the technical means for the latter. Undertaken about 1225-1230, they also confirmed the allegiance to Chartres made several decades earlier by the Master of the Façade. It was not Chartres that served as the immediate source for the new design, however, but Amiens.

The clearstory windows at Notre-Dame are composed of two lancets and a rose set within a simple frame, with all the spandrels pierced and glazed. The format is Chartrain, but the technique,

30. *Ibid.*, pp. 138-141 and *passim*. It is likely that flying buttresses were added to the chevet at this time, but their form is unknown since they were replaced in the fourteenth century by the present set.

31. R. Branner, "The Movements of Gothic Architects," *Actes du XIXe congrès international d'histoire de l'art*, Paris, 1959, pp. 44-48. A similar form was employed in the chevet of Cambrai at the start of the second phase of work (probably

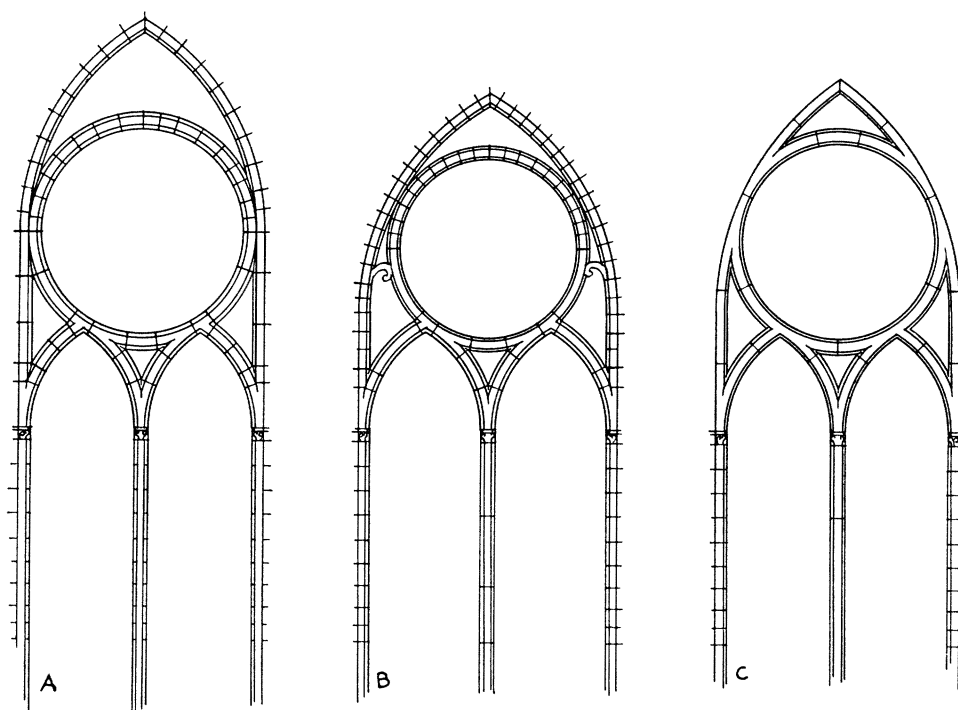
not before about 1235); see L. Serbat, "Quelques églises anciennement détruites du nord de la France," *Bull. mon.*, LXXXVIII, 1929, pp. 365-435 and pp. 400-418.

32. J. Bony, "Resistance" (1957), *passim*.

33. See Aubert, *Notre-Dame*, pl. IX A.

34. E.g., St. Bénigne at Dijon (Branner, *Burgundian Gothic*, pl. 34).

as Viollet-le-Duc demonstrated in a model study, is completely new.³⁵ At Chartres the openings were cut through regular, coursed masonry and simply edged by splays. Then in the radiating chapels at Reims, about 1215, the spandrels were pierced, with the result that the window was transformed from a series of openings merely associated with one another, into an integrated composition (Text Fig. 1A). This entailed a number of technical changes. The openings were framed by moldings, probably in imitation of St. Remi and perhaps under the influence of Bourges. The central support was still made from masonry courses but it was garnished inside and out with detached shafts, and the rose rides “freely” within the stilted relieving arch. Furthermore the lower half of the rose is



1. WINDOWS: A. Reims Cathedral, radiating chapel (after Viollet-le-Duc) B. Amiens Cathedral, aisle (after Durand) C. Paris, Notre-Dame, chevet clearstory (after Viollet-le-Duc) (not in scale)

not formed of small voussoirs, like the upper half, but of large pieces of stone *en délit* held in place by the splays. This design has several awkward points. All the moldings are placed in the same plane, and the rose lies *within* the framing arch but joins the lancets; in the upper part the splays were cut back to allow the two moldings to touch, but where the rose joins the lancets, or these the stilt of the framing arch, the tori merge, leaving uncontrolled “groins.” These were to plague Gothic designers until they made prismatic moldings in which the groins were less noticeable. The pierced spandrels and the use of *délit*, however, were important innovations that led directly to the creation of bar tracery.

The next step in the development of the composed window, strange to say, was not taken at Reims. When the clearstory was planned there, about 1220, the central support was entirely coursed, possibly because the greater size of the openings seemed to demand extra strength; and only a tentative juncture was made between the rose and the relieving arch. But Robert de Luzarches was constructing the aisles of Amiens at that very time, and it was he who went a step further (Text Fig.

35. Viollet-le-Duc, *Dictionnaire*, v, pp. 383-391 and vi, *Wilars de Honecourt*, London, 1859, pp. 221-223. pp. 317ff. Cf. R. Willis, *Facsimile of the Sketch-Book of*

1B).³⁶ He employed *délit* in the support, albeit in short sticks, thereby transforming the post into a mullion. And he enlarged the pieces in the lower half of the rose and lancets. Furthermore he pushed the rose higher under the framing arch, dissociating the two moldings and obviating the awkward joints of the splays, but also moving away from the current tendency toward mergers. As the lower half of the rose was now free, he had to add inelegant crockets to prevent the long, curved sticks from falling out.

The architect of Paris brought this development to a successful conclusion by taking the two decisive steps needed for bar tracery (Text Fig. 1C).³⁷ He merged the rose completely with the framing arch, so that the whole upper portion of the window resembled the lower and could be *en délit*, and he lengthened the sticks in the mullion, binding them together with clamps. The window was now composed and structurally coherent, and the *découpage* of the curved parts, from this time on, became one of the major areas where the Gothic architect could express his virtuosity as a designer. Equally important was the reintroduction, in new forms, of the colonnette *en délit*. With its lightness and its greater resistance to tension, it was better adapted than the masonry post to the huge glazed openings of the thirteenth century, where wind pressure was a more important consideration than weight. The mullion was also a direct predecessor of the long, articulated struts that later pervaded the general structure of the building.

Further innovations in window design were made in Paris in the 1230's, at the same time as the clearstory of Amiens was being constructed, but technically more advanced. It was noted above that the great windows of Amiens have two planes, a forward one for the larger forms and a slightly recessed one for the smaller (Fig. 6). Actually the latter are awkwardly designed, for only the minor mullions receive the lancet moldings properly; the shafts on the central mullion and on the jambs support only the outer, larger moldings, so that the smaller ones have to rest on the jambs themselves. The way out of this difficulty was to separate the framing arch from the formeret and place two colonnettes, one for each arch, on the jambs. This step was probably first taken at St. Denis (Fig. 14), and it was repeated at once at Notre-Dame (chapels), at St. Severin and in the chapel at St. Germain en Laye.³⁸ It was even transmitted to Bourges as early as about 1240.

The four-lancet window at Amiens, a reduplication of the twin-lancet-and-oculus form, was perhaps not the very first one of its kind, as its imperfect technique might suggest, for a similar pattern was employed in the south aisle of Beauvais about 1230. There the tracery lies in two planes and the jambs have two colonnettes, so that the "confusion" of Amiens is avoided. This form appeared only several years later in Paris, in the chapels added to the south aisle of the nave. The pattern of the four-lancet window was probably due as much to the increased width of the opening as to the "principle of fragmentation,"³⁹ for as early as 1230 the twelfth century triplet, now with two mullions instead of two posts, was revived. Both forms at once displaced the twin-lancet design, and one of the last major edifices in northern France to employ a single support in the clearstory was St. Nicaise at Reims, begun in 1231.⁴⁰ The triplet seems only rarely to have been linked by shafts to a composed triforium, however, and according to the principle of fragmentation it had "defects," for the whole pattern could not be repeated at a smaller size in each of the units without seriously encroaching

36. Durand, *Amiens*, pp. 227-230. Aubert (*Notre-Dame*, p. 164) reverses the order.

37. The clearstory windows in the chevet of Notre-Dame were contemporary with those in the chevet of Reims Cathedral and in the radiating chapels of Beauvais, about 1225-1230, and thus chronologically between the aisles and clearstory of Amiens.

38. For St. Denis, see Crosby, *L'abbaye royale*, pp. 58-59; for St. Severin, J. Verrier, *loc.cit.*; for St. Germain, Viollet-le-Duc, *Dictionnaire*, II, p. 433, fig. 6 and J. de Terline, "La tête de saint Louis à St.-Germain-en-Laye," *Mémoires et*

documents, Fondation E. Piot (Académie des inscriptions et belles-lettres), XLV, 1951, pp. 123-140.

39. For the patterns, see Viollet-le-Duc, *Dictionnaire*, v, pp. 392-393; for the principle, see E. Panofsky, *Gothic Architecture and Scholasticism*, Latrobe, 1951, pp. 45-49; H. Sedlmayr, *Die Entstehung der Kathedrale*, Zurich, 1950, *passim*, and L. Grodecki in *Critique*, LXV, 1952, pp. 847-857.

40. C. Givélet, "L'église et l'abbaye de Saint-Nicaise," *Travaux de l'académie de Reims*, XCII, part 2, 1894-1895, pp. 465-467.

upon the voids and the tracery could be differentiated into several planes only with great difficulty.⁴¹ Nevertheless, as if to confuse modern historians, it continued to be used, even in major edifices such as the Cathedrals of Cambrai and Châlons.⁴²

The various experiments carried out with window design give us some idea of the close relationship that existed between different *chantiers* in the years 1225-1240, and of the extreme rapidity with which forms and techniques were evolved. The architects of Amiens, Beauvais, Paris and other edifices such as Cambrai, Châlons and St. Nicaise at Reims, seem to have worked in a spirit of competition that was quite unlike the apparently calm and deliberate pace of the High Gothic period. It is therefore not astonishing to find almost yearly contacts between places like Amiens and Paris. One thing, however, is certain: without Robert de Luzarches' windows in the aisles of Amiens, the composed window would not have been created in Paris.

These new directions obviously were based upon older forms, and one of the most interesting departures can once again be found at St. Denis. The campaign of 1231-1236 included the construction of the northeastern tower, as is confirmed by text, and by implication the whole scheme of the present transept with its double aisles to the east and west. The great aisled transept with towers at the ends was an old Romanesque formula that had been used in northeastern France in the later twelfth century, for instance at Laon, and from this area it affected such High Gothic designs as those of Chartres and Reims. It appeared in an Ile-de-France context at Rouen, and it was also projected at Beauvais in 1225. But the towers were firmly rejected as of ca. 1235-1240—at Amiens and in the anonymous drawings of the Reims palimpsest, and then at Westminster and Léon, both of which were related to northern France.⁴³ The scheme of St. Denis, therefore, intervened chronologically between Beauvais and Amiens and it also represented the first important modification of the tradition.⁴⁴ The towers were dissociated not only from the longitudinal mass of the building, in the traditional manner, but also from the tall mass of the transept itself. They stand entirely away from the main vessels of the building and are separated from them by large voids. Thus the compact massing of the Romanesque design has been profoundly dislocated. The isolated towers give greater relief to the body of the monument, while the various components appear to lose much of their bulk. A further result is the disruption of the transept terminal as a façade. The central bay, with its rose window, is now isolated, something like the new design of the bay on the interior of the edifice; the tall, narrow shape is outlined by thin buttresses and the gable above assumes a new prominence. By a peculiar coincidence, this very form was perfectly adapted to the transepts of Notre-Dame and was employed there in the additions of the 1250's.

Paris made one other short-lived but significant contribution to Gothic design in the 1230's. When the first chapels were added to the nave of Notre-Dame, the windows were surmounted by triangular gables bearing open trefoils (Fig. 16). Lassus and Viollet-le-Duc, deciding that this form "ne s'accorde nullement comme style avec les fenêtres des chapelles," replaced it by the present deep gable that springs from the haunches of the window arch.⁴⁵ The latter was an older design that came

41. An instance of a three-arch triforium with colonnettes running through the upper string-course is found at Lagny, where the clearstory was later built at a sharply reduced size. It was due to the irregular size of the bay, however. A composed triforium of three units, also with shafts running up to the clearstory, formerly existed in the choir of St. Pierre at Lille (destroyed), probably from the third quarter of the thirteenth century (E. Théodore, "L'église collégiale de St.-Pierre de Lille," *Bulletin de la société d'études de la province de Cambrai*, xxxi, 1931, pp. 38-64, where it is dated in the fourteenth century).

42. For Cambrai, see Serbat, "Quelques églises" (1929); for Châlons (apse and transept), G. Maillet, *La cathédrale de Châlons-sur-Marne*, Paris, 1946. Other examples are the nave of Lyon Cathedral and the narrow eastern bay at St. Denis

(Formigé, *op.cit.*, fig. 75).

43. R. Branner, "Drawings from a Gothic Architect's Shop: the Reims Palimpsest," *Journal of the Society of Architectural Historians*, xvii, 1958, pp. 9-21.

44. The lantern tower above the crossing seems to have been outmoded when the one planned at Chartres was suppressed in the course of construction. See Y. Delaporte, "Remarques sur la chronologie de la cathédrale de Chartres," *Mémoires de la société archéologique d'Eure-et-Loir*, xxi, 1960, pp. 299-322.

45. Archives de la Commission des Monuments Historiques, Plans, No. 21,703; see also *Monographie de Notre-Dame de Paris*, pls. 19-20, showing the form as restored by Brogniard in all the bays of the north side. The three chapels adjoining the transept there seem originally to have had deep gables, as

back into vogue only in the 1240's.⁴⁶ But the original form at Notre-Dame was intended to produce much the same effect as the present one, with simpler means. The top of the wall in each bay no longer terminated at the cornice but rose above it to a peak. The zigzag from one bay to the next altered the effect of the exterior masses as a succinct expression of the interior volumes and it provided a forward element against which the tribunes and clearstory could be seen and their distance measured. The creation of this kind of relief led at once to the more coherent concept of screening of the 1240's, and the dissolution of the exterior masses became a permanent feature of French Gothic design.

The developments of the 1230's in Paris were far from forming a complete statement of Rayonnant design. But the refinement of structure, the creation of mullions and bar tracery, the elaboration of intricate compositions within a lightly but clearly defined bay, and of subtle recessions and screens, were significant tokens of what was to come. If all the forms cannot be found in a single building made as it were from whole cloth, and if they are insufficient to constitute a distinct stylistic phase, they nevertheless reveal the evolution of a new vision of forms. Amiens was essential to this vision, just as Chartres had been to Amiens. In both the 1230's and the early years of the century, however, it fell to Paris to provide the catalyst. In the first period Paris made a brief but distinct detour in the direction of Chartres, contending with the inertia of local traditions. In the second, the new directions taken at Amiens coincided more closely with those traditions, and the encounter was prodigiously productive. But Rayonnant required more elements than were available in the Paris of 1235. In Hugh Libergier's Amiénois shop at St. Nicaise at Reims, for instance, a four-unit triforium was employed and a gabled screen was stretched across the façade; at Beauvais the triforium passage of the aisle was discreetly glazed, probably for the first time in Gothic architecture, and other foyers were to make still other significant contributions to the style of Paris in the 1240's. But these were like additional strands to be added by mid-century Parisian architects to the fabric they already had in hand. The main pattern was established and it remained to execute it, to bring out the lights and shadows and to fill in the colors. This was to be the task of such men as Pierre de Montreuil, Jean de Chelles and the Master of the Ste. Chapelle.

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noted by Lassus. The short form has been proposed for the chevet of Cambrai by Hahnloser (*Villard de Honnecourt*, Vienna, 1935, p. 68 and fig. 61), and it may also have been used in a slightly different context, in the cloister of St. Germain des Prés in Paris (ca. 1227; see H. Verlet, "Les bâtiments monastiques de l'abbaye de Saint-Germain des Prés," *Paris et Île-de-France, Mémoires, Fédération des sociétés historiques et archéologiques de Paris et de l'Île-de-France*, IX, 1957-1958, pp. 9-68, especially pp. 26-32 and pl. 1; cf. also the chapels of Mt. St. Quentin, near Péronne

(begun ca. 1250; *Monasticon Gallicanum*, pl. 89).

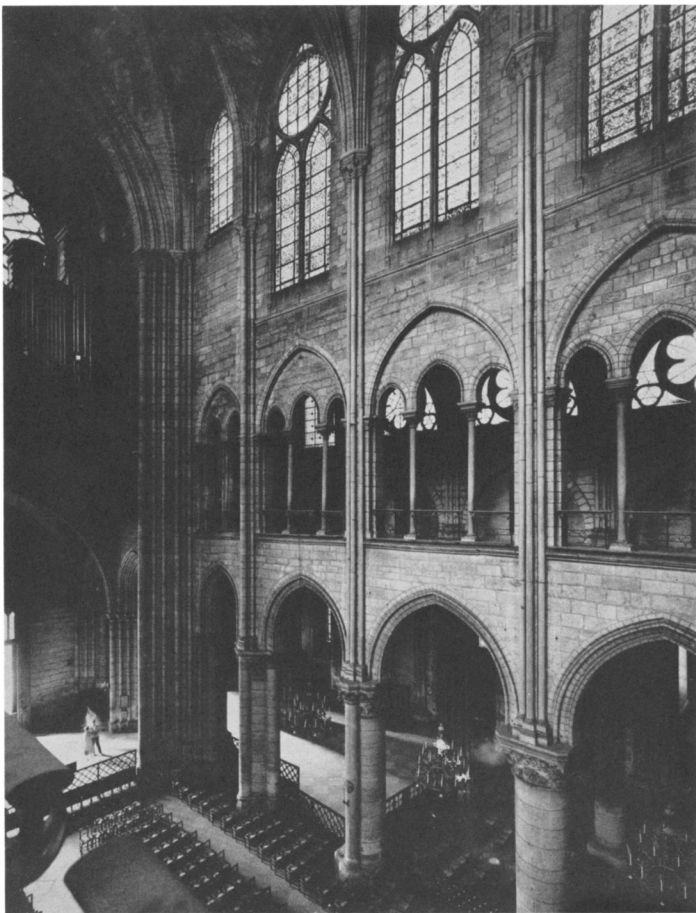
46. E. Lefèvre-Pontalis, "Les origines des gables," *Bull. mon.*, LXXI, 1907, pp. 92-112, traces the origin of the deep form of gable. It seems first to have appeared on major elements in the nave of Durham (see R. W. Billings, *Architectural Illustrations and Description of the Cathedral Church at Durham*, London, 1843, pp. 23-24 and pl. viii), and then in the chevets of Arras and St. Remi at Reims. I am indebted to Prof. Bony for this reference.



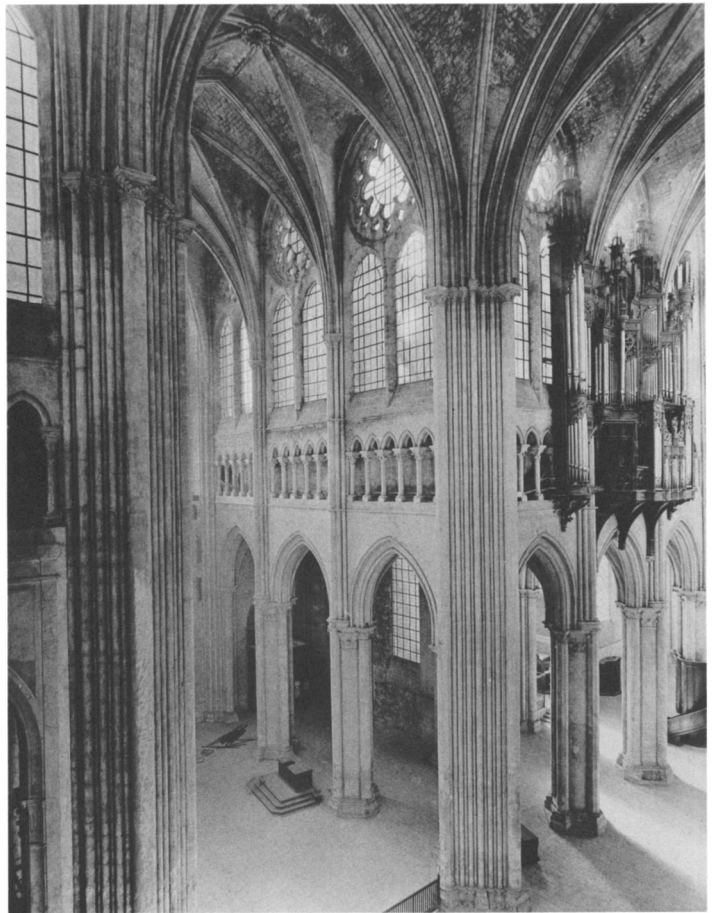
1. Paris, Notre-Dame, detail of eastern Chartrain pier (photo: Branner)



2. Paris, Notre-Dame, detail of base in south tower chamber (photo: Branner)



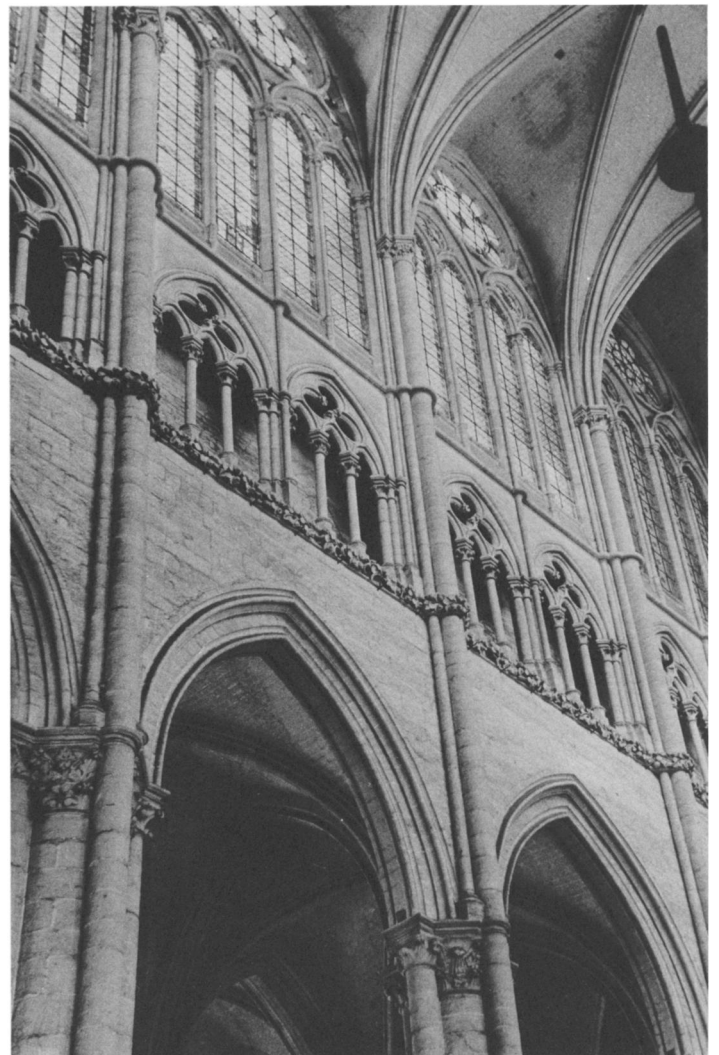
3. Paris, Notre-Dame, western end of the nave
(photo: Branner)



4. Chartres, Cathedral, nave and transept
(photo: Archives Photographiques)



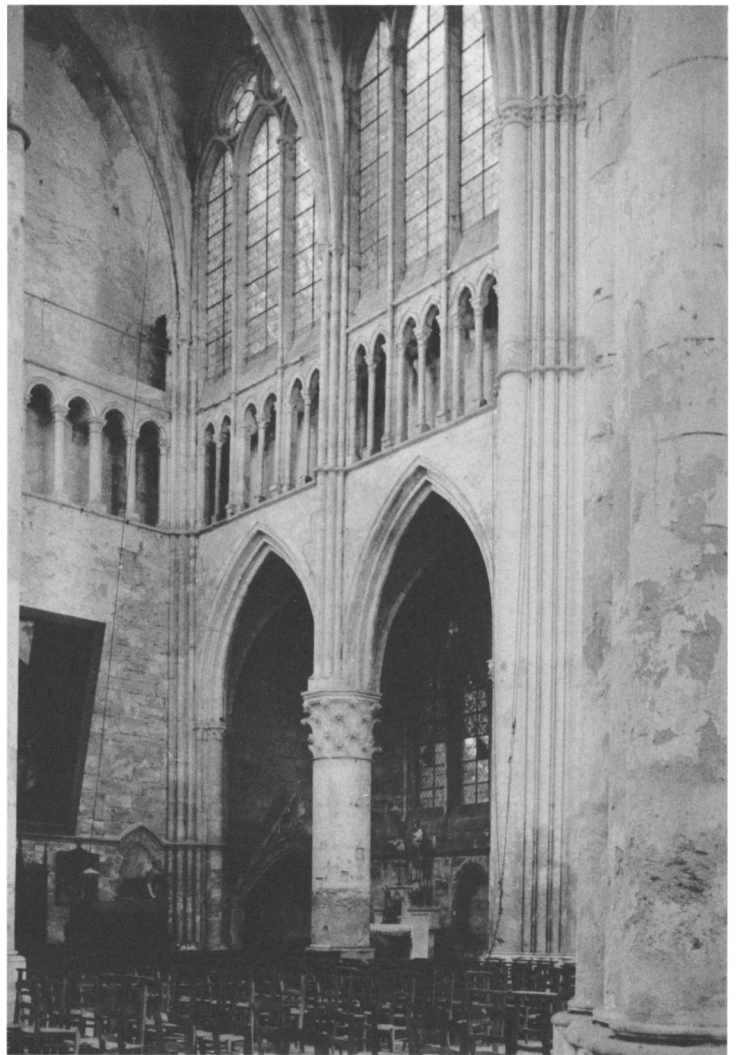
5. Ferrières-en-Brie, interior (photo: Branner)



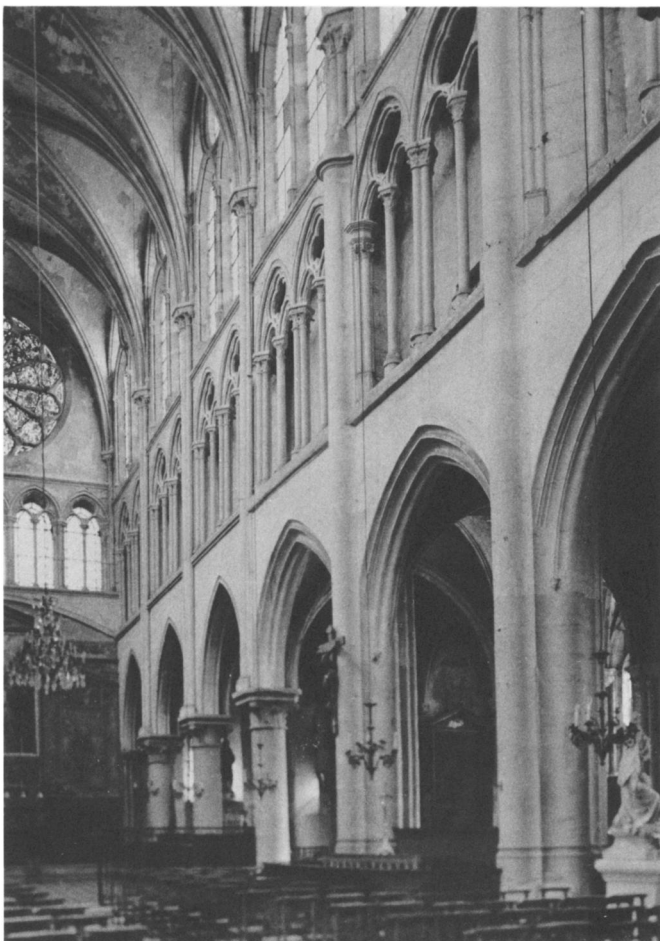
6. Amiens, Cathedral, nave (photo: Branner)



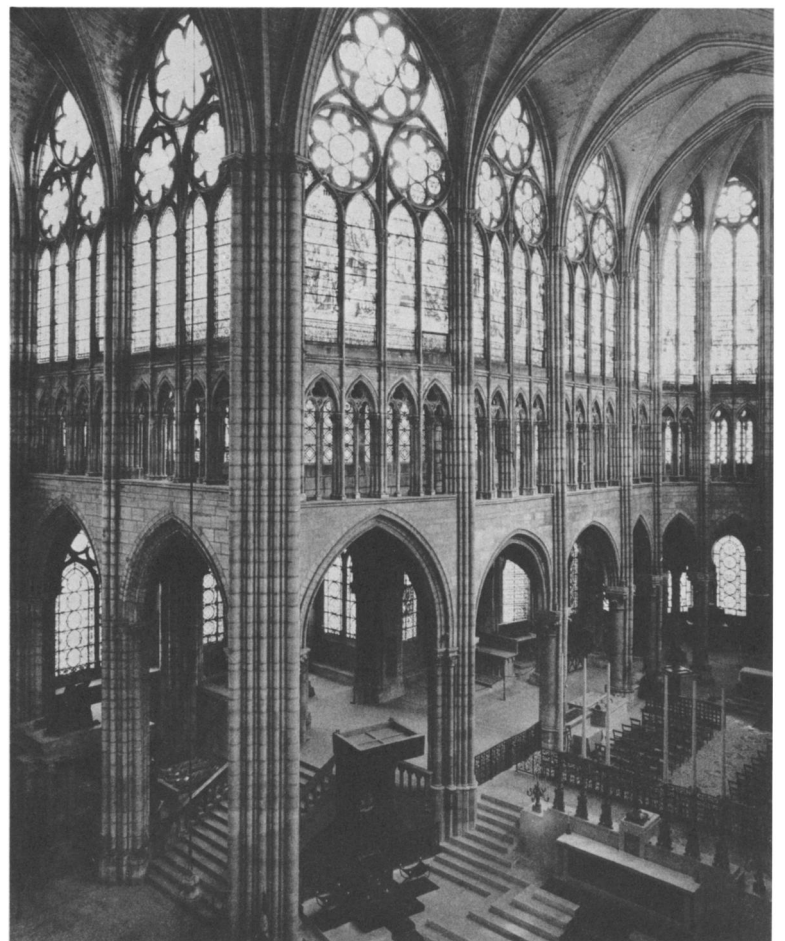
7. Cormeilles-en-Vexin, chevet (photo: Branner)



8. Essomes, transept (photo: Branner)



9. Brie-Comte-Robert, chevet (photo: Branner)



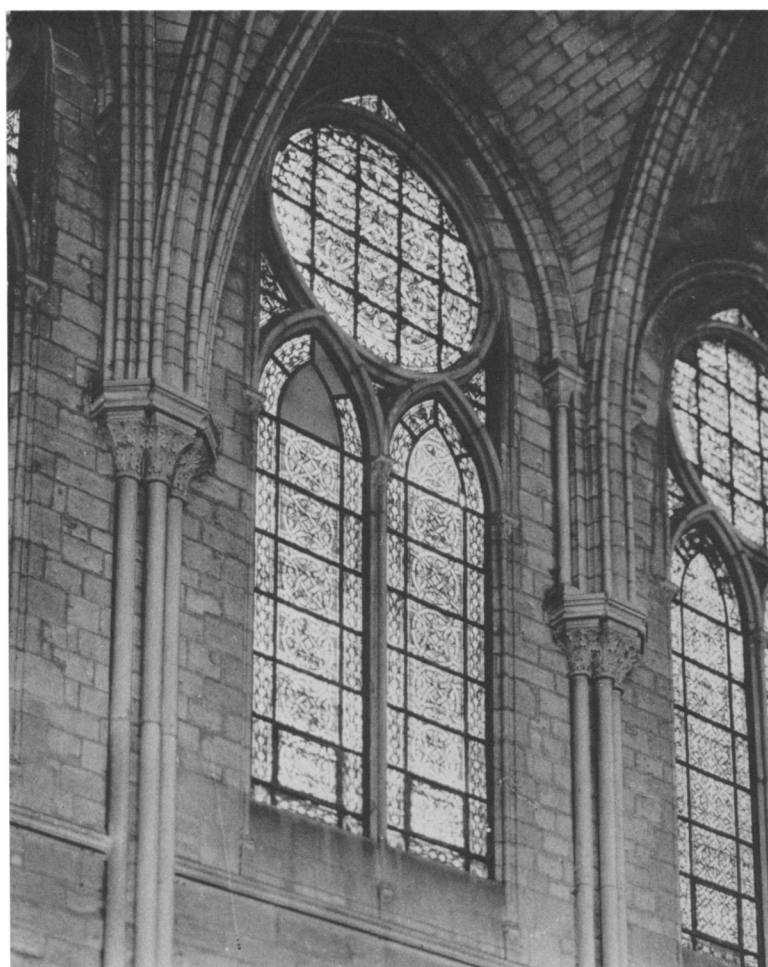
10. St. Denis, chevet and north transept (photo: Branner)



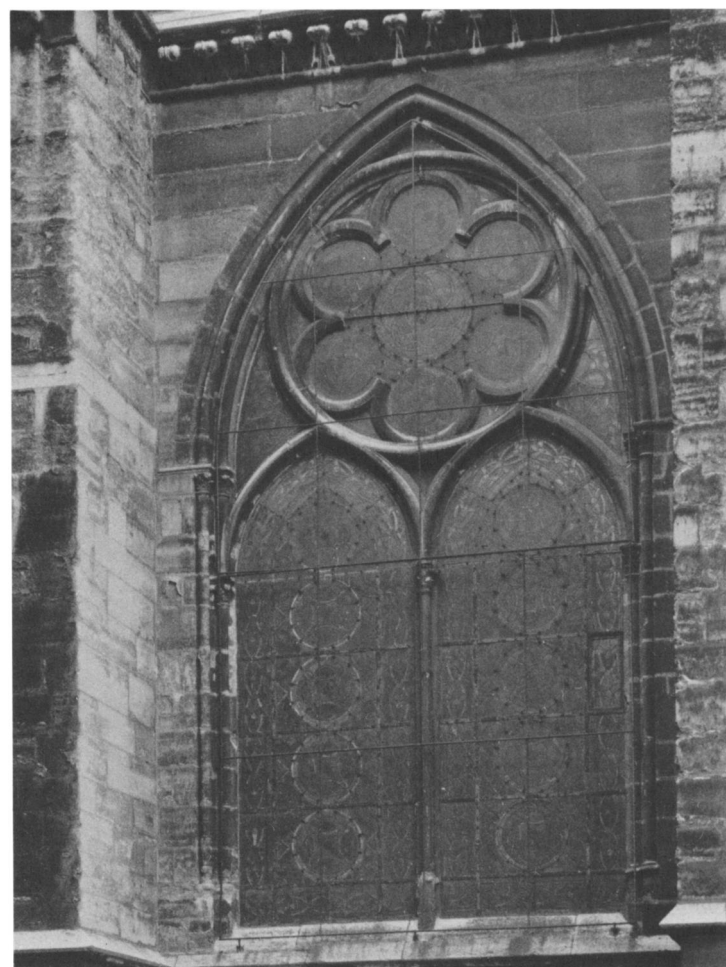
11. Gonesse, nave (photo: Branner)



12. Paris, Notre-Dame, nave chapel, south (photo: Branner)



13. Paris, Notre-Dame, nave clearstory
(photo: Branner)



14. St. Denis, window in eastern aisle of north transept
(photo: Branner)

