

Chapter 10: Spires in Late Gothic France

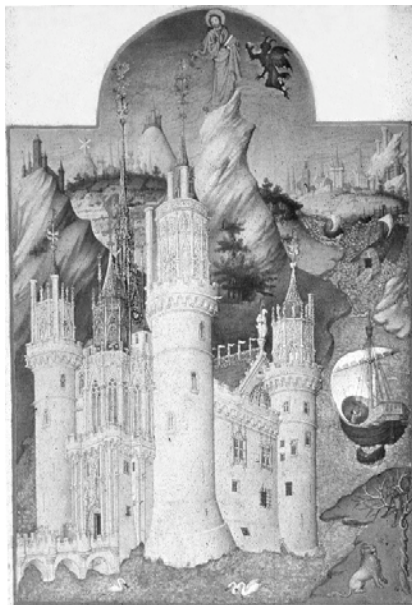
The end of the Hundred Years War in 1453 facilitated the revival of spire design in France. This conflict had badly eroded the socio-economic base on which all major building projects depended. The war was not, however, the only factor inhibiting great spire construction in France in the fourteenth and early fifteenth centuries. As observed in Chapter 4, the spire projects of Chartres and Reims cathedrals had already been abandoned in the thirteenth century, reflecting the decline of episcopal authority in the face of civic rebellion and growing royal power. The spires of Saint-Nicaise in Reims were completed in the late thirteenth century thanks to donations from the citizenry, but the initiative in great spire construction soon passed to Germany, where the autonomy and wealth of the free cities permitted the construction of great spires as religiously inflected civic monuments.¹

In France, it was the king and his courtiers who grew powerful, so that the most important monuments of the war years were courtly rather than religious or civic in character. The rebuilding of the Louvre late in the fourteenth century, for example, was undertaken by Raymond du Temple during the reign of Charles V, whose brother Jean de Berry remodeled his numerous castle residences and the Palace of the Counts in Poitiers. In the 1440s, the wealthy royal counselor Jacques Coeur began construction of his palatial residence in Bourges. Such courtly projects consumed resources that in a previous age had been devoted to cathedral building. This shift in patronage further undercut the financial base for great spire construction, which was already eroded by the wartime disruption of civic life.

Because resources for spire construction were limited, and because the competitive dialog of great spire design in France had largely broken down by the late thirteenth century, simple timber flèches became the typical termination of French churches during the Hundred Years War. Although they lacked the dignity, permanence, and scale of great spires, flèches had been legitimated by their early appearance at such prestigious buildings as Notre-Dame and the Sainte-Chapelle. During the fourteenth and early fifteenth centuries, French spire designers elaborated on the basic flèche theme, emulating micro-architecture and stained-glass canopy forms by incorporating elements such as gables, pinnacles, and decorative flying buttresses. These experiments helped lay the groundwork for the final burst of French spire design after the Hundred Years War.

¹ Imperial cities like Strasbourg and Ulm were noteworthy not only for their wealth and autonomy, but also for their unitary sense of civic identity. In Paris, a city with far greater resources than either, the patronage situation produced many small projects rather than a single great monument.

Although few medieval flèches remain today, the progress of French flèche design can be traced in manuscript illumination and engravings, as well in the occasional verbal description. The “June” plate of the *Très Riches Heures* of Jean de Berry, for example, shows the flèche of the Sainte-Chapelle as rebuilt in 1383.² A belt of gabled panels separated by pinnacles forms a decorative base at the junction of the flèche and the roof ridge. The “Temptation of Christ” page from the *Très Riches Heures* shows the similar but more elaborated flèche of the palace chapel at Mehun-sur-Yèvre, one of the Duc de Berry’s residences (fig. 10-1). Although its details are somewhat difficult to read from the miniature, the Mehun flèche appears to incorporate a slender set of flying



10-1 The Château of Mehun-sur-Yèvre, from the “Temptation of Christ” page of the *Très Riches Heures*.

buttresses at the level of the gable belt. If so, the *Très Riches Heures* documents an early use of decorative flying buttresses in spire design, roughly contemporary with the single-spire drawing for Regensburg Cathedral and Plan A from Frankfurt. The flying buttress motif subsequently became quite common in French great spire design, playing a more important role there than it ever had in Germany.

Documents from the cathedral of Troyes support the notion that decorative flying buttresses had been used in the flèche of Mehun-sur-Yèvre.³ The original crossing flèche of the cathedral, constructed circa 1300, had collapsed in 1365. Because the economy of Troyes suffered in the Hundred Years War, and because the upper nave and north transept

² The master carpenter responsible for this rebuilding was named Robert Fouchier. See François Gebelin, *La Sainte-Chapelle et la conciergerie* (Paris, 1945), 10. From the relatively large size of the gabled panels, Gebelin infers that this flèche and its base had hexagonal rather than octagonal symmetry.

³ For discussion of the Troyes spire and its context, see Murray, *Building Troyes*, 18, 20-22, and 59-60.

collapsed in 1389, the rebuilding of the flèche was not undertaken until 1410. The carpenter in charge of the new work, Jehan de Nantes, visited Bourges and Mehun-sur-Yèvre to study their flèches. Although the renewed Troyes flèche was destroyed by fire in 1700, records of its construction demonstrate that it had windows, pinnacles, balustrades, and decorative wooden flying buttresses, perhaps modeled on those of Mehun.

The Troyes documents also shed light on medieval procedures of flèche design and finance. Interestingly, the conservative decision to articulate the flèche base with only one belt of windows rather than two was taken in 1415, years after construction had begun. The organization of the flèche workshop, meanwhile, suggests that the spire project was seen as a public affair in which the citizenry of Troyes would have a voice and to which they were expected to contribute.⁴ Although the flèche of Troyes did not dominate the skyline like the great spires of Strasbourg and Vienna, the Troyes documents reinforce the notion that spire projects were bound up with civic identity.

The sequence of flèche design traced from the Sainte-Chapelle to Mehun-sur-Yèvre and Troyes came full circle in 1460 with the rebuilding of the flèche at the Sainte-Chapelle. This version had a polygonal base with pairs of statues on each face surmounted by two stories of windows, the lower encircled by slender decorative flying buttresses and the upper crowned with pinnacles. It was destroyed in 1630, but its appearance was recorded in an engraving which the nineteenth-century architect J. B. A. Lassus took as his model during his renovation of the chapel. The present spire recaptures the appearance of the flèche designed in 1460, at least in its essentials (fig. 10-2).⁵

Although timber flèches of this type do not belong to the category of great spires, their role in the history of French great spire design is an important one. Their complex articulation demonstrates that French builders remained interested in spire design even during the Hundred Years War. Such flèches were also the first spires in France to incorporate micro-architectural forms such as the decorative flying buttress. They thus form an important link between Rayonnant compositions, such as pinnacles and

⁴ As Murray explains, "the text . . . reveals a striking shift toward democratic procedures: a third master of the works was elected, responsible to the people of Troyes, and the bishop assured the people that accurate records of expenses would be kept and made public. . . . The intention of the bishop and chapter was doubtless to ensure the financial commitment of the people of Troyes which would result from the involvement of their elected representative in decisions concerning future expenditure" (*Building Troyes*, 59).

⁵ The flying buttresses of the present spire are more ornate than those of the 1460 version, and the angels are an addition conceived by Lassus. Lassus thought he was copying the 1383 spire. See Gebelin, *Sainte-Chapelle*, 12, 33.

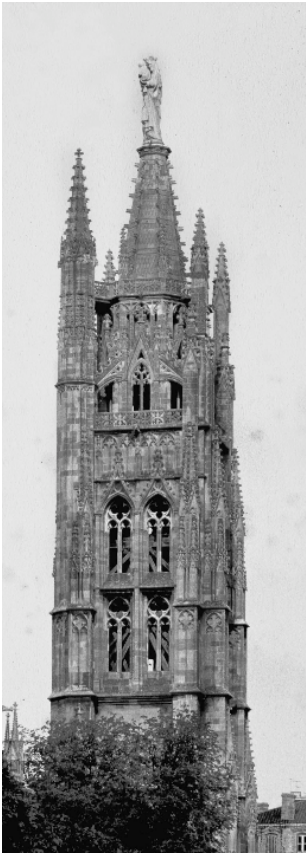
stained glass designs, and the great spire projects of the Flamboyant era. Finally, these slender but elegantly detailed *flèches* provided Flamboyant designers with the most attractive French rejoinder to the lacy spires of Germany and the ornate belfries of Brabant. When great spire construction in France finally resumed, therefore, many designers chose to crown their complex compositions with slender *flèches*, as at Chartres, where the north spire was constructed between 1507 and 1513 (figs. 2-13 left and 10-21).

French great spire construction revived in the late fifteenth century for both socio-economic and artistic reasons. The resolution of the Hundred Years War in 1453 was obviously an event of capital importance, contributing to the resuscitation of the French economy and the stabilization of urban life. In the decades that followed, the power of the French monarchy increased greatly. The bishops no longer represented a significant threat to royal authority, as they had in the

thirteenth century. While the policies of Louis IX had weakened episcopal power, indirectly contributing to the truncation of the many-spired projects at Chartres and Reims cathedrals, his successors in the decades after the Hundred Years War promoted the embellishment of cathedrals as visible symbols of national renewal. This increased royal patronage, together with the recovery of the French economy, permitted the undertaking of great spire projects more ambitious than France had seen for two centuries. Important as these political and economic changes were, artistic competition seems to have been the most crucial factor in the revival of great spire design in France. The abandonment of the great spire projects of Chartres and Reims in the thirteenth century had interrupted the



10-2 Paris, the Sainte-Chapelle, roof and spire.



10-3 Bordeaux, the Tour Pey Berland.

competitive dialog of great spire design in the French royal domain, but, by the early fifteenth century the achievements of other regions were becoming impossible to ignore.

The Tour Pey Berland in Bordeaux, begun in 1436, perhaps deserves to be considered the first great spire built in France since the thirteenth century (fig. 10-3). The construction of the Tour Pey Berland inspired the initiation of many other spire projects in Bordeaux itself, and in nearby cities such as Saintes.⁶ Although the detailing of the tower is Flamboyant, the emphasis on the four corner pinnacles recalls English practice, an unsurprising resemblance given that Bordeaux had long been occupied by the English.⁷ A doublet of flying buttresses springs from these corner pinnacles to the corners of a short octagonal drum, while a small crocketed spire crowns the whole composition. The flying buttresses of the Tour Pey Berland deserve particular note because they differ so radically from those of Mehun-sur-Yèvre and the Sainte-Chapelle. Instead of being supported on slender decorative stalks, they spring directly from the robust corner pinnacles of the tower. Instead of forming a diaphanous cage around the spire, therefore,

they ride relatively low in the crevices between the other parts of the structure. This general arrangement of flying buttresses can also be seen at

⁶ The free-standing belfry of the church of St-Michel in Bordeaux was begun in the 1470s; its original spire was replaced in the 19th century by the present 114-meter-high version, designed by Paul Abadie, the architect famous for his imaginative restoration of the church of St-Front in Perigueux and his related design for the church of Sacre-Coeur in Paris. See Jacques Gardelles, *Aquitaine gothique* (Paris, 1992), 165-66. The slender spires of Bordeaux Cathedral's north transept were added by the mid-16th century, and a small spire was added to the cathedral of St-Jean Baptiste in Bazas in the years around 1500 (see *ibid.*, 75 and 60). The Tour Pey Berland was copied at the tower of St-Eutrope in Saintes, whose foundation was endowed by Louis XI. See Jalabert, *Clochers*.

⁷ Indeed, Archbishop Pey Berland of Bordeaux commissioned the tower when the city was still under English domination, just prior to an attack by Charles VII of France. See Gardelles, *Aquitaine gothique*, 13. The spire of the Tour Pey Berland was rebuilt in 1850 after the original was damaged in the French Revolution (*ibid.*, 85).

English Perpendicular spires like that of Louth. Although it may have come from England initially, this format and related permutations achieved their highest expression in the French Flamboyant spires of the later fifteenth and sixteenth centuries, as the example of Chartres once again suggests. Unlike the English, the French would eventually use linked flying buttresses to transform the plans of their great spires as they rose, achieving the complexity characteristic of the great spire type.

In the early fifteenth century, stone spires were built along much of the perimeter of the French royal domain. Spire construction had proceeded along traditional lines in Brittany and in Normandy, even during the English occupation, as noted later in this chapter. In the north the huge towers of Flanders and the belfries of Brabant were beginning to rise, while in the south the openwork spires of Castile were under construction. Great spire design ultimately revived in France not only because of socio-economic recovery following the end of the Hundred Years War, but also because these spire projects in neighboring lands demanded competitive response.

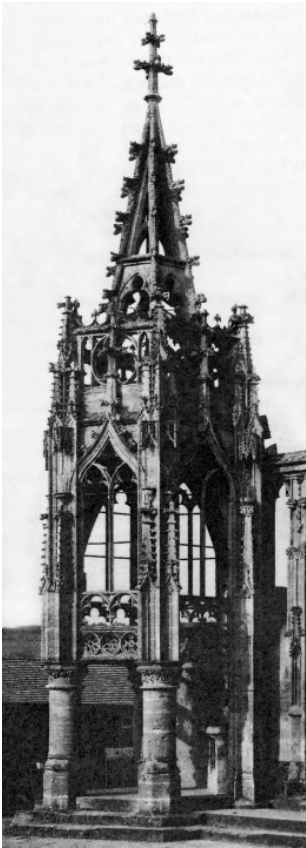
One of the most important goads to French spire designers came from the east. Already in the fourteenth century Freiburg im Breisgau's openwork spire had far surpassed its French antecedents. The completion of Johannes Hultz's superb Strasbourg spire in 1439 must have underlined the relatively backward state of French spire design in the early fifteenth century. In the years that followed, the influence of Germanic spire design began at last to make inroads in eastern France.⁸ Although the Flamboyant revival of great spire design was marked by the same regionalism that Roland Sanfaçon has observed in Flamboyant architecture generally, contact with the Germanic tradition of spire-building ultimately affected spire projects even in Normandy.⁹ The complex history of Flamboyant spire design therefore demands consideration of the assimilation of spire-building ideas from the empire.

The direct influence of German openwork spire prototypes may be readily observed in the design of la Recevresse, a small fifteenth-century shrine in Avioth, a town in Lorraine (fig. 10-4).¹⁰ With the simple geometric tracery of its spire cone, la Recevresse resembles the eastern "Hen Towers" of Freiburg Minster. Despite its obvious debt to great spire prototypes,

⁸ Of course, Lorraine was not yet part of eastern France in the early 15th century. In general, "France" is used here to describe the territory of the modern state and "the French royal domain" or "the Ile de France" for greater geographical specificity and historicity.

⁹ Roland Sanfaçon, *L'Architecture flamboyante en France* (Quebec, 1971). For influence of openwork in Normandy, see discussion of Caudebec-en-Caux below.

¹⁰ Marie-Claire Burnand, *La Lorraine gothique* (Paris, 1989), 65.



10-4 Avioth, la Recevresse.

however, the diminutive proportions of la Recevresse suggest comparison with stair-turret canopies rather than with full-scale spires. Because it stands adjacent to the cemetery of Avioth, Viollet-le-Duc believed that la Recevresse served as a funerary chapel and as an overgrown lantern of the dead.¹¹ This would imply that the symbolic connection between these lanterns and great spires, discussed in Chapter 1 above, was recognized even in the fifteenth century. More recently, however, it has been demonstrated that la Recevresse marked the seat of the local city council tribunal. Its statue niches may once have carried a cycle of figures related to the themes of justice and governance, comparable to that of the Schöner Brunnen in Nuremberg.¹²

Metz

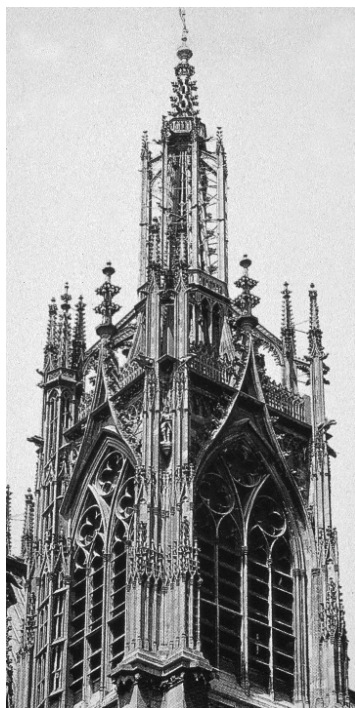
The first full-scale openwork spire to be completed in eastern France was the so-called Tour de Mutte of Metz Cathedral, erected between 1478 and 1481 by Hannes de Ranconval and François le Prêtre.¹³ The meaning of this project must be understood in light of earlier Messine history. Metz was a free city in the later Middle Ages. Its independent communal government often sided with the Dukes of Burgundy to protect

¹¹ Viollet-le-Duc, "Chapelle," in *Dictionnaire*, 2:448.

¹² Simon Collin-Roset, "Avioth (Meuse)," in *Congrès Archéologique de France*, 149^e Session, *Les Trois Evêchés et l'ancien duché de Bar* (Paris, 1995), 28-31. Collin-Roset, in turn, says that the key article in first establishing the function of la Recevresse was Wolfgang Laufer, "Die 'Recevresse' von Avioth bei Montmédy," in *Die Stadt in der europäischen Geschichte: Festschrift Edith Ennen* (Bonn, 1972), 425-37.

¹³ See Marcel Aubert, *La Cathédrale de Metz* (Paris, 1931), 15. Aubert's monograph remains the standard work on the cathedral, although valuable urbanistic perspectives are offered by Pierre-Edouard Wagner and Jean-Louis Jolin's *15 Siècles d'architecture et d'urbanisme autour de la Cathédrale de Metz* (Metz, 1987), and, for the 13th century, by Christoph Brachmann's *Gotische Architektur in Metz unter Bischof Jacques de Lorraine: Der Neubau der Kathedrale und seine Folgen* (Berlin, 1998).

Messine autonomy in the face of growing French and imperial power.¹⁴ The canons of Metz Cathedral had agreed in 1381 to house the city belfry in the south tower of the cathedral while the north tower remained the exclusive property of the chapter.¹⁵ The growing strength of the commune in the fifteenth century had eaten away at the canons' privileges, however, leading to friction between the two groups. Eager to reassert their influence, the canons in 1462 induced the Pope to place Metz under interdict. This gesture prompted bitter feelings on the part of the citizenry and the chapter was forced to evacuate the city until 1467. Their return was negotiated by the Messine bishop, Georges de Bade. The local chronicler Philippe des Vigneulles reported that when a fire ravaged the nave of the cathedral in 1468, lingering bitterness against the chapter prevented any concerted attempt to put out the fire until it threatened the city bells.¹⁶



10-5 Metz Cathedral, the Tour de Mutte.

Seen against this background, the rebuilding of the cathedral's Tour de Mutte as a communal belfry takes on great symbolic significance. The decision to rebuild the Tour de Mutte rather than the Tour du Chapitre certainly points to a newly conciliatory attitude in commune-chapter relations.¹⁷ It is tempting to imagine that this détente was engineered by bishop Georges de Bade, who had previously worked out the agreement

¹⁴ René Bour, *Histoire de Metz* (Metz, 1997), 73-98. See also Robert Parisot, *Histoire de Lorraine*, vol. 1, *Des origines à 1552* (Paris, 1919), 345.

¹⁵ Jean-Baptiste Pelt, *La Cathédrale de Metz* (Metz, 1937), 20-21.

¹⁶ For the excommunication, see Charles Bruneau, ed., *La Chronique de Philippe des Vigneulles*, vol. 2, *De l'An 1325 à l'an 1473* (Metz, 1929), 341. For the negotiations by Georges de Bade and the fire of 1468, see *ibid.*, 375 and 393-94, respectively.

¹⁷ The symbolic resonance of the belfry as a civic symbol comes through even in its name, since the word "Mutte" apparently derives from the Latin "motus" suggesting that the bell would move and motivate the local citizenry. See Victor Jacob, *Recherches historiques sur la Tour de la Mutte de la cathédrale de Metz* (Metz, 1864), 113-18. The newly conciliatory attitude of the chapter to the communal building project may be seen in the fact that the chapter volunteered one of their granges as a work site for the tower builders. See *ibid.*, 12.

between the two feuding groups. Following the defeat of his Burgundian allies in 1477, de Bade must have seen Metz as divided internally and surrounded by hostile forces bent on its assimilation. The rebuilding of the civic belfry as part of the cathedral would have been a highly visible symbol of reconciliation and civic solidarity.

The spire of Metz Cathedral presents a dramatic silhouette, even though its construction was decided upon only rather late in the tower construction process (fig. 10-5). Surviving records documenting the construction of the Tour de Mutte show that the belfry story was originally intended to stand alone; it was only after an expertise in 1479, when the belfry story stood mostly complete, that the spire was designed. Structural factors constrained the weight and size of the spire, since the belfry story below was supported only by fairly thin thirteenth-century buttress piers. Despite these restrictions, which made the construction of an octagonal tower core inadvisable, Hannes de Ranconval managed to develop a sophisticated spire design that drew upon a variety of ambitious Germanic prototypes. The Metz spire cone has a strongly concave profile, recalling the work of Ulrich von Ensingen. A bundle of eight narrow decorative flying buttresses clusters around the spire cone to support a crow's nest balustrade, so that the structure reads as an abbreviated version of Regensburg single-spire scheme.¹⁸ Lower down, y-shaped doublets of cusped flying buttresses spring from the corner pinnacles of the belfry story to frame the flaring base of the spire cone. Such cusped flying buttresses were earlier seen not only in the Prague Cathedral choir, but also in micro-architectural shrines, including the golden sacrament house in Prague's Saint Wenceslas Chapel. It is interesting in this connection that Philippe de Vigneulles referred to Hannes de Ranconval as a master of both goldwork and geometry. François le Prêtre, who assisted in the construction of the spire, worked as a mechanical engineer.¹⁹ Together with their workers, they managed to erect one of the most elegant spires of the day, which Philippe des Vigneulles praised as a magnificent and exquisite work. Although far smaller than the

¹⁸ This resemblance was already noted in Robert Bork, "Skyscrapers of the New Jerusalem: Meaning and Development of the Gothic 'Great Spire,'" Ph.D. diss., Princeton University, 1996. Peter Kurmann makes much the same point in "Metz et Ratisbonne," *Bulletin monumental* 158 no. 4 (2000): 297-304. Kurmann's suggestion that the present Metz spire design was already developed in 1380 by the Messine builder Pierre Perrat a century before its construction by Hannes de Ranconval is almost certainly in error, however. Perrat's known works, including the west facade of Metz Cathedral, are far more subdued in style than the Tour de Mutte. See Burnand, *Lorraine gothique*, 172, 313. The original documents cited by Jacob in *Recherches historiques*, 21 and 39, moreover, clearly show that the parchment for the design was purchased only after the 1479 expertise approving the addition of the spire above the belfry story.

¹⁹ See Jacob, *Recherches historiques*, 38-39, 45-47.

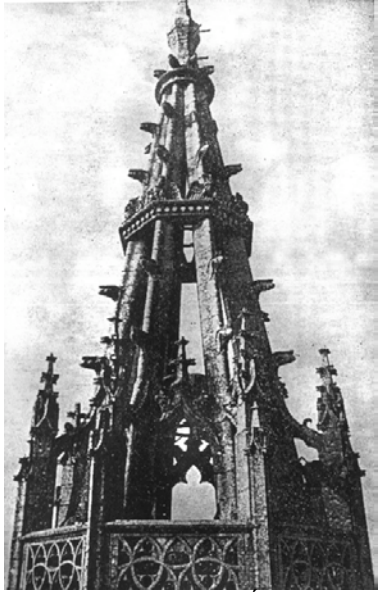
huge Rhenish spires of Strasbourg and Freiburg, the Tour de Mutte stands as a dramatic example of how advanced spire design ideas from the German world began to affect building projects further to the west.

Notre-Dame de l'Épine

The Tour de Mutte likely influenced the design of Notre-Dame de l'Épine, a small pilgrimage church near Chalons-sur-Marne in northern Champagne whose facade was built in the decades around 1500. Construction of the church as a whole had begun around 1410.²⁰ Work proceeded more rapidly after 1445, thanks in part to a grant made to the church by Charles VII, who had visited the shrine on the way to his coronation at Reims. Further royal aid to the fabric came in 1472.²¹

Construction of the west facade was begun in the early 1470s and the openwork southern spire was completed by 1509, at which point work began on the radiating chapels, even though the north spire had not yet been built. Despite this asymmetry, the west facade of Notre-Dame de l'Épine deserves recognition as one of the purest Flamboyant manifestations of the classic two-tower facade schema (fig. 10-7). Two matching spires were almost certainly envisioned by the original designers.

As Alain Villes has pointed out, the close relationship between the facade and the aisles behind may have posed a problem for the designer of the towers and spires.²² In particular, Villes notes that the buttresses of the west facade are aligned with the walls of the aisles rather than being displaced outboard to permit the construction of larger towers. In earlier facades with this "honest" geometry, such as Saint-Nicaise in Reims, the

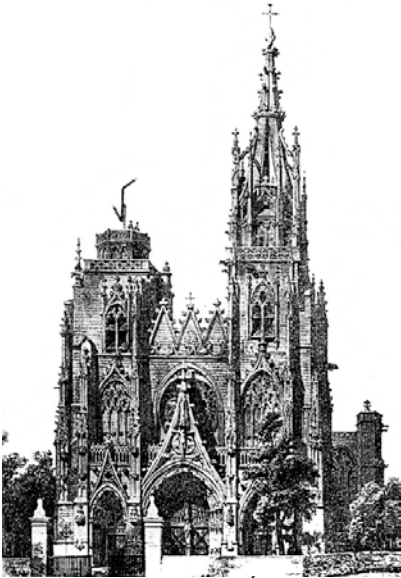


10-6 Notre-Dame de l'Épine, south spire of west facade.

²⁰ See Alain Villes, "Notre-Dame de l'Épine, sa façade occidentale," *Congrès archéologique de France* 135 (1977): 779-862. For a more general discussion of the building as a whole, see Luc[ien] Benoist, *Notre-Dame de l'Épine* (Paris, 1933).

²¹ Villes, "Façade," 826.

²² Although the facade appears to display great unity, the convex profile of the main portal gables may have been introduced partway through the construction process to keep pace with developments at Toul. See Villes, "Façade," 828.



10-7 Notre-Dame de l'Épine, west facade (19th-c. drawing).

spires appear rather small relative to the main vessel.²³ The upper parts of Notre-Dame de l'Épine's west facade seem designed to enhance the structure's monumentality given the constraints of the ground plan. The facade buttresses are thus allowed to maintain their full width most of the way up the towers, with setbacks coming only at the level of the spire bases.

The innovative design of the south spire also lends a cathedralesque majesty to the relatively small facade of Notre-Dame de l'Épine (figs. 10-6 and 10-7). The octagonal base of the spire cone fills the largest available area atop the tower, permitting the spire cone itself to grow rather large. Although a balustrade emphasizes the square section of the upper

tower story, the four pinnacles at the corners of the tower are quite small, thus confining the foursquare geometry to a relatively low point on the elevation. The eight slender pinnacles that grow out of the spire base are linked to each other circumferentially at the level immediately above by means of free-standing ogee arches, creating the openwork armature of an octagonal tower story through which the swelling lower section of the openwork spire cone may be seen. Further up, the same eight pinnacles are connected radially to the spire cone by slender decorative flying buttresses, as at the Tour de Mutte in Metz.

This elegant solution to the formal problems of great spire design works particularly well at Notre-Dame de l'Épine because the entire structure has been reduced to a skeletal framework. The spire cone consists only of eight corner flanges unconnected by tracery infill and bound only by a slender

²³ Villes notes that these spires come to only twice the height of the nave vaults, while the cathedral facades of Paris, Reims, and Soissons "manifeste la volonté de maintenir au sol une largeur suffisante pour que les flèches culminent au triple de la hauteur des voutes" ("Façade," 842). In all these cases the spires have to be imagined, but the same 3:1 ratio may be seen explicitly in Plan F for Cologne cathedral. As Arnold Wolff notes, the proportions of Plan F can in this sense be seen as traditional. See Wolff, "Geschichtliches," 14.

collar of fleurs de lys. Steps in this direction had been taken at the city halls of Brussels and Leuven, but the greater amplitude of the spire cone at Notre-Dame de l'Épine makes the effect of voiding more dramatic. Also, because the corner flanges of the spire cone have the same approximate visual weight as the pinnacles and ogee arch frames, the composition blends together in a complex network of flowing lines like a three-dimensional sketch. Altogether, the spire of Notre-Dame de l'Épine deserves recognition as one of the most lyrical of Late Gothic spires, whose Flamboyant complexity provides a worthy conclusion to the small but ambitious two-tower facade below.



10-8 Toul Cathedral, west facade.

Toul

The spires of both Metz and Notre-Dame de l'Épine may well have been influenced by the original design for the west facade of Toul Cathedral. Masonry stumps in each of the towers at Toul suggest that stone openwork spires were meant to crown the facade, although they were never built.²⁴ As deliberations from the Toul Cathedral chapter report, the design of the facade was prepared in 1460 by master Tristan d'Hattonchatel. The great unity of the Toul facade suggests that this original design substantially governed the construction process, although a number of detail changes seem to have been introduced by Jacquemin de Lenoncourt, the mason entrusted with realizing the project. If openwork spires were foreseen in 1460, drawings of the Toul projects could have influenced the spire designers of Metz and Notre-Dame de l'Épine. Such filiation appears plausible in view of the close connections between the three workshops.

²⁴ Alain Villes, "Les Campagnes de construction de la cathédrale de Toul, troisième partie: Les campagnes du XVe siècle," *Bulletin monumental* 135, no. 1 (1977): 53.

The links between Toul and Notre-Dame de l'Épine are particularly obvious in the facades (figs. 10-7 and 10-8).²⁵ Both designs emphasize the relationship between the large, concave-sided portal gables, conspicuous traceried balustrades, and a large sculpted crucifix at the climax of the main gable. At Notre-Dame de l'Épine the formula of Toul has been simplified, reflecting the building's smaller scale; but the influence of Toul comes through in details as well as in the overall composition. The two rose windows resemble each other quite closely, as do the tracery patterns of the large balustrade screens. Although Tristan d'Hattonchatel's design for Toul might not yet have been known when the first stage of facade construction at Notre-Dame de l'Épine was undertaken, it seems that the master responsible for the upper stages of the facade was familiar with this precedent.

The connections between Metz and Toul are less obvious, in part because Metz cathedral does not have a conventional two-towered facade. Nevertheless, the two workshops had a history of close interaction. In the fourteenth century, for example, the same master, Pierre Perrat, directed construction of all three cathedrals in the duchy of Lorraine, those of Toul, Metz, and Verdun.²⁶ The sharply pointed nave vaults of Toul reflect Perrat's knowledge of earlier campaigns at Metz. Conversely, the fifteenth-century transepts of Metz appear to have been influenced by the transepts of Toul. A crucifix similar to those of Toul and Notre-Dame de l'Épine hangs on the north tower of Metz, suggesting that contacts between the lodges may have affected tower design as well.

What Toul and Metz shared above all, however, was a liminal position between the architectural spheres of Champagne and the Empire. The clear importance of French models for the nave of Metz or the west facade of Toul makes it all too easy to forget that the previous cathedrals in both cities were essentially Ottonian, and that German traditions of design continued to influence the art of Lorraine even in the Gothic period. At Toul, for example, two large Gothic towers flanked the cathedral's choir in a recollection of the earlier Ottonian building. Interestingly, the chapter of Toul valued the four-tower format enough to spend its few remaining funds in the sixteenth century on the decoration of the eastern towers and chevet rather than on building the intended spires of the west facade.²⁷ Tantalizing

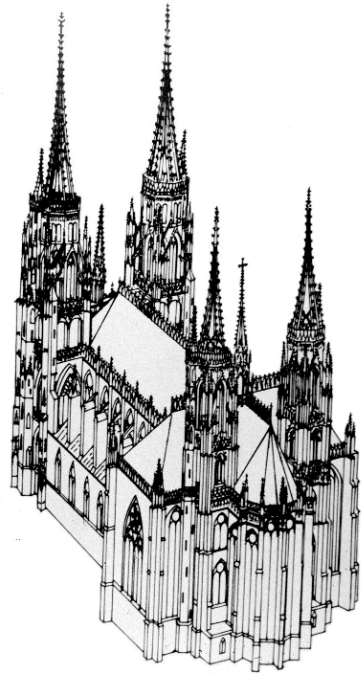
²⁵ Villes, in "Façade," 836, also notes that the balustrade looks vaguely Brabantine, an interesting point also in light of the fact that the flying buttress treatment of the towers at Toul closely resembles that of the Leuven tabernacle.

²⁶ Michael Parisse, *Histoire de la Lorraine* (Toulouse, 1978), 224.

²⁷ Villes, "Campagnes," 53. This decision may well reflect a feeling that the towers of the west facade had reached an acceptable height by French standards, an increasingly important consideration following the political assimilation of Lorraine into France. The

resemblances also exist between the west facade of Toul and the "two-tower" design for Regensburg cathedral: both incorporate the unusual feature of a stair turret on the central nave gable, and both use pinnacle clusters with steep cusped flying buttresses to effect a transition to an octagonal tower core.²⁸ This use of decorative flying buttresses in a tower, for perhaps the first time in France, suggests contact with eastern traditions of tower and tabernacle design.²⁹ While French influence tended to prevail in the design of interiors in Lorraine, German precedents evidently played a role in tower design, and it would have been strange if builders in Lorraine had not registered the impact of the openwork spire type.

Working backwards from the spire formats of Metz and Notre-Dame de l'Épine, Alain Villes has produced a



10-9 Toul Cathedral, hypothetical completion scheme by Alain Villes.

facade of Reims cathedral, a model for Toul, was still not crowned with spires in the early 16th century, although its towers were rising when Tristan d'Hattonchatel developed the Toul design in 1460. As in the 13th century, the slow progress of Reims Cathedral may have impoverished the dialog of spire construction in France.

²⁸ These are among the few two-tower facades to terminate in octagonal balustrades. The treatment of the aisle doors and sculpture niches is also similar, and the two designs remain remarkably true to the Rayonnant vision of the rose window. There are many differences as well, notably in the use of gables and diagonal buttresses at Toul, but the possibility of contact between these two lodges remains.

²⁹ In this context it becomes important to distinguish between the various ways flying buttresses could be deployed around towers. In England and at the Tour Pey Berland in Bordeaux, flying buttresses leap from the corners of a solid square tower to the octagonal spire within. At Metz, Notre-Dame de L'Épine, and in the Regensburg single-spire drawing, smaller buttresses carried on thin decorative buttresses cloak the spire cone in a finely articulated vertical cage. At Toul, and in the Regensburg double-tower drawing, cusped flyers leap from thick but free-standing corner pinnacles to an octagonal tower core. Similar forms are also seen in the tabernacle designed by Mathijs de Layens for Leuven in the 1450s, and later deployed by Herman de Waghemaker in the tower octagon of Notre-Dame in Antwerp. Still later, this type of articulation would be used in the ill-fated crossing spire of Beauvais, as discussed later in this chapter.



10-10 Chalons-sur-Marne, (17th-c. engraving, detail).

remarkable reconstruction of what he believes to have been Tristan d'Hattonchatel's vision of Toul Cathedral (fig. 10-9).³⁰ With its four openwork spires, Villes' design resembles an updated Late-Gothic version of Speyer or Worms cathedrals. Coming as it does from one of the foremost experts on the Gothic architecture of eastern France, and on Toul Cathedral in particular, this surprisingly Germanic reconstruction deserves to be taken seriously. If Villes is correct, the Toul project of 1460 may have been the principal link between the spire-building culture of the empire and the later openwork spire projects of Metz and Notre-Dame de l'Épine.

Chalons

While the abandonment of the Toul project and the relatively small size of the spires in Metz and Notre-Dame de l'Épine underline the challenges of large-scale spire construction in masonry, the case of Chalons-sur-Marne

³⁰ Alain Villes, *La Cathédrale de Toul* (Toul, 1983).

illustrates the relative ease with which large timber spires could be constructed--and destroyed. The cathedral of Saint Étienne in Chalons had been locked in an architectural rivalry with the local church of Notre-Dame-en-Vaux since the early twelfth century.³¹ Both were repeatedly enlarged and upgraded in competitive fashion. The towers of the cathedral were overshadowed in the late thirteenth century when five timber spires were added to Notre-Dame-en-Vaux; two large ones on the towers of the west facade, two more flanking the choir, and smaller one on the crossing. These were all fairly simple pyramidal structures, but the southwestern one included a gabled drum in its middle zone. New construction in the region slowed during the fourteenth century, but the relative architectural prestige of the cathedral was further eclipsed in the fifteenth century, not only by the construction of an elaborate porch at Notre-Dame-en-Vaux in the 1460s, but also by the prestigious rebuilding project at Notre-Dame de l'Épine, just seven kilometers outside of Chalons.

In response to these challenges, the cathedral clergy in 1520 commissioned the construction of a tall and exceedingly slender timber spire atop the north transept tower of the still-incomplete cathedral. This addition brought the total height of the tower to roughly ninety meters, even though the spire proper rose from a base only some 6.5 meters square. In formal terms, the cathedral spire resembled an overgrown version of the thirteenth-century spires at Notre-Dame-en-Vaux, but with two gabled drum stories rather than just one to punctuate the rise of the pyramid. The cathedral spire thus provided a dramatic visual climax to the skyline of Chalons, as a city view by Matthäus Merian shows (fig. 10-10), even if it could not rival the greatest spires of the German world in size or formal complexity. Unfortunately, like most timber spires, those of Chalons also proved to be far less durable than their masonry counterparts. The slender spire of Chalons Cathedral was destroyed in a fire in 1688. It was replaced in the late seventeenth century by two smaller masonry spires, but these were dismantled in the nineteenth century because their hybrid Gothic and classical style was deemed undesirable by Neo-Gothic purists. With the destruction of the Chalons spire, the far more Germanic openwork spires of Metz and Notre-Dame de l'Épine stand with those of Alsace as the most impressive surviving specimens of Late Gothic spire design in the eastern regions of modern France.

³¹ See Alain Villes, "L'Ancienne grande flèche de la cathédrale Saint-Étienne de Châlons-en-Champagne," *Umění* 49 no. 3-4 (2001): 220-34. Villes makes many valuable points in this article, but the size of the Chalons spire is dramatically overstated in his diagram on page 229, showing the Chalons spire alongside other major French spires.

Rouen

To the west, Normandy emerged in the fifteenth century as a major center for innovative Flamboyant Gothic design. Ironically, however, the enduring Norman enthusiasm for large crossing towers actually discouraged builders in the region from developing ambitious masonry spire schemes, because the placement of a heavy spire over such a tower would place dangerous stresses on the crossing piers. Most Norman builders thus chose to construct either timber spires or shorter stone tower terminations of crownlike form. Influential examples of both types were developed in Rouen, where the Late Gothic era witnessed the construction of large towers on four of the greatest local churches: the cathedral of Notre-Dame, the abbey church of Saint-Ouen, and the parish churches of Saint Laurent and Saint-Maclou.

The most creative Norman response to the structural constraints of the crossing tower format arose in the workshop of Saint-Ouen (fig. 10-11). Work on the building's elegant east end had begun in 1318, with work proceeding rapidly until 1339, by which time the choir and apsidal chapels stood complete, with construction of the transept well underway.³² Work on the transept proceeded slowly in the decades thereafter. The first story of the crossing tower appears to date from this protracted fourteenth-century campaign. The crossing pier design, which harmonizes with the present vaults, implies that the tower was never intended to serve as a lantern. The first boxy tower story pokes just a bit above the choir roof. A series of six blind lancets enlivens the surface of each tower face. Bladed mullions gather these lancets into groups: the four in the center of the tower face are divided into two doublets, while each of the narrower outboard lancets is closely associated with the slender strip buttresses at the corner of the tower. This syncopation prepares the way for the peeling off of the corner pinnacles above.

Construction of the tower's next stage proceeded during the English occupation of Rouen. Indeed, Christopher Wilson singles out Saint-Ouen as a "notorious case," noting that "the monks at Saint-Ouen . . . were so intent on finishing their church that they refused to contribute towards the defence of the city against the besieging English forces."³³ The second stage of the crossing tower was erected in the first decades of the fifteenth

³² The fundamental 20th-century publications on the church are André Masson, *L'Église abbatiale Saint-Ouen de Rouen* (Paris, 1927), and idem, *L'Abbaye de Saint-Ouen de Rouen* (Paris, 1930). For more recent perspectives, see Yves Bottineau-Fuchs, *Haute-Normandie gothique* (Paris, 2001), 323-37; and Peter Seyfried, *Die Ehemalige Abteikirche Saint-Ouen in Rouen* (Weimar, 2002).

³³ Wilson, *Gothic Cathedral*, 248.

century by master Alexandre de Berneval who updated the decorative forms of the tower without rethinking its box-like composition. A pair of lancets with Flamboyant tracery and straight-sided openwork gables occupies the center of each tower face, while blind lancets visually dematerialize the sturdy tower corners.

The weight of this second story caused structural distress in the incomplete transept below. The western piers of the crossing, in particular, exhibited dangerous deformation. Upon the death of Alexandre de Berneval in 1441, his son Colin summoned architects from Rouen Cathedral to help advise him on consolidation of the structure.³⁴ This consolidation project required construction of the first bays of the nave. Completion of the nave was undertaken in 1459,



10-11 Rouen, Saint-Ouen, crossing tower.

and construction of the third and last stage of the crossing tower followed between 1492 and 1515. Because the addition of a masonry crossing spire at Saint-Ouen would have been out of the question on structural grounds, the tower terminates in an octagonal crown, the first of its kind in Rouen. The walls of this upper story are extremely thin, suggesting that worries about excess weight persisted even with this truncated format. The crown was probably meant to provide a dignified termination to a tower that could not be equipped with a spire, although a spire may have been contemplated by the original fourteenth-century designers.

The crown-shaped termination of the Saint-Ouen crossing tower went on to influence a variety of other Norman tower projects, including the planning of the west facade at Saint-Ouen itself, as a surviving engraving suggests (fig. 10-12). The lower portions of the facade were constructed in the early sixteenth century with boldly original diagonally planted towers. This innovative format gave the facade considerably greater width than the

³⁴ Bottineau-Fuchs, *Haute-Normandie gothique*, 325; Masson, *L'Église*, 24.



10-12 Rouen, Saint-Ouen, engraving of west facade design.

nave aisles behind, displaying the designer's interest in monumentality as well as spatial dynamism. Construction of this remarkable pile was abandoned by 1540 or so, evidently for want of funds.³⁵ Unfortunately, the half-completed facade was demolished in the early nineteenth century to make way for the far more conventional neo-Rayonnant facade designed by H. C. M. Grégoire.

The engraving showing the Saint-Ouen facade with twin terminal crowns on its towers appears to date only from the seventeenth century, and its precise relationship to the planning of the facade in the decades around 1500 remains somewhat ambiguous. André Masson, author of the major

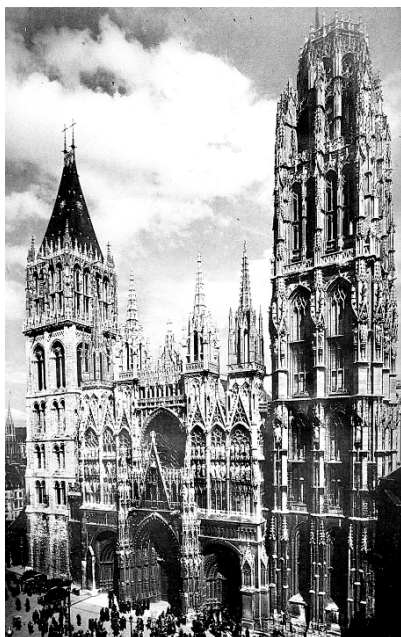
twentieth-century monographs on the building, believed that it represented the original Late Gothic design.³⁶ The towers shown in the engraving, however, are so closely modeled upon the crossing tower—even upon its fourteenth-century lower stages—that attribution of the design to the same master who planned the diagonal tower placement seems implausible. With its perfect symmetry, perspectival rendering, and loose geometrical structure, the engraving seems more like an elaborate sketch than a master-builder's working drawing. In the absence of precise dating, it is tempting to imagine that this facade scheme was developed after the shutdown of the original workshop, perhaps even after the Huguenot sack of the church in 1562. The engraving seems to record not a coherent and unified original design, but rather a collage of pieces from the extant fabric welded into an imposing ensemble. Whatever the circumstances of its production, however, the terminal crowns shown in the engraving clearly derive from their earlier use in Saint-Ouen's crossing tower.

³⁵ Masson, *L'Abbaye*, 71. The partly completed facade appears in a 1525 engraving, and the nave flooring was installed in 1549. See Masson, *L'Église*, 15-17.

³⁶ Masson, *L'Église*, 20. Seyfried, *Abteikirche*, 32, acknowledges the uncertainty about whether the engraving represents the true intentions of the Late Gothic facade designer.

An echo of Saint-Ouen's flat-topped crossing tower may also be seen in the so-called Tour de Beurre of Rouen Cathedral, even though the cathedral's master builders Jacques and Roland le Roux wished to construct a great stone spire instead.³⁷ This truncation of the Tour de Beurre illustrates how the grandiose dreams of Gothic masons could be derailed by conservatism on the part of their patrons. Working in the early sixteenth century, the le Roux inherited a complex set of design problems from their predecessors.

The cathedral's west facade had been asymmetrical ever since the construction of the Tour Saint Romain in the late twelfth century. Between 1386 and 1430 the facade



10-13 Rouen Cathedral, west facade.

began to take on its present sumptuous appearance, as traceried panels of vaguely English inspiration were added to either side of the rose window by masters Jean Périer, Jean de Bayeux and Jenson Salvart.³⁸ Following the expulsion of the English from Rouen in 1449 and the successful conclusion of the Hundred Years War, the Rouen economy began to improve significantly. In the closing decades of the fifteenth century, therefore, the cathedral chapter was able to begin a program of tower construction. Rivalry with the rapidly growing churches of Saint-Ouen and Saint-Maclou no doubt played a role in this decision, especially since the uppermost stage of the Saint-Ouen crossing tower was under construction in this period.

As a first step to improve the towers of Rouen cathedral, master Guillaume Pontis constructed a new story atop the Tour Saint Romain between 1468 and 1478 (fig. 10-13 left). This boxlike story, articulated with Flamboyant lancets on each face, served as the base for a tall peaked

³⁷ Yves Bottineau-Fuchs, "Maître d'oeuvre, maître d'ouvrage: Les Le Roux et le chapitre cathédrale de Rouen," in *Artistes, artisans, et production artistique au Moyen Âge*, ed. Xavier Barral i Altet, 3 vols. (Paris, 1986), 1:183-95.

³⁸ A[nn]e[-]M[arie]. Carment-Lanfry, *La Cathédrale Notre-Dame de Rouen* (Boisguillaume, 1989), 52-53. See also Bottineau-Fuchs, *Haute-Normandie gothique*, 286-89.



10-14 Rouen Cathedral, "Tour de Beurre," upper stories.

wooden roof. Then in 1485, Pontis began construction of the Tour de Beurre, on the south side of the west facade. He was succeeded as master in 1496 by Jacques le Roux, uncle of the more famous Roland le Roux, who was at that point still working under him.³⁹ As its name implies, the Tour de Beurre was funded by the granting of dispensations to eat butter during Lent. Despite this income, however, funding problems plagued the project in its later phases, leading to friction between the chapter and the le Roux family.

Because the fabric fund was depleted when he became master, Jacques le Roux was forced to borrow money directly from the cathedral canons in order to proceed with construction of the Tour de Beurre. The canons, financially concerned to the point of paranoia, placed the le Roux household under

surveillance and criticized the master for using stones that in their opinion were too elaborately carved. In 1499 they took advantage of a pause in construction to argue that the Tour de Buerre should terminate not with a spire, but with a flat terrace. The structurally motivated truncation of the Saint-Ouen crossing tower may well have provided the stingy canons with the precedent for this idea. Jacques le Roux objected strongly to the abandonment of the spire project and his relations to the chapter became so poor that the canons at one point threatened to expel him from his home.

The denouement of this crisis was prolonged. The spire project found a powerful advocate in George I d'Amboise, archbishop of Rouen and Prime Minister of France under Louis XII. Under his influence, the canons appeared to accept the spire project. Whether they made this decision in good faith is unclear since they delayed the project by calling in outside consultants and demanding a series of revised designs. In 1503, before he

³⁹ Bottineau-Fuchs, "Maître d'oeuvre," 185-90.

could complete the Tour de Beurre, Jacques le Roux was forced to deal with structural distress around the central portal of the nave. Ultimately, direction of these projects was left to his nephew Roland.

In its general effect, the crown of the Tour de Beurre as completed by Roland le Roux in 1507 resembles a more streamlined version of Saint-Ouen's crossing tower (fig. 10-14). The faces of the uppermost square story are divided into four slender lancets, echoing the arrangement in Guillaume Pontis' addition to the Tour Saint Romain. A large bladed mullion rises out from the middle of each face, joining the pinnacles at the corners of the tower to make a cluster of eight strong verticals. A Y-doublet of flying buttresses springs from each of these verticals, abutting the corner flanges of the octagonal upper story. This format, in which the central mullion of each face resembles the corner pinnacles, permits a smoother transition from square to octagon than those seen in the crossing tower of Saint-Ouen. This transition shows that Roland le Roux was aware of great spire design, and although he matched the height of the Tour de Buerre to that of the Tour Saint Romain, he probably hoped that the Tour de Buerre would one day be crowned with a spire as his uncle Jacques had intended. With such an addition, the Tour de Buerre would resemble the north spire of Chartres, at least in its overall outlines.

As it turned out, Roland le Roux's best chance to build a great spire came when fire destroyed the timber crossing spire of Rouen cathedral in 1514. As Yves Bottineau-Fuchs notes, this was seen as a tragedy by both the cathedral chapter and the citizenry, and it was decided that repair work should begin immediately. Roland le Roux was charged with the restoration of the tower and spire. However, Roland once again ran afoul of the miserly cathedral canons. Even his structurally necessary repairs to the west facade could not have been completed to his design without the financial assistance of Archbishop Georges I d'Amboise. The canons had objected to the overly great ornamentation of the portal, to which le Roux had responded that he was working "for the beauty and splendor of the cathedral."⁴⁰ Much the same problem arose in the rebuilding of the crossing tower. Although he had been assigned only to raise the tower by two meters or so, Roland le Roux decided to raise the tower's walls by no less than five meters, thus creating a fitting base for a great stone spire. The canons understandably did not appreciate this display of initiative, and, following further disputes, Roland le Roux was relieved of his position in 1518. As funds were short, no work was undertaken on the crossing spire project for another twenty years. Between 1542 and 1544

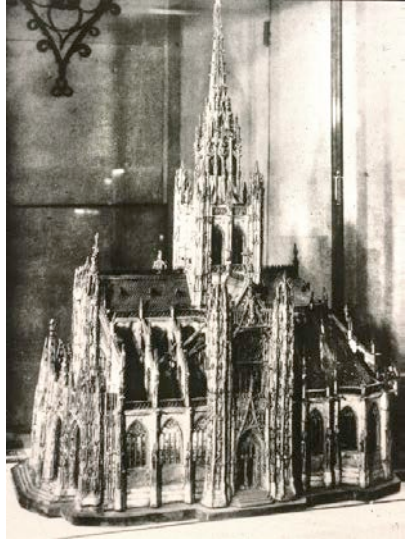
⁴⁰ Bottineau-Fuchs, "Maître d'oeuvre," 189.



10-15 Rouen Cathedral, view from west showing sixteenth-century crossing spire.

master carpenter Robert Becquet erected an impressively tall timber spire atop le Roux's modified central tower, but the horizontality of its Renaissance detailing departed dramatically from the Gothic tradition of great spire design (fig. 10-15, center). This spire, in turn, was destroyed in a fire in 1822 and replaced by the current cast-iron structure.

In the very years when Roland le Roux was struggling in vain to get approval to erect spires at Rouen Cathedral, other local builders were at work adding spires to Rouen's parish churches. In 1490, construction began on the western tower of the church of Saint Laurent, a slender structure that



10-16 Rouen, Saint-Maclou, cork model.

closely resembles the cathedral's Tour de Beurre. As at the Tour de Beurre, a cluster of flying buttresses mediates the transition from the square plan of the lower tower to the octagonal geometry of its termination. Unlike the Tour de Beurre, the Saint Laurent tower was actually equipped with a spire in the early sixteenth century, but the demolition of this spire in the nineteenth century has restored the approximate likeness between them.

The crossing tower of the nearby church of Saint-Maclou now carries an elegant stone spire built in the nineteenth century by H. C. M. Grégoire to replace the timber flèche erected by master carpenter Martin Desperrois in 1517.⁴¹ The appearance of this original flèche is recorded in a sixteenth-century cork model (fig. 10-16). Although too small and too simple to qualify as a great spire in the sense defined in this book, this spire played a prominent role in the overall formal organization of Saint-Maclou. Because the church is so compact, the crossing tower and spire serve, from all angles, as the visual climax of the building. Even the west facade depends for its effect on the presence of the spire behind, which focuses the striving lines of its steeply-pitched flying buttresses and gables. Although not fully

⁴¹ Jean Lafond, "La Prétendue maquette de l'église Saint-Maclou de Rouen," *Gazette des Beaux-Arts*, ser. 6, 83 (February 1974): 65-74. See also Bischoff, "Maquettes," in *Recht, Bâtisseurs*, 286-88.



10-17 Caudebec-en-Caux, tower and spire.

realized until Desperrois completed his spire in the sixteenth century, this relationship was probably foreseen by Pierre Robin, the gifted architect who drew up the plans for Saint-Maclou in the 1430s.⁴²

Caudebec-en-Caux

When Grégoire developed his Neo-Gothic design for the present stone spire of Saint-Maclou, he carefully studied the spire of Caudebec-en-Caux, perhaps the most complex spire actually built in Normandy in the Late Gothic period (fig. 10-17). The Caudebec spire cone, a densely textured openwork structure, rises out of an armature of decorative flying buttresses at its base. The tower it surmounts, which abuts the south aisle of the present Late Gothic church of Notre-Dame, was built in the 1380s, several decades before the rest of the church was begun. The spire itself, however, dates from the first decades of the sixteenth century.

The openwork construction of the Caudebec spire suggests that its designer may have been familiar with the achievements of spire builders in eastern France and the German world. In this connection, it is particularly tantalizing that the Caudebec spire

includes two collars of fleurs de lys similar to the single one seen at Notre-Dame de L'Épine. The Caudebec spire conveys a far different aesthetic impression than its eastern cousins, however, in part because the tracery lattice of its spire cone is so much denser, incorporating many small

⁴² On the originality and impact of Pierre Robin's work, see Linda Neagley, *Disciplined Exuberance: The Parish Church of Saint-Maclou and Late Gothic Architecture in Rouen* (University Park, Md., 1998).

triangular panels in mesh pattern unseen in the east. Its round-tipped silhouette, also, differs dramatically from the sharper forms typical of eastern spires. The flying buttresses at its base, finally, have little in common with the more slender buttress pinnacles seen at Metz and Notre-Dame de l'Épine. On these bases, it seems that the Caudebec designer's debt to eastern prototypes was rather limited. Given the fame of great spires like those of Strasbourg and Vienna, which enjoyed international reputations even in the fifteenth century, it would have been surprising if the Caudebec designer developed his spire scheme without some awareness of the eastern openwork tradition. Normandy, however, had already produced perforated spires in the early fourteenth century, as at Saint-Pierre in Caen, and this indigenous tradition may have informed the Caudebec designer and his patrons. With its round collars of fleurs de lys, moreover, the Caudebec spire vaguely recalls both a papal tiara and the crownlike termination of Saint-Ouen's crossing tower. Altogether, therefore, the Caudebec spire design incorporates a complex and subtle mixture of design influences.⁴³

Other Norman and Breton Projects

Rouen and Caudebec were by no means the only cities in Normandy to plan ambitious tower and spire projects in the decades following the end of the Hundred Years War. In Verneuil, the massive southern tower of the church of La Madeleine was capped in the first quarter of the sixteenth century with an elaborate openwork crown similar to the crossing tower termination of Saint-Ouen in Rouen.⁴⁴ In Évreux, a wooden flèche and large masonry lantern tower were added over the crossing of the cathedral, which had fallen into disrepair by the early fifteenth century. A series of papal indulgences and royal tax exemptions beginning in the 1450s made this new construction possible. In 1451 Master Jehan le Roy began to strengthen the piers of the crossing as a first step in the construction of the lantern tower. The cathedral's financial situation improved especially thanks to grants from King Louis XI, who had appointed his friend Jean Balue as bishop in 1464.⁴⁵ Reconstruction of the crossing tower began the very next year. By the end of the Middle Ages, the transept and choir of the cathedral would be substantially rebuilt, along with the crossing tower.

⁴³ Bottineau-Fuchs, *Haute-Normandie gothique*, 113-20.

⁴⁴ Bottineau-Fuchs, *Haute-Normandie gothique*, 377-78. Bottineau-Fuchs also notes that the Caudebec scheme was emulated with varying degrees of fidelity at Norville, Saint-Maurice d'Étalan, Apperville-Annebaut, and Beaumont-le-Roger (*ibid.*, 43).

⁴⁵ See Georges Bonnenfant, *La Cathédrale d'Évreux*, (Paris, 1929), 18. See also Bottineau-Fuchs, *Haute-Normandie gothique*, 170-71.



10-18 Évreux Cathedral, crossing tower and spire.

With its octagonal plan, the Évreux lantern tower resembles the thirteenth-century lantern of Coutances more than its square-planned contemporaries in Rouen (fig. 10-18). The flèche atop the lantern, however, represents an interesting synthesis of up-to-date influences. Completed in 1475, it somewhat resembles the 1460 version of the Sainte-Chapelle's flèche.⁴⁶ Eight decorative flying buttresses around its base provide a measure of visual transition between the lantern and flèche zones. The Évreux flèche also vaguely recalls the openwork spires of Germany in its lacy-ness, although it was constructed of lead-sheathed wood rather than stone. The connections to the German tradition are by no means as obvious as in the case of Metz, but it seems plausible that reports of the openwork achievement had penetrated to Évreux by this point, as they evidently did a few decades later at Caudebec-en-Caux.

Perhaps inspired by the example of Évreux, bishop Geoffrey Herbert of Coutances in 1479 proposed to construct a great stone spire over the superb crossing lantern of his cathedral.⁴⁷ The Coutances chapter was not taken with the idea,

however, and it was decided to spend the money for the project on the reconstruction of the local church of Saint-Pierre instead. Their prudence

⁴⁶ This comparison must be interpreted cautiously, because both flèches were reconstructed in the 19th century. See Jules Fossey, *Monographie de la cathédrale d'Évreux* (Évreux, 1878), 72-73, 120.

⁴⁷ See Patrice Colmet Daage, *La Cathédrale de Coutances* (Paris, 1933), 12.

may have been well advised, since the extra weight of such a spire would have placed great stress on the cathedral's crossing piers.

The challenges of crossing tower design are further dramatized by the case of Bayeux Cathedral, where papal indulgences and large grant from the bishop in 1477 had permitted the construction of a single octagonal tower story above the boxlike tower base inherited from the thirteenth century.⁴⁸ Because of concern about the strength of the crossing piers, however, a shallow wooden dome rather than a conventional spire was built. This dome had fallen into ruin by the seventeenth century, making way for the present termination, which was constructed only in the nineteenth century, following the complete rebuilding of the crossing piers.⁴⁹

A number of spire projects were completed in fifteenth-century Brittany, notably at the cathedral of Saint-Pol-de-Léon and at the church of Saint-Croix in Quimper. The latter provided the model for the twin western spires of Quimper Cathedral which were finally completed in the nineteenth century.⁵⁰ Despite their late date, they represent much the same stage of spire design as the thirteenth-century spires of Saint-Étienne and Saint-Pierre in Caen.

Engagements with the High Gothic Past

A more creative engagement with past traditions of spire and facade design took place in French cities where great thirteenth-century cathedrals remained incomplete at the end of the Hundred Years War. This may be seen not only at Metz, Toul, Rouen, and Évreux, as discussed above, but also at Tours, Reims, Chartres, and Beauvais. Although many of these projects remain unrealized even today, the scale and ambition of these Flamboyant initiatives lived up to the standard set by the High Gothic and Rayonnant campaigns.⁵¹

At the cathedral of Tours, a switch from Gothic to Renaissance design obscures the tower and spire planning of an ambitious Flamboyant west facade project. The basic structure of the Tours facade had existed since the twelfth century, but it was decided in the 1430s to clad it in new and sumptuous garb (fig. 10-19). The overall design of the new facade recalls Reims with large, steep gables, glazed tympana, and rich detailing. The four principal buttresses are treated as clusters of pinnacled niches, giving

⁴⁸ Vallery-Radot, *La cathédrale de Bayeux*, 18-20.

⁴⁹ See Eucher Deslandes, *Étude sur l'église de Bayeux* (Caen, 1917), 59.

⁵⁰ See Alexandre Masseron, *Quimper* (Paris, 1928), 41-42.

⁵¹ Wilson notes, however, that the aesthetic results were not always so impressive because "the residually Romanesque conventions perpetuated in French High Gothic and Rayonnant facade design . . . gave no scope for Flamboyant elisions but all too much scope for disjunctions" (*Gothic Cathedral*, 252).



10-19 Tours Cathedral, west facade.

the facade a strong vertical emphasis. As Sanfaçon points out, the facade appears more restless than a traditional Rayonnant composition because it is broken by no continuous horizontals.⁵² The proportions and articulation scheme of the Tours facade suggest that spires rather than square-topped towers may have been foreseen by the first designer, Jean de Dammartin. In the 1490s, however, the original plans were altered by Pierre de Valence, who completed a Renaissance-style cupola at the summit of the north tower in 1507. The matching south cupola was built between 1534 and 1547.⁵³

Reims

While the examples of Tours and Rouen demonstrate the growing influence of Renaissance design in France in the years after 1500, the power of Gothic tradition remained surprisingly strong at the cathedrals of Reims, Chartres, and Beauvais. At Reims, the thirteenth century vision of the cathedral continued to dominate planning even in the sixteenth century. The west facade had reached only the level of the rose window by 1300, and work had gone forward only slowly in the early years of the Hundred Years War. In 1407, however, Charles VI took notice of the project and granted the chapter quarrying rights "à la perfection des tours et aultres parties dicelle."⁵⁴ When Jeanne d'Arc stood by Charles VII at his coronation in 1429, scaffolding must have been rising for the western towers. By 1445 the south tower was ready for use. The construction of the north tower evidently dragged, because roofing of the area between the towers did not occur until 1476.⁵⁵

⁵² Sanfaçon, *L'Architecture flamboyane*, 75.

⁵³ See Francis Salet, *La Cathédrale de Tours* (Paris, 1949), 14-15.

⁵⁴ Reinhardt, *Cathédrale de Reims*, 207.

⁵⁵ Reinhardt, *Cathédrale de Reims*, 207.

Despite their late date, these towers seem to follow the original thirteenth-century design both in their overall form and in the articulation of their details. The corner turrets of the towers vaguely recall those deployed at Strasbourg by Ulrich von Ensingen, but they are engaged with the octagonal tower core rather than standing free, revealing their close dependence on the thirteenth-century towers of Laon Cathedral and Saint-Nicaise in Reims.

The towers of Reims Cathedral were definitely meant to carry stone spires. Although never completed, their octagonal bases may be seen in aerial views of the building, as can the bases of the pinnacles atop the corner turrets. The simple tapering form of these bases confirms the close relationship between the cathedral's spire project and the thirteenth-century spire forms of Saint-Nicaise which appear to have served as their model. Despite the history of competition between the two churches as institutions, there had been an active exchange of ideas between the two workshops. The spires of Saint-Nicaise had been impressive in their day, but by the standards of fifteenth-century spire design they were primitive. In this context, the conservative character of Reims cathedral's anticipated western spires emerges strikingly.

The conservatism of the Reims Cathedral workshop seems to have arisen from an unusually strong commitment to treating the building as an organic whole. This consistency manifests itself in the harmonious unity of the interior and in the use of angel-bearing tabernacles on each of the major exterior buttresses, forming an unbroken belt that wraps around the whole church. The pinnacles of the facade differ slightly from those built some fifty years earlier on the transept, but the continuity of intention is striking.⁵⁶ In a similar vein, the treatment of the western towers and spires was evidently meant to harmonize with the traditional Rayonnant character of the rest of the facade. The relatively low cost of simple pyramidal spires surely reinforced this allegiance to traditional forms.⁵⁷

A fire in 1481 destroyed the cathedral's roof, necessitating expensive repairs and derailing the progress of the spire project. Despite this setback, the chapter remained committed to the idea of spires. The roof was reconstructed with a small wooden *flèche* at its eastern end, first recorded in 1492. In 1494 the chapter approved construction of massive stone strainer arches over the cathedral's crossing, which were designed to support a

⁵⁶ Robert Mark has noted a structural rationale for these changes. See Robert Mark, *Light, Wind, and Structure: The Mystery of the Master Builders* (Cambridge, Mass., 1990), 118-23.

⁵⁷ In all these respects, the case of Reims parallels that of Cologne, where simple vaulting forms were used even in the late 15th century. See Wolff, "Kölner Dombau in der Spätgotik."



10-20 Reims Cathedral, strainer arches over crossing, exposed after bombardments of World War I.

colossal crossing spire (fig. 10-20). The proceedings of the chapter from 1506 reflect the desire to complete not only the central spire, but also the four towers of the transept terminals.⁵⁸ Evidently the seven-spined profile of the thirteenth-century design retained its appeal even in the sixteenth century, testimony to the continuity of purpose of the Reims workshop.

Although no drawings of these unrealized spires survive, a textual description of the central spire proposed in 1506 demonstrates that something far more elaborate than a simple pyramidal spire was intended. The square portion of the

tower was to rise nearly thirty meters above the crest of the roof, with perimeter circulation galleries at two levels. Four large buttresses at its corners would terminate into pinnacles carrying flying buttresses connecting it to the belfry above. This level was presumably meant to be octagonal since it was to have been surrounded by eight pinnacled buttresses. Finally, there was to be a spire cone some seventy meters tall, surrounded by eight more pinnacles from which flying buttresses would leap across to an observation deck at the spire apex. The total height of the structure, Hans Reinhardt estimates, would have been roughly 170 meters, comparable to the Mechelen and Leuven projects.⁵⁹ This description could be applied almost verbatim to the single-spire design for Regensburg cathedral, although the German master prudently planned his spire for an axial location where it could receive adequate structural support. Constructing such a great spire over the crossing of a French-style cathedral could be a dangerous proposition, as the case of Beauvais would later demonstrate.

In the end, the Reims project came to nothing, and the strainer arches over the crossing remain its most tangible legacy. To many, the cathedral with its new western towers must have appeared finished, and support for such an expensive, risky, and liturgically useless building campaign seems

⁵⁸ Reinhardt, *Cathédrale de Reims*, 208-9.

⁵⁹ Reinhardt, *Cathédrale de Reims*, 209.

to have evaporated fairly quickly. Nevertheless, the project deserves mention as the final flirtation with the many-spired silhouette popular in the years around 1200.

Chartres

A more modest but ultimately more successful spire construction campaign was undertaken at Chartres, where Jean Texier designed a superb stone spire to crown the north tower of the cathedral's west facade. This elegant structure, which replaced a fourteenth-century timber flèche that had been destroyed by lightning in 1506, is surely the most familiar late Gothic spire in France. Together with the venerable south tower and spire, it gives the facade its famous asymmetrical form. The spires of Chartres are perhaps the finest French spires of their respective eras, and a comparison between the two speaks volumes about the changes in spire design between the twelfth and sixteenth centuries. Where the south spire appears simple, concise, and robust, the north spire appears complex, elaborate, and fragile. Its narrow spire cone rises out of a thicket of flying buttresses and pinnacles, producing a notched silhouette very unlike that of the far more streamlined south spire. The north spire, moreover, reaches a greater total height, because it stands atop a square tower story that raises its base above the body of the church.

Despite these obvious contrasts, which give the Chartres facade its characteristic asymmetry, Texier was careful to honor the work of his twelfth-century predecessor. His north spire design sensitively incorporates many formal themes seen in the south spire. In both cases, the spire cone joins the square tower through a relatively short transitional zone, without a tall octagonal tower core of the Laon-Freiburg-Reims type. The surface of the north spire, like that of the south, is textured with diaper work of stone scales. The uppermost square story of the north tower, moreover, resembles that of the south tower in having only one window in each face, so that the structure as a whole has a very different rhythm of light and shade than contemporary Rouenais towers such as the Tour de Beurre.

Texier's achievement in building a stone spire both taller and more complex than the south spire deserves particular note because the north tower on which he had to build was never designed to carry such a load. When the north tower was begun early in the twelfth century, only a lightweight timber termination appears to have been foreseen. For this reason, the buttresses of the north tower taper away by the top of the second tower story, leaving only a fairly thin lip of masonry to support the structures above. As noted in Chapter 4, the upper portions of the tower



10-21 Chartres Cathedral, north spire.

of Brabantine inspiration. The spire cone itself is rotated half a turn and an openwork spiral staircase rises along the tower's east face. Although the twelfth-century south spire of Chartres has impressed recent critics with its purity of line, in Texier's day such simplicity would have betrayed a want

were reinforced in the thirteenth and fourteenth centuries. Unfortunately, the history of the tower cannot be traced with precision until the 1380s, a decade that witnessed the construction of a new and elaborate timber *flèche*.⁶⁰ This was the impressive but fragile structure destroyed in the 1506 lightning strike. When Texier set about designing his stone replacement for this *flèche*, he must have given considerable thought to weight-saving strategies. The slender proportions of Texier's spire, for example, allowed him exceed the height of the south tower while using a comparatively small amount of stone.

The spire format chosen by Texier had formal and symbolic as well as structural advantages. By treating his spire as a narrow needle rising out of a thicket of flying buttresses at its base, Texier was able to show off his virtuoso command of three-dimensional geometry and up-to-date decorative detailing (fig. 10-21). The north spire base, a dense zone of formal elaboration, includes balustrades, two tiers of countercurved flying buttresses, and double-cusped ogee arches perhaps

⁶⁰ On the 14th-century documentary records for the Chartres workshop, see Maurice Jusselin, "La Maîtrise de l'oeuvre à Notre-Dame de Chartres: La Fabrique, les ouvriers, et les travaux du XIVe siècle," *Mémoires de la Société Archéologique d'Eure-et-Loir* 15 (1915-22 [1922]): 233-347, esp. 334-41. See also Hoyer, *Notre-Dame de Chartres*, 24-28.

of artistic imagination. After centuries in which narrow timber flèches had dominated French spire production, moreover, Texier's choice of a slender spire format was unsurprising.

Texier's design, with the narrow spire cone rising out of a complex armature of flying buttresses, recalled the form of contemporary French micro-architectural canopies. Such miniature canopies figured prominently in the articulation of many French Late Gothic buildings and their furnishings. In Albi, for example, dramatic spirelike canopies cover the statues of the saints in the elaborate choir screen (fig. 10-22). The proliferation of such pinnacled canopies doubtless goaded French Late Gothic designers like Texier to conceive of complex spires as overgrown micro-architectural canopies. In Texier's case, the resonance between large-scale and small-scale design was particularly strong; soon after completing the north spire of



10-22 Albi Cathedral, statue canopy on choir screen.

Chartres Cathedral, he began work on the cathedral's elaborate choir screen, which incorporates spire-like canopies at each major bay division (fig. 10-23).⁶¹ Texier's work, therefore, reaffirmed the resonance between tower and shrine design that had informed medieval builders ever since the Carolingian period. Like the anonymous designer of Strasbourg Plan B, and like Peter Prachatzitz at Vienna, Texier evidently chose to launch a narrow spire out of an elaborate base in part to keep pace with the development of pinnacles and micro-architectural tabernacles. At Chartres, therefore, one can trace both the origin of the pinnacled shrine in the

⁶¹ The statue canopies of the choir screen closely resemble the north spire, especially in the straight bays that were the first to be carved. See Étienne Houbert, *La Cathédrale de Chartres: Le Tour du choer de la cathédrale de Chartres, XVIe au XVIIIe siècle* (Chelles [S.-et-M.], 1919).



10-23 Chartres Cathedral, choir screen.

twelfth-century south tower, and one of the final stages in the Late Gothic reception of shrine design back into the ambit of full-scale architecture.

Texier was unusually fortunate in being able to construct such a large and elaborate stone spire. The construction of a new spire must have been a high priority for the clergy of Chartres Cathedral when the previous north spire was destroyed by the 1506 lightning strike. Unlike Roland le Roux, who tried in vain to interest the Rouen Cathedral chapter in his spire-

building initiatives, Texier was hired explicitly to replace this north spire.⁶² The Chartres spire project also benefitted from royal support. The Chartres clergy had enjoyed close relations with the French crown ever since the thirteenth century, and these bonds were re-established after the expulsion of the English at the end of the Hundred Years War. Royal visits to Chartres were frequent during the episcopate of Miles d'Illiers, a former ambassador for Charles VII who served as bishop of Chartres from 1459 to 1493.⁶³ Miles was succeeded as bishop by his son René d'Illiers, whose close connections with the crown greatly aided reconstruction of the north tower.⁶⁴ Royal donations from Louis XII and royally sponsored grants gave Jean Texier the rare opportunity to complete a great Flamboyant spire, confirming the close affinity between spire design and micro-architecture only hinted at by the incomplete form of Rouen's Tour de Beurre.⁶⁵ It therefore represents one of the most sophisticated French responses to the challenges of Late Gothic spire design. With a height of 113 meters, moreover, it is the tallest surviving spire constructed in medieval France.⁶⁶

⁶² Texier was apparently called to Chartres from Vendôme. See Gabriel Plat, *L'Église de la Trinité de Vendôme* (Paris, 1934), 38.

⁶³ La Baronne de Chabannes, *Histoire de Notre-Dame de Chartres*, 2nd ed. (Nogent-le-Rotrou, 1873), 68-73.

⁶⁴ More precisely, the king gave 400 pounds per year for five years. See Vincent Sablon, *Histoire de l'auguste et vénérable église de Chartres* (Chartres, 1865), 26.

⁶⁵ Texier received between six and seven sous per day, and his assistants five. See Sablon, *Histoire de Chartres*, 26. By comparison, Murray notes that Martin Chambiges was retained at Troyes in 1509 "at the very high wage of forty sous a week" (Murray, *Building Troyes*, 91). In other words, Texier and Chambiges were paid at a similarly high level.

⁶⁶ Strasbourg's spire is considerably taller at 142 meters, but the work of Johannes Hultz hardly belongs to the French sphere.

Beauvais

The sixteenth century witnessed the construction of two now-destroyed spires that exceeded the height of the Chartres north spire. The timber crossing spire of Rouen Cathedral, built in the 1540s, embodied a new approach to design, in which the horizontality and classical detailing of the Renaissance collided with the residually Gothic verticality of the overall spire form. The crossing spire of Beauvais Cathedral, although built two decades later, appeared more whole-heartedly Gothic. Indeed, the crossing spire of Beauvais Cathedral should probably be seen as the last major spire completed as a product of living Gothic tradition.

Because of its late date and its collapse after just four years, the Beauvais spire has received little positive notice from scholars of Gothic architecture. While the collapse of the Beauvais Cathedral choir in the thirteenth century has provoked serious scholarly inquiry as well as facile moralizing about building "too high," the spire project has provoked mostly the latter comment, with few serious attempts to understand the design on its own terms. This is regrettable, because the Beauvais project represented the union of all the major traditions of French spire design: the timber *flèche*, the crossing tower, and the tabernacle-like great spire. The spire's construction, moreover, should not be written off simply as an example of Late Gothic decadence and foolhardiness, since a major tower project appears to have been foreseen at Beauvais from the very earliest days of the Gothic rebuilding program.

As Stephen Murray has shown, the first parts of the cathedral to be constructed were the lower stories of the transept towers, dating from the late 1220s.⁶⁷ Evidently the transept terminals were originally planned as two-tower facades, following the example of Laon, Chartres, and Reims cathedrals. As noted in Chapter 4, none of these multi-tower complexes was completed, but there is little doubt that a great central tower was envisioned in each case. One imagines, therefore, that a crossing spire of some kind was originally planned as the climax of the tower ensemble of Beauvais cathedral. Such a format would also accord well with the pyramidal arrangement of interior spaces, which strongly emphasizes the square bay of the crossing.

As was so often the case in episcopally-sponsored French High Gothic cathedral projects, construction proceeded more rapidly on the church vessel than on the towers. At Beauvais, the second building campaign identified by Murray involved construction of the choir aisles and radiating chapels, while the third saw the completion of the upper choir in 1272 as the

⁶⁷ Murray, *Beauvais*, 62-71.

highest church vessel in the world. By this point the vision of towered transepts may well have been abandoned, since the height of the enlarged main vessel relative to the width of the original tower bases would have produced a transept facade of bizarrely attenuated proportions. Whatever plans for tower construction may have been entertained in this period came to nothing, of course, because of the collapse of the choir in 1284 and the expenses of the subsequent reconstruction which occupied the first half of the fourteenth century.⁶⁸

Construction did not resume until the sixteenth century, in large part because of the chaos of the Hundred Years War and related disturbances.⁶⁹ Occupied by the English in the early fifteenth century, Beauvais was besieged by the Burgundians in the 1470s. A contested episcopal election deprived Beauvais of a bishop, and the chapter of episcopal revenue between 1488 and 1497. It was not until 1500 that the Parisian master Martin Chambiges was engaged to construct the cathedral's transept, even though it had been observed already in 1484 that the isolated choir appeared dangerously unstable.

Martin Chambiges enjoyed a favorable reputation because of his mixture of artistic and technical aptitude.⁷⁰ Both qualities are evident in his design for the Beauvais transept, which involved several major departures from the thirteenth-century vision. First, Chambiges abandoned the idea of fully towered transept facades, opting instead to apply the stair-turret motif he had first explored at Sens. As noted above, the scale of the Beauvais vessel relative to the tower bases would have resulted in awkwardly proportioned transept towers. More importantly, perhaps, towered transept facades would effectively demand a large crossing spire as a visual climax. Chambiges may well have worried, with good reason as it turned out, that the tall and slender piers of the crossing were ill-suited to carry a large spire. There is no evidence that Chambiges ever designed a crossing spire at any of the many buildings where he worked.

This is not to say, however, that Chambiges was satisfied with towerless buildings, or that his patrons at Beauvais were content to leave their enormous church bereft of a suitably grandiose crowning element. Although Chambiges was rightly concerned about the structural integrity of the crossing and transept, the design of the transept suggests that he may

⁶⁸ It might be argued that the idea of transept towers was already abandoned by the late 13th century, based on the example of Amiens and Cologne cathedrals. As noted above, however, the towerless transepts of these buildings represented a separate tradition from the Laon-Reims-Chartres type, which evidently retained its appeal into the Late Gothic era at Reims, at least.

⁶⁹ Murray, *Beauvais*, 124-27.

⁷⁰ Murray, *Beauvais*, 131.

well have been planning to construct an enormous two-tower west facade at Beauvais, whose monumentality would compensate for the relatively diminished status of the crossing zone. Crucial evidence for this assertion comes from four arches in the western wall of the transept, which indicate that the nave was to have had twin aisles of equal height, as at Cologne Cathedral. By abandoning the visually exciting but structurally troublesome staggered arrangement of the choir aisles,⁷¹ Chambiges effectively de-emphasized the central space of the crossing and surrounding aisles, whose pyramidal form had been a striking feature of the thirteenth-century design. In a sense, therefore, the reduction of the inner aisle height on the interior corresponded to the truncation of the transept towers on the exterior. It set the stage, however, for the construction of a truly colossal west facade block.

The twin-aisle format co-existed easily with ambitious facade projects, as the example of Cologne's Plan F demonstrates. The enormous towers of Cologne were based on those of Notre-Dame in Paris; in both cases the towers cover a two-by-two grid of aisle bays. Chambiges had designed a colossal west facade block of comparable mass for the cathedral of Troyes, another building where the five-aisle format demanded an imposing frontispiece.⁷² It thus appears likely that Chambiges was preparing the way for a similar and even larger project at Beauvais Cathedral, the building to which he dedicated the last decades of his career.⁷³

Establishing the west facade rather than the crossing as the center of visual interest would have appealed to Chambiges for aesthetic and technical reasons. As a practitioner of "Super-Gothic," Chambiges combined lavish exterior detailing with massive construction that insured structural integrity.⁷⁴ If the Beauvais chapter was eager to crown their cathedral with a great tower, as later events suggest, Chambiges would surely have seen it as more prudent to construct a new western facade block in this heavy manner, rather than relying on the necessarily lighter and airier structures of the transept and crossing. With his richly sculptural style, moreover, Chambiges must have relished the thought of designing a

⁷¹ Murray notes repairs to the south aisle to deal with bending in the columns induced by the unbalanced thrusts of the lower aisles (*Beauvais*, 118).

⁷² The Troyes facade does not correspond to the aisles in the canonical way because of exigencies of the construction process. See Murray, *Building Troyes*, 99.

⁷³ Viollet-le-Duc proposed this in his plan of Beauvais cathedral; see "Cathédrale," in *Dictionnaire*, 2: 334. The fact that Chambiges stayed in Beauvais despite inducements from the Troyes chapter suggests that he was more excited about the architectural possibilities in Beauvais. The opportunity to design a monumental five-aisle facade block from scratch, without the complications of previous structures such as the old tower at Troyes, may have been a factor in his deciding to stay in Beauvais.

⁷⁴ Murray, *Building Troyes*, 112.

great facade block whose monumentality would live up to the promise of the great choir vessel more completely than the narrow transept frontals ever could.⁷⁵

While the original thirteenth-century design for Beauvais cathedral embodied a pyramidal massing like that of Limburg an der Lahn, Chambiges evidently preferred the more concise outlines of a building with two great western towers. In the absence of documents attesting to his long-term vision, the question must remain open whether he intended to build spires--giving Beauvais the silhouette of Cologne's Plan F or the recently completed Chartres Cathedral--or whether he simply planned to build square-topped towers like overgrown versions of those at Notre-Dame in Paris.⁷⁶ Chambiges, however, must have promised his patrons something extraordinary to compensate for the relative diminution of the transept and crossing area.

The fact that a crossing spire was built at Beauvais in the late sixteenth century appears to reflect not the intentions of Martin Chambiges, but, on the contrary, impatience at the slow pace with which his vision was being realized.⁷⁷ Upon his death in 1532, the transept stood to only half its intended height, and work on the nave had not substantively begun. A great western facade block of the Chambiges type would take decades to construct even under the best of circumstances, and the patrons of the church were evidently eager to broadcast their status with a great tower sooner rather than later. In 1534, only two years after the death of Chambiges, Bishop Charles of Villiers donated several hundred pounds to the construction of a crossing tower. Because the transept clearly had to be completed before work could begin on the tower, the project unfolded for the most part during the episcopate of Odet de Coligny, which lasted from 1535 to 1569.

The perceived need for a great spire at Beauvais stemmed from several factors. On the most basic level, the cathedral still needed a place to hang

⁷⁵ Chambiges was constrained in the design of the transept frontals by the 13th-century structure. Moreover, cash flow problems in the years around 1508 forced him to simplify the forms on the less exposed north face of the transept. Even the earlier south transept had not provided Chambiges with the opportunity to indulge his sculptural style with full freedom. Murray, *Beauvais*, 129-30.

⁷⁶ Similarities between the micro-architectural pinnacles designed by Chambiges and Texier suggest that a full-scale spire designed by Chambiges might resemble the north spire of Chartres. If square towers were intended for Troyes and Beauvais, they might have looked like the tower of Saint-Jacques-de-la-Boucherie in Paris, as Murray suggests. See Murray, *Building Troyes*, 103.

⁷⁷ Murray notes that Beauvais was troubled by food shortages and related riots in the 1520s, but the implications for the rate of cathedral construction are not clear. Murray, *Beauvais*, 144.

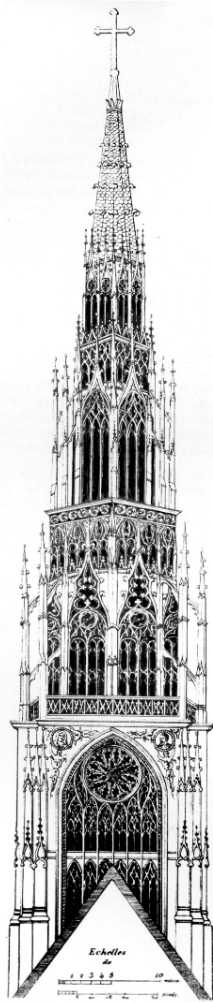
its bells.⁷⁸ More important, surely, was the desire to give the cathedral visual dominance over the surrounding landscape, a tall order given its location in a basin that swallowed even the enormous choir. The most important factor of all, however, appears to have been competition with other major architectural projects. The colossal spires of Brabant were under construction in the early sixteenth century; as discussed below, a number of features of the Beauvais spire appear to betray Brabantine influence. The crossing spires of England may have become known in northern France during the English occupation. By building a great spire over a crossing lantern the patrons of the Beauvais project may have intended to beat the English at their own game. The most important rivals for the Beauvais spire, however, were probably within France itself. The north spire of Chartres had established a new level of excellence in French spire design. Elegant crossing spires had been constructed at Évreux and at Saint-Maclou in Rouen, and a new flèche had been added to the crossing of Amiens cathedral in the 1530s.⁷⁹ Most immediately, the enormous timber crossing spire of Rouen Cathedral was completed in 1544. These spires provided the competitive context for the Beauvais project.

Because of its late date, the history of the Beauvais spire can be traced with reasonable specificity. As Murray reports, "In January 1543 an expertise was conducted in order to determine whether the tower should be constructed in wood or stone. In March 1546 masons and carpenters submitted models for alternative projects in masonry or wood. In the following month experts examined the four great crossing piers in order to determine whether the foundations were strong enough to support a stone pyramid."⁸⁰ This report sheds valuable light on the relationship between the two media in French Late Gothic spire design. In Germany, stone spires had been de rigueur in all the projects of greatest artistic sophistication since the completion of Freiburg in the mid-fourteenth century, although timber was used in simpler but equally large spires like those of Lübeck. In France, the division between types was evidently not so strict. The earliest French Gothic spires had been constructed of stone, but timber flèches had been the dominant spire type in France since the beginning of the Hundred Years War. When large-scale spire construction in France resumed in the late fifteenth century, timber and stone were often used together, as at Rouen, Évreux, and Beauvais. As the Beauvais expertise suggests, timber was considered an acceptable medium for great

⁷⁸ Murray, *Beauvais*, 143.

⁷⁹ The Amiens flèche is the oldest extant example of the type. For a brief discussion of its structural system, see Mark, *Architectural Technology*, 220-23.

⁸⁰ Murray, *Beauvais*, 144-45.



10-24 Beauvais Cathedral, crossing spire, after Woillez.

spire construction if financial or structural constraints made the use of stone impractical. Ultimately, the Beauvais spire was designed to have three stories of stone, forming a lantern and belfry, surmounted by a timber flèche.

Following the completion of the transept vaults in 1550, attention turned to the construction of the crossing spire, which was directed by Jean Vast based on a model sent from Paris in 1563.⁸¹ The pace of work was impressive: the spire was structurally complete by 1566 at the latest, and the decoration and weatherproofing was finished by 1569. Upon its completion, the Beauvais spire was one of the tallest structures in Europe, rivaling and perhaps even eclipsing the spire of Strasbourg.⁸²

The spire of Beauvais was not simply large; it was the last and arguably the greatest work of French Gothic spire design. Surviving visual documents, including a drawing in the cathedral treasury published in the nineteenth century by E. Woillez, suggest that the spire synthesized a variety of influences in a conception of great audacity (fig. 10-24). The Beauvais spire went beyond the north spire of Chartres, for example, in incorporating not only a slender flèche and a series of octagonal stories flanked by flying buttresses in the most ambitious great spire manner, but also a square crossing lantern like those of the churches of Rouen. In this sense, the Beauvais spire can be read as a summa of French Late Gothic spire design.

To say that the details of the Beauvais spire design have not been widely appreciated would be an understatement. Even Murray, who

⁸¹ The names of many of the artists responsible for building and decorating the spire have been preserved (Murray, *Beauvais*, 145).

⁸² Unfortunately, confusion still prevails about how high the Beauvais spire actually was. Murray provides the lowest figure I have seen, 438 feet from floor to summit (*Beauvais*, 145). Bonnet-Laborderie gives 150 meters, or 492 feet, which appears to square better with the drawing by Woillez (Philippe Bonnet-Laborderie, *Cathédrale Saint-Pierre: Histoire et architecture* (Beauvais, 1978), 72).

lovingly describes the Late Gothic vocabulary of Martin Chambiges, dismisses the spire relatively quickly in his monograph on Beauvais, noting that it "must have had the rather flimsy and theatrical appearance of an eighteenth-century Gothic folly," and that its details "are in the transitional style characteristic of the last gasp of Gothic."⁸³ In fact, the Beauvais design shows few signs of making a transition to Renaissance detailing.⁸⁴ Its allegiance to the Gothic vocabulary emerges strikingly by comparison to the timber spire of Rouen cathedral which had been constructed with full-blown Renaissance detailing some twenty years earlier.

Although the designers of the Beauvais spire appear to have had little interest in the Renaissance manner, they clearly hoped to update their approach to Gothic design with influences from Brabant, the most active center of sixteenth-century Gothic tower design. The octagonal levels of the Beauvais spire were rotated 22.5 degrees with respect to the square tower below; such alignments had been common in Brabant at least since the mid-fifteenth century. The junction between square and octagonal stories at Beauvais, for example, recalls the north tower of Notre-Dame in Antwerp.

Reference to Brabantine prototypes may also explain one of the most bizarre features of the Woillez drawing: its apparent insistence that the upper stories of the Beauvais spire were not octagons in plan but rotated squares. Fourfold symmetry manifests itself in the upper levels of the Antwerp spire, as well as in the Keldermanses' designs for the spires of Mechelen and Zierikzee. By the late sixteenth century conventions of perspectival rendering were fairly advanced even in France, so it is hard to dismiss the visual cues of the Beauvais drawing hinting at square plans in the upper stories of the tower. Most historians seem to assume, however, that all the upper stages were octagonal.⁸⁵

Although contact with Brabant helps to explain a number of unusual features seen in the Woillez drawing, the overall design remains characteristically French. Like the north spire of Chartres, the Beauvais spire represented an attempt to incorporate the traditional French flèche in the more ambitious realm of great spire construction, while the opening of a lantern at the base of the tower represents a nod to Norman prototypes. All the tracery patterns, furthermore, appear to have been developed out of the French Flamboyant vocabulary, Brabantine and Renaissance influence

⁸³ Murray, *Beauvais*, 145.

⁸⁴ The only classicizing elements are the medallions in the upper corners of the square-planned lantern story.

⁸⁵ See, for example, Murray, *Beauvais*, 145; and Bonnet-Laborderie, *Cathédrale Saint-Pierre*, 71.

being quite limited in this sphere. The Beauvais spire may even have been intended as the definitive statement of how a French Gothic designer would attack the centuries-old problem of great spire design. Despite its audacious scale and over-daring placement above the cathedral's crossing, the Beauvais spire was in many respects a profoundly conservative monument. The emphatically Gothic character of its articulation and overall form, conceived long after Renaissance architecture had become commonplace in France, suggests that it was intended to evoke an architectural heritage already seen with nostalgia at the time of its completion.

The Beauvais spire was destined to have only a short and troubled existence. Even during construction, problems arose: stones were becoming dislodged and the timber flèche required repairs. Scarcely two years after the spire's completion, the great iron crucifix had to be removed from its apex, evidently because its motion in the wind was warping and splintering the timbers.⁸⁶ Soon it became apparent that the piers of the crossing were moving, prompting an expertise in 1572. On Ascension Day 1573, ironically, the crossing piers failed and the structure collapsed.⁸⁷

The collapse of the Beauvais spire only four years after its completion marked the end of the era of Gothic great spire construction. Two principal factors were responsible for this structural failure. First, there were the inevitable difficulties of constructing a great spire on the crossing of a church whose piers had not been explicitly designed to take the load. Those Gothic cathedrals with large central lanterns, in both England and Normandy, were considerably shorter than Beauvais, and their crossing piers were of sturdier proportions. Even so, substantial reinforcements were often necessary, blocking the vistas that opened up at the crossings of towerless buildings. From both the technical and aesthetic perspectives, therefore, it made sense to place great towers at the periphery of the church rather than at its center. This was the system adopted at the great churches of Cologne, Ulm, and Vienna, among other major German examples, and it appears to have been the vision towards which Martin Chambiges was also working at the time of his death. The Beauvais crossing tower project was developed in opposition to this format, thanks to the power of smaller

⁸⁶ Bonnet-Laborderie states that "en janvier 1571, on est obligé de retirer la grande croix de fer, qui se révèle trop lourde pour la charpente en bois de la flèche, soumise aux violents tourbillons de vents" (*Cathédrale Saint-Pierre*, 72). The six-meter high cross was probably more or less flat, and therefore would have been blown around much more than the comparably tall but considerably heavier stone Kreuzblume of Germanic spires. Also, of course, the wooden structure of the Beauvais spire was less rigid than the stone of other great French and German spires, making it more vulnerable to the motion of the cross. Murray notes that the cross was removed in January 1572, not 1571 (*Beauvais*, 146).

⁸⁷ The collapse has been dramatically described in both primary and secondary sources. See, for example, Murray, *Beauvais*, 147.

Franco-Norman prototypes and the impatience to complete a great spire without taking the time to construct an enormous facade block and its foundations.

Despite the difficulties inherent in the crossing spire scheme, the Beauvais spire might have stood if more of the cathedral's nave had been constructed. The western piers of the crossing, attached to only one bay, behaved differently than the eastern piers, which were attached to the more rigid structure of the choir. As visiting experts reported in 1572, pier deformation was greater to the west, while cracking was more noticeable near the top of the eastern piers. As the western piers deformed, the spire would have rotated westward about a hinge point near the top of the more rigidly held eastern piers. Local stresses would have been highest at this hinge point, resulting in the observed cracking. Ultimately, as Murray suggests, "the sequence of collapse was probably initiated by failure of the eastern crossing piers at this point."⁸⁸ The spire thus fell to the east, badly damaging the bays to the northeast of the choir especially.

Had more of the nave been completed before the crossing spire was constructed, the dangerous east-west asymmetry of the tower supports would have been much reduced.⁸⁹ This fact appears to have been appreciated by the experts who visited Beauvais in 1572, since they urged "rapid completion of the remaining piers (i.e. of the nave)."⁹⁰ Stone for the footings of these piers was ordered, but because this work would take many years, the consultants proposed as a stop-gap that the western crossing piers be reinforced by the construction of ashlar walls in arches of the one completed nave bay. Before this consolidation project could be implemented, however, the tower collapsed. Following repairs to the fabric, master Martin Candelot's half-hearted attempt to proceed with construction of the nave petered out miserably in the early seventeenth century.

Impatience was to blame for the disastrous history of the Beauvais spire project, in two senses. Impatience motivated the decision to build a crossing spire rather than waiting to construct a more solid western tower block of the Notre-Dame/Cologne type, as Martin Chambiges had evidently intended. Impatience also forced the construction of the crossing tower while only one bay of the nave was in place, creating an asymmetry

⁸⁸ Murray, *Beauvais*, 146-47. Murray's discussion of the collapse is generally excellent. He does not, however, explain that the cracking in the eastern piers may have been the indirect result of the deformation in the west, rather than an independent phenomenon.

⁸⁹ But not eliminated. The piers and supporting soil to the east of the crossing had been compressed for nearly 300 years before construction of the upper transept was begun, so they may have been stiffer than the newly constructed piers to the west.

⁹⁰ Murray, *Beauvais*, 146.

of support conditions that could only have worsened the already precarious stability of the structure.

It is tempting to imagine that the roots of this impatience lay in a correct perception on the part of the project's patrons that the days of the Gothic style were numbered. Patterns of patronage were changing, and Renaissance palaces increasingly displaced churches and cathedrals as the great monuments of the age.⁹¹ As a result, the Gothic workshop tradition began to lose its continuity. Murray has observed that there was a precipitous decline in the levels of masonic skill in Beauvais between 1500 and 1600, exemplified by the careers of Martin Chambiges, Jean Vast, and Martin Candelot.⁹² In this sense, patrons of ambitious Gothic building projects in sixteenth-century France really were in a race against time, and they may well have realized it. The essentially conservative character of the Beauvais spire, in both overall form and decoration, suggests self-conscious allegiance to the Gothic mode long after Renaissance design had become commonplace in France. The Beauvais spire was the last such structure to emerge from the living Gothic tradition; future great spire projects would be undertaken in a spirit of deliberate revival, as was the case especially in the nineteenth century.

⁹¹ This point is made, for example, by Fischer in his discussion of the Frankfurt tower project (*Spätgotische Kirchenbaukunst*, 50).

⁹² Murray, *Beauvais*, 149.