

PART V: SPIRES IN THE POSTMEDIEVAL WORLD

Chapter 11: Missing the Point? The Death and Afterlife of Great Spires

The post-medieval history of great spires and their reception falls, roughly speaking, into four distinct phases, which might be termed demise, sublimation, revival, and contemplation. By the end of the sixteenth century, virtually all the great spire projects in Europe had ground to a halt, as the artistic, cultural, and religious practices of the Middle Ages gave way to those of the early modern era. Crucial factors in this transformation include the spread of Italianate Renaissance classicism, the related rise of royal and courtly patronage, and the shock of the Reformation and its aftermath. In the period from roughly 1530 to 1800, therefore, the Gothic style was almost entirely forsaken. Significantly, however, church spires retained a certain degree of popularity, especially in countries such as Holland, England, and Germany where churches remained important as monuments of local and communal identity. Spire designers working in this period faced the difficult task of marshaling the classical architectural vocabulary to create striving vertical forms appropriate to this originally Gothic monument type. The Gothic Revival movement of the nineteenth century naturally fostered closer engagement with Gothic traditions of spire design, as the completion of major medieval spire projects like those of Cologne and Ulm attests. The archaeological rigor of these initiatives, however, was not matched by consistent scholarly objectivity, since Romanticism and nationalism played important roles in shaping the nineteenth-century view of the Middle Ages. Because the fragmentation of scholarship along national lines has endured far longer than the Gothic Revival movement itself, the overall history of the Gothic spire type has received surprisingly little systematic attention. Thus, while the casual contemplation of great Gothic spires has become a favored activity for tourists in many European cities, neither the social meaning of the medieval spire-building phenomenon nor its relevance for the modern world have been widely discussed.

Consideration of this post-medieval history proves helpful in attempting to understand great Gothic spires on their own terms, for two basic reasons. It is important to recognize, first of all, that post-medieval developments in history and historiography can act as filtering lenses, distorting the image of Gothic architecture as seen by the modern viewer. A clearer view of the real medieval situation becomes possible only when the action of these

filters is analyzed and appropriately counterbalanced. The changing post-medieval attitudes to spires deserve consideration, moreover, because these changes throw the original attitudes of Gothic builders and their patrons into high relief. The fact that spire construction tapered off dramatically in the very years when classicism, humanism, and nationalism were making dramatic inroads, for example, underlines the extent to which large-scale spire construction depended on the union of civic pride and public piety characteristic of the Gothic age. Since post-medieval history can serve both as a distorting filter and as a useful foil in studies of the Middle Ages, the present chapter briefly charts the successive phases of this history, setting the stage for a final analysis of the Gothic spire-building phenomenon and its legacy.

Demise

The waning of Gothic spire construction, and the demise of the Gothic architectural style more generally, coincided with a series of profound shifts in the prevailing western European attitudes towards God, man, and the universe. Indeed, the eclipse of the Gothic style makes sense only in the context of these revolutionary social and ideological upheavals. In purely artistic terms, Gothic architecture remained dynamic and vital in the decades around 1500. The spectacular achievements of Late Gothic builders, therefore, should not be written off as inherently “decadent” or “over-ripe,” as they often have been in the influential scholarly tradition exemplified by Johan Huizinga’s famous *Autumn of the Middle Ages*.¹ In Huizinga’s powerfully evocative book, Late Gothic architecture was treated as just one facet of a fully unified late medieval culture that had run its course. This argument depends on two problematic assumptions: first, that cultures are essentially monolithic; and second, that they wither and die of old age like individuals. A more realistic biological analogy would see cultural practices evolving like species interacting in a complex ecosystem. From that perspective, the demise of Gothic architecture can be seen as the result of a series of surprising changes in the cultural climate, changes that ultimately favored the spread of neo-classical art from Italy into the north. To see how this happened, it is helpful to briefly contrast the cultural climate of the Middle Ages with that of the emergent Renaissance.

In broad terms, at least, it makes sense to view the Middle Ages as a period dominated by faith, in which God rather than man was seen as the

¹ Johan Huizinga, *The Autumn of the Middle Ages* trans. Rodney J. Payton and Ulrich Mammitzsch (Chicago, 1996); originally published as *Herfsttij der Middeleeuwen* (Leiden, 1921).

ultimate source of meaning and measure. As Paul Frankl has observed, the formal qualities of the Gothic style can be read as architectural expressions of this worldview. The intricacy, interconnectedness, and "partiality" characteristic of Gothic design, Frankl argued, appealed to medieval viewers who saw themselves as small parts of a large, complex, and divinely created cosmos.² In this context, the striving verticality of Gothic buildings, and of their spires in particular, could imply the transcendence of earthly limitations and the potential for connection with God.

This Gothic spiritual and architectural vision had the faults of its virtues, in that it left behind the world of human measure and proportion that had been so central to the classical culture of the Greco-Roman world. Not coincidentally, therefore, the Gothic style encountered an ambivalent reception in regions such as Italy where the classical legacy remained strong throughout the Middle Ages. The growth of humanism over the course of the fourteenth century permitted the emergence, by roughly 1400, of programmatically neo-classical art and architecture in cities such as Florence. Giorgio Vasari, looking back from his vantage point in the sixteenth century, cited Giotto's embrace of realism around 1300 as a crucial step in this development, even though there was little explicitly classicizing about Giotto's work.

Realism, by itself, was certainly compatible with Gothic visionary spirituality, as the work of Jan van Eyck and other northern artists would demonstrate in the fifteenth century. More directly relevant to the birth of the humanist worldview were the writings of Petrarch, who was among the first to suggest, in the mid-fourteenth century, that history could be appropriately divided into classical antiquity, a middle age of relative darkness, and a modern age in which classical values and standards could be reclaimed. Florence, although it had been an insignificant settlement in the heyday of the Roman Empire, came to be promoted by its inhabitants as the modern heir of the Roman legacy. The neo-classical artistic language adopted by Florentine architects such as Brunelleschi and painters such as Masaccio in the early fifteenth century gave eloquent expression to this ideology.

The tensions between the humanist worldview and the Gothic style became increasingly clear over the course of the late fifteenth and early sixteenth centuries. Aeneas Silvius Piccolomini, writing in the 1450s, had been able to admire both humanist learning and the Strasbourg spire, and Jacob Wimpheling managed to do the same even after 1500. Their position was inherently unstable, however, because the adoption of classical

² Frankl, *Gothic Architecture*, 260-70.

architecture followed naturally from the humanist intellectual project.³ The humanist idea of man as the measure of all things, for example, implied a clear preference for the fixed proportions of classical forms over the flexible proportions of their Gothic counterparts. More broadly, the implied parallel between architectural and human forms tended to discourage the free multiplication of parts and details characteristic of Gothic design. The Italian architectural theorist Filarete had already begun to criticize Gothic design in the fifteenth century, and his critique was taken further by Vasari, who effectively invented the term "Gothic" as a disapproving label for the northern manner.⁴ For such men, devoted to the ideals of classical architecture as it emerged in the Italian Renaissance, the frenetic complexity and explosive verticality of the northern great spire tradition were anathema. The same would hold true for the many classicists and neo-classicists who followed in their footsteps.

It is significant in this context that Vasari's hero Michelangelo criticized not only the meticulous detailing of northern painting, but also the complexity of Antonio da Sangallo the Younger's design for Saint Peter's basilica, which he saw as "too German."⁵ In Sangallo's scheme, which served as the basis for an impressive wooden model (fig. 11-1), the west facade of Saint Peter's would have incorporated two slender spires, amplified versions of those his father had designed for the church of San Biago in Montepulciano. With their tapering silhouettes and elaborate complexity, the younger Sangallo's contemplated spires, more than any other products of the Italian High Renaissance, resembled the great spires of the northern Gothic world. Michelangelo's global critique of Sangallo's design did not condemn the spires in particular, but these were among the major features that he eliminated in his dramatic revision of the Saint Peter's design. From that point forward, complex spires were effectively banned from the Italian Renaissance architectural vocabulary. Domes and

³ The close association of humanism and classicism poses a problem for authors who try to argue that the court culture of the Gothic north played a decisive role in shaping the visual culture of the Renaissance. See, for example, Marina Belozerskaya, *Rethinking the Renaissance: Belgian Arts Across Europe* (Cambridge, 2002). While Belozerskaya is certainly correct in claiming that the Burgundian court defined a visual culture of display that enjoyed great international popularity in the 15th century, the latently medieval aspects of this culture were decisively displaced by neo-classical forms in the 16th century.

⁴ On the Renaissance use of human proportions in architecture, see Rudolf Wittkower, *Architectural Principles in the Age of Humanism*, Norton Library ed. (New York, 1971), 14-15. On the historiography of the term "Gothic," see Frankl, *The Gothic: Sources and Literary Interpretations*.

⁵ Henry A. Millon and Vittorio Magnago Lampugnani, eds., *The Renaissance from Brunelleschi to Michelangelo: The Representation of Architecture*, exh. cat. (New York, 1994), 631-32.



11-1 Rome, Saint Peter's Basilica, Antonio da Sangallo's great model.

modified temple fronts would provide the most dramatic accents to the exteriors of most Renaissance churches. The striving verticality and almost superhuman intricacy of great Gothic spires, which had so powerfully embodied the medieval ideal of divine transcendence, were ill-suited to express the more humanistic Renaissance worldview.

The spread of Italianate Renaissance architecture throughout Europe, and the resultant decline in great spire construction, also had a strong political component, because classical architecture could effectively reinforce the ideology of earthly kingship. Classical art was more human-centered than Gothic art in a general sense, and it also evoked the legacy of the Roman



11-2 Paris, the Louvre, facade of Square Court.

emperors, the most powerful and prestigious rulers in western European history. As princes and kings began to displace churchmen and city governments as the most active patrons of major building projects, therefore, the classical architectural vocabulary increasingly displaced the Gothic. By the late fifteenth century, Italian builders had begun to work in Hungary, where King Matthias Corvinus actively promoted humanist scholarship.⁶ In sixteenth-century France, the reign of Francis I witnessed the widespread adoption of Italianate art in court circles. Classical motifs blended with Gothic traditions to form a hybrid style in the Loire châteaux of Blois and Chambord, but a more thoroughly Italianate mode was soon introduced at Fontainebleau by Mannerist artists such as Primaticcio and Rosso Fiorentino. By mid-century, Pierre Lescot had fully assimilated the Italianate Renaissance vocabulary in his design for the Square Court of the Louvre (fig. 11-2). In Spain, meanwhile, Juan Bautista de Toledo and Juan de Herrera had begun to construct the enormous Escorial complex for Philip II. Such projects, which used classical architecture to enframe and dignify the courtly rituals of monarchy, foreshadowed the construction of great palaces like Versailles and Schönbrunn in later centuries. On a humbler scale, many lesser Renaissance princes constructed Italianate palaces as architectural expressions of their worldly authority.

⁶ On the importation of classical design into Central Europe more generally, see Thomas DaCosta Kaufmann, *Court, Cloister, and City: The Art and Culture of Central Europe, 1450-1800* (Chicago, 1995).

It may seem obvious that the establishment of palaces rather than churches as the dominant monument type of the early modern era would have an inhibiting effect on spire construction, but it is nonetheless worth exploring why the visibility of courtly display tended to involve horizontal rather than vertical sightlines. Courtly ritual involved many processions, but so too did the liturgy of the medieval church, so the horizontal circulation of people in palace settings cannot be taken as the root cause of the difference. A more important factor in the rather narrowly circumscribed visual address of most early modern palaces may have been the simple fact that the people who really mattered were already present at the court itself, obviating the need for broad visual appeals to the public of the kind that a tower could provide. Late medieval princes were every bit as elitist as their early modern successors, however, and they often occupied towered castles on prominent hilltop sites. Even a relatively small castle of this type could attract the gaze more than a vast sprawling palace like Versailles. Both the form and the siting of these medieval structures responded to defensive requirements that were rendered obsolete by changing military tactics and the growing scale of the territories controlled by individual princes. As the era of city-states and small principalities gave way to the era of nation-states, the political reach of royal governments grew far beyond the visual reach of even the largest individual monuments. No tower built in Paris, for example, could be seen throughout France. Images of major monuments, whatever their shape, could be disseminated through printing and other emerging mass media, but this indirect process of transmission differs fundamentally from the immediate visual access that great spires offered to the citizens of their home communities. To the extent that architecture was used in the early modern period to construct national identity, it was more through the standardization of official bureaucratic building types than through the construction of towering national monuments. The growing power of kings and national governments, therefore, tended to undercut the more localized social structures that had favored great spire construction in the Gothic era.

A third major factor in the demise of Gothic spire construction, roughly coinciding in time the rise of Italianate neo-classical art and the eclipse of local powers by national governments, was the religious crisis of the Reformation and its aftermath. Although Martin Luther initially targeted the spiritual corruption of the Catholic church more than its architectural accompaniment, his evolving critique of Catholic decadence cast the extravagant visibility of medieval devotion in an unfavorable light. For the Reformers, the individual worshipper's access to God was to be achieved

by faith, and through study of the Bible itself. Grandiose architecture, spired or otherwise, was at best irrelevant to this textually based spiritual quest. Protestant scepticism about the saints and the sacraments, moreover, threatened not only the devotional attitudes that had fueled the construction of spire-like shrines, but also, in many cases, the shrines themselves. Luther himself did not fully repudiate the notion of Christ's presence in the eucharistic wafer, but the more radical Huldrych Zwingli did. Especially in regions with strong Zwinglian leanings, therefore, many sacrament houses, tabernacles, and elaborate canopied altars were destroyed by iconoclasts.⁷ Such violence was not explicitly aimed against church towers and spires, but the destruction of so many spirelike structures clearly signalled that the era favorable to ambitious spire construction projects had passed.

The consequences of the Reformation for church construction were far-reaching, both geographically and chronologically. The Germanic world, which had been the most important center for Late Gothic spire construction, was hit particularly hard, since it was the birthplace of the Reformation. Luther and other moderate reformers were soon outflanked by not only by theologians like Zwingli but also by radical social movements such as the Peasants' Rebellion of 1525. Church construction admittedly proceeded in many German-speaking regions, especially in the mining towns of Saxony, but there can be no doubt that the social and religious ferment of the sixteenth century played a decisive role in derailing many German spire-building projects. The relative importance of the Reformation in the demise of German Gothic was particularly marked because neither Italianate classicism nor a powerful centralized monarchy had firmly established themselves in the German world.

In other regions, these factors could intersect rather differently. In England, for example, the roots of the Reformation were far shallower than in Germany, but Henry VIII's dynastic ambitions nevertheless led him to break with the Papacy, providing a pretext for the suppression of the monasteries. In France, the growth of royal power was an even more important factor in the eclipse of Gothic, but more because of the courtly taste for Italianate design than because of the Reformation. The spread of Protestantism, however, eventually did influence the history of French architecture, because the persecuted Huguenots damaged many medieval churches in the 1560s, which effectively put the final nail into the coffin of certain Late Gothic building projects, as at Saint-Ouen in Rouen. Religious warfare also ravaged Brabant and the Low Countries in the late sixteenth century, a preamble to the even more devastating and widespread Thirty

⁷ See Werner Hofman, ed., *Luther und die Folgen für die Kunst* (Munich, 1983), 52-53.

Years War, which destroyed many medieval churches throughout Europe. As these events begin to suggest, the Catholic reaction against the Reformation proved as problematic for the medieval architectural legacy as the Reformation itself. Even in more narrowly stylistic terms, the Catholic Counter-Reformation inhibited the construction of Gothic buildings and spires, since spire-less Italianate buildings like the church of Il Gesu in Rome were actively promoted throughout Catholic Europe after the Council of Trent.⁸ Thus, while the precise mixture of religious, social, and cultural factors at work could vary substantially from region to region, the sixteenth century ultimately proved unkind both to Gothic architecture in general and to spire construction projects in particular. The spread of humanism, the growth of royal power, the popularization of classicizing design, and the chaos unleashed by the Protestant Reformation all contributed to the eclipse of the Gothic spire building phenomenon.

Sublimation

Despite these undeniable setbacks, which forced the abandonment of many great Gothic spire projects in the sixteenth century, the church spire had become too well established as a monument type to be completely forsaken by builders in the early



11-3 Amsterdam, Oude Kerk, tower.

⁸ See John T. Paoletti and Gary M. Radke, *Art in Renaissance Italy* (Upper Saddle River, N.J., 1997), 414-23; Peter Murray, *Renaissance Architecture* (New York, 1971), 233-35.



11-4 Amsterdam,
Wester Kerk, tower.

modern era. Indeed, the church spire stands out as one of the major Gothic contributions to the history of western architecture. The pattern of post-medieval spire construction shows, naturally, that spires and massive church towers remained popular especially in regions where religiosity remained closely bound up with civic and community pride, as the case of the Netherlands begins to suggest. In predominantly Catholic Brabant, large tower projects were pursued well into the sixteenth century, despite the increasing disruptions caused by religious warfare. In the predominantly Protestant northern Netherlands, meanwhile, Amsterdam was emerging as an increasingly powerful political and economic center.

With its largely autonomous city council, early modern Amsterdam in some respects resembled the free imperial cities of Germany in their heyday. It is perhaps not surprising, therefore, that the city soon produced an impressive early example of Renaissance church spire design. The upper tower belfry of the Oude Kerk, built to the designs of Joost Janz Bildhamer in 1565, incorporated a tapering series of classically decorated stories, culminating in a small skeletal onion dome (fig. 11-3). As the fortunes of Amsterdam continued to wax, more towers were built alongside that of the Oude Kerk. Hendrik de Keyser designed the towers of the Zuide Kerk, completed in 1614, and the eighty-five-meter tower of the Wester Kerk, the city's tallest, completed in 1631 (fig. 11-4). Because of the poor foundation conditions in Amsterdam, a city built largely on reclaimed land, these towers had to be

constructed mostly out of lightweight timber rather than stone. Similar towers were built in many smaller Dutch cities over the course of the nation's seventeenth-century "Golden Age." Although far smaller, simpler, and more fragile than their major Gothic antecedents, such as the great belfry tower of Notre-Dame in Antwerp, these towers attest to the enduring importance of church spires in the urban culture of the Netherlands.⁹

The enduring importance of the medieval spire type, even in an era dominated by classical taste, becomes obvious when one considers the rebuilding of London by Christopher Wren after the great fire of 1666. At Saint Paul's, admittedly, a large classical dome replaced a crossing tower as the central element of the redesigned church, and the twin turrets of the western block derive from Borromini rather than from a Gothic source. The numerous city churches designed by Wren, however, resemble the Wester Kerk in having belfry towers whose overall forms evoke medieval prototypes despite their classical detail. The spire of Saint Bride's, Fleet Street, provides a particularly clear example of this stylistic translation process (fig. 11-5). Wren evidently appreciated the advantages of the medieval spire format, which gave each parish an impressive visual and symbolic focal point.¹⁰

Wren's willingness to blend classical and medieval forms was taken further by



11-5 London, Saint Bride's.

⁹ E. H. ter Kuile, *De Torens van Nederland* (Amsterdam, 1946), esp. 89-94.

¹⁰ Wren's analytical training may have prepared him to appreciate the medieval spire type on its own functional merits, regardless of classical dogma. Wren's innovative design for the dome of Saint Paul's, with its hidden structural cone and sculptural exterior, also suggests that he was willing to expand the boundaries of classical building practice in order to produce monumental forms on the skyline. See Mark, *Light, Wind, and Structure*, 146.



11-6 Spire schemes published by James Gibbs.

James Gibbs, perhaps best known for the spired church of Saint Martin in the Fields. Gibbs also published design books illustrating many classical spire schemes (fig. 11-6). With their elegant detail and carefully handled square-to-octagon transitions, these have as much affinity with the great spires of Europe as with the simpler pyramidal spires of medieval England. These design books provided the prototypes for innumerable structures in England's American colonies, including the impressive spire of the First Baptist Meeting House in Providence, Rhode Island (fig. 11-7). Along with Renaissance-inspired cupolae,

such Gibbsian spires became important landmarks on the largely virginal American continent, serving the same basic functions that medieval spires continued to serve in England. Indeed, despite the obvious differences between eighteenth-century Providence and fifteenth-century Vienna, spired meetinghouse-churches became the focal monuments of religiously oriented mercantile communities in New England much as they had in late medieval Europe.

In the Spanish-speaking world, meanwhile, the early modern era produced a number of significant tower projects that harked back to medieval precedents. The great Late Gothic cathedrals of Salamanca and Segovia, for example, were completed with large dome-tipped western towers. In both cases, the dome sits between a small terminal lantern and a short octagonal tower story, which in turn sits flanked by pinnacles atop the larger square-planned body of the tower. At Segovia, this tower body stands alongside the church, rather than being part of the west facade, as at Salamanca. At Segovia, moreover, there is a marked stylistic distinction between the largely Gothic tower body and the dome, which was built only after lightning destroyed the the original termination in 1614.¹¹ In Seville, meanwhile, the great Islamic minaret known as the Giralda Tower had been given a classicizing termination in 1568, producing a format that was

¹¹ Turner, *The Dictionary of Art*, s. v. "Segovia: Buildings," by Stephen Brindle.

copied and reinterpreted in many later church tower designs of the surrounding region.¹² In Santiago de Compostella, an important pilgrimage center since the ninth century, the construction of a dramatic new cathedral facade beginning in 1738 celebrated the reaffirmation of the cult of Saint James (fig. 11-8). This structure, with twin tapering towers designed by Fernando Casas y Novea, conveys an almost Gothic impression of surging verticality, even as it encases the original masonry of the Romanesque cathedral facade below. The church facades of Taxco and Ocotlan in Mexico also represent successful Baroque updatings of the medieval two-tower format. These structures, with their surging silhouettes and complex masonry detailing, suggest comparison with the Gothic tradition of great spire design despite their nominally classical formal vocabulary.

In the German world, similarly, the seventeenth and eighteenth centuries witnessed the construction of many Baroque churches with elaborate towers that, impressionistically at least, recall medieval precedents. This flowering of tower construction was made possible by the end of the Thirty Years War and the repulsion of the Turks from Austria. Perhaps because these conflicts had destroyed so many medieval church towers, Germanic builders of the Baroque era developed many more tower projects than their colleagues in the rest of Europe. The twin-towered facade of



11-7 Providence, First Baptist Meeting House.

¹² Erwin Heinle and Fritz Leonhardt, *Towers: A Historical Survey*, trans. Martha Humphreys (New York, 1989), 185, 198-99.



11-8 Santiago de Compostella.
Cathedral, west facade.

Melk Abbey, designed by Jakob Prandtauer in the opening years of the eighteenth century, for example, replaced a Gothic facade that had been destroyed in the Turkish wars. As in Spain, some of the most impressive towered facades were developed for pilgrimage churches; Balthazar Neumann's twin-towered church of Vierzehnheiligen, designed in the 1740s, provides one famous example (fig. 11-9). Neumann's church of Saint Paulinus in Trier, meanwhile, boasts a single western axial tower, recalling the overall format seen at the Gothic parish churches of Freiburg, Ulm, and

Esslingen. This axial tower theme was treated even more dramatically the roughly contemporary Dresden Hofkirche designed by Gaetano Chiaveri (fig. 11-10).¹³ The growing port city of Hamburg was equipped in the eighteenth century with two major spires; the spire of the new church of Saint Michael, which became a major focus of civic pride, and the new belfry spire added to the fifteenth-century church of Saint Catherine. In Prague, meanwhile, the Renaissance termination of the cathedral's great south tower was replaced by a taller Baroque version in 1770.¹⁴ In many smaller centers, as well, Baroque builders completed medieval church towers with new terminations.

Despite the aesthetic affinities between the Gothic and Baroque styles, two of the most complex and dynamic styles in the history of western architecture, attitudes towards the Gothic achievement remained ambivalent in the seventeenth and eighteenth centuries. The flowering of German Baroque architecture had not yet begun when Hermann Crombach published his guide to the cathedral of Cologne in 1654, just six years after the end of the Thirty Years War. Crombach, obviously impressed by

¹³ Similar to the Hofkirche tower design, but far more grandiose in spirit, was the unexecuted tower scheme developed by Francesco Bartolomeo Rastrelli for Smol'ny monastery in Russia, a site favored by Empress Elizabeth of Russia. See Henry A. Millon, ed., *The Triumph of the Baroque: Architecture in Europe, 1600-1750* exh. cat. (New York, 1999), 165-69.

¹⁴ The present tower termination dates to 1770. Staňková, Štursa, and Voděra, *Prague*, 205.

Cologne Plan F, produced a copperplate of the cathedral's contemplated facade along with one of its groundplan, apparently in an effort to excite new interest in resuming work on the building. A similar enthusiasm for Gothic spires may be seen in a seventeenth-century drawing from Regensburg, showing the cathedral completed with twin western towers based on the single-spired design of the early fifteenth century.¹⁵ This fanciful plan was never realized, however, and both Cologne and Regensburg cathedrals remained truncated until the nineteenth century. As these examples suggest, the champions of Gothic spire design remained relatively isolated in the Baroque era, when most major authors remained critical of Gothic architecture. Joachim Sandrart's architectural treatise of 1670, for example, amplified the criticisms of



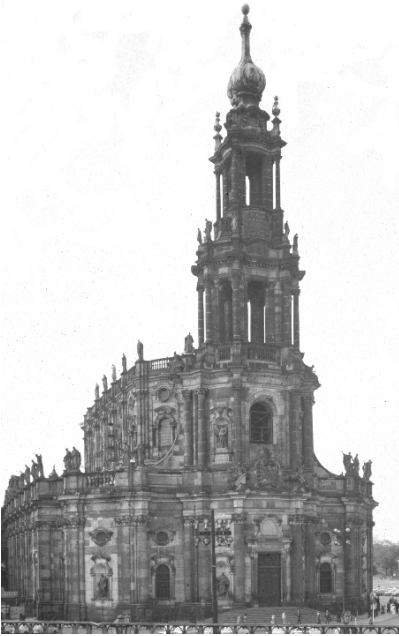
11-9 Vierzehnheiligen, pilgrimage church, west facade.

Gothic that had been made by earlier Italian authors such as Filarete and Vasari. Fischer von Erlach omitted medieval architecture from his history of architecture entirely, though he worked in the shadow of Vienna's Stephansdom.¹⁶

By the middle of the eighteenth century, Neoclassicism had in its turn begun to displace the Baroque, both in the German sphere and throughout Europe, a trend accelerated by the excavation of Pompeii that began in 1793. From the standpoint of tower design and appreciation, this for the most part represented a setback. The severe and restrained horizontal massing typical of Neoclassical architecture had far less aesthetic affinity with the Gothic than had the Baroque. Meanwhile, the great Neoclassical critic Johann Winckelmann, the renowned Viennese "father of art history," detested the spire of the Stephansdom, which he complained was "a great

¹⁵ This drawing may be seen in the Regensburg Cathedral museum.

¹⁶ Frankl, *The Gothic*, 332-37.



11-10 Dresden, Hofkirche.

needle that sticks in my eye and aches."¹⁷ As a committed classicist, Winkelmann's view of Gothic was as hostile as Vasari's.

Not all Neoclassical critics were so dogmatically opposed to Gothic spires as Winkelmann, however. Abbé Laugier, best known for his emphasis on functionalism and his pro-Greek stance in the debates among eighteenth-century classicists, was willing to admit that his Gothic forefathers "excelled in the construction of towers. . . . They discovered the secret of uniting lightness and delicacy of work with elegance of forms; and avoiding equally the slender and the massive, they attained that degree of precision from which results the true beauty of these kinds of work. Nothing of this sort is comparable to the tower of Strasbourg

cathedral. This proud pyramid is a masterpiece, enchanting in its stupendous height, its exact diminution, its agreeable form, in the correctness of its proportions, in the singular refinement of the work. I do not believe that any architect ever produced anything so boldly imagined, so happily conceived, so precisely executed. There is more art and genius in this one piece of work than in all the marvels that we see elsewhere."¹⁸ This passage on Strasbourg, which continues the tradition of praise inaugurated by Piccolomini and Wimpheling, appears to have influenced

¹⁷ Knorre, *Turmvollendungen*, 29. Translation by the author.

¹⁸ Quoted in Frankl, *The Gothic*, 426. Frankl also provides a short pedigree of essays in praise of the Strasbourg tower, as follows:

1457 Aeneas Silvius Piccolomini
1502 Wimpheling
1548 Engraving by Conrad Morant, called Schwebelin
1617 Osaeus Schad
1647 Wenzel Hollar, engraving of 1630 and 1645
1687 Félibien
1699 Dumont
1753 Laugier

the young Goethe, whose 1771 panegyric on the Strasbourg facade would have seminal importance for the German Gothic Revival movement. Like many later authors, Goethe praised the facade as the work of a single genius, Erwin von Steinbach.¹⁹ Romanticism thus followed hard on the heels of Neoclassicism.

From the perspective of spire historiography, the nationalism of Goethe's essay was as important as its Romantic eloquence. Entitled *Von Deutscher Baukunst*, it urged Germans to appreciate Gothic architecture.²⁰ The German scholar, Goethe felt, "should give thanks to God that he can loudly proclaim it German architecture, our architecture, while the Italian can boast none of his own, still less the Frenchman."²¹ Goethe was able to dismiss the French Gothic legacy not only because the history of French early Gothic was little known in his day, but also because he was taken with the openwork spire of Strasbourg, which he recognized as a highly developed specimen of a type common in Germany but essentially unknown in France. In this respect Goethe's essay anticipated the German Gothic Revival movement, in which the construction of great spires played a conspicuous role. Conversely, Laugier was one of the last French critics to openly praise the Strasbourg spire, as French scholars and builders increasingly turned to the study of French cathedral vessels and their buttressing systems. The divergence of priorities along nationalist lines already evident in Goethe's essay continues to afflict Gothic scholarship today, working in particular against a global understanding of the medieval spire phenomenon.

Revival

Spires were a central attribute of the Gothic not only for Goethe, but also for many of his contemporaries, including Karl Friedrich Schinkel, the German landscape painter and architect. In paintings like *Gothic Cathedral by a River*, Schinkel presented a Romanticized image of the Gothic cathedral that achieves with pigment much the effect that Goethe had with language (fig. 11-11).²² Schinkel also drew idealized reconstructions of the Strasbourg facade with two symmetrical towers, and developed a Gothic design for the Befreiungsdom in Berlin, among other projects. Like

¹⁹ See Marie-Jeanne Geyer, "Le myth d'Erwin von Steinbach," in Recht, *Bâtisseurs*, 322-29.

²⁰ "German," in this context, labels the products of the entire German-speaking cultural and linguistic sphere, rather than those of a single politically-defined nation-state.

²¹ Quoted in Frankl, *The Gothic*, 418.

²² Versions of this painting, both evidently done in 1813, can be seen in Munich and Berlin. See Kanno-Walter Krufft, "La théorie de l'architecture énoncé par le XIXe siècle," in Recht, *Bâtisseurs*, 314. Knorre also emphasizes the importance of landscape painting in stimulating interest in the Neo-Gothic in Germany. See *Turmvollendungen*, 24-25.



11-11 Karl Friedrich Schinkel. *Gothic Cathedral by a River*.

Goethe, Schinkel embraced classicism in his later career, as works like the Altes Museum in Berlin demonstrate. Schinkel continued to contribute to the growing German Neo-Gothic movement, however, taking particular interest in early planning for the completion of Cologne Cathedral, the most ambitious Neo-Gothic building effort of the nineteenth century.

This grandiose undertaking, which culminated in 1880 with the completion of the openwork spires designed by Master Johann nearly six hundred years earlier, would scarcely have been imaginable at the turn of the nineteenth century, when the cathedral served the invading French revolutionary army as a storehouse and prison. Enthusiasm for the project was fostered, however, by the writings of Georg Forster, Freidrich von Schlegel, Joseph Gorres, and especially Sulpiz Boisserée, who published striking engravings of the cathedral as it would appear when finished.²³ Boisserée's proposal to complete Cologne Cathedral depended on the availability of the original facade Plan F, the largest pieces of which were discovered in Darmstadt and Paris after having been lost during the French occupation of Cologne.²⁴

The visionary quality of Plan F and the generally unified character of the cathedral's medieval fabric encouraged Boisserée and his contemporaries to believe that Cologne Cathedral had been planned as a unitary whole by a

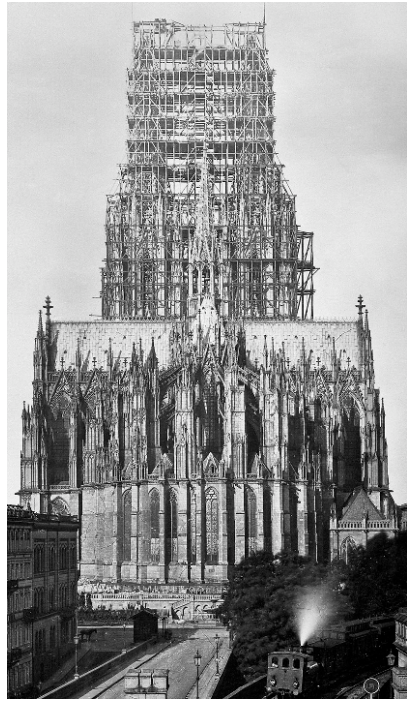
²³ Wolff, *Cathedral of Cologne*, 19.

²⁴ See, for example, Frankl, *The Gothic*, 508.

single architect of genius. The survival of Master Gerhard's epitaph lent attractive specificity to this Romantic picture of Gothic creativity, manifest also in the cult of Erwin von Steinbach at Strasbourg.²⁵ Significantly, both of these Germanic geniuses were credited with designing facades of great complexity, terminating in monumental openwork spires. The reputations of Cologne and Strasbourg established the openwork spire as one of the flagship monument types of the German Gothic Revival.

The social and political forces at work in the Cologne project deserve brief consideration because they influence the variety of significations that the cathedral came to hold for later artists, critics, and patrons. In 1815, following the expulsion of French troops from the Rhineland in the wars of German liberation, Cologne and the rest of the Catholic Rhineland fell under the administrative sway of predominantly Protestant Prussia. Following an agreement with the Pope, the Prussian government re-established the Archbishopric of Cologne. The support of the government enabled Schinkel to begin repairs to the cathedral, aided by the younger architect Ernst Friedrich Zwirner. The enthusiastic support of King Friedrich Wilhelm IV and the foundation of the *Dombauverein*, an association dedicated to raising money for the cathedral, transformed these repairs into a full-blown completion project, which was formally launched in 1842.²⁶

Completion of the cathedral proceeded smoothly and relatively quickly, despite occasional friction between the groups involved in the project. Cologne's citizens, for example, were not eager to see the building



11-12 Cologne Cathedral, near the end of construction in 1880.

²⁵ See Geyer, "Myth d'Erwin," in Recht, *Bâtisseurs*.

²⁶ Wolff, *Cathedral of Cologne*, 19.

transformed into a monument of pan-German nationalism. The Catholic architectural theorist Augustus Reichensperger protested Zwirner's use of structural metal in the roof and Dachreiter of the cathedral.²⁷ The Catholic church objected to the Dombauverein's proposal to finance construction with income from a lottery. Ultimately, however, the church agreed that the towers and spires of the cathedral could be built with lottery income, suggesting that the spires were recognized as belonging in part to the secular sphere of civic and national pride. This agreement was fortunate, since the lottery provided by far the largest source of income for the towers and spires, which cost approximately as much as all the other facets of the completion project taken together.²⁸ Supported by this new funding source, Zwirner's successor, Dombaumeister Richard Voigtel, was able to complete the openwork spires of the facade in 1880 in near-perfect accord with Plan F. At the time of its completion, Cologne Cathedral was the tallest building in the world (fig. 11-12).

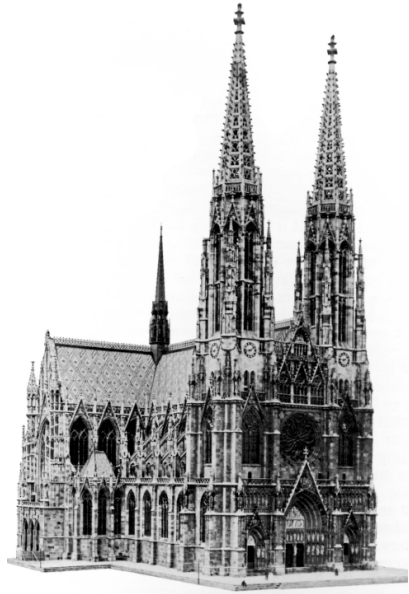
The Cologne project was unusual not only in its scale but in the nationalistic sentiment that it crystallized. Nevertheless, the project should not be dismissed as entirely singular, since it became the model for many other Gothic Revival undertakings in the German sphere.²⁹ Formally, the openwork spires of Cologne became the models for similar spires in many other cities. Symbolically, the layering of civic, religious, and nationalist sentiment embodied by the Cologne project was unusual only in its complexity, since the Romantic cultural nationalism of the nineteenth century was frequently constructed through the assimilation of local and regional art forms. Technically, the Cologne workshop advised builders involved in other Gothic Revival projects, while administratively, the Cologne model of a "Cathedral Society" working with the support of a territorial prince was widely emulated in other cities.

²⁷ This Dachreiter was the tallest metal structure in the world upon its completion in 1863. With its wrought-iron construction, it can be seen as an antecedent for the Eiffel Tower, built twenty-five years later. See Arnold Wolff, "Der stählerne Geheimnis des Kölner Domes," *Baukultur* 5 (1984): 37-40. Reichensperger, like his English contemporary A. W. N. Pugin, believed in using materials in the traditional medieval way, rather than dressing up modern structures in historicizing guise. For a good discussion of Reichensperger, see Michael Lewis, *The Politics of the German Gothic Revival: August Reichensperger* (New York and Cambridge, Mass., 1993). For a detailed account of the technical achievements in the Cologne workshop, see Thomas Schumacher, *Grossbaustelle Kölner Dom: Technik des 19. Jahrhunderts bei der Vollendung einer gotischen Kathedrale* (Cologne, 1993).

²⁸ Wolff, *Cologne Cathedral*, 23.

²⁹ Wolff argues that "the cathedral of Cologne acquired an importance and fame in the nineteenth century that it never had in the Middle Ages" (*Cathedral of Cologne*, 110). Cologne cathedral was already unusual in the late 13th century, however, and the 19th century featured other ambitious Gothic Revival projects like the one at Ulm.

In the later nineteenth century, many great openwork spires were erected throughout the German sphere.³⁰ Although their widespread popularity reinforces the impression of a Pan-Germanic cultural nationalism, their construction was typically motivated by local and regional pride. In Regensburg, for example, Otto Denzinger in 1869 completed the cathedral with twin openwork spires clearly inspired by those of Cologne.³¹ Single openwork spires were also added to the medieval cathedrals of Münster, Bern, and Constance in Switzerland. In 1890, the spire of Ulm was completed essentially in accord with the fifteenth-century designs of Matthäus Böblinger. Thanks to the architects Ferdinand



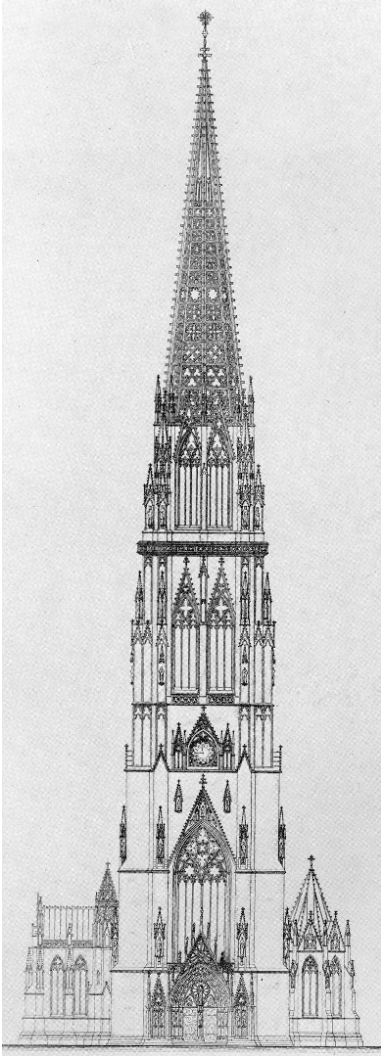
11-13 Vienna, Votivkirche.

Thraen and Karl Bauer, therefore, a building that was nominally a Protestant parish church outshone Cologne Cathedral as home to the tallest spire in the world, a distinction that it retains to this day.³² In Prague, the Bohemian architect Joseph Kranner planned to complete the south tower of the cathedral with a huge spire based on Peter Parler's Saint Wenceslas tabernacle, but his successor Joseph Mocher succeeded only in erecting the

³⁰ An excellent synoptic study of this spire-building phenomenon is Knorre's *Turmvollendungen*. For German Gothic Revival generally, see Nicola Borger-Keweloh, *Die mittelalterlichen Dome im 19. Jahrhundert* (Munich, 1986). More generally still, a good survey of the European Gothic Revival movement is Georg Germann, *Gothic Revival in Europe and Britain: Sources, Influences, and Ideas*, trans. Gerald Onn (London, 1972).

³¹ See Isolde Schmidt, "Zur Planungsgeschichte de Dom Vollendung," in Morsbach, *Dom zu Regensburg*, 97ff.

³² Knorre notes that Thraen had originally wanted to "improve" on Böblinger's design by increasing the number of tracery panel levels in the spire cone from five to seven but he was dissuaded from these changes by the building committee. See Knorre, *Turmvollendungen*, 175. As in Cologne, the project was supported by local donations orchestrated through a building association, supplemented by donations from the aristocracy. In the case of Ulm, the modern counts of Württemberg played the role that Friedrich Wilhelm IV had in Cologne, while Reichensperger's role as propagandist was taken by Hassler. See Hans Jakob Wörner, "Der Ausbau des Münster im 19. Jahrhundert im Spiegel Zeitgenössischer Berichte," in Specker and Wortmann, *600 Jahre*, 475. The Chicago Temple completed in 1924 has a spire reaching to the slightly greater height of 170 meters, thanks to being built on top of a skyscraper. See Leeuwen, *Skyward Trend*, 73.



11-14 Hamburg, Nikolaikirche, west elevation.

smaller twin spires at the end of the Neo-Gothic nave.³³ Large openwork spires were also important components of new churches like the Votivkirche in Vienna, designed by Adolf Ferstel (fig. 11-13), and the Nikolaikirche in Hamburg, designed uncharacteristically by an Englishman, George Gilbert Scott.

Openwork spire cones were not the only type built in the German world in the nineteenth century. Squat spires based on those of Magdeburg Cathedral were added to the cathedral of Meissen, and the western cupola of St. Bartholomäus in Frankfurt was completed with a pinnacle in accord with the original medieval design. A simple pyramidal spire of the Baltic type was added to the Petrikirche in Hamburg, and proposals were made to replace the domes of the Frauenkirche in Munich with spires similar to that of St. Martin in Landshut.³⁴ Still, there is reason to believe that the spires of the Cologne-Freiburg type were seen by nineteenth-century architects as the most impressive and the most Germanic. Some buildings, like the Weissenkirche in Soest, appear to have been completed with simple rather than openwork spire cones

³³ Knorre, *Turmvollendungen*, 158ff. The cathedral was dedicated in 1929, on the one-thousandth anniversary of the coronation of King Wenceslas I. For the Gothic Revival spire project, see Tatána Petrasová, "Die unvollende puristische Instandsetzung des hohen Turms der St.-Veits-Kathedrale zu Prag (1879-1911): Quelle der Erkenntnis und Ursprung von Irrtümern," *Umění* 49, no. 3-4 (2001): 305-20.

³⁴ For Hamburg, see Henry-Russell Hitchcock, *Architecture: 19th and 20th Centuries*, 4th ed. Pelican History of Art (New York, 1977). For Munich, see Knorre, *Turmvollendungen*, 4.



11-15 A. W. N. Pugin, frontispiece to *Apology for the Revival of Christian Architecture*.

only because of budgetary constraints, since other aspects of their design follow the Cologne-Freiburg type.

The case of the Nikolaikirche in Hamburg also suggests that openwork spires were seen as Germanic, since Scott's spire design owes far more to continental prototypes than to English Gothic Revival practice. Since Hamburg had no medieval tradition of great spire design, Scott evidently felt justified in selecting elements from Germany's greatest spires, which he then welded together into an impressively coherent synthesis (fig. 11-14). The base of the tower, with its strong buttresses, small pinnacles, and gabled porch, recalls Freiburg, but the large nave window resembles that of Cologne. The upper square story of the tower evokes Strasbourg with its dual-gabled belfry and openwork staircase, while the slender proportions of the openwork spire recalls the Stephansdom in Vienna. The idea of rotating the spire octagon by 22.5 degrees may have been inspired by the tower of Notre-Dame in Antwerp, a hypothesis strengthened by the characteristically Brabantine folding of the tower's terminal balustrade. Scott may have read the work of James Anderson, an insightful but little-known English critic, who wrote admiringly of Gothic spires in the years around 1800 and who

was particularly taken with the examples in Strasbourg and Antwerp, which he knew from engravings.³⁵

Although few English nineteenth-century builders engaged with the continental great spire tradition as Scott did, spires of various sorts did figure prominently in the English Neo-Gothic movement. The noted architect and theorist A. W. N. Pugin, for example, designed a number of spired churches, such as Saint Giles, Cheadle. More importantly, perhaps, Pugin believed that spires had been planned for all English Gothic church towers prior to 1400 or so. He therefore used spires as architectural symbols of Christian virtue in his famous publications of the 1830s and 1840s, such as *Contrasts* (1836), *True Principles of Pointed or Christian Architecture* (1841), and *Apology for the Revival of Christian Architecture* (1843), which called for a return to medieval cultural and architectural values. One illustration from the latter, in particular, shows an idealized cityscape literally bristling with spires (fig. 11-15). Pugin's spire designs were fairly elegant, and some of their details may reflect his familiarity with Norman architecture, but for the most part they remain traditionally English, with solid pyramidal spire cones placed directly atop square towers. Indeed, the English Gothic Revival movement had a strongly nationalistic flavor, as Pugin's work with Charles Barry on the Houses of Parliament in the Perpendicular style suggested. Some English Gothic revivalists were interested in restoring the extant medieval churches of England; their work resulted in the rebuilding of many Gothic spires, as at Chichester Cathedral, Saint Mary Redcliffe in Bristol, and many smaller churches.³⁶ These initiatives helped to secure the place of church spires in the English landscape, but they did not produce any works comparable to the great spires of Cologne, Ulm, and their continental cousins. Even further removed from the continental paradigm were the new designs developed by William Butterfield and his Victorian contemporaries, who were more concerned with picturesque asymmetry and bold effects of polychromy than they were with archaeological correctness.

In the United States, the nineteenth-century Neo-Gothic movement produced mostly humble churches of English inspiration, but a number of

³⁵ Anderson was interested in spires because they were an original building type of the Middle Ages, essentially free from Classical precedent. Frankl, *The Gothic*, 495.

³⁶ George Gilbert Scott rebuilt the 82-meter spire of Chichester Cathedral after its collapse in 1861. Anderson and Hicks, *English Cathedrals*, 49. The present 89-meter spire of Saint Mary Redcliffe was completed in 1872, the original having been destroyed by lightning in 1446. See Crewe, *Visionary Spires*, 131. Further evidence for the English 19th-century interest in spires comes from the publication of one of the most lavishly illustrated studies of medieval church spires: Wickes, *Spires and Towers*.

major spire projects nevertheless emerged, especially in New York City.³⁷ Richard Upjohn's Trinity Church, a Puginesque building designed in the 1840s, has an eighty-five-meter spire that remained the tallest structure on Manhattan until the last decade of the nineteenth century (fig. 11-16). James Renwick's slightly later New York churches were more continental in flavor. The spire of Renwick's Grace Church sits directly on the square tower in English fashion, but the rose window and gabled porch betray French influence, and the spire cone incorporates a belt of decorative gables perhaps inspired by a similar motif at the Stephansdom in Vienna. His Calvary Church has two slender spires, their octagonal tower stories and faux-openwork spire cones coexisting strangely with the building's awkward lower stories.

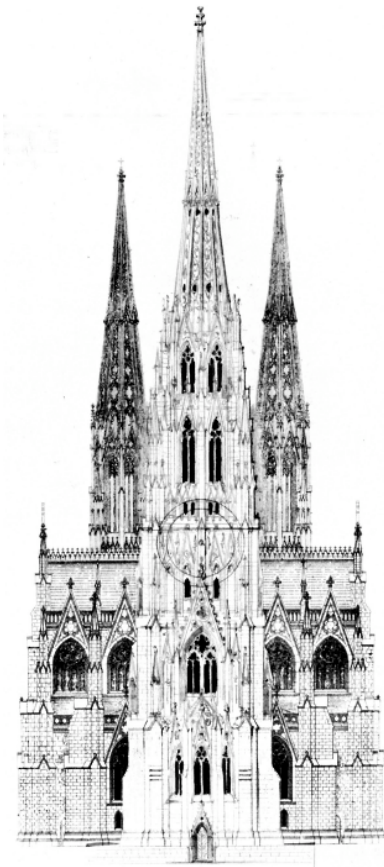
Renwick's masterpiece was Saint Patrick's Cathedral, which aspired to the level of the greatest continental projects.³⁸ Like Ferstel's Votivkirche in Vienna, which it resembled in form and scale, Saint Patrick's was in essence a reduced copy of Cologne Cathedral, although Renwick's mixture of English and French mannerisms gave the building its own special flavor. As at Calvary Church, Renwick planned to articulate the spire cones with faux-openwork reticulations. The rotated spire geometry may have been inspired by Scott's Nikolaikirche. Unfortunately, financial stringency took its toll on Saint Patrick's during construction, resulting in the elimination of the intended flying buttresses and radiating chapels, as well as the unique 130-meter eastern spire that Renwick designed late in life to compete with the skyscrapers that were beginning to rise by that time (fig. 11-17). Saint Patrick's remains one of the most impressive monuments of the American Gothic Revival movement. Indeed, it was a singular building, as atypical of American Gothic Revival as Scott's Nikolaikirche was of the English.



11-16 New York,
Trinity Church.

³⁷ An excellent discussion of the American Neo-Gothic movement in the 19th century can be found in William H. Pierson, Jr., *Technology and the Picturesque: The Corporate and Early Gothic Styles*. Vol 2 of *American Buildings and their Architects* (New York, 1978).

³⁸ See Pierson, *Technology and the Picturesque*, 206-69.



11-17 New York, Saint Patrick's Cathedral, elevation from east showing proposed eastern spire.

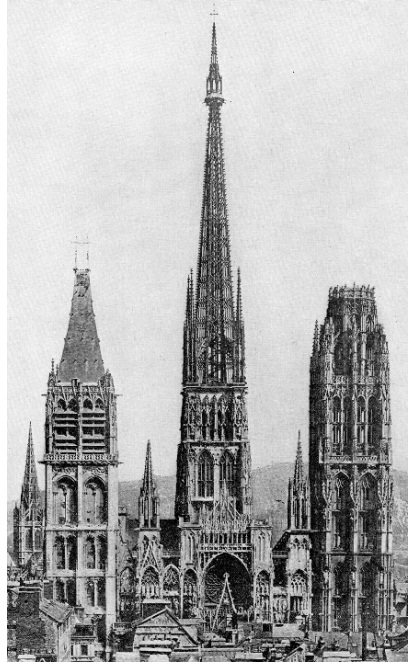
of major buildings were destroyed in this period, including the cathedrals of Arras, Cambrai, and Valenciennes, the abbey of Jumièges, and Saint-Nicaise in Reims, a key monument for the history of Rayonnant spire design.³⁹ In this climate, the demand for new buildings of the same type naturally declined, although the writings of Victor Hugo and other Romantics eventually reversed this trend.

In France, great spires were not the rarities that they were in the Anglo-American tradition, but they were not generally the focus of nationalistic pride, as they were in Germany. Viollet-le-Duc and other French scholars emphasized the development of Gothic buttressing, vaulting, and articulation systems in the twelfth and early thirteenth centuries. This was understandable given France's pre-eminent role in these developments, but it left little room for consideration of spires. Although a number of great spire projects were undertaken in nineteenth-century France, these were not seen as the culmination of the country's most impressive architectural legacy, as those of Cologne and Ulm were in Germany.

Social, political, and institutional forces conspired to reduce the scope of Neo-Gothic building projects in nineteenth-century France. During the Revolution many French cathedrals had been damaged or desecrated, falling into dangerous states of disrepair by the early years of the nineteenth century. A number

³⁹ Bideault and Lautier, "Saint-Nicaise," 300.

The enduring popularity of classical architecture as the style of French officialdom played a role in reducing the scope of the French Gothic Revival movement. J.-G. Soufflot's church of Sainte-Geneviève, for example, was quickly rehabilitated as the national Pantheon despite its construction under the Ancien Regime. The classically inclined students of the École de Beaux Arts dominated major public commissions from the reign of Napoleon until the end of the nineteenth century. There was no French Gothic Revival analog to the English Houses of Parliament, for example. Classicism reflected durable French cultural ideas of rationalism and Cartesian order in an era when German Romantics were seeking a unifying national *Geist* in the organic architecture of the Middle Ages.



11-18 Rouen Cathedral, from the west, showing iron crossing spire.

By the 1840s, however, Hugo's publication of works such as *The Hunchback of Notre-Dame* had generated new interest in French medieval architecture, permitting a number of Gothic Revival building projects to be undertaken. Despite Hugo's eloquent boosterism, most were relatively uninspired. This was surely the case of Sainte-Clotilde in Paris, constructed between 1846 and 1857 to the designs of F. C. Gau and Theodore Ballu. Belonging to the same class as the Votivkirche or Saint Patrick's, but lacking the rich detail of the former and the personal idiosyncracies of the latter, Sainte-Clotilde has two relatively small slotted spires that grow out of the west facade block through a rational but sterile progression of square and octagonal tower stories. The facade design has the relentless quality of Cologne's Plan F, without the visionary grandeur and loving detail that make Plan F a masterpiece. Similar criticisms of sterility have also been leveled at another major Gothic Revival building of the 1840s, Notre-Dame de Bon Secours near Rouen.⁴⁰

⁴⁰ Hitchcock, *Architecture*, 160.



11-19 Clermont-Ferrand Cathedral, west facade.

Sainte Clotilde and Notre-Dame de Bon Secours were both new foundations, but many French spire projects of the nineteenth century involved modifications to medieval buildings. In Rouen alone, three such major interventions were made. When the timber crossing spire of the cathedral was destroyed by lightning in 1822, it was decided to replace it with an even larger spire with a unique structure of cast iron openwork that left French medieval precedents far behind. With a height of 151 meters, the Rouen spire was the tallest structure in the world upon its completion in 1876, and it remains the tallest spire in France (fig. 11-18).⁴¹

Smaller but more archaeologically plausible was the stone spire that H. C. M. Grégoire erected to replace the wooden *flèche* of Saint-Maclou.⁴² The small flying buttresses at the spire base reflect a mixture of influences from the medieval spire of Caudebec-en-Caux and from the facade of Saint-Maclou itself. Grégoire's intervention at Saint Ouen Abbey was less felicitous. In order to build his rather sterile Rayonnant facade, he destroyed the unique diagonally planted tower bases that had survived from the early sixteenth century. The towers of Grégoire's facade are moderately interesting because their octagonal plan begins immediately above the aisle portals, but even with its twin slotted spires, the facade as a whole lacks the monumentality and dynamism of the original. Nineteenth-century spires were also added to medieval churches in southern France, as at the cathedrals of Bayonne and Clermont-Ferrand (fig. 11-19).

⁴¹ Armand Loisel, *La Cathédral de Rouen* (Paris, [1904]), 32.

⁴² Hitchcock, *Architecture*, 162.

The facade and spires of Clermont-Ferrand are of particular interest because they were designed by Eugene-Emmanuel Viollet-le-Duc, the most prominent scholar and restorer of the French Gothic Revival movement. Rejecting the Catholicism of Chateaubriand and the Romanticism of Victor Hugo, both of whom had stimulated interest in medieval architecture earlier in the century, Viollet-le-Duc embraced a secular rationalism. Viollet-le-Duc's emphasis on the history of Gothic structures has remained influential to this day, strongly affecting the growth of Gothic art historiography in France especially. Because Viollet-le-Duc was interested in the dialog between aesthetics and technology, as manifested especially in cathedral structure, he viewed the late twelfth and early thirteenth centuries, in which the major problems of Gothic cathedral design were solved, as the undisputed heyday of Gothic architecture. It was the period, moreover, in which France was the unquestioned leader in Gothic design. As both a rationalist and a Frenchman, Viollet-le-Duc tended to favor the early years of Gothic. The free play of aesthetic fantasy in Late Gothic design generally struck him as decadent.

Viollet-le-Duc's preference for early Gothic was evident in his treatment of spires as well as in the rest of his substantial oeuvre. He admired the twelfth-century spire of Chartres Cathedral, with its elegant but simple transition from square to octagonal cross section. He also approved of the thirteenth-century spires of Senlis Cathedral and Saint-Nicaise in Reims, but he found little to praise in the far more complex spire of Strasbourg, which he saw as a typically Germanic example of artless Late Gothic overkill. When Viollet-le-Duc designed spires of his own, he naturally employed simpler forms borrowed from Chartres, Senlis, and the north spire of Saint-Denis, which he had helped to dismantle since it had fallen



11-20 Paris, Notre-Dame, spire scheme proposed by Viollet-le-Duc.



11-21 Paris, the Eiffel Tower.

into disrepair.⁴³ Viollet-le-Duc's thinking can be seen in his idealized reconstructions of Reims Cathedral and Notre-Dame in Paris with what he believed were their originally intended spires (figs. 4-3 and 11-20). The latter drawing, in particular, resembles the spires actually built at Clermont-Ferrand.

Viollet-le-Duc's reputation now rests not so much on his original building projects as on his restoration efforts and scholarship. His curiosity about the history of Gothic architecture led him to consider virtually every component of the medieval buildings he studied. Viollet-le-Duc, in fact, was among the first scholars to consider the history of towers and spires in any depth, arguing perceptively about the uses of these structures as strongholds, belfries, and symbols of civic pride.⁴⁴ He implicitly recognized the great spire type in his careful discussion of the transition from square tower to octagonal spire. His preference for early Gothic, however, blinded him to the achievements of later

medieval spire designers, a weakness evidently compounded by nationalism in his discussion of Germanic spires. Although Viollet-le-Duc argued that most Gothic church towers were designed to carry spires, spires played a relatively unimportant part in his overall professional output. For Viollet-le-Duc, as for most subsequent students of French Gothic architecture, the dramatic development of church vaulting, buttressing, and articulation systems in the twelfth and thirteenth centuries remained the primary focus of interest.

⁴³ Viollet-le-Duc, "Flèche," *Dictionnaire*, 5:436ff.

⁴⁴ Viollet-le-Duc, "Clocher," *Dictionnaire*, 2:288ff.

Viollet-le-Duc's architectural theory, significantly, embraced the future as well as the past. Recognizing that the builders of Gothic churches had used the most advanced technologies available in their day, he urged modern builders to use up-to-date methods as well. In this way, he felt, modern builders could be true to the spirit of their medieval predecessors, even if they ultimately developed novel formal and technical solutions with no obvious historical referents.⁴⁵ Thus, while most of Viollet-le-Duc's own building projects were Gothic in style, his writings contained the seeds of a new and modern architecture. In particular, Viollet-le-Duc was one of the first theorists to grasp the revolutionary potential of metal structural framing. Metal-reinforced construction of a sort had been pioneered in the Gothic era, as at Freiburg, and it was further developed in the nineteenth-century cathedral workshops of Rouen and Cologne, but Viollet-le-Duc recognized that such building technology opened the way to completely new design solutions. In a general sense, therefore, he anticipated the emergence of monuments like the Eiffel Tower and the modern skyscraper, the first structures to dramatically exceed the height scale established by great spire in the Middle Ages (fig. 11-21).

⁴⁵ As Viollet-le-Duc perceived, Gothic architecture was in some ways a species of medieval modernism. This point has more recently been pursued by Marvin Trachtenberg, in "Gothic/Italian Gothic."