La pierre et sa mise en œuvre dans l'art médiéval : autour de ce thème, plus de quarante spécialistes français et étrangers, historiens de l'art, archéologues, conservateurs ou architectes, se sont associés pour rendre hommage à Éliane Vergnolle, dont les travaux sur l'art et l'architectures de la période romane font aujourd'hui autorité. Le domaine de recherches d'Éliane Vergnolle et ses études sur les techniques de taille de la pierre ont dicté les thèmes explorés dans ce volume, qui couvre un large champ. De nombreuses contributions abordant la question du travail de la pierre dans la sculpture et dans l'architecture romane ou gothique, ainsi que dans la création artistique des périodes plus récentes. Plusieurs études sont consacrées aux rapports entre la pierre et les arts de la couleur (enluminure, peinture, vitrail), aux questions de méthode d'analyse, à l'archéologie du bâti, à l'art du mobilier, aux compétences des chantiers, aux modes de transmission des formes et des connaissances, aux tailleurs de pierre eux-mêmes, ainsi qu'à la pierre «/uni00A0rêvée/uni00A0», celle des représentations et de l'imaginaire médiéval. Au total, cet ouvrage offre, sous un angle original, un panorama complet des principales orientations de la recherche actuelle autour des arts monumentaux à l'Époque médiévale.
Large-scale church architecture in stone and brick tends to evoke the eternal, rather than the ephemeral, and this was surely what both patrons and builders intended. Most of us remain profoundly receptive to that grand vision, and both public perception and scholarly studies, driven by an ineffable combination of sensitivity to this objective, as well as some lurking romantic fantasies about the past, have responded to the great medieval church as indeed representing a vision of the eternal. Church portals are the gate of heaven, and the building itself becomes an image or allegory of the Celestial Jerusalem.\(^2\) Gothic architecture evokes visions of Paradise and eternity: its scale, its soaring vaults and its diaphanous walls penetrated by stained glass, all seem to defy the material constraints of this world, pushing imagination and human aspiration towards the next.

This kind of overarching interpretation has tended to infuse the goals of scholarly study with inchoate yearning for a world of order and reason. To a considerable extent these ideas have shaped a commonly-held cultural narrative that has tended to obscure, or at least to supersede, the episodic character and disjunctions, if not actual disruptions, visible in the fabric of most medieval churches. These notions of order, harmony and continuity also reflect, of course, two centuries of restorations and repairs that have tended to homogenize and unify many of the erratic and discontinuous episodes of medieval buildings.\(^3\) The goals of restorers have mirrored the ideals of literature and scholarship, and both reflect the desire for another, better world, driven by spirituality, philosophy, and geometry. This impulse is nowhere expressed more completely, perhaps, than in Otto von Simson’s *The Gothic Cathedral*, published in 1956, at the end of the first decade after the Second World War. This line of reasoning includes a variety of studies that interpret the Gothic cathedral as reflecting patterns of theology and philosophy, as in Erwin Panofsky’s *Gothic Architecture and Scholasticism* (1951) and Charles Radding and William Clark’s more recent *Medieval Architecture, Medieval Learning: Buildings and Master in the Age of Romanesque and Gothic* (1992).

Sometimes perceived as at the opposite end of the spectrum has been the work of John James, who proposed that post-1194 reconstruction of the best-loved and most “emblematic” Gothic cathedral, Chartres, proceeded with a series of small-scale changes to the overall design concept, a proposal that elicited the written equivalent of “frothing at the mouth” in a variety of reviews.\(^4\) Scholarly opinion was aggravated by his cheerful designation of different anonymous and itinerant master masons in Bologna. Note also that after Napoleon’s Civil Code was imposed in most of Europe in 1804, burial was forbidden within churches and city walls, resulting in the ubiquitous removals of tombs, votive statues and paintings, and other flotsam and jetsam (choir screens, hangings, flags) from congested religious space. As a result, we now have “pure volumes” redolent of the spiritual in place of a medieval reality thoroughly “colonized” by lay memorials of all kinds.

\(^1\) For reasons of limitation of space, footnotes are kept as lean as possible. I thank Peter Ferguson, Conrad Rudolph, and Matthew Woodworth for reading and commenting on this text.

\(^2\) See for example Hans Memling’s “Last Judgment Altarpiece” in Gdansk, Poland, where the saved enter the portal of a Gothic Cathedral. In referring to the Ste. Chapelle, for example, Jean de Jandun stated, “Upon entering...one feels transported to heaven, and one imagines that one has been ushered into one of the most beautiful chambers of Paradise.” Quoted by Michael Davis in a review of Tom McNeill, *Faith, Pride and Works, Medieval Church Building*, in *Speculum*, 84, 2009, p. 191.

\(^3\) There is no shortage of conspicuous examples of such “harmonizations”, but a striking instance is San Francesco in Bologna. Note also that after Napoleon’s Civil Code was imposed in most of Europe in 1804, burial was forbidden within churches and city walls, resulting in the ubiquitous removals of tombs, votive statues and paintings, and other flotsam and jetsam (choir screens, hangings, flags) from congested religious space. As a result, we now have “pure volumes” redolent of the spiritual in place of a medieval reality thoroughly “colonized” by lay memorials of all kinds.


at Chartres with names such as “Orange”, or “Ruby”, which did not seem to convey the sacred responsibility of building a great cathedral. In some way, the (idealized) operation of the Gothic seemed to have been defiled by being brought down to earth and into the practical day-to-day operations of a workshop and a process of flux and change.

Somewhere in the middle, and emblematic of some of the best scholarship in the field, is the work of individuals such as Éliane Vergnolle on St.-Benoit-sur-Loire 6, Peter Fergusson on Rievaulx (and the other Cistercian abbeys in England) 7, Peter Kurmann on Meaux 8, some collective and multivolume studies such as Riedl and Seidel's work on Siena 9, Arnold Wolff's work on Cologne 10, and Kubach and Haas on Speyer 11, works in which the study of physical structures merges with a historical analysis in which a building and its site are understood as part of a long-term process that is adjusted, sometimes rapidly, and sometimes frequently, to the exigencies that impose themselves on construction underway. These changing circumstances might range from the practical (better ways to build or support walls or vaults, for example), to the exercise of the faith (the need for additional altars; the desire for greater separation between clergy and laity), competitive rivalry (a church larger than another down the road), or, even beyond the concept of “competition”, a design that is unabashedly and gloriously megalomaniacal (as at San Petronio in Bologna, or the cathedral of Milan). Sometimes projects “grew like Topsy” from more modest structures, expanding outwards and upwards in all directions (St. Mary's in Gdansk), and sometimes they were born with gigantism in mind from the outset (Bologna and Milan again), and not always with a clear idea of how to solve certain structural issues (the dome of Florence Cathedral). The larger and more ambitious the project, the less likely it would be completed as (we think) it was originally envisioned, and the greater the strain put on the foundations, financial resources, and manpower for labor and administration. Indeed, immense scale might be viewed as a predictor of conspicuous incompleteness and for significant changes in design.

As I reflect on the buildings I have studied in France and Italy, experience and observation suggest that few churches reflect a single “vision”, and many, perhaps most, are instead the result of a sequence of ideas that modify, or even transform, the earlier structure or original program 12. In France, for example, Abbot Suger's reconstruction of the Carolingian abbey of St. Denis underwent several major and obvious changes in design between the construction of the west facade and inception of work on the chevet. In 1987, I proposed that at Notre-Dame in Paris large-scale changes to the original elevation took place during the early decades of construction in the chevet, raising the height of the original elevation and profoundly changing the character of the building (a view that went over like the proverbial “lead balloon”) 13. In other churches, such as Canterbury or Chartres, the re-use of older foundations or lower walls expedited construction, reduced costs, and, to one extent or another, con-

12 My views of course would be in direct contradiction with the tradition of the “Gesamtkunstwerk” as it appears in the French and German literature of the late nineteenth and early twentieth centuries.
ditioned the design of what was erected above at the same time that they maintained a tangible link with the sanctity of the previous building. This was also the case in the thirteenth-century reconstruction of St.-Denis, where the new program was conspicuously conditioned by both Abbot Suger’s chevet as well as the height of his west facade. In other instances, such as St. Mary’s at Gdansk, the side aisles of an older structure were raised in height to create a hall church out of what had originally been a standard basilican elevation. At San Francesco in Rimini, or Sant’Eustorgio in Milan, an older nave was “wrapped” in a new exterior envelope that addressed the needs or pretensions of the patrons and/or the lay confraternities by adding systematic lateral chapels *ad jus patronatus* inside the church (Sant’Eustorgio) or tomb niches outside (San Francesco in Rimini). In other cases, a nave was initially constructed as an unarticulated rectangular box, and only later were columns and the vaults of nave and aisles inserted into the interior (the Franciscan church in Chelmno, Poland). In a series of major construction projects in Italy, the axis of the nave was swivelled 90 degrees, either to relate it better to the urban center (as at Sta. Maria Novella in Florence, or the Cathedral of Siena), or to permit the construction of a larger church (the Cathedral of Naples), or both (Siena again). Over and over again, the construction of large-scale churches in the Middle Ages suggests a process that is, or ended up being opportunistic, entrepreneurial, empirical, even “amoebic,” and “additive.” More often than not, important elements of concept and structural solutions changed between the inception of construction and subsequent phases. In other cases, materials, foundations, and walls were reused, and these conditioned the end product, perhaps even a sequence, of “end products”. There may be some reason to think that in some Medieval and early Renaissance buildings there was a series of programmed phases of incompleteness (which can often be related to the location of a choir screen – San Nicolò in Treviso; Santa Maria Novella, Florence, Sant’Anastasia in Verona) 14, or that the structures were conceived as a series of successive interventions to which our own idealized views of order, harmony and coherence are not, perhaps, entirely relevant.

Shifting, unstable, or evolving architectural concepts, and long intervals between the initial conception and various stages of the execution, either in the long or short term, tend to undermine or disrupt tenderly cherished ideals about the motives and practices of the medieval builder, such as geometrical systems laden with symbolic significance (eg. the golden section) utilized in setting out plan and elevation, or the idea of a theologically-driven program removed from the distasteful realities of human nature and the vicissitudes of daily life. Indeed, there has been a long tradition of viewing the Middle Ages as a moment in history during which mankind was able to set aside personal need and ordinary human failings in order to engage itself in a “great work” for the glory of God, and that this great work, in its planning and execution, expressed perfect proportions and an ideal relationship of the parts. Scholars are able to point to medieval texts for justification: texts that range from the symbolic meaning of church architecture (Durandus) to those that demonstrate public participation and engagement in church-building (the so-called “cult of carts”). These medieval sources have assisted modern scholarship in carrying forward concepts first put forward by the medieval clergy that affirmed the deeper meaning of and consensus behind the construction of large-scale and expensive religious buildings. Have we cheerfully accepted being “hoodwinked” to the extent of not being able to write objectively about what we can see and measure?

Medieval texts that refer to idealized visions of religious architecture in one way or another justified the vast expense of church building as expressing the will and spontaneous outpouring of

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14 This would suggest that the church is primarily the setting for the liturgical services of the religious community, and somewhat less so for the lay public, a phenomenon especially noteworthy in the buildings of the mendicant orders, whose externalized mission, preaching and offering of confession and absolution in public spaces, to some extent obviated the need for interior church space. See Caroline Bruzelius, “The Dead Come to Town: Preaching, Burying, and Building in the Mendicant Orders”, in Alexandra Gajewski and Zoë Opačić (ed.), *The Year 1300 and the Creation of a New European Architecture*, Turnhout, 2008, p. 203-224.
faith and personal sacrifice on the part of the deeply-believing layman. These narratives largely sanitized a long tradition of conflict over the expenditure of church funds for buildings that go back to the early Christian church and particularly the fourth century. A nineteenth-century variation on the theme of lay engagement with church building, but with strong anticlerical overtones, was presented by Victor Hugo in *Notre-Dame de Paris* (1831) and was kept alive by Eugène Emmanuel Viollet-le-Duc, a view that maintained the narrative of the medieval cathedral as the work of the collective genius of the common (French) people, not the clergy. One way or the other, the construction of big buildings has been explained within a symbolically-significant, socially harmonious, and coherent human and political context, and even today our view of the structures before our eyes is often conditioned by these impulses: not only have the buildings been presented as representing order and rationality, but so too have the circumstances of their construction. We are heirs to a type of thinking that has privileged consensus, rationality, harmony, and a "spiritualized" reading of the medieval church, not only for the building itself, but also for the process of its construction. As a result, few scholars have concerned themselves with what one might consider the more humble realities: how was consensus for reconstruction achieved, how were buildings paid for, and what did their construction entail for the surrounding communities? This reticence, I suggest, is not only due to the rare survival of documents, but also a certain gentle distaste for the mundane aspects of the construction of an architectural type that was viewed as "an image of the Celestial Jerusalem" and therefore removed from earthly concerns.

There have been conspicuous alternatives to this kind of idealized narrative in the work of Carl Werkmeister and his students. Yet one might observe that these studies can sometimes be characterized by a slightly aggressive, "enfant terrible" approach to the subject: they tend to be deeply Marxist, somewhat polemical, stewing for a fight, and hence not always very convincing precisely because they are combative. In a different vein, Dieter Kimpel and Robert Suckale integrated some aspects of social structures behind buildings and the organization of labor in their monumental volume, *Die gotische Architektur in Frankreich, 1130-1270* (1985).

Some of the tension between the approaches of James and other (more standard, or more conventional) types of narratives (the scholarly monograph) might be summarized as a split between those who view the large medieval church as a "project" (or sequence of projects), as opposed to a focus on the "process". An admirable and documented example of concern with process can be found in Howard Burns’ essay, "Building Against Time: Renaissance Strategies to Secure Large Churches Against Changes to their Design" (1995) 17, which takes as its point of departure Michelangelo’s tired and slightly desperate letters from the on-going work at St. Peter’s. These letters attest to the absolute necessity of his presence on the site in order to maintain and build his design to a point after which it could no longer be modified. These letters, mind you, were written while working on a site at which he himself had eliminated parts of Raphael and Sangallo’s southern hemicycle, even as Bramante’s design had been transformed by Raphael. Medievalists, alas, don’t have the luxury of these types of

15 Jerome, after all, said “What use are walls blazing with jewels when Christ in His poor is in danger of perishing from hunger […] Do not […] give the property of the poor to those who are not poor.” Jerome, Letter 58, translated by William Henry Freemantle, George Lewis, and W. G. Martley, and quoted by Caecilia Davis-Weyer in *Early Medieval Art, 300-1150*, Toronto, 1986, p. 38.
17 Published in *L’Église dans l’architecture de la Renaissance (Actes du colloque tenu à Tours du 28 au 31 mai 1990)*, ed. Jean Guillaume, Paris, 1995, p. 107-131. Though repeatedly invited to return to Florence by Cosimo de’ Medici, Michelangelo did not dare leave the site of St. Peter’s while he still had strength and time for fear that his project would be changed, as had occurred to Bramante’s project before him.
documents, and can usually only hypothesize such types of conflict and irresolution at a building site on the basis of the details they can see, measure, and record.18

The “project” might be described as the initial and overall “blueprint” for the structure at its initial phases, or what we might call the “ideal vision” presented before work is commenced. Here we might indeed find a plan developed in relation to proportional relationships and geometrical principles, and these may well have expressed or reflected certain philosophical modes of reasoning, as suggested by Panofsky and others. Viewing buildings as “process”, on the other hand, emphasizes an empirical, or ad hoc, mode of procedure, and places a focus on the emerging building as the result of (for want of a better term) a “dialogue”, or a series of on-going negotiations, between the initial structural concept and emerging or changing practical considerations, such as the realities of the site or the resources available (which might range from finances to workers to materials). The disjuncture between initial project and the structure as it evolves might be described as the architecture of “becoming”, which may involve both programmed and unplanned moments of incompletion or change. In this category, we might consider some major French churches, such as the cathedrals of Sens and Noyon, Abbot Suger’s St.-Denis, or Notre-Dame in Paris – buildings where we are on some level aware that what we see today may bear little relation to the (largely unknowable) concept of the structure at its inception19. What’s more, at St.-Denis we know specifically that Suger as abbot presided over both projects, in spite of the fact that they cannot be “reconciled.” To what extent can we attribute any kind of “authorial intent” to disparate parts of buildings, or should we consider them as an aggregation of intentions, each of which responds (or not) to the ones before?

It needs to be clear that the concepts of “project” and “process” are by no means opposite and mutually exclusive polarities. I am not thinking of project versus process, but rather of a differentiation between initial concept and the (usually) long and slow process of construction. Obviously there is always some level of a “project” in the “process”, and “process” is also always anticipated and implicit in the “project”. Instead of the type of polarity that tends to characterize our identifications (black/white, male/female, blind/seeing), the realities fluctuate within various middle zones. In the end, if it can be put in such simplistic terms, big buildings are part of a changing, “breathing”, shifting, world where shifts and slips must be recognized almost as a matter of course. Large-scale medieval architecture exists somewhere in a sliding scale of possibilities between an ideal design and ad hoc solutions.

Starting in the thirteenth century in particular, the buildings of the mendicant orders seem to have stimulated the development of creative approaches to construction20. This was in large measure because their financial resources were conditioned by their rejection of the normal sources of clerical income – they largely depended upon the goodwill and generosity of private donors instead – but it was also because they often inherited or acquired older churches which they needed to adapt to their needs. In addition, the mendicants settled in cities, so that their conventual buildings were usually constrained by the exigencies of urban environments and the acquisition of property often hotly contested with neighbors.

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18 And of course a moment’s reflection will reveal how difficult this is in buildings that are extremely tall, because the greater part of the upper elevations is not accessible except by scaffolding.


20 Bruzelius, “The Dead Come to Town” (see note 14), p. 203-224.
CAROLINE BRUZELIUS

In this brief article, I would like to outline five types of construction strategies. I shall focus on examples that are perhaps less well-known to the reader than some of the major monuments mentioned above. I will also limit myself only to the additions or expansions made to the naves of churches:

1. “filling in the box”: the construction of the exterior walls of the nave which only at a later date were filled in with columns and interior supports and vaults.
2. “redefining the perimeter”: the opposite approach to the above, the inner supports are maintained while the external walls are reworked and the aisle vaults are reconstructed in relation to the new exterior envelope.
3. 90 degree rotation of axis.
4. “raising the roof”, so that a church that starts as a basilican elevation (nave lit by a clerestory and flanked by lower aisles) is transformed into a hall church, or the older lower walls are simply used to support a remodeled, reconstructed elevation (the work of William of Sens at Canterbury).
5. “addition by subtraction”, a process (the opposite of #1) in which the internal piers are removed, and sometimes an atrium or forecourt is absorbed, in order to create one large volume on the interior.

Filling in the box

The thirteenth-century friars seem to have been particularly ingenious and experimental in their approaches to constructing new churches or expanding older ones. Their inventive approaches were the result of the acquisition of urban sites constrained by other buildings on all sides and by the re-use and adaptation of older churches. But their modus operandi in building was also no doubt conditioned by their sporadic sources of economic support. North of the Alps, in particular, and perhaps especially in Germanic territories, a common mendicant building strategy seems to have entailed the construction of an elongated choir either added to a pre-existing nave (Salzwedel), or a choir followed by the construction of a nave considerably wider and initially lacking internal supports. The nave would have initially been covered with a wooden truss ceiling, while the friar’s choir was vaulted (Chelmno, both the Franciscan and Dominican churches). Only later were internal supports in the form of piers erected inside the main vessel, after which vaults could be added over aisles and nave. In effect, with this approach, the initial wooden-roofed nave could be used as a covered space for the lay public without the protracted expense and construction time of a subdivided and vaulted interior (there are innumerable mendicant examples of this approach – so many, indeed, that we could call it standard operating procedure). Only later were internal supports in the form of piers erected inside the main vessel, after which vaults could be added over aisles and nave. In effect, with this approach, the initial wooden-roofed nave could be used as a covered space for the lay public without the protracted expense and construction time of a subdivided and vaulted interior (there are innumerable mendicant examples of this approach – so many, indeed, that we could call it standard operating procedure). It is interesting to reflect upon whether this practice, perhaps more common in the north, might have been a practical response to the mendicant’s need for preaching spaces that could be built relatively cheaply and rapidly. In Italy the warmer climate may have permitted the use of exterior spaces for preaching a greater part of the year.

21 This research took departure from a study of mendicant building strategies, and only subsequently did I discover that a number of the approaches I describe here have also been suggested by John James in The Template Makers of the Paris Basin: Toichological Techniques for Identifying the Pioneers of the Gothic Movement with an examination of art-historical Methodology (1989), see especially his chapter 3, “Construction Strategies,” p. 39-62. James’ important work on this topic would suggest that the kind of “opportunistic” building strategies I describe here were already ubiquitous in the construction of churches in the Ile-de-France in the twelfth century.
23 In The Template Makers (see note 21), p. 42-51, John James describes a similar strategy which he calls the “Garden Wall.”
Redefining the perimeter

By the end of the thirteenth century the progressive addition of lateral chapels to churches originally constructed without them was common in large and small churches (the naves of the cathedrals of Paris, Amiens, Noyon, Laon, etc.). The buttresses themselves usually became part of the separating wall between the new chapels, but they were often extended outwards to make the chapels deeper. This phenomenon is ubiquitous, and became a standard feature of late thirteenth and fourteenth-century church architecture.

The addition of later chapels, and the very idea of the malleability of wall surfaces, may have inspired new thinking about the perimeter walls of the nave, and was the result of increased lay and clerical pressure for private family burial chapels with secondary altars. External nave walls were now perceived as permeable surfaces that could be penetrated and reconfigured, and sometimes this occurred over and over, as lay families died out and new potential patrons could offer more funds for an "updated" chapel. One very systematic example of this phenomenon can be seen in the late eleventh or early twelfth-century church of Sant'Eustorgio in Milan, where the Dominicans retained the original nave arcade but peeled away the external wall on the south side in order to reconstruct it with a series of lateral chapels (fig. 1 and 2) and added rib-vaults that extended over the south aisle. This, in effect, replaced the exterior envelope around the church while keeping the interior core fundamentally intact.

In a similar way, though later in date, Leonbattista Alberti remodelled the Franciscan church of Rimini by encasing the older structure...
with a new classical carapace consisting of a series of round-arched niches open to the exterior, each of which contained a cenotaph. The older Gothic building was thus hidden from view and the exterior was updated in a radical statement of new Renaissance architectural principles.

In other buildings, the west end was rebuilt, as at the church of the Augustinian Hermits in Padua: here the nave was elongated by a structure characterized by deep external niches, a solution that seems to directly anticipate Alberti’s design in Rimini (fig. 3).

**Addition by subtraction**

Several Franciscan churches created large interior volumes out of earlier basilican naves by simply removing the interior supports and extending the old nave either into a piazza in front of the church \(^{24}\), or into an atrium, as at San Fermo Maggiore in Verona (fig. 4) or San Lorenzo Maggiore in Naples \(^{25}\). In both cases, this solution permitted the creation of large single-nave churches in a densely-inhabited urban fabric.

**The 90 degree rotation**

In late thirteenth-century Italy there are at least three monumental examples of reconstructions of churches in which the axis of the original structure was rotated by 90 degrees. Almost always, these seem to have been strategic decisions that permitted the construction of a larger church (Naples, Siena)

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\(^{25}\) Bruzelius, *The Stones of Naples* (see note 24).

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or that brought its axis into greater alignment with the centers of power or traffic patterns in the city (Siena). The earliest example that I know of is Sta. Maria Novella in Florence, which shifted the orientation of the church by constructing the main altar in the north. This permitted the Dominicans to greatly expand the dimensions of the church towards open area to the south, and relate the church to the vast open expanse in front, which in 1287 was given to the order in perpetuity for the creation of a space for public preaching.

The most famous, and famously incomplete, of such rotations is of course that of the Cathedral of Siena, where a vast new nave was undertaken in the early fourteenth century and conspicuously abandoned at the Black Death.

Raising the roof

The taste for hall churches in central and northern Europe permitted another kind of inventive expansion, one with perhaps fewer practical advantages but certainly strong aesthetic ones. There are a number of examples in which the aisle vaults were removed, and the external walls extended upwards in order to create a hall church out of a basilican space. This can be seen, for example, in the cathedral of Tolún and in St. Mary’s at Gdansk, although in the latter case the project also entailed redefining the perimeter by adding wider exterior walls with shallow lateral chapels (fig. 5). At St. Mary’s, the expansion of the church created space for the private chapels of wealthy burghers, an important source of funding for the project, but at the Cathedral of Tolún the project seems to have been driven by purely aesthetic motives. It may not be a coincidence that both churches are built of brick, and were important cities of the Hanseatic League, so that collective identity and civic pride may have been at stake in remodeling the building, and great wealth may have facilitated its execution.

But these are not the only examples; more familiar ones come readily to mind. This procedure is what William of Sens in effect was doing at Canterbury in the first phase of the reconstruction, as the lower walls of the choir are those of St. Anselm’s extension. The tribune windows of Anselm’s choir were “reborn” as an upper tier of aisle windows in a gesture of infinite ingenuity on the part of William. It was also the point of departure for the reconstruction of the St.-Denis chevet beginning in 1231, and to some extent the reworking of the apse of Chartres after the 1194 fire. Preserving the lower walls not only facilitated the reconstruction process, but also saved time and money.

I would also suggest that, if my analysis is correct, the raising of the height of the chevet at Notre-Dame Cathedral might be another example. The second master entered the scene when the lower walls of the chevet, and perhaps part of the tribune, had been set in place. Where he could do so discretely, he introduced design modifications, such as responds formed by rotating pilasters on the inner walls of the chevet tribunes. These forms were then introduced on monumental scale on the west side of the transept and in the nave. But above all he stretched up the elevation to great and un-
expected heights, leaping into thin air with vaults that far surpassed those of any building before, but doing so on the beautifully solid walls of his predecessor.  

Thinking about building as “process” can reconfigure some of the ways in which we understand the built environments of the Middle Ages. The construction phases of buildings may be a far more complex, contested, and protracted matter than we have tended to think in an intellectual frame that conceptualized the project primarily within the boundaries of building campaigns (not to mention idealized notions of proportion and perfection). The traditional interpretation of understanding a building in terms of “building campaigns” presupposes an underlying assumption of overall homogeneity rather than interruption and disjunction, and that, barring disasters or difficulties, one campaign would proceed as expeditiously and as smoothly as possible to the next.

But perhaps the matter is not so simple, and “breathing space” was desired and sometimes even programmed into the process: there may, in some kinds of institutions, have existed a “culture of incompletion” or, at the least, a willingness to construct and think about buildings as a very process in dialogue with the site and with the exigencies of funding. Perhaps, too, there were other priorities: for example, for the friars, a visibly incomplete church may have served as a rhetorical and ideological demonstration of their “apostolic poverty”. Here, indeed, we might perceive that other agendas may have been more important than a completed building. If preaching, conversion and penitence take first place, the church itself acquires a different valence, because the primary focus is on those members of society who are precisely not there, not in church: the merchants, traders, travelers, and workers in the factories, markets and piazza. In those examples, the choir screen became the divider between the finished liturgical space of the residential community and an open volume of the future nave, a space that could serve multiple functions while awaiting completion (such as a cemetery).

And somewhere in these equations it behooves us to bear in mind that life expectancy through much of our period ranged between 27 and 33 years. William of Sens’ short tenure at Canterbury must have been more the norm than the exception, and other types of vicissitudes, such as famines, foul weather, tempests, crusading taxes, and bankruptcy, conditioned the construction of any large-scale project. Incompletion and “partiality” were inevitable elements of life itself.

Suger wrote a great deal about “harmony and concordance”, but (pace Sumner Crosby) very little of either existed between the plan of the west façade and the new chevet, even in a prestigious building so pivotal also for the history of Gothic architecture. How were the west end and the double-aisled nave of St.-Denis to be reconciled? And there are many other examples of egregious irresolution: what was Arnolfo di Cambio’s plan for the dome of Sta. Maria del Fiore in Florence? What on earth were the builders of San Petronio thinking about the transept and apse?

Another important question would be that of agency: who conceived these building strategies? Because the modifications are often the result of direct interventions in structural matters, I suspect that the master builders/architects proposed innovative solutions to satisfy the needs and interests of their client. Certainly the example of William of Sens at Canterbury would seem to confirm this. And if many, perhaps the majority, of these types of solutions were proposed by the architects/master builders, we might want to consider whether in some cases they were not only satisfying the demands or needs of their patrons by re-using older walls (thus saving time and money) – they were perhaps also paying a form of homage to their predecessors by preserving earlier work (the 1231 reconstruction of

26 Bruzelius, “The Construction of Notre-Dame in Paris” (see note 13), p. 549-553. This contextualization of design change during the construction of the choir will be less upsetting to my colleagues if it is contextualized as part of a broader procedure in building practice.

27 Bruzelius, “The Dead Come to Town” (see note 14), p. 207 ff.
the chevet at St.-Denis might be an example). In the cases of the incomplete fourteenth-century nave of Siena, the crossing of Florence, and the gigantism of San Petronio, we might also wonder whether endemic optimism might have been a professional malady on the part of the builders, or were these unresolved projects the builder’s vain attempts to satisfy the overweening ambitions of their clients?

While it is true that medieval writing about church architecture is replete with luminous language about the symbolic significance and deeper meaning of churches, within the realities of the construction process (which included problems of funding, such as public opposition to tithes, or the impact of Crusade taxation) 28, how seriously should we take this language? Perhaps our ideas about this rhetoric need more nuanced thought. The study of the physical fabric of buildings should be more open to the idea of multiple shifts in direction and the preconditions of the site, both of which militate against the expression of idealized notions of geometry, harmony, and spiritual vision. The norm would be disjunction and change; the exceptional rarity would be the building as a real expression of abstract values.

One final concluding note about big buildings: they cost enormous amounts of money, not only for labor and materials (almost always procured from elsewhere, and at great expense), but also to remove or reconfigure earlier structures on site that were almost always occupied and in use, or to purchase new property for expansion. For most of the thirteenth century, with the increase of population and the ballooning scale of cities, property values were high. Large-scale church building cannot exist without large-scale financing and a well-developed cash economy 29. Should we not see the explosion of church building in the twelfth and thirteenth centuries as the expression of immense available cash resources, which in France, and much of northern Europe, were to a large extent concentrated in the hand of the clergy? Should historians of architecture not integrate the history of medieval architecture, and our meticulous analysis of construction phases, with the waning and waxing tides of the financial resources of the clergy, the “shifting shorelines” of lay piety 30 and the “moving plates” of economic growth and recession?

Maybe we need to write new histories.

29 There is little evidence for compensating workers with room and board over the long run.
30 I have in mind here the decisive move in favor of the mendicant orders in the thirteenth and fourteenth centuries and the threat they posed to the traditional institutions of the secular clergy, and the growing importance of private lay spirituality, such as that of figures like St. Catherine of Siena, which brought the religious life into the domestic context.