Renaissance Architecture
C/
Flamboyant Gothic

The 15th and 16th centuries saw the Italian practice of reinvesting the architectural forms of Antiquity come up against the use of Gothic forms, renewed in a style usually referred to as "flamboyant" and hegemonic this time in countries further north, especially in France, Germany, Great Britain and Eastern Europe. We'll try to show that, in fact, the Renaissance style and the Flamboyant style correspond to the same preoccupation linked to the period, but that they only go about it in different ways.

As for the preoccupation of the time, we'll see that it concerns the desire to contrast as much as possible what belongs to matter and what belongs to the mind. As for the different ways of doing this, we'll see that Renaissance architecture favors the expression of a brutal conflict between the notions of matter and mind, while Flamboyant architecture favors the expression of the autonomy of each of the two notions. While these attitudes reflect regional preferences, they are not mutually exclusive, which explains why, as we shall see, there were exchanges between the two architectural styles. These two attitudes, moreover, *prolong a difference already present in previous centuries*.

We've spoken of Renaissance architecture and Flamboyant architecture, but each of these two styles can be divided into two successive eras, the first corresponding roughly to the 15th century and the second to the 16th century, without, of course, any clear-cut dividing line at the turn of these two centuries. We will consider these two periods one after the other, bearing in mind that while their differences are not usually emphasized in terms of Flamboyant architecture, they are very clearly separated in Italy, where the 15th century is referred to as the First Renaissance or Quattrocento, and the following century as the High Renaissance or Cinquecento, which is also sometimes referred to as Mannerist. A similar division can be proposed here for the Gothic style of the 15th and 16th centuries, distinguishing between a First Flamboyant and a Second Flamboyant.

In the 15th century, First Renaissance versus First Flamboyant Gothic:

Of course, Renaissance architecture can't be reduced to just one or two buildings, but it's fair to say that the ones we're going to talk about are generally recognized as characteristic, or even models, of the Italian Renaissance of the 15th century.

The street facade of Florence's Palazzo Rucellai was designed between 1446 and 1451 by architect Leon Battista Alberti (1404-1472). In the same vertical plane, two different techniques for using materials are combined and confronted: one is a continuous stone wall built in successive horizontal courses, the other is a series of antique-style porticoes spanning the entire height of a storey in one go. Unlike ancient architecture, however, these are not columns bearing real entablatures but only trompe-l'oeil pilasters, since they are themselves made of ashlar and their vertical continuity is only suggested by the design of the joints.
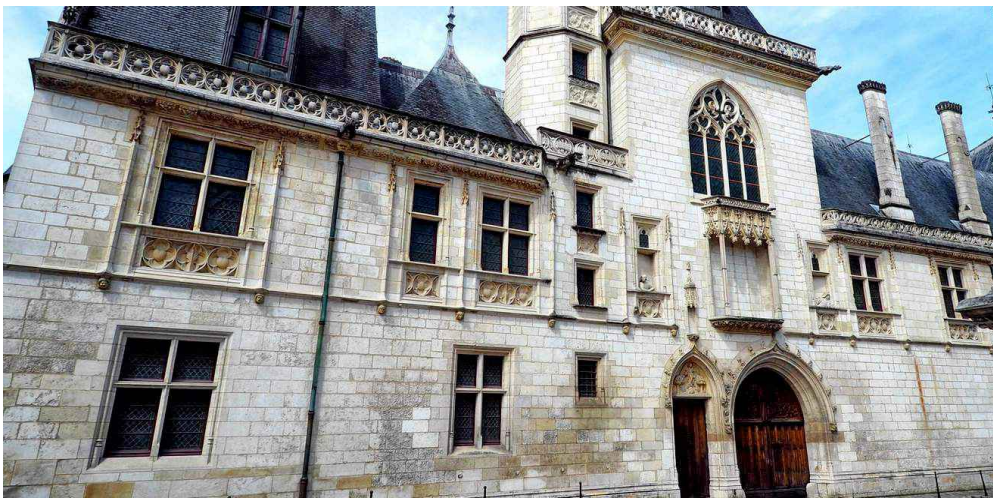

Alberti: street facade of the Palazzo Rucellai in Florence, Italy (1446-1451)

Image source:
http://nyitarch161.blogspot.com/2016/12/palazzo-rucellai-firenze-italy-1446.html

In this architecture, an implementation that may seem "purely material", since it simply consists of stacking stones, is interwoven with an implementation of pilasters and entablatures that evokes Antiquity and appeals to the historical memory that is one of the attributes of the mind. As announced, the two notions are in direct conflict with each other here, since they are superimposed on the same surface and thus mutually annihilate each other: the pilasters lead us to believe that they support the entablatures, but the presence of the stones stacked in superimposed beds shows that this is not the case; conversely, the stone beds rise up to the architraves and thus lead us to suppose that they support them, but the presence of the pilasters tends to suggest that this is not the case.

If we set aside this confrontation of techniques and focus on the resulting plastic effects, we see that this separation of the two techniques is coupled with a separation of visual effects. Regarding the large-scale ashlar surface, it emphasizes this material and suggests that the building's interior is protected by a solid, continuous and compact material mass. For its part, the technique of pilasters bearing entablatures uses a criss-cross system of vertical and horizontal linear forms that are easy to read "with the tips of the eyes", and therefore only with the attention of our mind, without the need to integrate into our body the simulation of material gravity required to read the massiveness of the dressed stone surface. In this purely linear reading, we can include the reading of the vertical columns separating the paired bays, as well as the reading of the horizontal lines drawn by the lintels supporting the semi-circular oculi.

Following on from this example of the early Italian Renaissance, an example of the early Flamboyant Gothic is given with a palace built in France at the same time, that of Jacques Coeur in Bourges, built from 1443 to 1451 and designed by architects Pierre Jobert and Jacquelin Collet. This building is described as "Gothic" on the basis of the style of its decorations, which use ogives from which emerge hooks depicting plants, as well as quatrefoils or flame shapes, a style quite similar to the motifs used in Gothic churches of the same period. The notion of material is conveyed by the technique of massive, continuous ashlar, while our mind is captivated by the lines and decorative motifs on the surface of this masonry or forming openwork acroteria at the bottom of the roof.

The street facade of Jacques Coeur's palace in Bourges, France (1443-) 1451)

Image source: https://www.bourgesberrytourisme.com/destination-bourges/best-of/le-palais-jacques-coeur/

In the previous Italian example, the notion of matter and the notion of mind were in direct conflict as they competed to occupy the same surface: the constructional mode of pilasters and entablatures, relying on the memory of ancient architecture stored by the mind, countered the continuity of the construction in large, massive stones enhancing the capacities of matter, while the latter in turn denied the claim of the other to span great distances between pillars. As in the case of the Italian building, the architecture here stages a confrontation between the effect of matter and forms whose design is of particular interest to our mind, but by difference the matter of the massive walls and the decorations that animate or border its surface are in no way in conflict: the notions carried by these aspects accompany each other peacefully, each playing its own role, either as a load-bearing material wall or as a decorative animation of this wall that captivates our mind. Instead of the conflict between the two notions in Palazzo Rucellai, this time we find only the exhibition of two autonomous functions confronted with each other as they are carried by forms adjoining each other.

To introduce another comparison, let's return to the early Italian Renaissance with another famous building, the Palazzo Strozzi in Florence, begun in 1489 by architect Benedetto da Maiano (1442-1498) and completed in 1504 by architect Simone del Pollaiolo (1457-1508).
As at Palazzo Rucellai, the street facades are marked by deep hollow joints that emphasize the materiality of their stones, here accentuated by their bossed form, a style known as "bugnato". This pattern of large, bossed stones, uniformly invades the facades, resulting in a material effect of massiveness that characterizes the overall volume of this built cube. This effect is countered mainly by the projecting horizontal bands separating the storeys, and by the horizontal cornice which protrudes clearly from the top of the building facade. Unlike the Palazzo Rucellai, here it's not two construction techniques that are in conflict on the same surface, but a global reading of the material massiveness of the built volume and a reading by our mind of the violent horizontals that slice

through this volume, to which is added, window by window, that of the finer lines that are embedded in its surface, those of the window jambs, their hierarchical arches and their horizontal lintels. And while our mind's attention can conveniently follow these lines with the eyes, it is inconceivable that it could similarly decipher the countless large stones that pile up one on top of the other to build the solidity of the building: we perceive this massiveness and overall material solidity of the building by feeling the effect of gravity in our own material bodies, not with our mind's visual attention.

As for the radiating stone lintels, they form a register of their own since they combine both effects: like the horizontal stones, they evoke the building's massive material solidity and its construction method, but with their violent geometric effect radiating out from each of the bays, they capture our interest while at the same time counteracting the horizontal regularity of the stone courses.

Street facades of the Palazzo Strozzi in Florence, Italy (1489-1504)

Image source: *https://fr.wikipedia.org/wiki/Palais_Strozzi*

Since they interpose themselves on the surface occupied by the massive stones and interrupt the suggested reading of its horizontal and vertical continuity, the lines read by the mind with the tips of the eyes are necessarily in conflict with it since they contradict it, and although they correspond to a reading quite distinct from that of this material continuity, they do not correspond for all that to an autonomous reading since they do not generate a continuous network that could be considered separately from their imbrication within the mass of large stones.

To compare with a more northern building, let's take a look at the façade of Saint Gatien Cathedral in Tours, France, whose towers and bell towers date from the 16th century. This façade was created by carving a veneer between 1427 and 1488 over masonry dating back a few centuries. Between 1431 and 1453, the architect Jean de Dampmartin played a decisive role, and was succeeded after his death in 1454 by Jean Papin, whom he had trained. Analogues to this type of facade can be found, for example, in the facade of the cathedral of Saint-Étienne in Toul (1460 to 1496 - *https://fr.m.wikipedia.org/wiki/Fichier:Toul_Cathedral_03.JPG*) designed by Tristan de Hattonchâtel, in the lower part of that of Nantes Cathedral (1434 to 1498 - *https://it.m.wikipedia.org/wiki/File:Nantes_cathedrale.JPG*), designed mainly by the architect Mathurin Rodier (c. 1410-c. 1484), or at the very beginning of the 16th century, in the lower part of the façade of Saint-Pierre-et-Saint-Paul Cathedral in Troyes (1506 to 1519 - *https://www.wikiwand.com/fr/Fichier:Cath%C3%A9drale_Saint-Pierre-et-Saint-Paul,_Troyes,_West_view_20140509_1.jpg*) designed by the architect Martin Chambiges (c. 1460-1532).

Of course, it's the continuous massiveness of the load-bearing mass and its buttresses that gives this façade its material presence, a mass and buttresses that we feel are present everywhere, and whose smooth surface flushes out in many places above the portals, either completely unobstructed or only scratched by thin vertical fillets. As for our mind, it's the abundantly sculpted lacework at the front of this massive construction that captivates it.

In the façade of Jacques Coeur's palace, the fine relief graphics read by our mind did not interfere at all with the reading of the bare stone surfaces. Here, the masonry is sometimes largely hidden by the carved lace on its surface, but this does not create a conflict between the reading of the masonry mass and that of the carved graphics, as the planes of these graphics systematically accompany the planes of the masonry, We don't even need to know anything about the masonry, and we don't even need to read it for itself as the surfaces we see are enough to tell us about its presence and overall form.

Our mind is thus lost in the complex reading of all the sculpted forms, while we see clearly that all these forms are supported by continuous solid masonry, which perfectly fulfils its material role of supporting the sculpted decoration. In these conditions, taking into account the material massiveness of the masonry and the details of the carved decoration are two independent readings that in no way conflict. Admittedly, reading the sculpted festoon on the surface visually hinders the reading of the masonry's surface, but quite simply, we don't need to perceive its surface completely to know what it there, and what shape it has. The same is not true of the Palazzo Strozzi in Florence, where the overall cubic shape is sufficiently assertive for us to want to read it perfectly even though this reading is thwarted by the presence of the horizontal lines that run through it, just as the regularity of the cutting of the massive stones into horizontal beds is sufficiently assertive for us to want to consider its systematism, which this time is countered by the presence of the bays that interrupt it.

In these few examples of facades from the 15th century, we have always seen the organization of a contrast between layouts that underline the massive materiality of the building and layouts that attract or captivate the interest of our mind: this is what early Italian Renaissance architecture has in

common with early Flamboyant Gothic architecture in France, and which will hold true in the same way in the following century. As mentioned, in the Italian examples we have seen that these contrasting arrangements are in violent conflict, whereas in the French examples they correspond to arrangements that are quite independent of each other, without the reading of one in France raising a constructive contradiction or generating an essential visual conflict with the reading of the other.

Before leaving the facades, it's worth noting a recurring effect in the art of the 15th century, even if it's expressed through very different architectural forms. This effect consists in linking lines or surfaces together, while at the same time generating an effect whereby these lines or surfaces detach from each other. In Florence's Palazzo Rucellai the recessed joints in the masonry surface create a continuous network that links the entire surface, while at the same time visually detaching vertical pilasters, horizontal floor bands, radiating arches or the squares of the openings on the lower level. In the same way, in the Palazzo Strozzi, deep hollow joints connect the entire surface, but here it's the individual rectangles of each stone that detach visually, while the prominent horizontal bands connect the entire facade while clearly detaching the storeys from each other.

The same type of effect can be seen in French examples. On the façade of Jacques Coeur's palace in Bourges, the moldings intersect and connect with each other in an orthogonal network, while visually standing out in relief on the surface of the flat masonry. At Tours Cathedral, the gables above the portals are formed by a network of horizontal, oblique and ogival lines which connect on the same surface where they intersect or tangent, generating together the very particular shape of these gables that stand out globally in our perception, and at the same time each of these horizontal, oblique and ogival lines stands out individually in our perception.


Perugino: Christ Handing the Keys to Saint Peter (1481-1482) Image source: https://www.wikiwand.com/fr/Perspective_lin%C3%A9aire

To illustrate the extent to which this combination of linking effects and visual detachment corresponds to a research specific to the 15th European century and generalized to all its artistic activities, we give as a simple example a painting by Perugino (1448-1523) depicting "Christ

Handing the Keys to St. Peter", dated 1481-1482. The perspective is strongly emphasized by the paving design, which clearly shows how all the figures and elements of the décor are linked together by a perspective drawing that converges on a central vanishing point acting as a kind of spider's web. Independently of this paving design, it should be remembered that perspective with a vanishing point was invented in the 15th century to link the entire scene under consideration in a single 3D space, in contrast to the paintings of earlier centuries which tended to use 2D backgrounds or only approximate perspective. Each group of figures, each character, each building and even each tree stands out clearly from its surroundings, thanks both to the light background against which their silhouettes stand out, and to the vivid colors that distinguish them from one another in a highly crystalline atmosphere that generates no fusion between them.
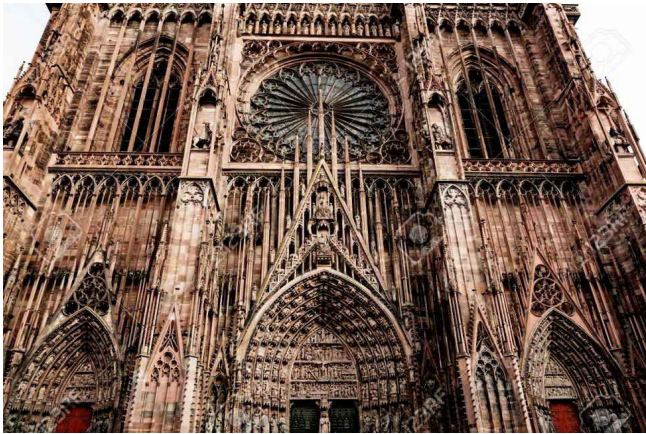
Above, facade of Strasbourg Cathedral, France (curtain wall in 1st plan from the very end of the 13th century or the beginning of the 14th) - On the right, fan vaulting in cloister, Gloucester Cathedral, England (1351/1377)
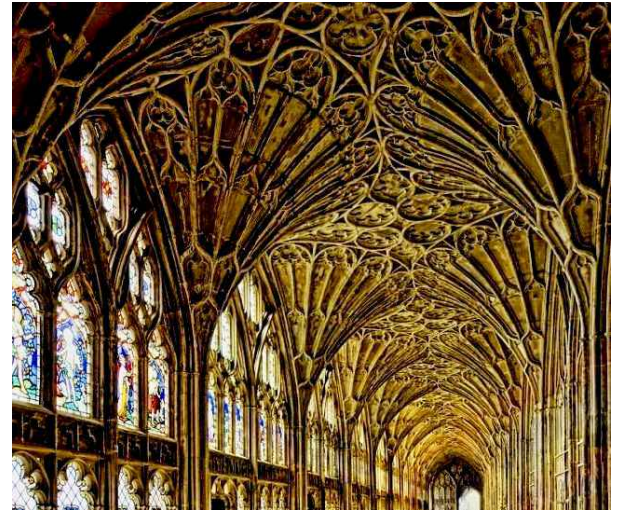
Returning to the subject of architecture, it's no novelty for countries north of Italy to cover with a decorative network the entire surface of a masonry whose underlying presence we perceive without being able to really observe it "barely", since this type of layout can be seen on the façade of Strasbourg Cathedral, at the very end of the 13th century or the beginning of the 14th, but also between 1351 and 1377 at Gloucester Cathedral, in England, to give the type of vaulting known as "fan vaulting" in its cloister. These are two very different layouts in terms of appearance, but in essence they share the same principle: a fine sculpted network that continuously accompanies the materiality of the facade surface or of the vaults. As it happens, even in the 14th century, architecture was already using linked effects and effects that made shapes detach from each other. In Strasbourg Cathedral, an essentially vertical network is detached at some distance in front of the masonry, while in Gloucester, lancet and oculus designs are detached from each other and from the vaulting on which they rest, and the wide vaulting fans are detached from each other while attaching themselves to a particular pillar and linking up in a perfectly continuous sculpted weave.
In Italy, the decision to suddenly "revive" the architecture of antiquity means that the break with the buildings of the 14th century makes it harder to identify continuity with the architecture that preceded the Renaissance of the 15th century.

After the facades, let's consider other aspects of the architecture. First, the way in which the weight of gravity is transmitted to the pillars.

Filippo Brunelleschi: the nave of the Santo Spirito church in Florence, Italy (c. 1444) Above, from inside the nave, opposite, from a side aisle

Images sources: https://www.masterfile.com/image/fr/700-06334723 and: L'Histoire de l'Art, Alpha Éditions (1977)

Of course, there was no single type of capital used in 15th century Italy, but the one used by Filippo Brunelleschi (1377-1446) around 1444 for the nave of the Santo Spirito church in Florence, and also for that of *San Lorenzo*, also in Florence, is certainly the most original, and somewhat disconcerting too, since it is broken down into several parts, one of which is clearly detached far above its main part. It was also used by Bramante (1444-1514), notably for the arcades in *the courtyard of the Basilica of Sant'Ambrogio* in Milan, dating from the very end of the 15th century.

The presence of this very prominent abacus, detached from the capital, is what we're going to consider. The weight of the upper wall is visibly transmitted by the arches, which seem to bounce from capital to capital, yet the path of gravity from the wall to the pillars is sheared off by the presence of these abacus, cut by them before reaching the main part of each capital. This doesn't mean that we can't feel in our bodies that the weight of the wall is being transmitted to the columns resting on the floor, but these surprising visual cuts that capture our mind's attention obviously create a situation of conflict between the material effect of gravity that we feel and the surprise of our mind to these powerful visual breaks. Incidentally, we find here the recurring effect observed in the architecture of 15th century facades, since these abacus that detach themselves from their capitals and stand out visually in a very brutal way all together generate a very visible alignment that links them all together.

At the same time, in France and Germany, the use of Gothic capitals was often abandoned and replaced, as in the nave of Notre-Dame church in Carentan, by the direct embedding of the arcade ribs in the masonry of the pillar supporting the wall.

Here, too, it's with our body that we feel the materiality of the transport of gravity to the pillars, while it's "with the tips of the eyes", with the attention of our mind, that we follow the path of the arches embedded in these pillars. This time, there is no conflict between the path of the arched moldings and the massive solidity of the vertical cylindrical columns, only a clear division of two mutually autonomous interventions: the arches join the pillars to transmit the weight of the upper part of the building while the pillars solidly support these loads. And, of course, the same effects can be seen: the multiple ribs, all well separated from each other, connect to each other along the
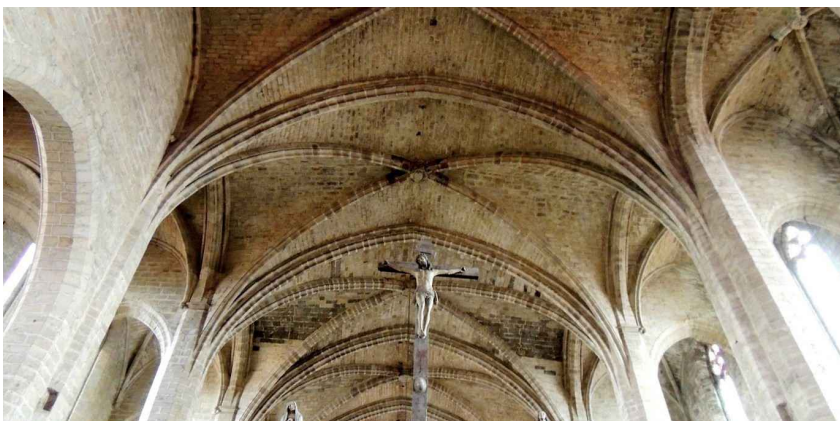
same arcade path, and all these ribs physically connect to the pillars into which they are embedded by penetrating them at an angle, all the while standing out from them visually through the effect of the contrast between the sharp edges they draw and the smooth roundness of the pillars. Unless you read them "upside down", i.e. emerging from the pillars and detaching themselves from them.

In the previous century, as we saw with the facade of Strasbourg Cathedral, a similar combination of linking and detaching effects was evident in the architecture. In a similar vein, this combination of effects had also already led to the invention of ribs which insert directly into the masonry of the pillars without the interposition of any capitals. This was the case, for example, in the abbey church of La Chaise-Dieu, built between 1344 and 1352.

After the facades and the transmission of gravity to the pillars, we're now looking at the preferred way of covering the spaces.
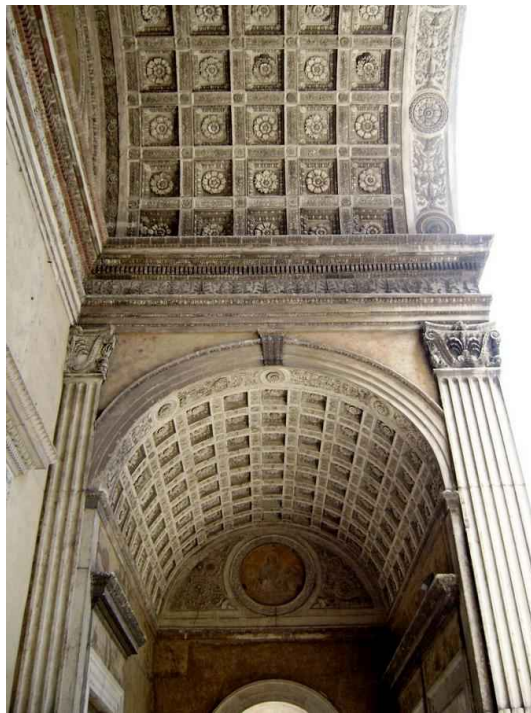
For the Italian Renaissance, the most characteristic formula is the coffered ceiling. They can be found in horizontal surfaces, as in *the Basilica of San Lorenzo in Florence*, which was designed by Brunelleschi; in domes, as in *the porch of the Pazzi chapel in Florence* also designed by Brunelleschi; and in semi-cylindrical vaults, as in the entrance porch of the Basilica of Sant'Andrea in Mantua, begun in 1472 and designed by Alberti. It's this semi-cylindrical vaulting solution that we're going to analyze, used in the Sant'Andrea porch in two intersecting directions. The surface of the vault necessarily has a material effect, if only because it encloses the space and thus acts as a protective material wall that we perceive by feeling the envelopment it suggests around our material body. For its part, our mind notices the geometric character of the vault's grid pattern, and is also captivated by the repetition of floral motifs that occupy the center of each caisson, and which also occupy, albeit more discreetly, the intersections of the lines that form the grid of the vault's lower surface.

As in the facades of the early Italian Renaissance, there is a competing conflict between the aspects that make up the materiality of the vault and the aspects that capture the attention of our mind as they exactly overlap: the purely decorative floral motifs interfere with the perception of the opaque wall effect of the bottom of the caissons and the rib crossings they occupy, and they also thwart a clear perception of the shift in depth of the two surfaces that together constitute the material continuity of the vault. When examining these vaults, we are forced to choose between several readings: either we perceive a grid of sunken hollows from the lower surface of the vault and completing it to create a continuous enclosure of space, or we perceive a carpet of large flowers embedded in these niches, or again we perceive a structural grid ensuring the material continuity of the vault, or again we read the myriad of small decorations systematically located at the intersections of this network and hindering the reading of its continuity.

And again, we find the same pair of contradictory effects: the grid of raised ribs connects the entire surface of the vault, while the recesses of the caissons stand out visually, being isolated from each other. As for the floral motifs sculpted in the hollows of these squares cut into the vault, they can be said to be detached from one another, since each is embedded in its own particular hollow, but they

can also be said to be linked to one another in enfilade in two intersecting directions, longitudinally and following the curve of the vault.

From the same period, the flamboyant vaulting of St. Lorenz Church in Nuremberg, Germany, built between 1464 and 1477 by the architect Jakob Grimm (d. 1490).
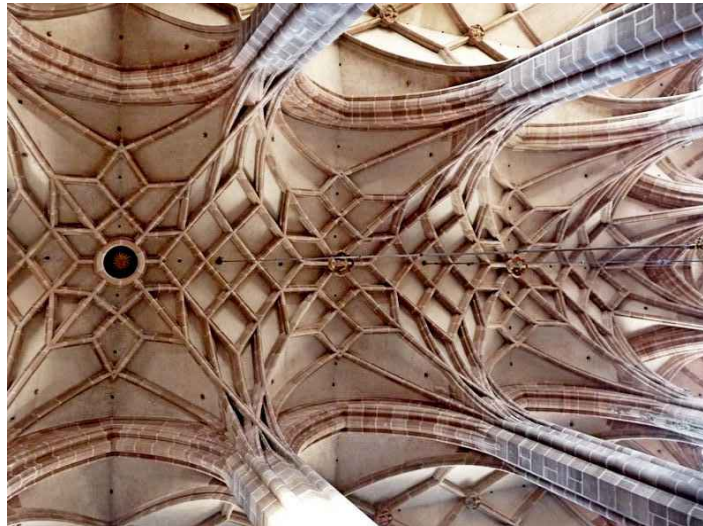
Jakob Grimm: vault of St. Lorenz church in Nuremberg, Germany (1464-1477)

Image source:
https://www.nuernberg.museum/projects/show/83-st-lorenz-hallenchor-bauphase-jakob-grimm

Before turning to the subject, let's first recall the rib system of the classical Gothic period, such as that of the vault of Notre-Dame Cathedral in Laon, dating from the late 12th century. These ribs indicate that the builders had channelled the forces of gravity coming from the vault down to the ground in a clearly visible and logically comprehensible way, by means of a hierarchical network of columns and colonnettes whose layout was closely correlated to the division of the vault into different voutains, voutains which were supported by ribs that reinforced them in a similarly highly visible way. Ribs and vault wall correspond to two very distinct organs, but not at all independent of each other since the ribs clearly serve to reinforce the vault with their armature and to convey its weight to the columns, which in turn transmit it to the floor, and since the ribs also serve to break down the vault and its weight into clearly separated sections.
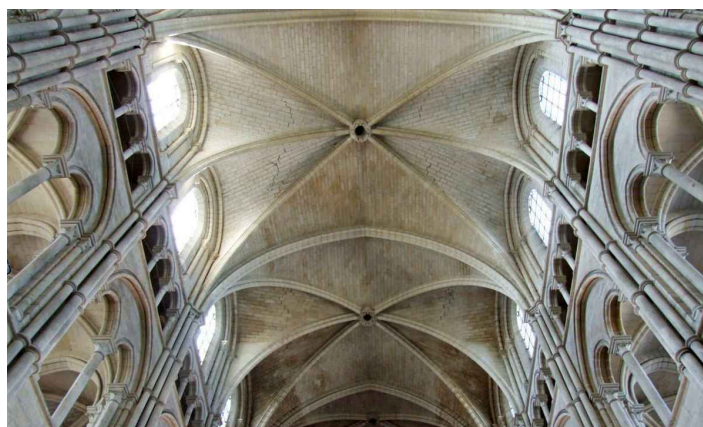
Vault of Notre-Dame Cathedral, Laon, France (late 12th century)

Source de l'image : https://www.wikiwand.com/fr/Vo%C3%BBte_d'ogive#Media/Fichier:Laon_cathedral_notre_dame_interior_006.JPG

By comparison, in St. Lorenz's church, the rib network may act as a stiffener, but it's doubtful that it actually carries the vault above it, not least because of its fairly flat surface at its highest point. In any case, this is not a question that arises when looking at this architecture: we feel the vault as a

material surface continuing autonomously above the ribs, and it is also autonomously from the continuous uniformity of the vault surface that these ribs organize themselves into captivating figures, in varying densities, revealing more or less large vault surfaces in a single piece, a division that apparently has no constructive reason but seems to owe everything to the sole "gratuitous" intention of generating remarkable figures.

Unlike the pattern of floral figures on Sant'Andrea's vaults, which was exactly modelled on the coffered structure of the vaults themselves, leaving no possibility of perceiving any autonomy between these two patterns, here we can consider the vault in isolation, its surface continuing in homogeneous uniformity, only deformed to organize itself into mushrooms opening out above each pillar, and consider separately, i.e. in complete autonomy, the patterns of squares and stars formed by the ribs located in the axis of the nave and by the ribs emerging at the top of the pillars. As with the walls, the same difference between the Italian preference and the preference of more northerly Europe can then be seen in the covering of the spaces: in Italy, a conflict resulting from the visual competition between the materiality of the decomposition of the load-bearing vault and the shapes that captivate our mind because they decompose in the same way; further north, an autonomy of the material surface of the vault and the design of its ribs that captivate our mind.

Incidentally, at St Lorenz, the ribs of the aisle arches connect directly to the pillar, i.e. without the intermediary of capitals, as was the case in the nave of Notre-Dame de Carentan, and the ribs of the vault also connect without capitals to the columns flanking the main pillars. Further proof of carelessness with regard to the logic of load transfer: the ribs on one side of a pillar run into the column on the other side of that pillar, thus creating the visual interplay additional of a "free" effect of crossing the edges before connecting them to the pillar.

Finally, we find here the characteristic effects of 15th century architecture: the network of ribs is constantly connected by adhesion to the surface of the vault while standing out in relief on it, and these same ribs form a grid that connects them in continuity along the entire length and width of the vault, all the while visually detaching star or grid patterns, and visually detaching portions of the vault in the shape of squares and various polygons.

In the 16th century, Second Renaissance versus Second Flamboyant Gothic:

We start with the rear façade of the Palazzo del Te in Mantua, built between 1525 and 1536 by the architect Giulio Romano (1492/1499-1546). Here, we find the same principle as in the Palazzo Rucellai of the previous century, i.e., the interweaving of two constructive modes, one that materially joins stones together to generate a continuous wall surface, the other that uses pilasters and entablatures punctuated by triglyphs and metopes that the mind endowed with memory associates with the architecture of Antiquity. However, these two modes of construction are contrasted more energetically than in the previous stage, as the materiality of the appearance of certain stones is reinforced by hammering on their surface and the monumental antique order is emboldened to embrace the entire height of the building at once. Everyone therefore raises their voice, and the contrast between them is no longer compatible with cohabitation in the same plane, so they are now staggered in depth to better separate from each other. It should be noted that the large stones of the chainings and lintels of the bays act as material effects, exacerbated by the hammering of the surfaces and by their colossal dimensions inducing an effect of material solidity, but also as effects of the mind, since they are arranged in a very visibly geometric and symmetrical way.
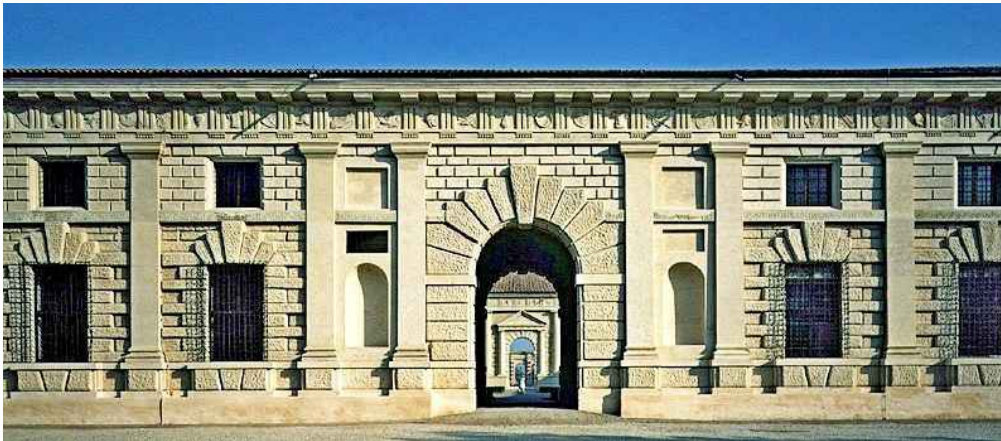
Giulio Romano: rear façade of the Palazzo del Te in Mantua, Italy (1525-1536)

The shift in depth of the two types of construction no longer makes it possible to read the whole as a continuous surface as was the case in the Palazzo Rucellai, and thus to see the pilasters and stones stand out from a surface linking the entire façade almost in the same plane. This is because the pair of privileged effects we had to deal with in the 15th century has now lost much of its force and has been replaced by an effect designed primarily to destabilize us. In this case, this destabilization is linked in particular to our inability to know how far away from us this façade really is: should we consider that it's the large pilasters, their entablature of triglyphs and metopes bearing the cornice and the large hammered stonework that tell us where the façade is, or should we rather consider that it's the small horizontal stonework that indicates its true position? And is it a single-storey facade, as indicated by the pilasters, or a two-storey facade, as indicated by the half-height strip and the two levels of windows? As was often the case in this period, we are also thrown off balance by the heightening of the base of the wall and pilasters: while to read the façade of a building it is essential to understand how it rests on the ground, here we can't say what the level of this support is: is it the actual level of the outside ground on which the base of the entire façade rests? Or is it the top of this same base, on which a continuous but crenellated line of hammered stones rests? Or is it the level of the top of these stones where only the base of the pilasters begins? And of course, as in the Rucellai palace for which it was not mentioned but this destabilizing effect was already present in a more minor way, it's disconcerting not to know whether the facade is created by means of a continuous wall or a portico of pilasters set apart from one another.

Tintoretto: The Miracle of the Slave, also known as Saint Mark Saving the Slave (1547-1548) _{Image source:} https://www.wikiwand.com/fr/Le_Tintoret

As with the effect characteristic of the 15th century, which simultaneously connects and detaches, to evoke in 16th century painting the effect of destabilization specific to this century and which we'll see in one way or another in all its significant architectures, a 1547-1548 painting by Tintoretto (1518 or 1519-1594) depicting "The Miracle of the Slave", i.e. the intervention from heaven of Saint Mark who, in order to save a slave who was about to be martyred for having prayed to him, made him invulnerable to torture. In this case, the sharp points that should have blinded him and the hammers that should have broken his legs were broken, rendering them useless.

What's useful for us to note is that all the figures depicted are in an unbalanced situation, or at least precariously balanced, sometimes even obliged to hold on so as not to fall, unless their gestures are suspended as part of a movement that destabilizes their position.

Michelangelo (1475-1564) designed the entire layout of Rome's Piazza del Campidoglio, including its three palaces and perhaps its paving. Although he only saw part of the project completed, most of the work was carried out according to his plans. The Palazzo dei Conservatori was built between 1563 and 1565, enveloping an ancient building in front of which Michelangelo designed a colossal portico. Symmetrically, on the other side of the square, the Palazzo Nuovo dates from the first half of the 17th century.

Michelangelo, Palazzo dei Conservatori (1563/1565) in Piazza del Campidoglio, Rome, Italy

Although this construction appears to be a hybrid, with monumental pilasters supporting a colossal entablature and plastered infill walls accommodating the floor openings, at first glance the coexistence of these two systems does not pose a problem here since they can be considered complementary, one corresponding to the load-bearing structure and the other to the infill it supports. In reality, however, the walls of the upper storey do not appear to be supported by the monumental pilasters, but by a secondary entablature which is itself supported by columns clearly separated by a gap from the pilaster blocks, so that the upper storey façade resembles a heavy curtain, half-raised and supported by these very small columns compared to the monumental pilasters, pilasters which therefore appear to serve only to support the entablature and the balustraded cornice crowning the construction.

If we're confused by the fact that we don't know whether or not the giant pilasters support the facade, or whether the upper storey and cornice entablature are supported together as we'd expect since they form a continuous construction, we're also confused by the inconsistencies in the way the building rests on the ground: the columns that support the upper storey and the masonry against which the giant pilasters are set rise up from the ground, but the giant pilasters themselves don't seem to rest on the ground, but rather float at some distance from it, perched on high plinths that are almost half the height of the ground-floor gallery. The ensemble of monumental pilasters, the high entablature with its cornice, the low entablature seeming to thread behind the pilasters and columns that support it, all constitute lines that we follow with the eyes thanks to the attention of our mind and recall to our memory ancient architecture, all the while constituting a kind of open structure, indeed truly open on the lower level, and by contrast it is the plastered walls of the upper floor that form the material screen that closes the building. Wall materiality and the architectural structure deciphered by our mind are thus quite distinct here, but they are not autonomous from each other since the upper floor wall is cut into sections inserted within the stone structure, and since its continuity cannot be grasped without coming into conflict with the grasp of the vertical pilasters that intersect it.

Andrea Palladio (1508-1580) is one of the best-known architects of 16th century Italy, and his Villa Rotonda, near Vicenza, is one of his most famous buildings.

In this villa, the massive character of the main building conveys the notion of matter while the porticos bring to mind ancient architecture. At the same time, the attention of our mind reads "with the tips of the eyes" the vertical lines of the columns, the horizontal lines of the entablature they support, the triangular shape of the tympanum of each portico, the way each sculpture rises

vertically above these pediments, and with our mind we can also imagine ourselves crossing one of the access staircases, passing under the corresponding portico and then entering the villa. Since each of the four porticoes is oriented in a particular direction, we would have to stand in front of each one to fully perceive and understand the architecture of this building, which is obviously impossible and brings us back to the destabilizing effect characteristic of the art of that century. Since the four porticoes do not visually merge with the cubic mass of the main building, a deliberate contrast is established between the main building, which conveys the notion of material massiveness, and the porticoes which appeal to the architectural memory of our mind and read their forms "with the tips of the eyes". The cupola atop the roof, which affirms the axis of quadra-symmetry that applies to both the central cube and the lateral porticos, contributes fully to the setting up of this conflict between what makes up material mass and what captures the interest of our mind.

Andrea Palladio: Villa Rotonda, near Vicenza, Italy (1566-1571) - v i e w and plan
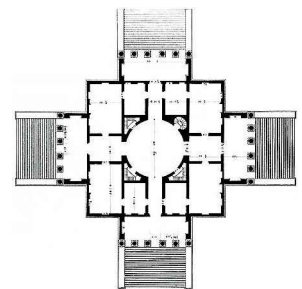
This conflict between the perception of the material mass of the central building and that of the four porticoes around its periphery is not due to the fact that the porticoes partially conceal the central building, which is visible enough to clearly identify its presence. It comes from the fact that the massive central construction is read as a cubic volume covered by a four-sloped roof culminating in a dome revolving around a vertical axis, or even as an envelope that unrolls horizontally in a continuous fashion, whereas the porticos, for their part, are read by our mind as groups of vertical ascending paths independent of each other, or as horizontal axes pursuing staircases that head towards the building from four completely independent directions. We are therefore dealing here with a conflict between two perceptions since the perception of the porticos cannot be realized without undoing our perception of the main body of the building, and vice versa. Moreover, we are not dealing with two autonomous sets of forms, since the porticoes do not constitute an autonomous whole since we cannot see all four of them at the same time, each having rather the appearance of an isolated appendage adjoining the mass of the main building, thus amalgamated with it and not autonomous from it.

We return to Rome's Piazza del Campidoglio, this time to consider its paving made in 1940 based on the 1569 engraving made by Étienne Dupérac (around 1530-1604). We do not know if the conception of the drawing of this paving must be attributed to him or to Michelangelo. It's easy to feel how its central part explodes into a star by fixing our gaze on the statue of Marcus Aurelius that occupies its center, but we must necessarily leave this reading to read the way pairs of lines spring from the entire periphery of the piazza to join all the points of the central star. We feel that these two

readings balance each other perfectly, from the center and from all parts of the periphery, but trying to perceive how they balance each other by doing them simultaneously destabilizes us because reading them simultaneously is an impossible exercise. And here again, the conflict is between a reading of a compact mass experienced from its center and the paths our mind follows with the eyes from all around the periphery.

Above: Michelangelo (or Étienne Dupérac), paving Rome's Piazza del Campidoglio
Right: Michelangelo, detail of a door in the Medici Chapel, Florence

Images sources: https://www.walksinrome.com/blog/the-piazza-del-campidoglio-rome
and https://toutelaculture.com/actu/la-restauration-de-la-chapelle-des-medicis-par-une-mysterieuse-bacterie/

Another example of conflicting readings within a figure that is both centered and viewed from its periphery, in this case within a figure with a central axis of symmetry and a symmetrical axis on each of its sides: the niches above each of the doors in the New Sacristy of the Medici Chapel in Florence, whose architecture and sculptures were commissioned from Michelangelo in 1520. This type of figure, which has given rise to a number of similar creations, as is the case for each of the bays on the upper floor of the Palazzo dei Conservatori in Piazza del Campidoglio, and especially for its central bay, is a symmetrical figure whose axis of symmetry is not specifically materialized by a column or central statue, but has a column or figure of some kind on each side, which this time asserts itself as a well-materialized symmetrical axis. We inevitably recognize the symmetrical appearance of the niche in the New Sacristy photographed here, but as the axis of this symmetry is only marked by a set of nested hollows, we read this symmetry with the materiality of our body, i.e. by feeling that the sculpted niche is analogous to our body in this aspect. On either side, a pilaster extends a console and is topped by a symmetrical capital with a pronounced horizontal projection. This time, it's with the attention of our mind that we follow the vertical axis of each of these pilasters and the various accidents that mark their base and top. As with the paving of the Capitoline Hill, here the overall perception of the figure and its overall horizontal symmetry cannot be achieved at the same time as the vertical reading of the axis of symmetry that each of the side pilasters creates for itself, and one of these readings must be undone before we can realize one of the other two. This corresponds to a conflict of perceptions engendered by this type of figure and brings us back to the conflicting nature, in Italian architecture, of the relationship between what comes from the perception of materiality and what comes from a reading by our mind.

Andrea Palladio, Villa Barbaro in Maser, Italy (1550 to 1560) Image source: https://www.wikiwand.com/fr/Villa_Barbaro

Another famous building by Palladio is the Villa Barbaro in Maser. We'll use it to introduce the difference between the Italian and more Nordic ways of considering the same type of competition between a figure's global center of symmetry and the centers of symmetry established on each of its sides. In the central building, the principle of Michelangelo's niches in the New Sacristy of the Medici Chapel is repeated, albeit in a different way. There is no figure of positive affirmation in the center, but the hole in the bays and garlands breaking the continuity of the lintels supported by the tall columns, and thus a hole in this continuity. The top of the pediment is not an isolatable figure in itself, but rather a sign of the façade's overall symmetry - a symmetry that we can perceive perfectly thanks to the balance produced by the presence of similar colonnades and similar openings on each of its sides. On each of these sides, in fact, the group of two columns bearing an architrave and framing superimposed windows generates an immediately visible symmetrical figure. Our spontaneous attraction to symmetrical figures is thus simultaneously appealed to in several, necessarily competing ways. On the one hand, there's the overall symmetry of the façade, which is only perceived through the overall arrangement of the built masses: a higher surface towards the center and two autonomous masses symmetrically distributed on either side. On the other hand, there is the symmetry of each of the lateral figures, which our mind deciphers by spotting an antique-style portico surrounding superimposed windows enriched with pediments, and the reading of the symmetry of this portico is all the more important as the wall itself, because it overhangs the column towards the center, implies an asymmetrical reading of the materiality of each wall panel surrounding the axis of the facade. Because they are symmetrical, each lateral figure necessarily asserts itself with as much force as its neighbor and competes with it, thus destabilizing our perception which doesn't know which one to focus on, and what's more, a symmetry effect involving the whole figure still concurrently proposes itself to organize our perception. Our perception is destabilized, then, because it is constantly hesitating as to how to approach such a figure, constantly shifting from one reading to another as a result of the competition between a central symmetry unasserted by a figure of its own and two lateral symmetries, each asserted this time by a clearly asserted, clearly legible figure.

This is Italian architecture's preferred way of confronting a center that can be said to be empty with lateral centers clearly asserted by their own figures. All you need to do is now to take a step back and look at this rural villa as a whole, introducing a more Nordic way of contrasting a center with centers on its periphery. In the center, the seigniorial house whose facade was described above, stands out both in terms of its shape and its prominent position. In the background, the two wings containing the buildings used to house farm equipment, animals and crops, and at the end of each of these two wings, a building with a pediment asserting the axiality of its figure. This time, then, two lateral figures, the axiality of each one asserting itself in destabilizing competition to organize our

perception with the equally assertive axiality of the central figure that brings them together: it's this type of layout that we will preferentially see in France and other Nordic countries.

To consider this we leave Italy for the architecture of more northern countries where the approximate passage from one century to the next can be identified, as in Italy, by the modification of its recurring effects. In the 15th century, as we have seen, these effects combined linking and detaching arrangements. In the 16th century the effect will be fundamentally destabilizing, and we therefore begin with the destabilization of our perception which struggles to organize itself as a result of competition between several centers of symmetry, each seeking to be the one that will organize our perception from it.
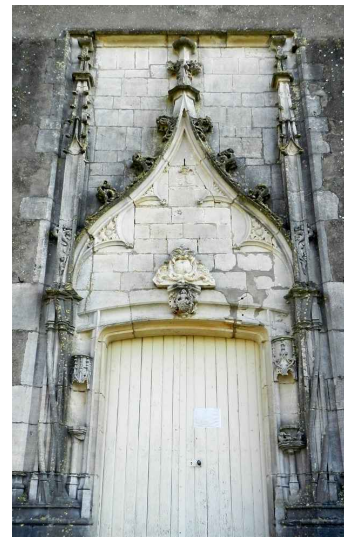
Bléré, Saint-Christophe church, France, 15th-century bay window

Image source:
https://fr.geneawiki.com/wiki/Fichier:37027_-_Bléré_Eglise_Baie_Gothique.JPG
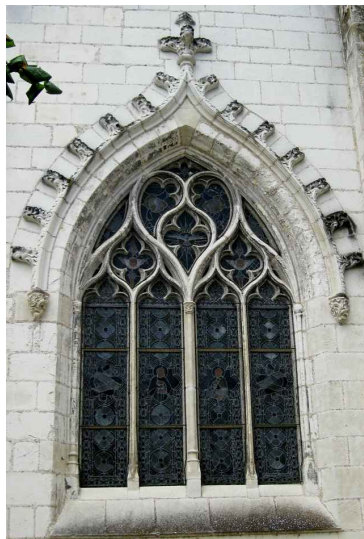
Tonnoy église Saint Laurent, France, late 15th-century entrance porch

Image source:
https://patrimoinebourgescjr.weebly.com/bourges-renaissance/archives/02-2015

An illustration of this evolution is the bracketed arch motif, very common in the 15th century. Two can be seen on the façade of Jacques Coeur's palace, photographed above, each above one of the two entrance doors. Another example can be seen on a more modest building, the Saint-Christophe church in Bléré, whose bay dates from the 15th century. Another modest building, this time from the end of the 15th century, can be analyzed as being typical of the bracketed arches of the 16th century, the one that surmounts the entrance door of the Saint-Laurent church in Tonnoy. It features the characteristic 15th century bracketed arch, but this time it is accompanied on each side by a pinnacle, each asserting its axiality. On the 15th century bay, the path of the brace stands out in relief on the bare wall, and in so doing its course links a long linear line framing the bay arch. At the same time, all along this path, it linked together sculptures of plant heads well detached from one another. This layout from the 15th century very normally combined connecting and detaching effects. As in Italy, this pair of effects has been replaced in the 16th century by an effect that destabilizes the organization of our perception since it brings into competition a central axis and two lateral axes which are mutually incompatible since, by definition, an axis of perception can only be at the center of that perception.

In contrast to the Italian examples, here the central axis of symmetry is clearly assumed by the point of the bracket, which, like the two lateral axes, can be read by following it with the eyes. Here, as in French buildings of the 15th century, the dialogue between the effect of materiality and the drawings that our mind reads is mainly achieved through the contrast between the bare material stone that forms the wall and the sculpted lines in relief on its surface. However, the greater thickness of the lateral pinnacles, and the vertical support provided by their long trajectory along the

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wall, mean that they too are linked to the materiality of the wall, while the central accolade remains a fragile tracery that we can only follow with the eyes.

The west wing of Rouen's current courthouse, the former Échiquier de Normandie, was built between 1499 and 1508 by architects Roger Ango and Roulland Le Roux. Given that its access staircase is a recent neo-Gothic construction, this building is a perfect example of the generalization to an entire facade of the description made of the portal of the church of Saint Laurent de Tonnoy.
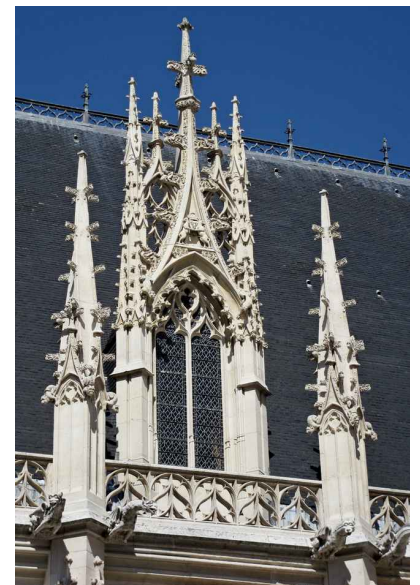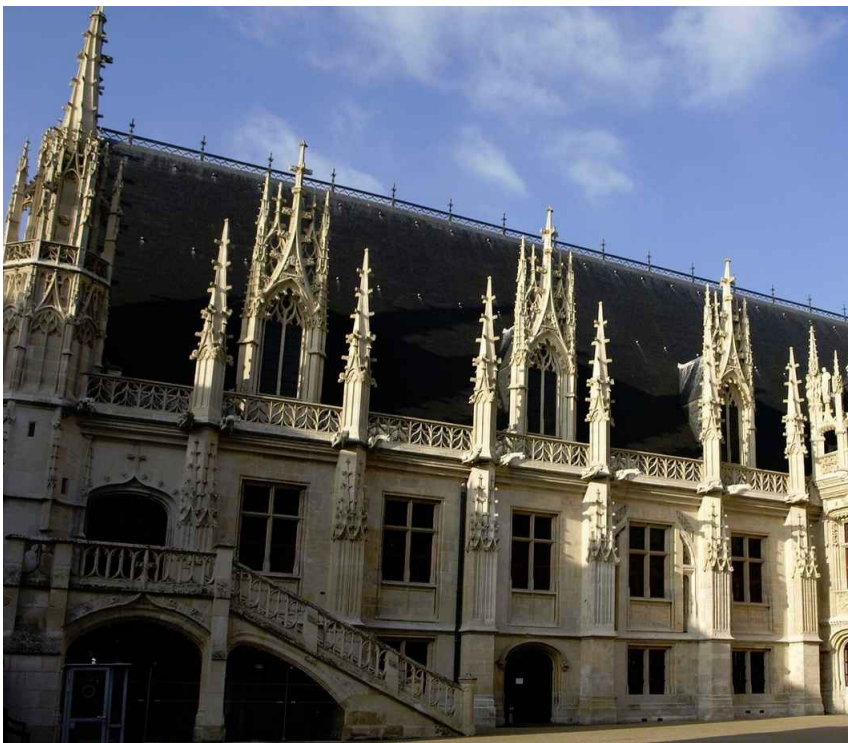
West wing of the Palais de Justice in Rouen (1499-1508), and detail of a dormer window

Images sources: https://www.flickr.com/photos/tonio_vega/3164336400 and https://www.wikiwand.com/fr/Palais_de_justice_de_Rouen

On a large scale, there's a clear contrast between the bare stone facade, which asserts the materiality of the built mass, and the series of pinnacles and dormer windows, whose essentially vertical designs captivate the mind, forming a very autonomous set of shapes. It's on a bay-by-bay basis that the massive pinnacles mainly assert their materiality, both in their thickness and in the way they lean against the main wall, while each dormer, forming a self-contained group of lighter pinnacles, highlights the complexity and variety of its designs captivating our mind. Clearly, the dominant effect here is the dialogue between the figure of axial symmetry formed by each dormer and the vertical axes constituted by the large lateral pinnacles, each of them competing with it to be an axis of symmetry proposing to organize our perception from it. Our perception is destabilized in the same way as in Italy, since the axis of symmetry organizing our perception cannot without difficulty be both at the center and on the sides of the figure, but here we don't have a conflict between an empty centrality felt in the materiality of our body thanks to its own symmetry and lateral figures that our mind deciphers by following them with the eyes; we have a less conflicting opposition between figures that are autonomous from one another and that we can all read by following them with the eyes. On a smaller scale, that of each dormer window, we find the same destabilizing organization in the minor.

The same principle applies to the entrance of the Palace of the Dukes of Lorraine in Nancy, but this time with what is often described as Renaissance decoration, such as the shell at the top, the lowrelief-carvings on the vertical strips, the several-cut counter-curves on the pediment above the knight, and the centering on the cul-de-lampe of the two balconies. The snuffers friezes on the balustrades of these balconies, as well as the bracketed arch framed by pinnacles to the left of the entrance portal, however fully belong to the flamboyant visual register. In passing, it should be noted that many of the elements usually described as "Renaissance" belong to a Renaissance style that is more fantasized than real, since none of them were observed in the true Renaissance examples considered above, nor will they be in the examples considered below. Whatever the importance of these Renaissance decorative details, the overall layout is French, and features all the elements seen in the architecture of the Rouen courthouse: a large surface of bare stone, enhancing the materiality of its surface and the wall it forms; sculpted details whose diversity captivates our mind in relief on this bare facade; a predominant central figure emphasizing its role as an axis of symmetry and surrounded by secondary figures also asserting themselves as symmetrical figures, a role played here by the two balconies; a symmetrical pediment with pinnacles surrounded by two larger pinnacles with very assertive verticality and symmetry. An organization that has everything to do with the Rouen courthouse, nothing to do with the mansion in the center of Maser's Villa Barbaro.

Another French building in which a central architectural element, clearly protruding from the façade, is rivalled by two symmetrically-situated side buildings symmetrical: the Palais du Luxembourg in Paris, designed by architect Salomon de Brosse (1565 or 1571-1626) and built from 1615. The garden facade is under consideration.

On a grand scale, this is indeed a "French-style" layout, but the central pavilion has a non-existent center that slips away in a manner very similar to that of the central pavilion of Maser's Villa Barbaro. Another Italian feature of this façade is the use of very pronounced bossing, mainly on the stones of the columns and pilasters: this was to satisfy Marie de Médicis' explicit request to evoke the Pitti Palace in Florence. A column or pilaster disfigured in this way by horizontal relief causes a radical, and therefore Italian-style, conflict in the way the verticality of the column or pilaster is read by our mind, which is then able to disregard the presence of these reliefs, in contrast to the appreciation of the materiality of the stone exacerbated by the presence of these horizontal bosses.

Garden facade of the Palais du Luxembourg in Paris, designed by Salomon de Brosse (from 1615)
Image source: https://www.wikiwand.com/fr/Palais_du_Luxembourg#/Media/Fichier:Palais_du_Luxembourg,_South_View_(Crop)_20140116_1.jpg

In passing, we note that this architecture makes extensive use of paired columns and paired pilasters linked by an entablature, an arrangement often used in French and Italian architecture of this period, and indeed in later centuries as well. When the two columns are very close to each other, as is the case with the double columns of the central building, this arrangement is sufficient to set the scene for what has been said of the Italian principle: an empty center and two axes of symmetry distributed symmetrically around this center.
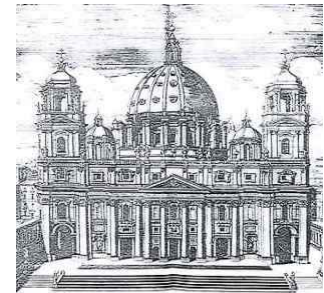

Carlo Maderno: facade of St Peter's in Rome (1612)
Image source: https://www.wikiwand.com/en/Carlo_Maderno

Below, the original façade, with two lateral bell towers.
Image source: https://roma-bella.com/st-peters-square/

Confirming that the "French-style" layout is not the prerogative of France, but merely a preference based on habit, there's no shortage of Italian buildings using it, including some of the most famous. For example, the facade of St. Peter's in Rome, built from 1608 onwards and designed by Carlo Maderno (1556-1629): a pedimented colonnade in the center, set slightly forward to emphasize the axial nature of the facade, and two side wings, each symmetrical but this time set slightly back to frame the central axis with two lateral axes. Instead of the rather discreet pediments that mark their symmetry, a more assertive symmetry was initially envisaged with a two-storey bell tower in place of each of the pediments, but technical setbacks due to basement depressions led to this being abandoned after several attempts.

To evoke another aspect of this century's recurring effect, we note that the way the façade ends at the top is somewhat disconcerting: where is the top of the façade? At pediment level, as is

customary, all the more so as a strong entablature band precedes its strong cornice? But what's the point of this kind of storey which isn't really a storey but continues the façade beyond its upper cornice?

Giacomo della Porta: facade of the Gesù church in Rome (1571-1575)
Image source: https://fr.wikipedia.org/wiki/%C3%89glise_du_Ges%C3%B9_de_Rome
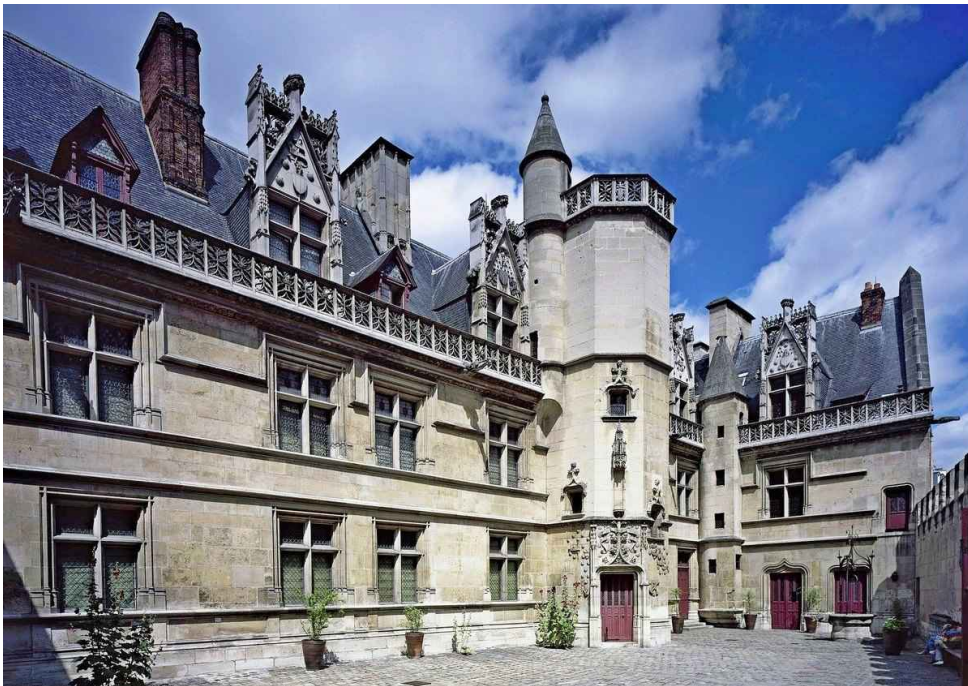

Carlo Maderno: facade of the Santa Susanna church in Rome (1596)
Image source: https://www.wikiwand.com/fr/Suzanne_de_Rome

The facade of the Gesù church in Rome, dated 1571-1575 and attributed to Giacomo della Porta (1533-1602), has many similarities with the later facade of the Santa Susanna church in Rome, built in 1596 by Carlo Maderno before being entrusted with that of St. Peter's: several pediments, of varying sizes and heights, accentuate the central axis in the French style, while swirls set competing visual focal points on each side of the upper floor. The same uncertainty applies to the level at which the façade is supported, whether it's the ground support or the support of columns and pilasters that should be taken into consideration, and the same uncertainty applies to the upper floor's starting point, since it has several competing points. All these competitive conflicts are in the Italian vein, as is the competition between the two pediments superimposed in the center of the façade of the Gesù church without it being possible to tell which is the true pediment: the larger or the more forward?

We return to the flamboyantly inspired architectural tradition with the Hôtel de Cluny in Paris, whose style is akin to that of the 16th century although it was essentially rebuilt at the end of the 15th century at the instigation of Jacques d'Amboise, abbot of Cluny from 1485 to 1510. As with Jacques Coeur's palace in the 15th century, the notion of matter is conveyed by the technique of solid, smooth, continuous cut stone, while our mind is captivated by the lines and decorative motifs on its surface or forming openwork acroteria at the bottom of its roof.
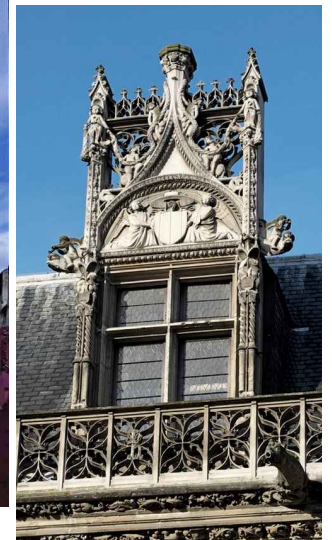
Comparing this French architecture with that of the Italian Palazzo del Te leads us to observe the same difference as that analyzed in the previous century: in Italy, we have an open conflict between two construction methods competing for the same facade surface, one that emphasizes the materiality of stone and the other that appeals to historical memory which is a property of the mind; in France, we have the peaceful cohabitation of the "naked" material of solid walls, which merely asserts its role as a load-bearing wall, with the decorations that enliven its surface or border it. Our mind's attention follows these captivating lines "with the tips of the eyes", while load-bearing

masonry can only be grasped by surfaces, which require us to feel their expanse and the massiveness of their material in the expanse and matter of our own body. In Italy the two notions are in conflict while in France they cohabit, each quite independent of the other in their respective functions.

In addition to this difference between Italian and French architecture, the entrance door is surrounded by a typically French sculptural feature: a bracketed arch with a long central spike surrounded by two pinnacles just above and around the door, and a sculpture (no longer present) under a sculpted canopy topped by a window with a symmetrical bracketed arch at the top, accompanied on either side by a similar window at a lesser height.

The dormer pediments, typical of the flamboyant art of the 16th century, are worthy of note. The central gable is predominant and asserts the axis of symmetry it represents with a triangular point ending in a finial, accompanied by a symmetrically shaped pinnacle on each side. Remarkable is the presence of a small horizontal openwork gallery connecting these two pinnacles, accompanied by openwork infills occupying the entire free surface below. Once again, this is a characteristic effect of the period that tends to confuse us: the small gallery makes it look as if it finishes the top of the dormer, but it doesn't since the central and lateral pinnacles rise higher, while the pediment appears to end on its lateral ramps but it doesn't as an openwork surface extends it to the pinnacles and to the level of the small upper gallery.

On a larger scale a dormer is shown that departs slightly from the flamboyant style, borrowing a little from the so-called Renaissance style: a counter-curve, cut several times, replaces the straight banisters of the dormers visible on the photograph of the courtyard façade.

We now look at several examples of how "French-style" architecture has taken on aspects of the Italian Renaissance without renouncing its fundamental distinctiveness.

Very characteristic in this respect is the adaptation of the Renaissance style to the courtyard facade of the François Ier wing of the Château de Blois, built between 1515 and 1529 and whose architect is unknown. As in the Italian examples, there is indeed a competition between two construction

methods, one using a continuous masonry wall, the other spaced pilasters linked by horizontal entablatures, however, unlike the Italian examples, the pilaster and entablature structure is not embedded in the massive load-bearing construction but is applied "à la française" in relief on its surface, as if it were a simple decoration added to evoke in mind ancient architecture. This "French-style" solution for the Château de Blois thus proposes two autonomous construction methods, one actually supporting and playing the role of a wall, the other fictitious and only intended to satisfy the mind captivated by the Italian Renaissance style, but not two construction methods in conflict because they are embedded in each other and contradict each other as is the case with "Italian-style" solutions.

Courtyard facade of the François Ier wing of the Château de Blois (1515-1529)

Image source: *https://fr.wikipedia.org/wiki/Château_de_Blois*

The Louvre, Paris, the wing built by Pierre Lescot from 1549 onwards

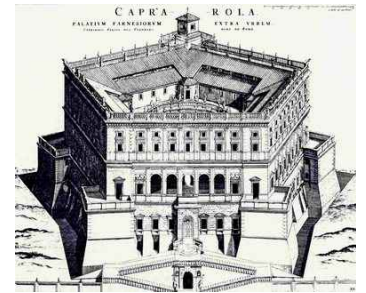Image source: *https://www.wikiwand.com/fr/Pierre_Lescot*

In contrast, the Louvre wing, built from 1549 by architect Pierre Lescot (1515-1578), has a density of carved pilasters, bays and various sculptures, leaving little room for the bare surface of the stone. On the ground floor, there is a conflict between a system of arcades reinforcing a solid masonry wall and a system of pilasters appearing to support a continuous architrave; above, there is a conflict between the solid masonry wall and the same system of pilasters appearing to support a continuous architrave. Objectively speaking, we have here the same conflict as in Italy between two interlocking modes of construction, but with the same material used for the entire surface, the impression remains that of a facade materially built in its entirety in ashlar, and only embellished on the surface by a system of false pilasters, sculpted window jambs, pediments and various sculptures that captivate our mind.

In passing, we note once again the "French" use of the effect characteristic of the 16th century, with a slightly forward body in the center and two symmetrical, slightly narrower bodies symmetrically placed on either side, an arrangement that was more obvious in the initial project as the third attic storey was then to concern only the three pediments with only a balustrade between them. However, each of these three protrusions is organized "Italian-style", especially on the last level: two flanks, each symmetrical, and the consistency of the center is lost through a hole and the disappearance of the horizontal part of the tympanum, which alone underlines the symmetry of the whole in the absence of an architectural element placed in the center to explicitly highlight the presence of an axis of symmetry.

Detail of the façade and o v e r a l l perspective of the Villa Farnese in Caprarola, Italy, with Vignole's

Images sources: https://visitcaprarola.it/fr/luoghi-da-visitare/edifici-storici/palazzo-farnese/ and http://www.travelingintuscany.com/gardens/farnese.htm

What differentiates the French from the Italian style in this building is the apparent uniformity, in France, of the materials used. For example, the façade of the Lescot wing can be compared to one of the facades of Caprarola's Villa Farnese, which is not lacking in similarity in its overall organization, both in the combination of arcades and pilasters on the lower level and pilasters and continuous walls on the upper level. Antonio da Sangallo the Younger (1484-1546) and Peruzzi (1481-1537) built the base with five fortress bastions around 1515-1530, followed by Vignole (1507-1573) who built the parts above the basement from 1558 to 1568, transforming the fortress originally planned into a palace with terraces.

On the upper floors, the coloured rendering of the ordinary wall highlights the system of pilasters and entablature, which truly appears to be a constructive arrangement that competes with that of the ordinary solid wall, and on the floor below, the reddish-tinted transoms also highlight the pilasters and the entablature they support as a constructive arrangement that seems perfectly independent of that of the transoms supported by the arcades.

The same colored process was used to fictitiously distinguish two recessed constructional devices in several of the Italian examples already given: the Palazzo dei Conservatori in Rome's Capitoline Hill (although initially in travertine) and the central pavilion of Villa Barbaro in Maser. Another example is the façade of the Santa Maria di Loreto church in Rome, whose construction began in 1507 to a design by the architect Antonio da Sangallo the Younger. Here, the continuous red brickwork is perfectly visible, while the white color of the pilasters and entablatures clearly suggests that they constitute a competing structure to that of the brick wall.

In the Te de Mantua palace, the two seemingly interlocking structures were not differentiated by color, but by texture and depth.

It is especially instructive to compare the use of brick at Santa Maria di Loreto to highlight the false structure of pilasters and entablature with the combined use of brick surfaces and ashlar quoins frequently seen in France, such as at *the Place des Vosges* in Paris, built in the very early 17th century.

All that remains of the Château de Vallery is a corner pavilion built between 1555 and 1559 by Pierre Lescot. There's no false antique order here, but a perfectly logical combination of brick surfaces for the ordinary part of the walls and cut stone for the vertical quoins which are stronger than if they had been made of brick, and horizontal bands of smooth stone for the horizontal chainings corresponding to each floor line, as well as for the squat level of the basement. The stone surrounds of the openings and their pediments have no constructive justification, so they only

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appeal to our mind's attention as it deciphers the formal register to which they correspond, but the rest of the building uses the material in a way that is justified. Vertical quoins come into play in two ways. In the corners of the building and at the bays on the upper floors, the materiality of the stonework is accentuated by the relief of the bossing and the hammered appearance of the surface, while the strict geometry of the designs and the alternation of long and short stones underline the intervention of a mind concerned with the detail of their assembly. In the framing of the lower-levels bays, the materiality of the quoins is similarly accentuated by the relief of their bossing and the hammered appearance of their surface, but this time their presence encroaches on the framing of the bays, thus harming their readability. A positive dialogue between the builder's mind and the material he organizes in the first case, a dialogue that can be said to be destructive between the same in the case of the first-levels window frames, but these places where mind and material clash "Italian-style" are limited and discreet. For the most part, it's the French style that dominates, i.e. the dialogue between matter and the mind that organizes it in detail.

Still on the subject of the use of brick in France, a few words on the so-called "Louis XII" style of the early 16th century, often considered a transitional phase between Gothic architecture and the adoption of the Renaissance style in France.
The Louis XII wing of the Château de Blois is a typical example of this style. This time, the quoins are in the form of smooth cut stones, with no embossing or hammering on their surface, while the alternation of long and short stones is completely irregular. There's still no conflict here between the two construction techniques, which simply combine: ashlar is used for the quoins at the corners of the masonry and that of the windows, while brick is used for the material infill of the ordinary walls. However, it is not in this combination of two materials that the main contrast lies between what makes up the materiality of the building and what captures the interest of our mind, but in the contrast between the main parts of the wall, made of ashlar and brick, and the arcades of the basement, the sills of the first level of the gallery, and the dormer windows linked together by sculpted friezes. All these surfaces, plus the ground floor of the tower door and all the arched lintels of the tower's windows, are systematically executed in ashlar. To all these richly sculpted parts, which do not give rise to the slightest destabilizing anomaly, we can, however, contrast the offset of the gallery arcades' support on the ground, which destabilizes our expectation of a normal support on the ground, and also contrast the use of false columns and pilasters at the corners of the tower, architectural elements that lead us to believe that they are self-supporting, whereas it's clear that the quoins of this building are made of successive rows of ashlar and that these columns and pilasters have a purely decorative function.

A main axis with two competing lateral axes, as envisaged so far in the "Nordic" layout that destabilizes our perception which is constantly hesitating as to which part should organize it, corresponds to the layout of a flat figure. When we move on to the volumes, the equivalent is a predominantly central massing with similar lateral massings scattered around its periphery. Bell towers in particular provide the opportunity for such layouts, and three examples are given here to illustrate their variety.
First, the bell towers built in 1511 on the facade of the Church of Our Lady of Týn in Prague, by Czech architect Matěj Rejsek (c. 1445-1506), or at least according to his plans since he was deceased at the time. If he did design the roof of the towers, this implies that they are in the 15th century style despite being built in the 16th. This is no anomaly, since the destabilization of the organization of our perception linked to this layout was already at play in the 15th century, albeit in a lesser way but especially concerning the organization of material masses which is indeed the case

here. As for the dominant effect in the 15th century, it is very clear here since each of the turrets attached to the main pyramid of the roof of each tower is both visibly detached from it and completely linked to it.

Bell towers of the Church of Our Lady of Týn in Prague, Czech Republic (1511)
Image source:
https://upload.wikimedia.org/wikipedia/commons/0/0d/Prag_Teynkirche.jpg

Above, transept tower of Saint-Ouen Abbey in Rouen, France (c. 1490-1510)
Image source: https://journals.openedition.org/insitu/1148

Right, north bell tower on the façade of Tours Cathedral, France (1507)
Image source:
*https://journals.openedition.org/insitu/docannexe/image/1148/img-25.jpg*

The second example is "fully 16th century". It is the crowning piece of the transept tower of the Abbey of Saint-Ouen in Rouen, probably built between 1490 and 1510 on a lantern tower dating from between 1440 and 1480. Although the central tower is very openwork, its materiality is emphasized by the massive volume it occupies, in contrast to the vertical rise of the four corner turrets which we follow with the eyes and thanks to the attention of our mind. As with the façade of Tours Cathedral, the very fine, rich sculptural network, whose complexity captivates our mind, contrasts with the bareness of the material stone surfaces to which it is applied. In contrast to the roofs of the bell towers of the Church of Our Lady of Týn, which are well detached from one another, as we have said in keeping with their "15th century style", here the reading of the corner turrets is somewhat confused with that of the central tower, not least due to the presence of the slender double-curved arches that connect them to it, without it being possible to assume, due to their thinness, that they might have a buttressing role. Not only had the visual detachment of forms become a minor effect in the 16th century, but the search for a rather destabilizing effect encouraged this blurring of forms to leave us somewhat baffled as to whether the various shapes form a single larger one or whether they are separated from one another. We're also puzzled by the question of where the tower ends, and this time it's the pinnacles of the final crowning that come into play as they continue the tower while, on the other hand, it seems to stop at the cornice that encircles it just below the crown of the pinnacles. Unless, but how do we know, the balustrade that attaches the pinnacles to each other is still part of the tower's volume, and therefore not a sculpted network built on top of it.

The latest example is the north bell tower on the façade of Tours Cathedral, built from 1507 onwards. The south tower, built between 1534 and 1547, followed the same design. Its lower half, forming a tower, is covered with pinnacles and finer reliefs of typically Gothic design which serve

to make the transition to the main part of the façade, but its upper part uses a distinctly Renaissance vocabulary. But while the detailing of its forms comes from Italy, the overall layout of this bell tower is completely "northern": a massive recessed second floor surrounded by four pinnacles occupying each corner of the lower floor, an elongated domed form surrounded by a crown of multiple small pinnacles, and a summit gatehouse whose spherical dome is surrounded by a multitude of tiny shapes vaguely resembling balls. On each of these levels, then, there's a clear contrast between a central shape that asserts itself as a material volume and multiple shapes all around its periphery that our mind follow with the eyes or locate visually, and that each time compete with the central shape they surround.

We must also mention the vaulting system of northern Europe, as in the 16th century the autonomy between the material surface of the vaults and the design of the ribs is significantly exacerbated compared to what was envisaged in the St Lorenz church in Nuremberg in the previous century. The Church of St. Nicholas in Louny, Czech Republic, was probably designed by the architect Benedikt Rejt (or Benedikt Ried, 1451-1534), best known for his *Vladislav Hall vault in Prague Castle*. In Louny's vault, created around 1520-1538, some of the ribs no longer even bother to join together in a continuous network, some suddenly interrupting as if for no reason after crossing, thus generating a discontinuous rib pattern that is highly autonomous from the continuous material surface of the vault. Because of their discontinuity, these ribs cannot claim to play a significant role in supporting the vault.

Even more spectacular are the small staff reliefs created around 1515-1527 under the vault of the parish church in Kätschach, Austria, designed by architect Bartlmä Filtaler. They form a complex, floral-inspired decorative network which can even less claim to play a significant role in the support of the vault. We can't express more strongly that the materiality of the vault and the ribs that cover it, while capturing the interest of our mind with their decorative aspect, form two well-contrasted registers that are completely autonomous from each other.
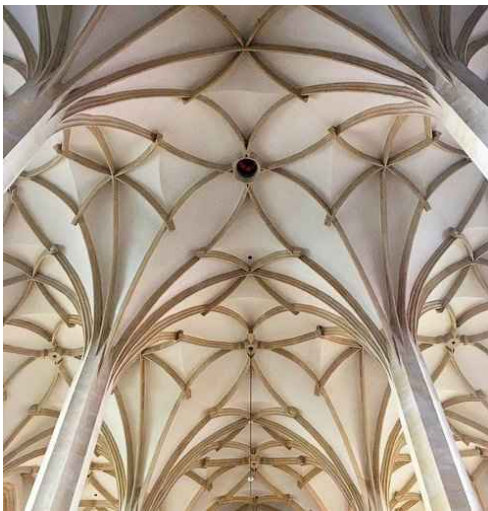
Probably by the architect Benedikt Rejt: the vault of the Church of St. Nicholas in Louny, Czech Republic (1520-1538)
Image source: https://commons.wikimedia.org/wiki/File:LounyKostelKlenba.jpg

*Bartlmä Filtaler: vault from the parish church in Kätschach, Austria (1515-1527)*
Image source: https://www.meinbezirk.at/gailtal/c-freizeit/pfarrkirche-koetschach-gailtaler-dom_a2620220#gallery=default&pid=12700170

Although even more explicit arrangements were invented in Germany in the early 16th century, this time completely separating the vault from its ribs.
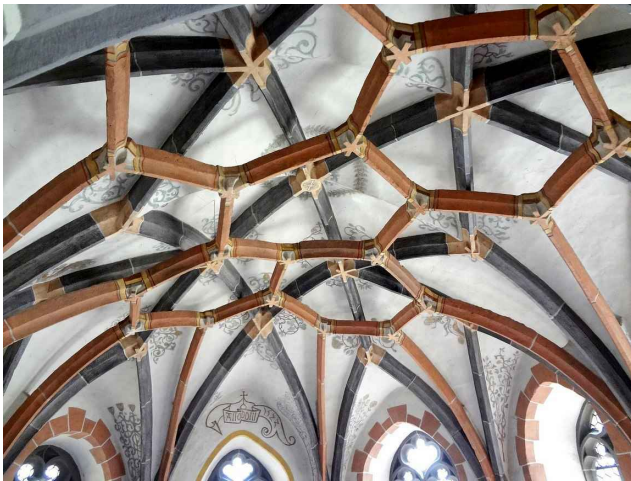
St Jakob's Church in Langenstein, Germany: the choir vault (1522)
Image source: https://www.wikiwand.com/de/Gew%C3%B6lbe#Media/Datei:Pfarrkirche_Langenstein_Chorgew%C3%B6lbe_4.jpg
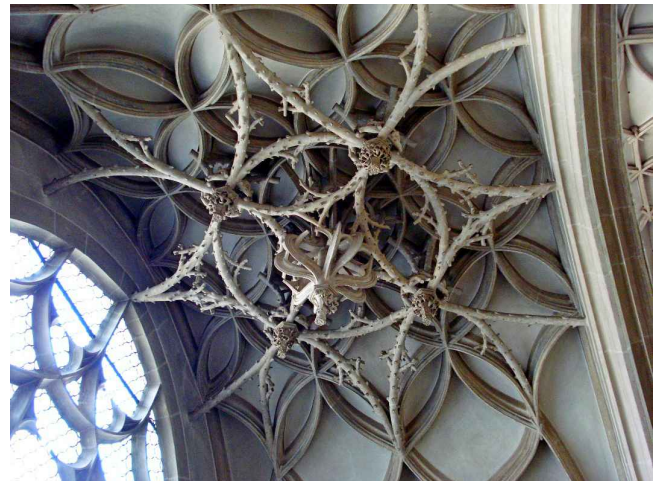
Erhard Heydenreich: vault of a chapel in the Church of Our Lady in Ingolstadt, Germany (c. 1512)
Image source: https://commons.wikimedia.org/wiki/File:Ingolstadt_Liebfrauenm%C3%BCnster_Jakobskapelle_Luftrippen.JPG

In 1522, the choir vault of the small church of St. Jakob in Langenstein, Germany, received two levels of ribs completely detached from each other and only connected at the point of the capitals on which they rest. Glued against the vault, a grey-painted rib network may act as a stiffener for the vault, but offset below, and articulated in such a way that its hexagons or pentagons are centered on the intersections of the grey network, a second rib network, this time painted a reddish color, can certainly have no role whatsoever in stiffening or supporting the vault since it is completely detached from it. While the surface of the vault ensures the materiality of the choir's covering, this network of ribs, detached from its surface, only serves to captivate our mind with its geometric layout and the bizarre concordance between the center of its figures and the position of the crossings of the network of gray ribs.

Produced around 1512 in the side chapels of the Church of Our Lady in Ingolstadt, Germany, some of the ribs are equally distant from the material surface of the vault, creating a network of false branches whose unexpected presence captivates the mind. In fact, underneath the smooth, domed surface of the vault, several networks follow one another: first, strongly protruding curved ribs that intersect in a very dense fashion, then a kind of branching suspended in mid-air from which flower buds emerge at their intersections, then in the center a kind of plant star from which another flower bud emerges. This complex, unexpected network, obviously forms an issue of interest for the mind that is completely autonomous from the material presence of the vault that closes off the space above, autonomous because it is far removed from any notion of a wall and incapable of helping to support the vault since, on the contrary, it is suspended from it, at least in part.

Italy, for its part, was not interested in creating a visual contrast between the materiality of their vaults and domes with a design of ribs or false ribs organized in autonomous networks, but it was around this time that it began to make abundant use of the paints covering these surfaces to deny their material enveloping character and transform them into spectacular openings onto the sky, even onto supposedly divine heavens, thus completely captivating our mind which then enjoy discovering all the details of the imaginary scene depicted.
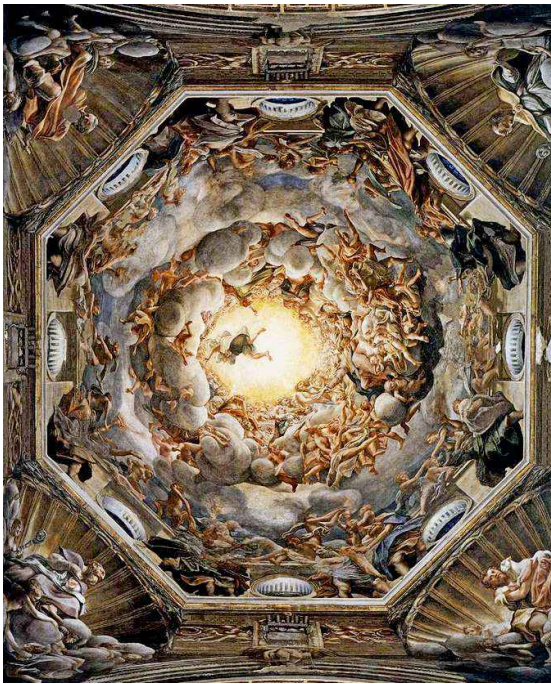
Cupola of Parma Cathedral in Italy, painting of the Assumption of the Virgin (1526-1530) by Correggio

Image source: https://www.wikiwand.com/fr/Cath%C3%A9drale_de_Parme

Vault of the Hall of Olympus at the Villa Barbaro in Maser, Italy (from 1560), painting by Veronese

Image source: https://upload.wikimedia.org/wikipedia/commons/3/39/Salla_dell%60olimpo%2C_Paolo_Veronese%2C_Villa_Barbaro.jpg

One example is the dome of the cathedral in Parma, on which the painter Correggio (1489-1534) painted a particularly spectacular Assumption of the Virgin between 1526 and 1530, with its spiral of clouds and angels carrying the Virgin and, against a backdrop of dazzling light, the apparition of Jesus who has opened the heavens to welcome his mother. Another example, more modest in size, the vault of the Hall of Olympus in the master's pavilion of the Villa Barbaro in Maser, whose exterior Palladian architecture we have already considered. The painting was produced here from 1560 by the painter Veronese (1528-1588). Part of its surface evokes skies and heavens that, as in Parma, tend to deny the material reality of the vault. However, the suggestion is made that it should be divided into different caissons, resulting in an arrangement with a central figure and a multitude of figures surrounding it on all sides. As we have seen many times in Italy, the central figure is not presented here by asserting the materiality of its center, but on the contrary by the most complete possible collapse of this materiality as it imaginary opens towards the infinity of the divine heavens. In contrast to the confrontation between the materiality of the vaults and the design of ribs forming autonomous networks seen in France, Germany and Austria, in Italy the paintings decorating the vaults enter into the most conflicting relationship possible with the materiality of their construction as they tend to deny it altogether.

In the 16th century, the independence of forms that captivated the mind in relation to the necessary solidity of construction took shape in Northern Europe with the creation of forms that were based on emptiness, or at least appeared to be based on emptiness. Since the destabilizing effect characteristic of this century was not completely absent from the previous century, suspended keystones were produced in the 15th century, but it was really in the 16th century that such arrangements became abundant.

The same is true of the rood screen in the cathedral of Sainte-Cécile in Albi, dating from around 1500. The same is true of the fan-shaped vaults in Henry VII's chapel at Westminster Abbey in London, whose points rest on the void and can be dated from 1503 to 1519. Another example is the

enormous keystone that forms the vault above the transept crossing in the church of Saint-Étienne-du-Mont in Paris, dating from the late 16th century and featuring Renaissance-style carvings. In Albi, as in Saint-Étienne-du-Mont, it is the closest pillars and the continuity of the vault's material that reassure us of the building's material solidity; in Westminster Abbey, it is the supporting arches that abut the lateral pillars and meet the vault.
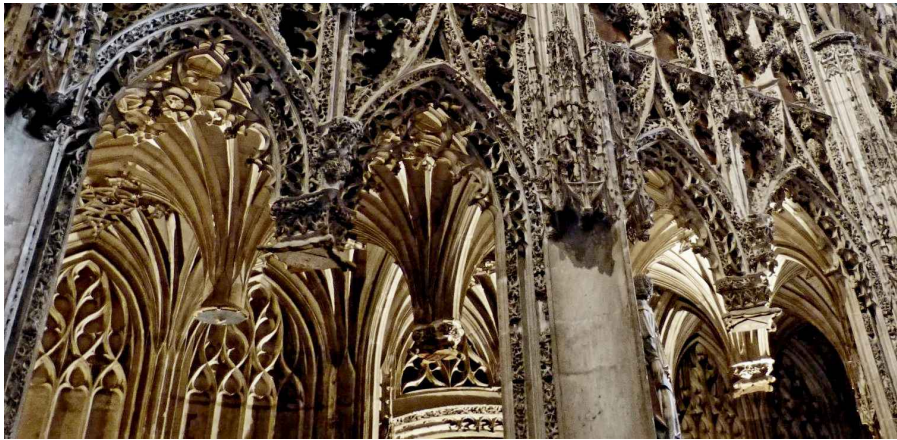
Vaulted rood screen in Sainte-Cécile Cathedral, Albi, France (circa 1500)

Image source:
http://www.bigmammy.fr/archives/2012/06/26/24581138.html
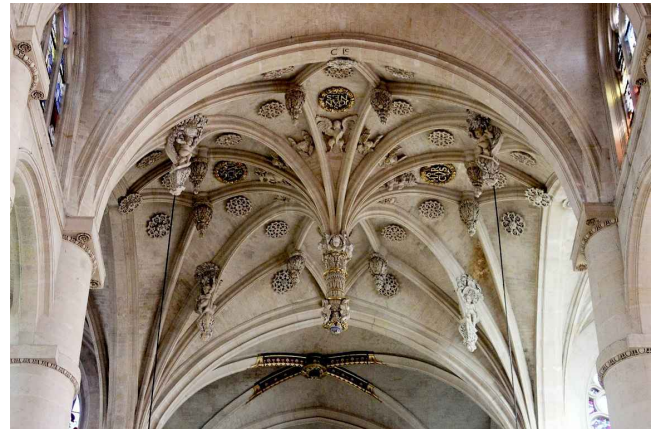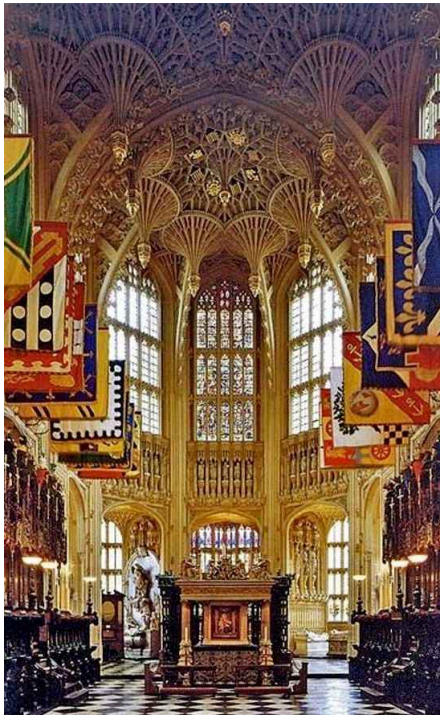
Left, the choir vault of Henry VII's chapel at Westminster Abbey in London, England (1503-1519)
Image source: https://pin.it/3NThLJ7

Above, the 3 to 4 m high keystone vault covering the entire transept crossing of the Saint-Étienne-du-Mont church in Paris (from 1584)
Image source: https://www.wikiwand.com/fr/%C3%89glise_Saint-%C3%89tienne-du-Mont_de_Paris

As we've said on numerous occasions, the predominant effect in the 16th century is to destabilize us, and what could be more destabilizing than to make our mind believe that the vaults are leaning on empty space and should therefore collapse, an impression that comes in complete autonomy from the material layout which is clearly not collapsing, and which thus demonstrates the solidity we normally expect from a building.

Back to Italy. In the facade of the Church of San Francesco della Vigna in Venice, designed around 1570 by Andrea Palladio, it's not what happens at height that disconcerts us, but what's happening in terms of support on the ground as the building has two competing supports. Here, the design of the

facade that our mind reads does not act autonomously in relation to the materiality of the building but competes with it in a way that leaves us undecided: should we trust our mind which reads that the designed facade begins at a good distance from the ground just like its columns, or should we trust our sense of gravity which tells us that the building's materiality obviously begins when it rests on the ground? The same applies to the façade of the Basilica of San Giorgio Maggiore, designed by Palladio in 1566, also in Venice: this time, the facade features two pediments offset from each other so that we're equally undecided as to which is the right pediment, and where is the top of this facade, whose bottom we also don't know since the columns of the highest pediment rest on pedestals that are offset from to the base of the pilasters supporting the other pediment. With the Te palace we were dealing with two competing interlocking construction methods; with this latest example we're now dealing with two interlocking facades, each competing to be the true facade.

Andrea Palladio: The facade of the church of San Francesco della Vigna in Venice, Italy (c. 1570)
Image source: http://carnetvoyagesbf.canalblog.com/archives/2019/03/27/37212830.html

Andrea Palladio: the facade of the Basilica of San Giorgio Maggiore in Venice, Italy (from 1566)
Image source: https://www.wikiwand.com/fr/Basilique_San_Giorgio_Maggiore_de_Venise

With the feeling of gravity, we once again found the same difference between Italian architecture and that of northern Europe: in Italy the notions of matter and mind are asserted through provisions that compete with each other, and are therefore in conflict with each other, further north, each vigorously asserts its autonomy in relation to the other.

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