

# HISTORY OF ARCHITECTURE I

## ARC 2313 - SPRING 2022

LECTURE-29  
11 APRIL 2022

*For Wednesday, 13 April*

***Ingersoll: 339 - 358***

Reminder: Test #3  
***Friday, 22 April 2022***  
(Lectures 22-31)



Reminder: Term #3

***Friday, 22 April 2022***

(Lectures 22-31)

Reminder: Test #3

***Wednesday, 27 April 2022***

(Lectures 22-31)

Recall in ***Lecture-23*** we read from ***Stilgoe***,  
which ended up with the Gothic Village which  
evolved into the Gothic Town.



manorial lord

serfs working in the fields

FEUDALISM OR MANORIALISM

SERFDOM



*The **Manor House** ~ Estate ~ Landed ~ Demesne*  
(lord, liege, noble, feudal lord, sire, seignor, señor, monsieur, mister)



medieval hut



cottage



The **medieval village** evolves into the **medieval town**

The **Gothic Cathedral** will emerge as the  
centerpiece of the medieval town

## IN THE MEDIEVAL TOWN:

- ¶ population increases
- ¶ markets develop
- ¶ cities develop
- ¶ resurgence of civic life
- ¶ city walls expand



A detailed map of Western Europe showing countries including the United Kingdom, Ireland, France, Belgium, the Netherlands, Germany, Switzerland, Italy, and Spain. Major cities like London, Paris, Amsterdam, Frankfurt, Zurich, and Rome are labeled. Two green location pins are placed on the map: one in Belgium near the Dutch border, and another in France near the Spanish border. The map also shows the English Channel, the Celtic Sea, and the Tyrrhenian Sea. A scale bar for 100 miles is located in the bottom right corner.

Bruges

Montpazier



*Medieval market at **Montpazier** c 1400*

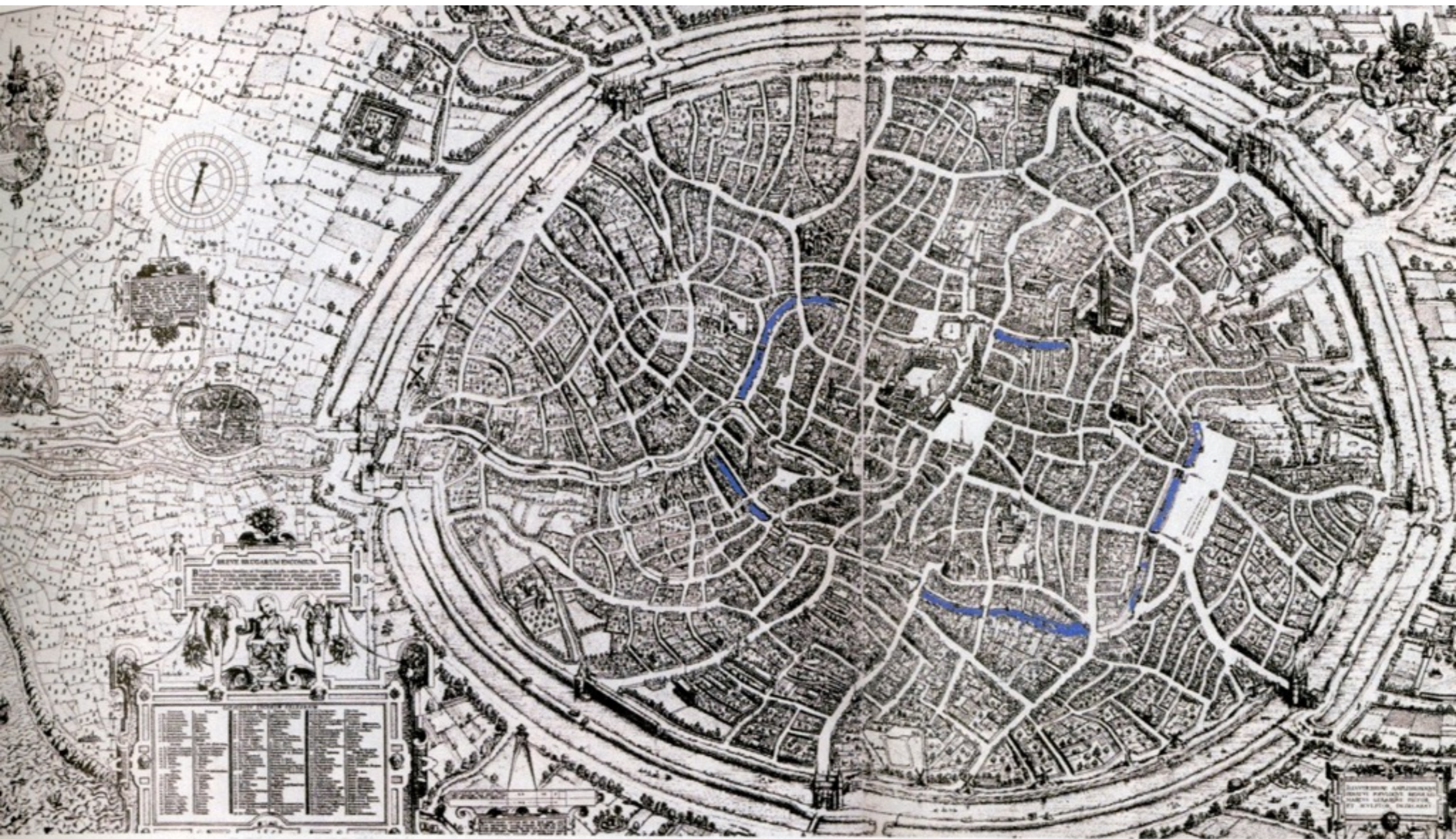


Figure 9.2-3 Bruges. Map of expanded city in late thirteenth century, fattened into an oval.

***Bruges*** - city walls expanded (c 1280)

An example of a medieval  
Northern European merchant city

In ***Bruges***, we see examples  
arise within the urban fabric that  
are unique in *type*...

thus, broadly speaking,  
***new urban building types***

## ***Belfry***

The town treasury

The town archives

The town watchtower

## ***Cloth Hall***

The covered market

A model for stock exchanges



THE BELFRY AND CLOTH HALL IN BRUGES (1240)



Getting product to market via canal

Figure 9.2-4 Bruges. Waterhalle, 1280, detail from painting of the *Wonders of Bruges*, by Pieter Claessins, mid-seventeenth century.

WATERHALLE IN BRUGES (1280)

An example of a medieval Southern European  
fortified city



***Carcassonne*** in the south of France (1240)  
Captured from the Cathars by Louis IX and fortified  
with a ***drawbridge*** and ***donjon (castle keep)***

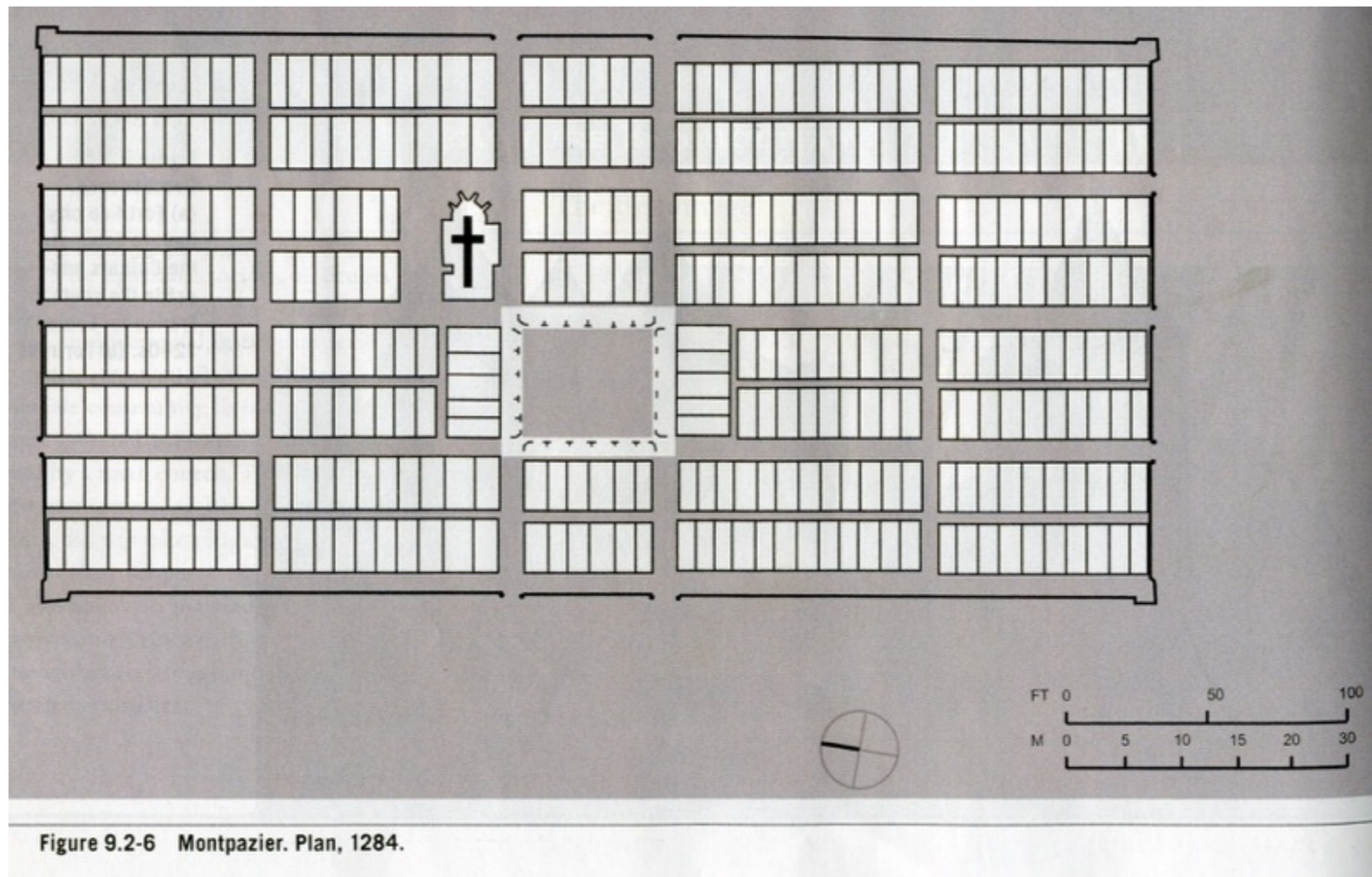


Figure 9.2-6 Montpazier. Plan, 1284.

concept of ***bastides - gothic lots***

towns increased freedom of movement yet they were walled for protection, provided accessibility to markets, greater social order, less control from feudal lords

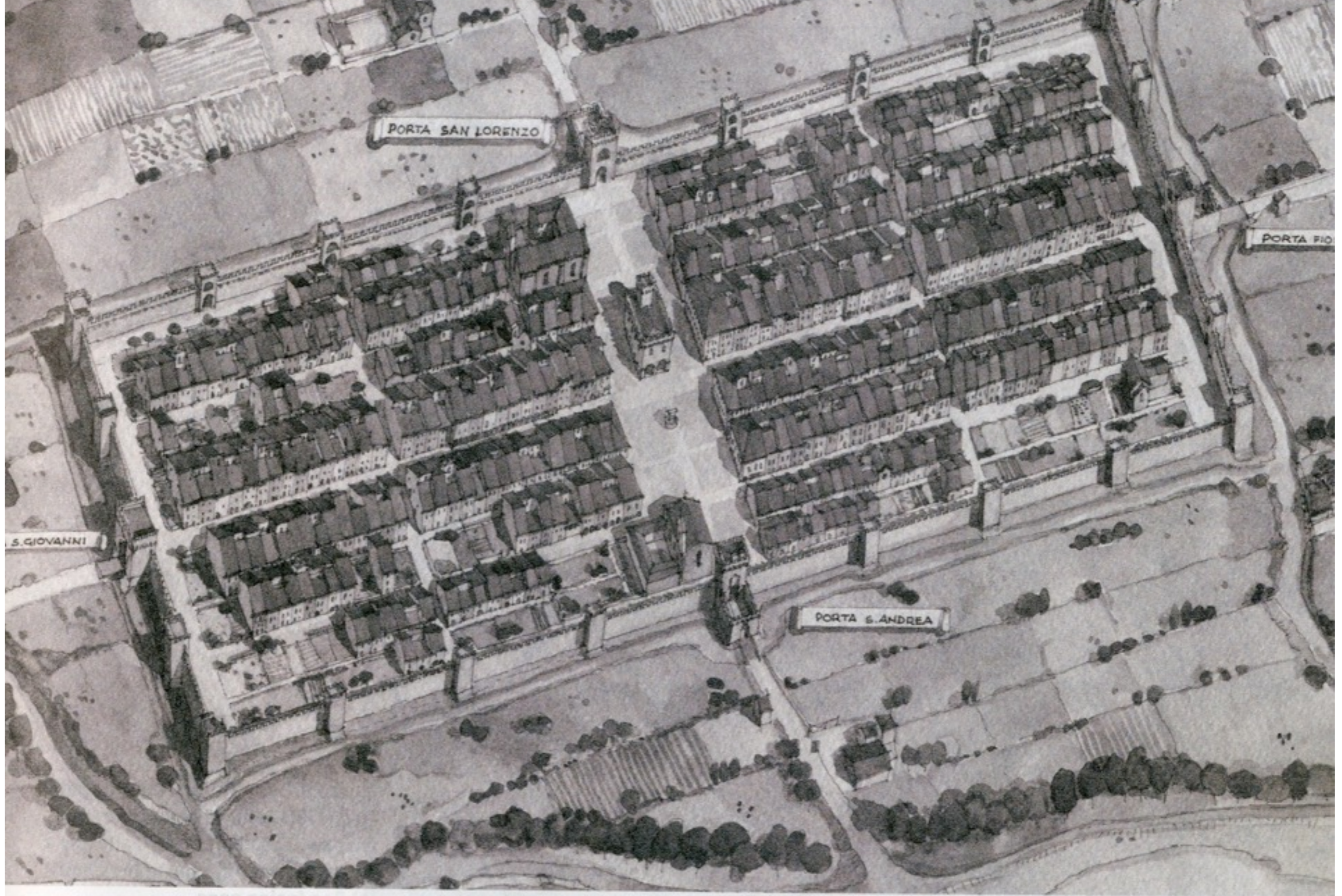
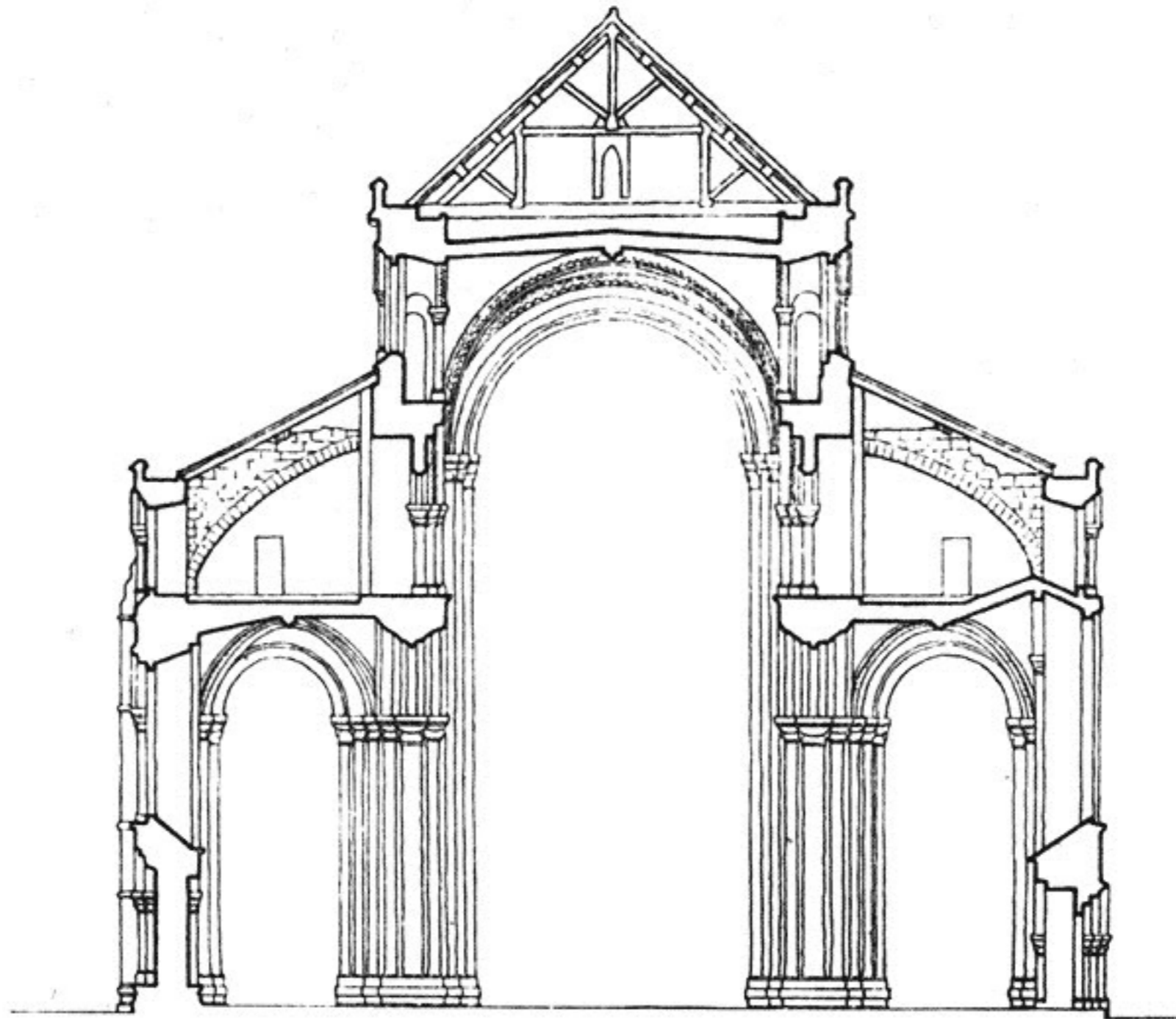


Figure 9.2-7 San Giovanni Valdarno, Tuscany, 1300. Reconstructed axonometric view by Massimo Tosi.

San Giovanni Valdarno c 1300

# ***Cathedrals:***

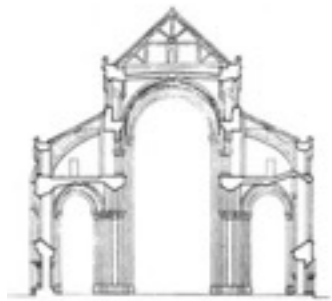
ROMANESQUE TO GOTHIC



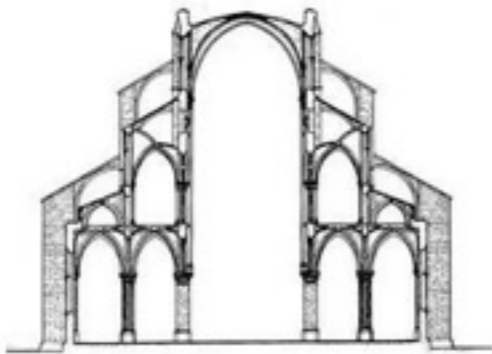
***Durham Cathedral (1093)***

*Romanesque*

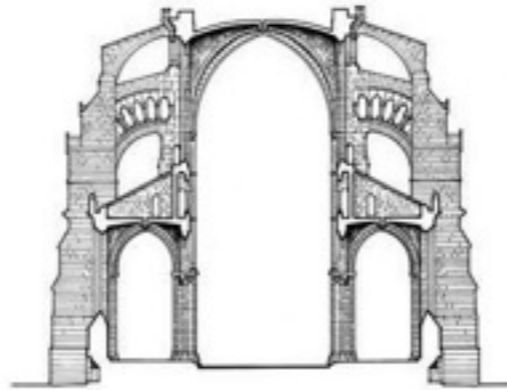
Durham



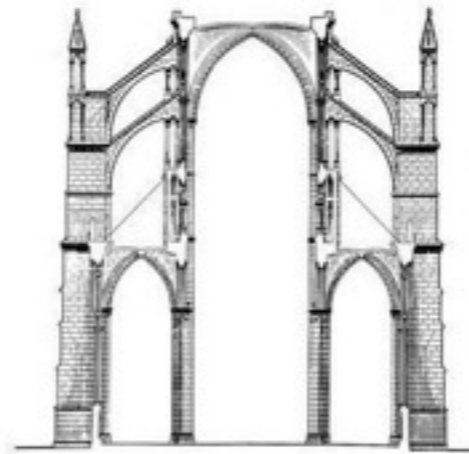
Notre Dame of Paris



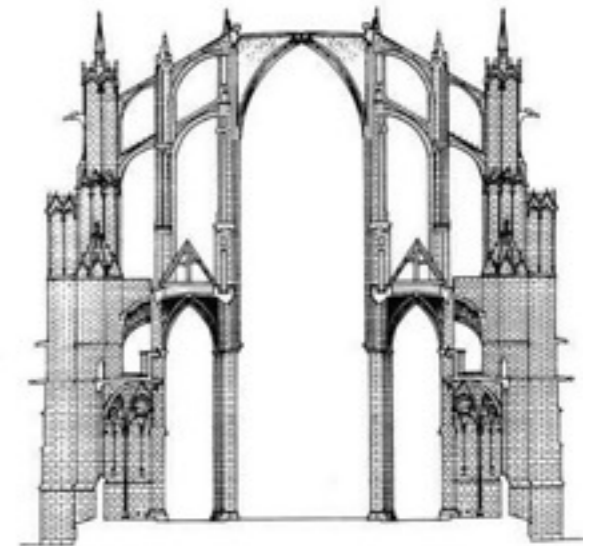
Chartres



Amiens



Beauvais

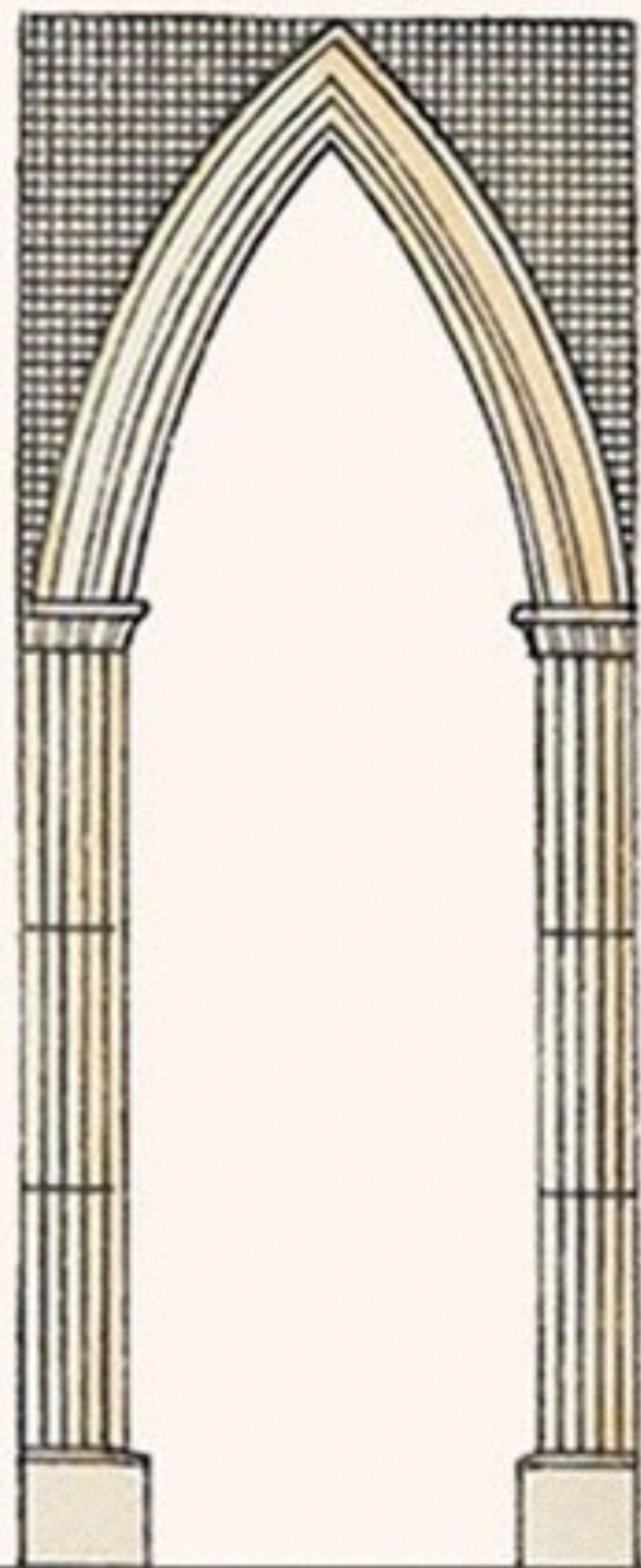


cathedral sections

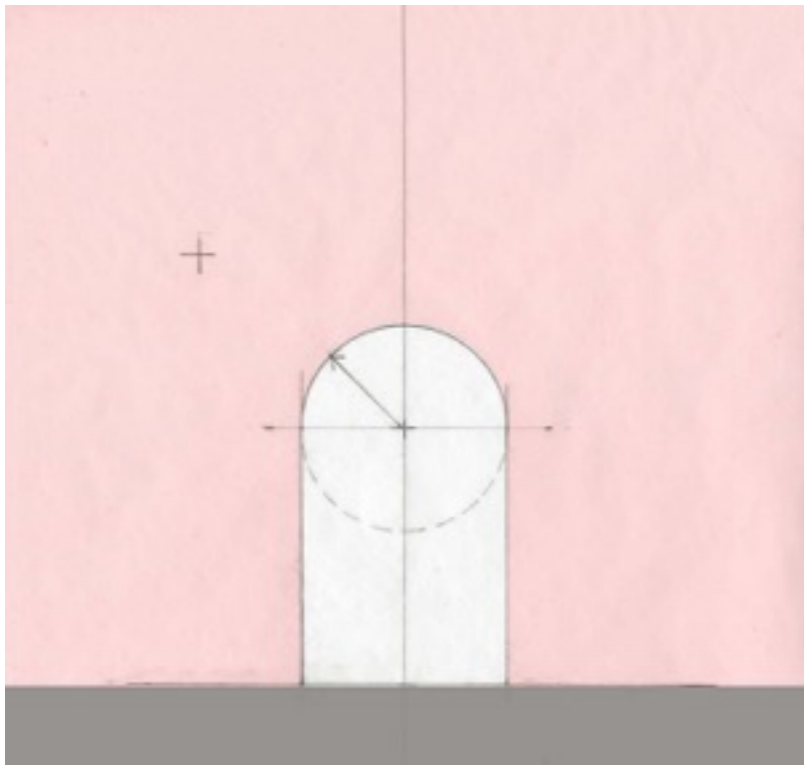
Key elements are transformed as  
cathedrals shift from  
***Romanesque >> Gothic***



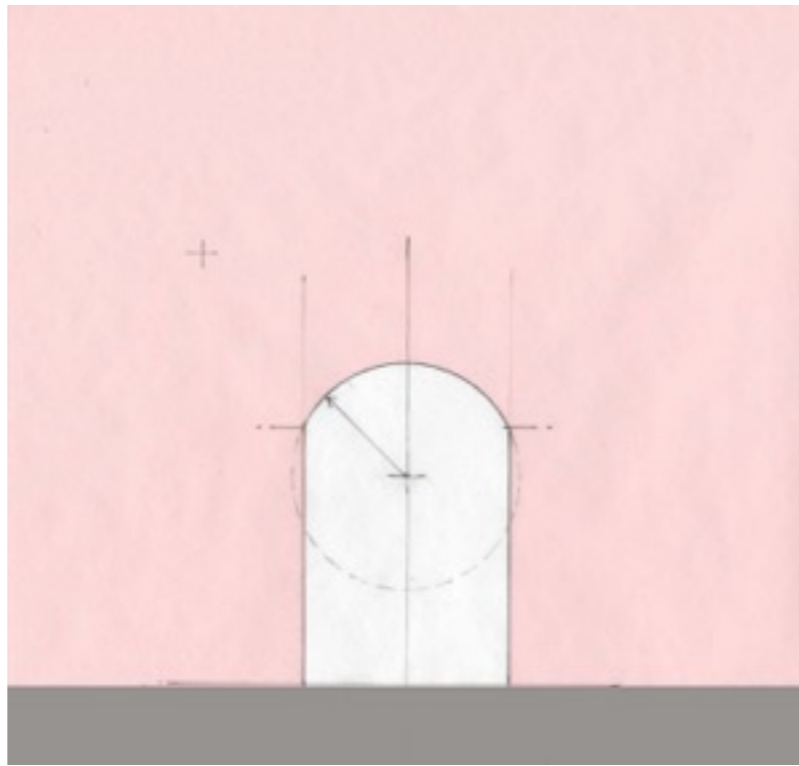
Romanesque Round Arch



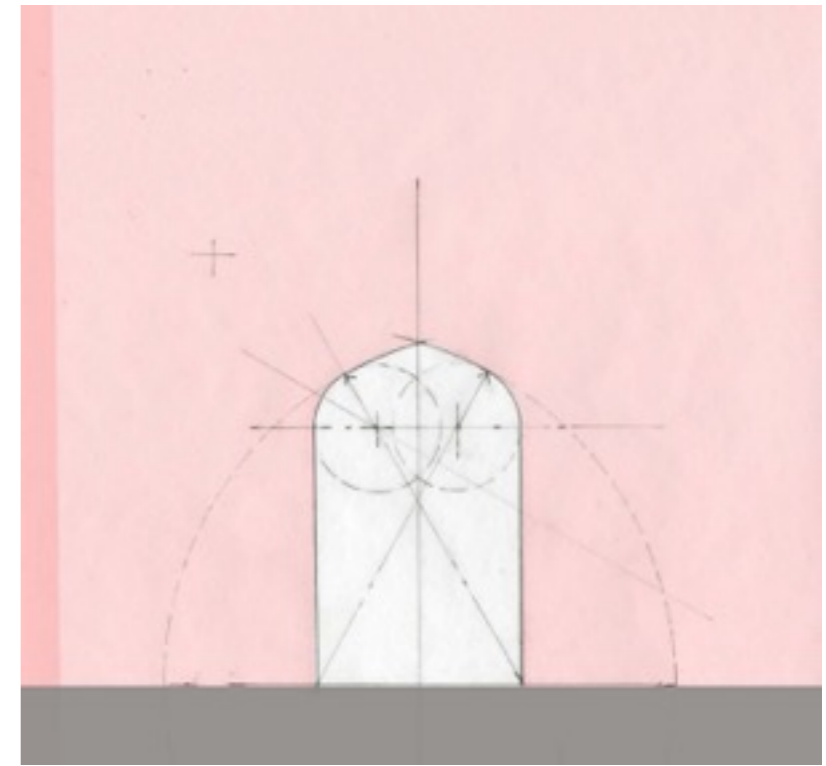
Gothic Pointed Arch



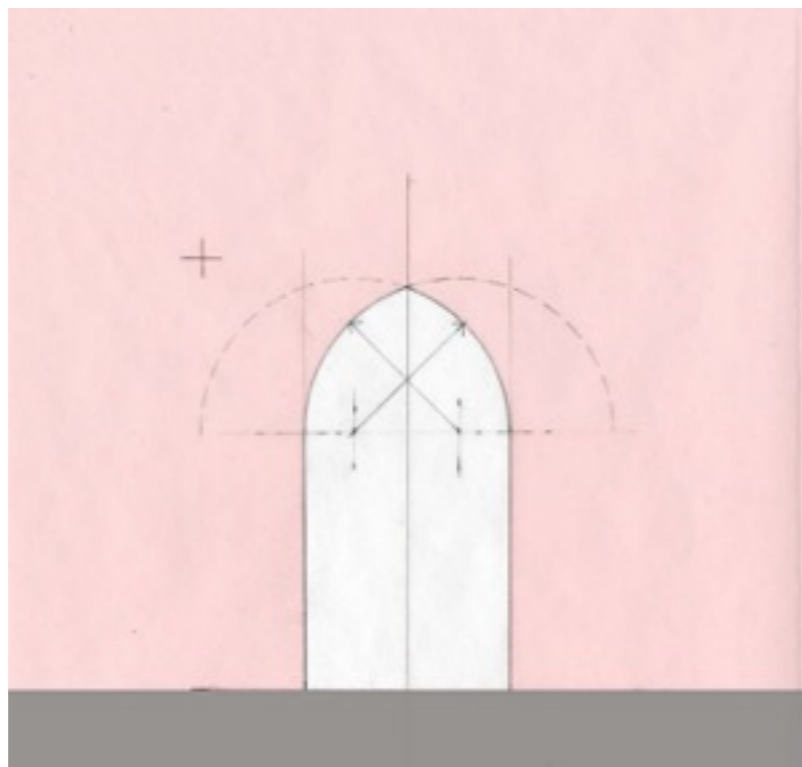
Half-Round



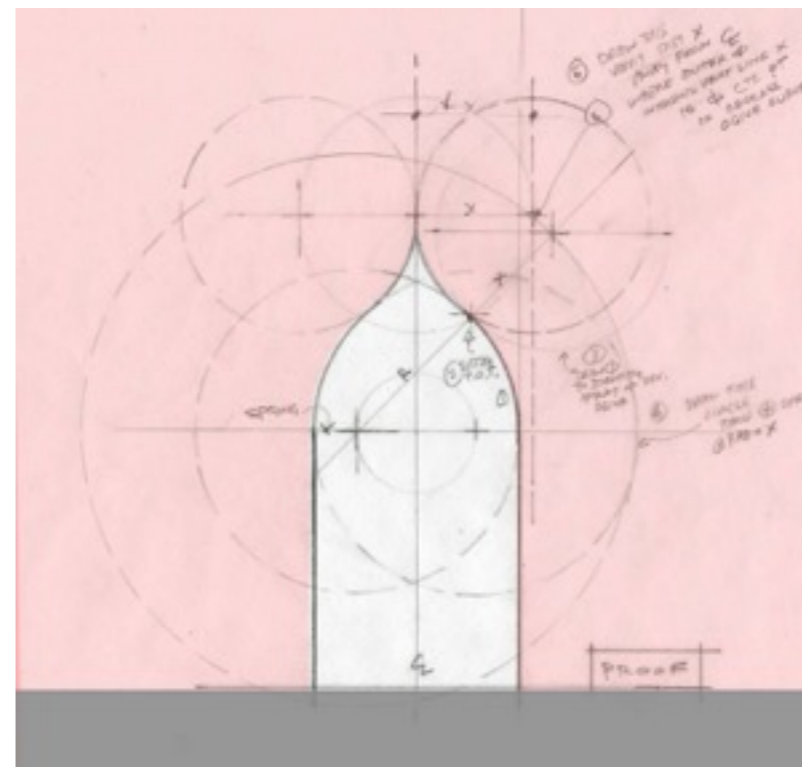
Segmental



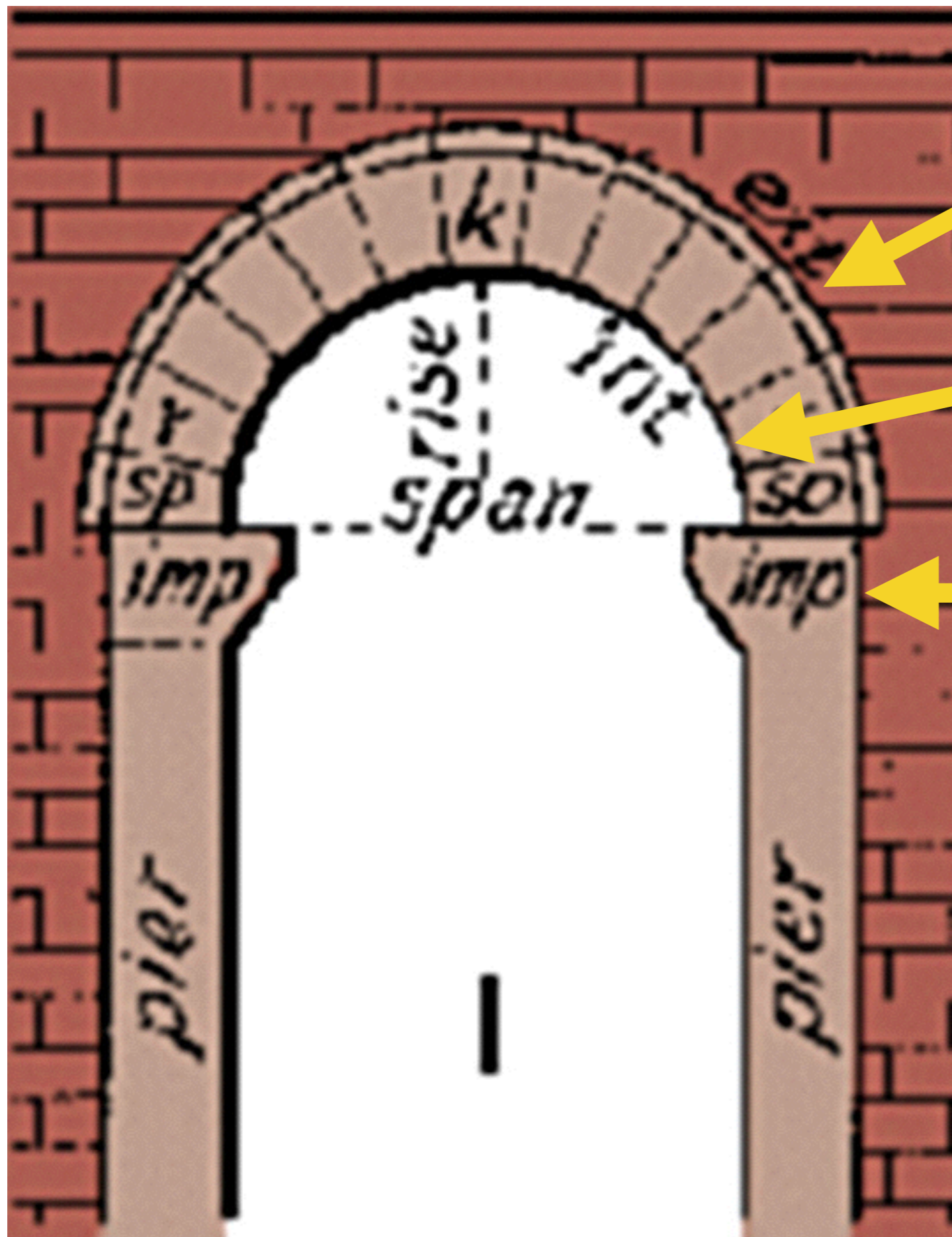
Four-Centered



Ogive or Pointed



Ogee



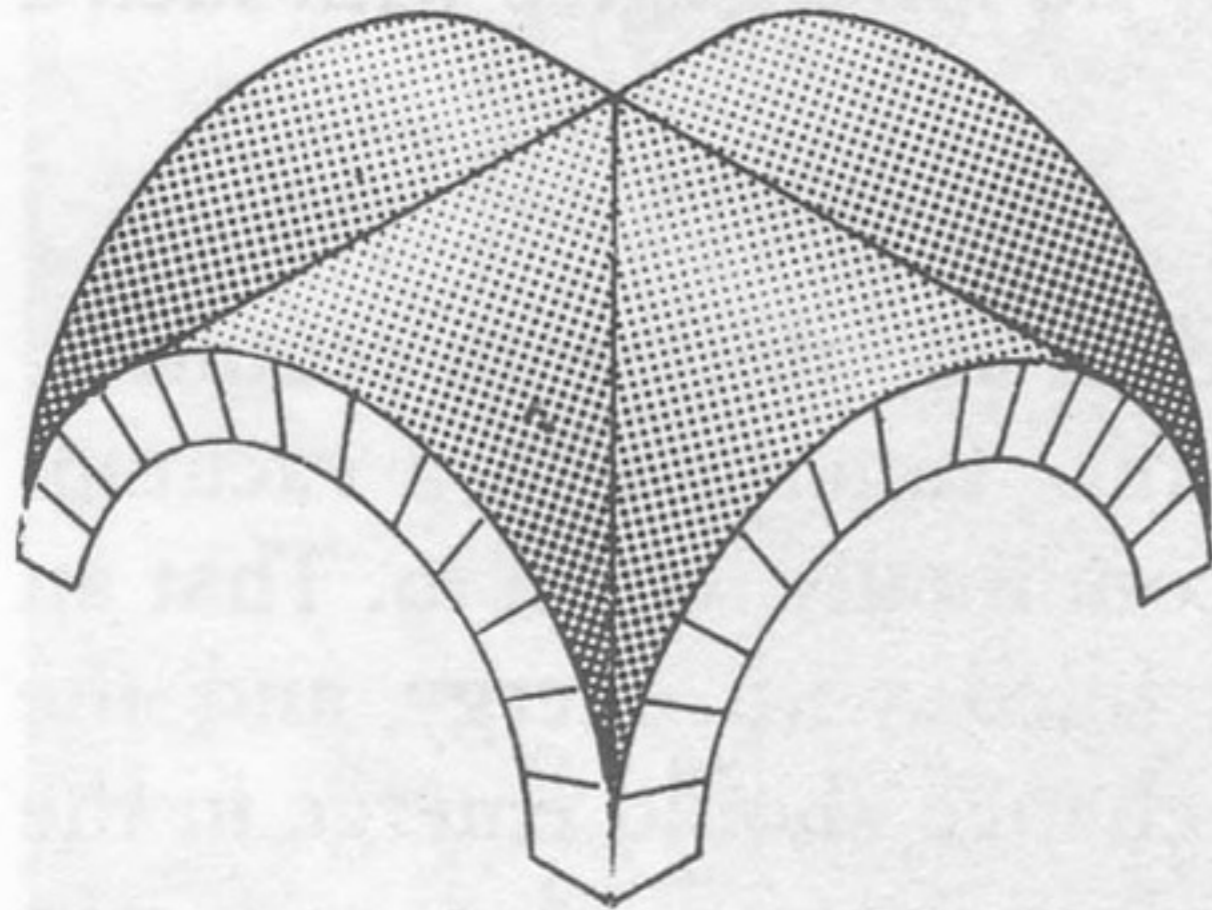
Extrados

Intrados

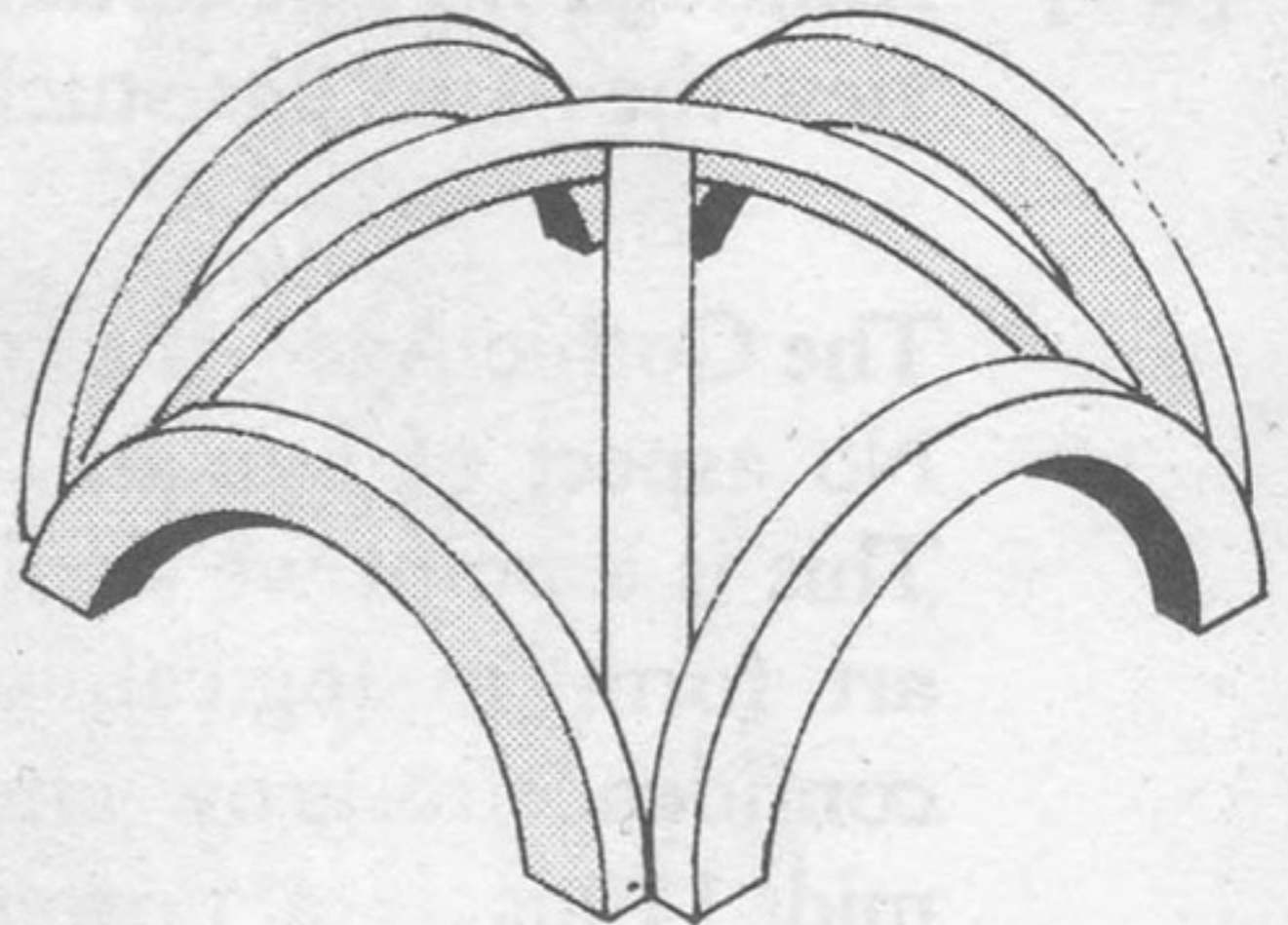
Impost

the definition of a ***groin*** is the  
intersection of two cylindrical volumes

Groin Vault

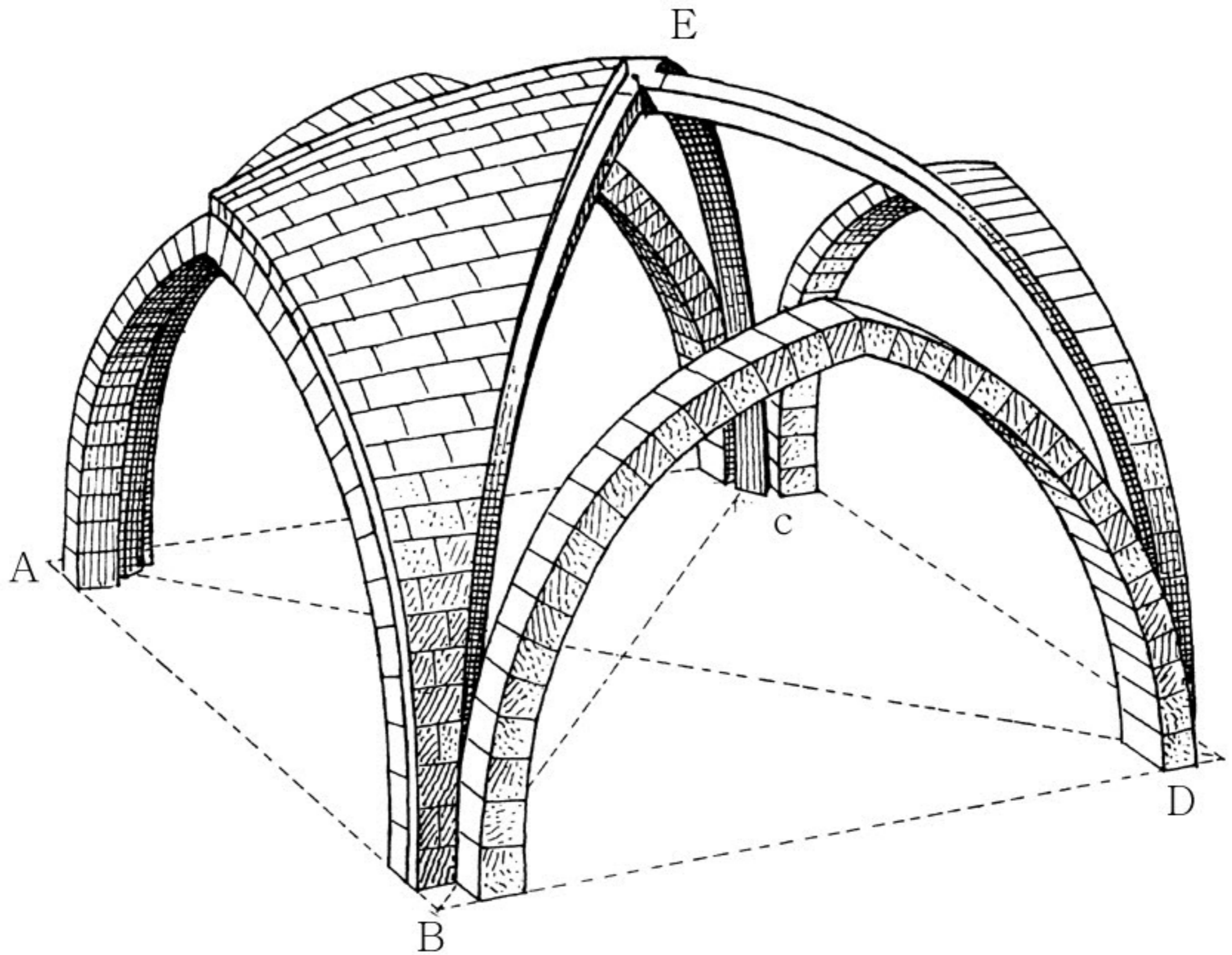


Ribbed Vault

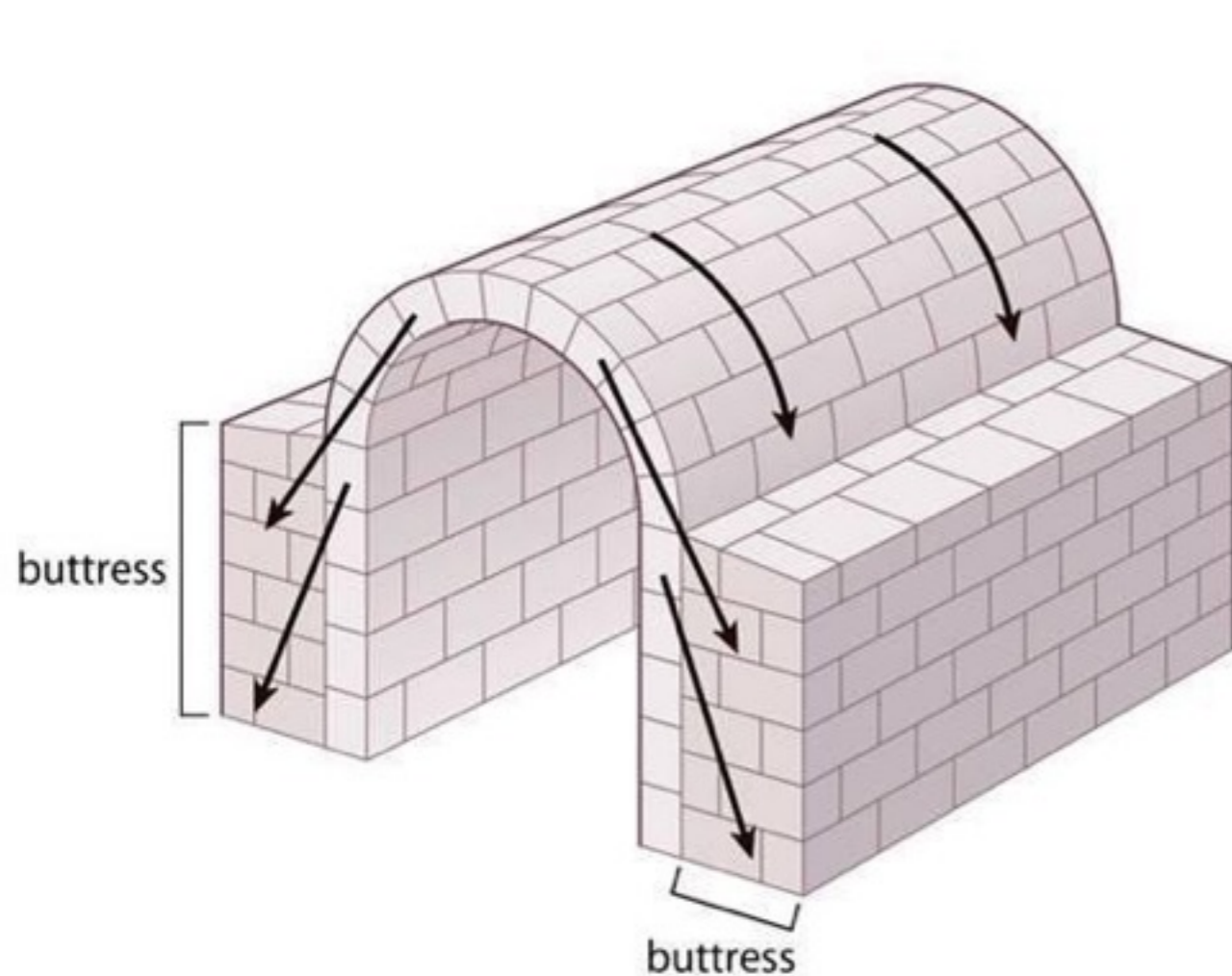


The intersection of two ***barrel vaults*** gives us a ***groin vault***.

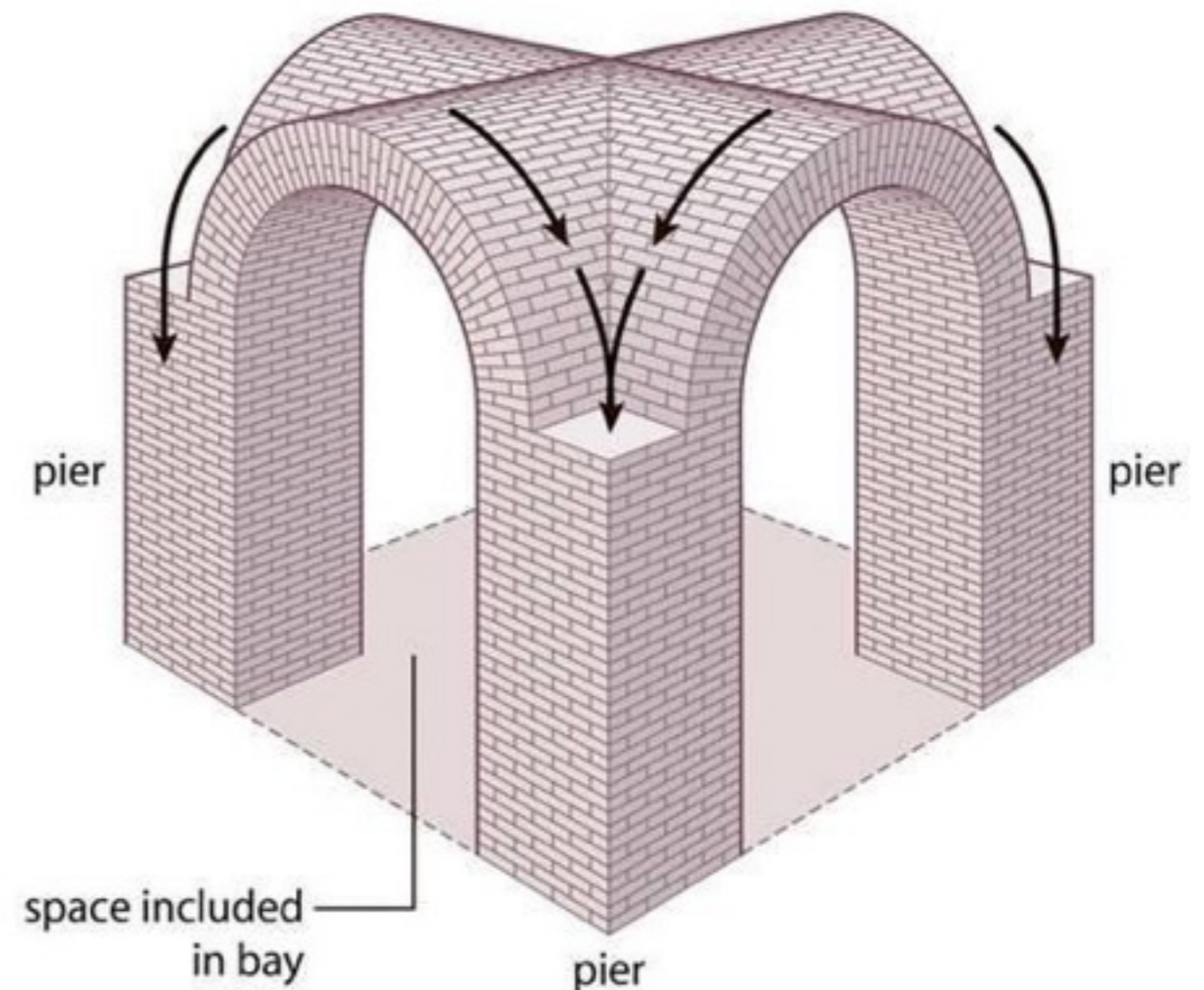
If the structural forces are directed through ribs, and the in-between spaces are made of thinner stones, this creates the ***ribbed groin vault***



***ribbed groin vault***



barrel vault



groin vault

Based on the movement of structural forces one can see that ***groin vaults*** or ***ribbed groin vaults*** create more opportunity for fenestration than a simple barrel vault

***Ribbed groin vaults*** allow walls to go higher because of less weight

As the walls open up because of this and the use of ***groin vaults*** and ***ogive windows*** (taller than previous half-round) the walls are in need of more structural resistance or reaction.

Hence, the buttresses are made larger and deeper and are positioned farther away from the wall itself — they are known as ***flying buttresses***

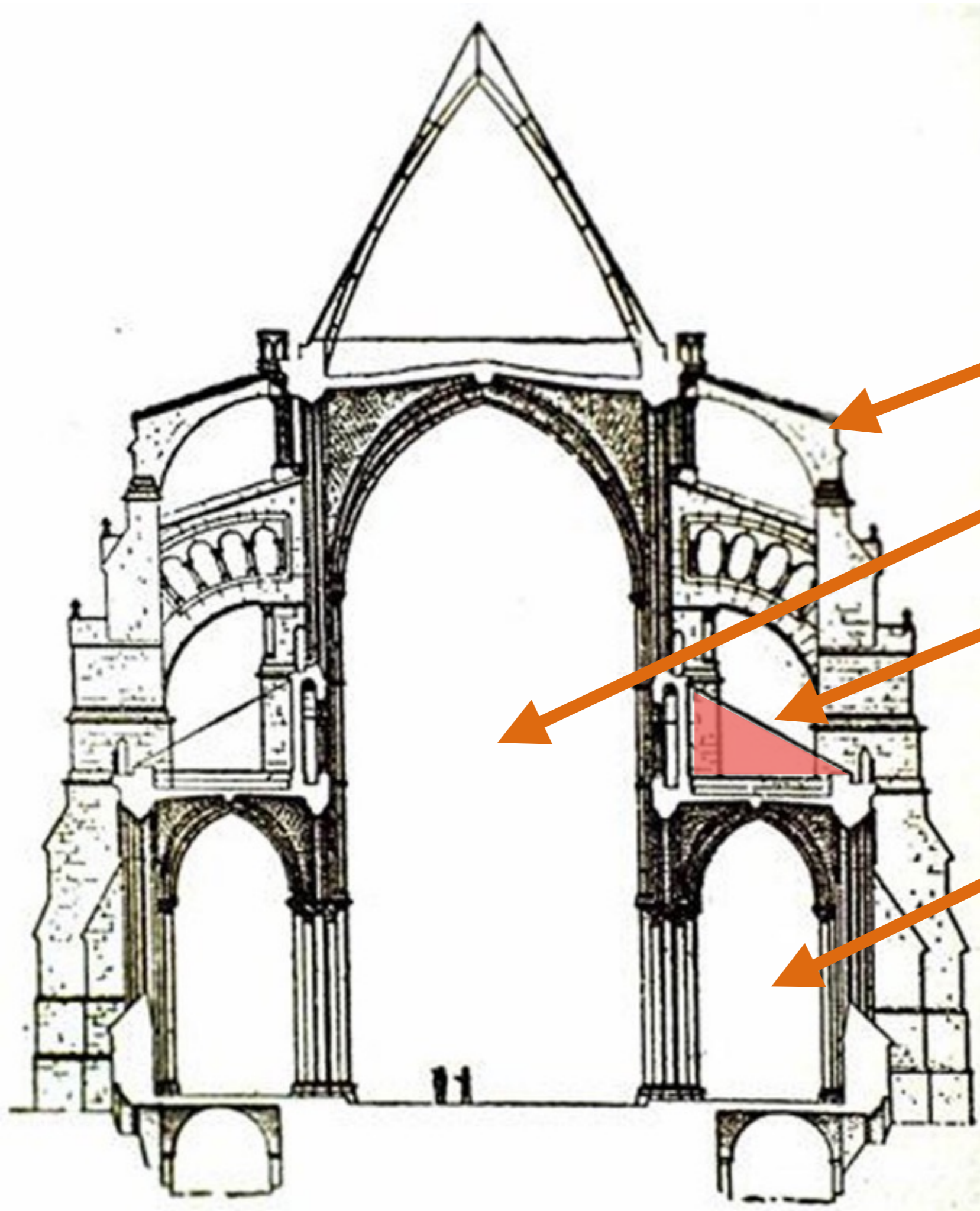
# GOING HIGHER IN GOTHIC CATHEDRALS

***The Content*** (*the idea itself*)

Achieving the ***heavenly light*** also known ***Lux Nova***

***The Form*** (*how the idea is manifest*)

Technology such as ***innovative vaulting*** to achieve lighter construction, which leads to ***increased fenestration***, this fenestration is expressed as ***stained glass***, and additional support in the form of ***flying buttresses***



flying buttress

nave

triforium

side aisle

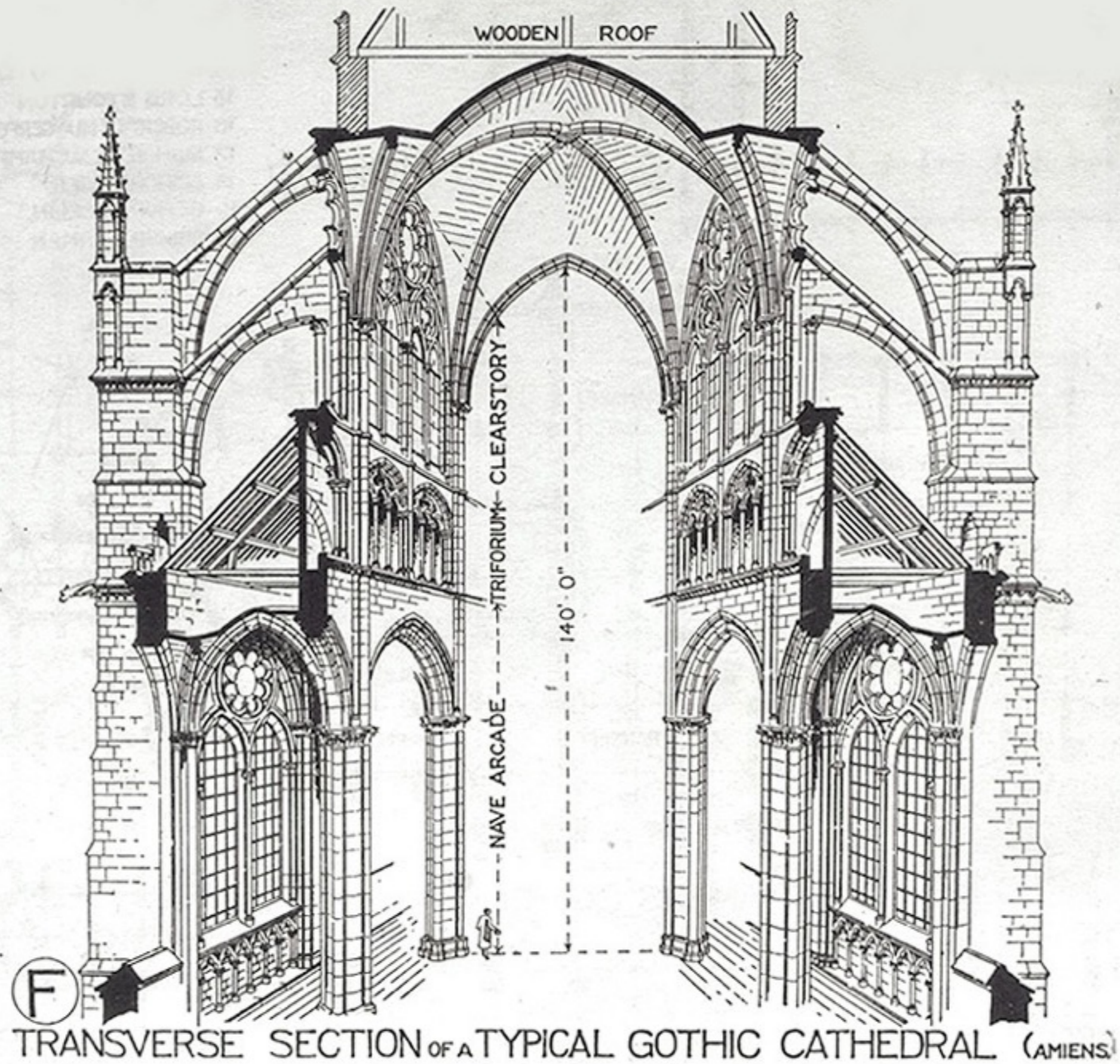


diagram from Bannister Fletcher



*triforium and clerestory* lighting above

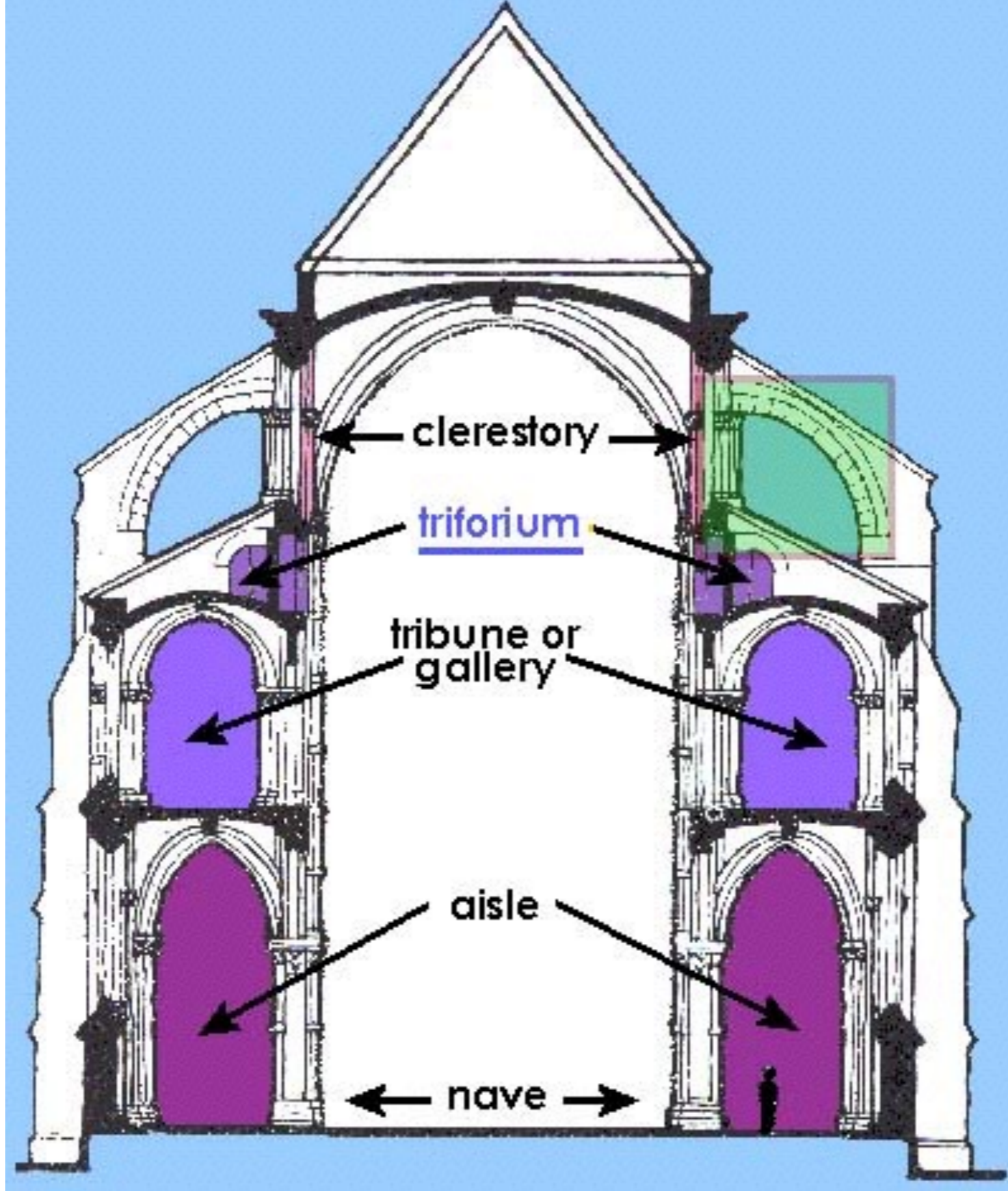
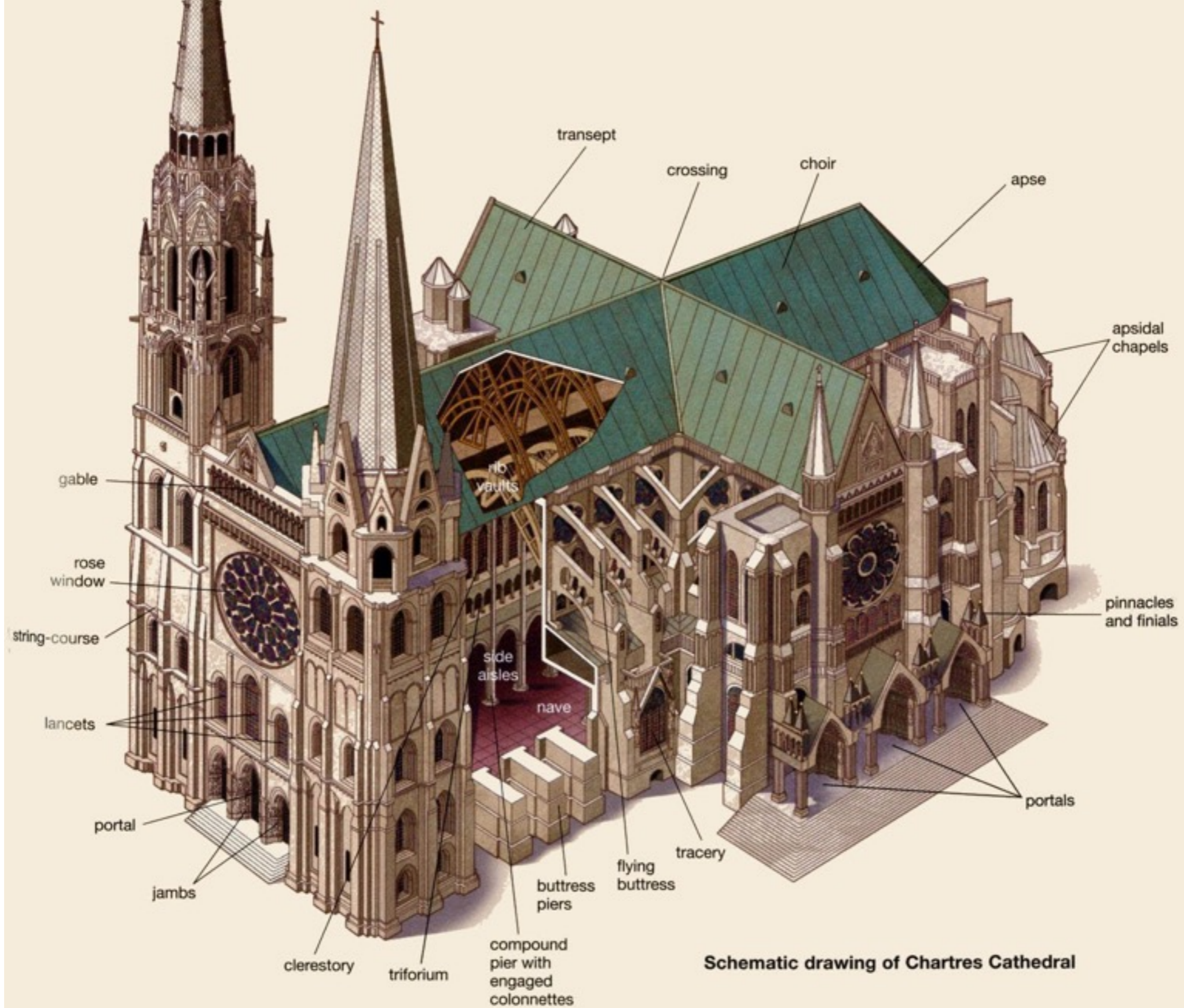


diagram of *Laon Cathedral*

# Chartres



Schematic drawing of Chartres Cathedral

# ***Cathedral*** versus ***Basilica***

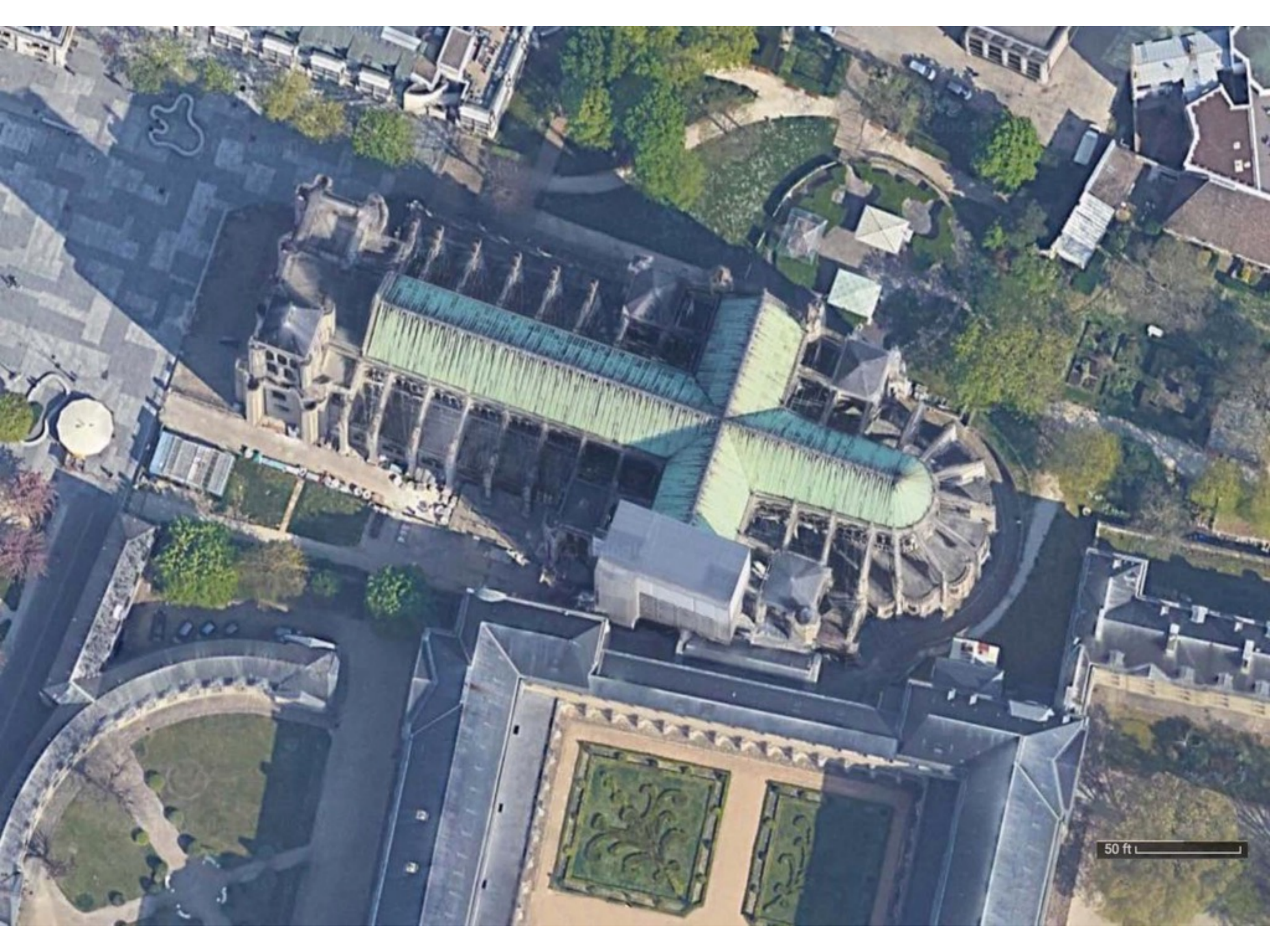
(both are Christian *churches*)

***Cathedral*** means that it contains the seat of a Bishop (known as a *cathedra*)

***Basilica*** means that the Pope has designated this church as historically or spiritually important outside of Rome — *Basilicas* in Rome were transformed from pagan usage — *Basilica* is the highest order of church and some of them also may be the seat of a bishop - *Cathedral*

# ***Basilica of Saint-Denis***

- *north of Paris*
- *burial place of the Kings*
- *first use of all the Gothic elements*
- *completed about **1144***



50 ft



## ***Abbot Suger (1081-1151)***

The brains behind Saint-Denis and the Gothic

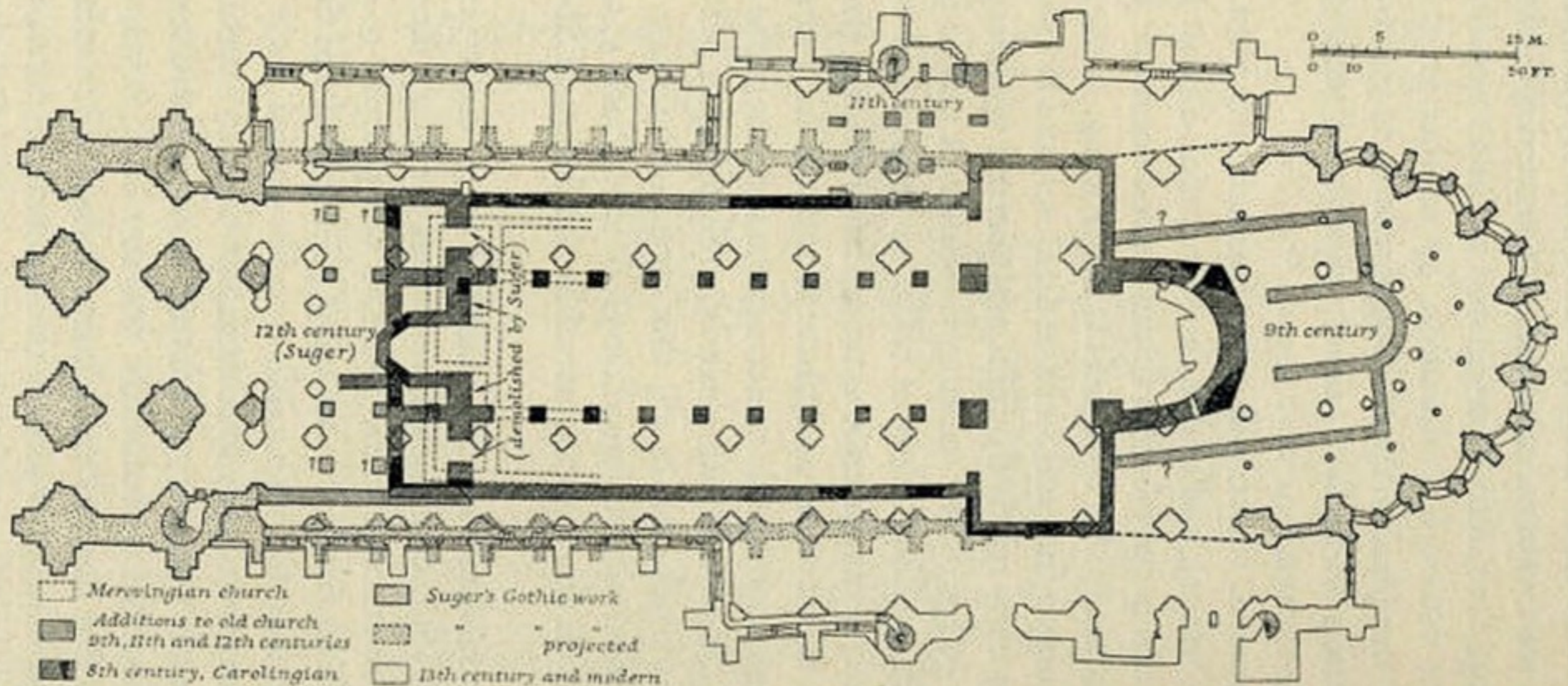
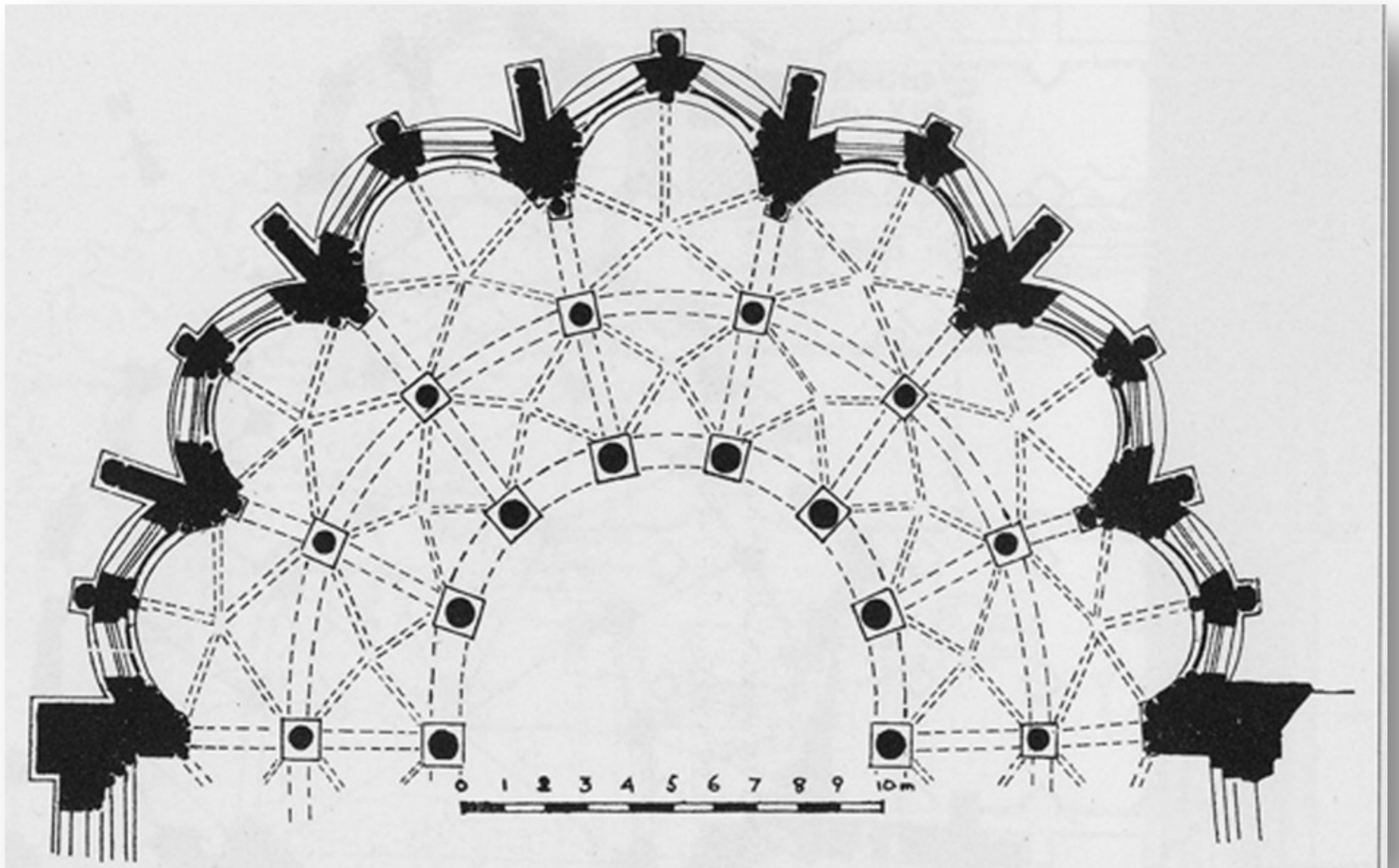


Figure 80. St-Denis Abbey Church, c. 1135-44 and thirteenth century. Plan

changes made by Abbot Suger



**choir and apse**  
**chevet in lower level**  
**distance**



plan of the *chevet* at *Saint-Denis*



The light inside the *chevet*



*rose window or  
wheel window in  
the transept*

*Abbot Suger* first to add  
the wheel window



North tower  
dismantled in 1845  
after a tornado

This photo obviously  
predates 1845



***Saint-Denis***  
west facade

note ***wheel window***  
(***rose window***)

note that windows  
are round-top



***archivolt at Saint-Denis***

Saint-Denis is the burial place of kings



Henri II and Catherine de Medici



Effigies of Henri II and Catherine de Medici



## ***Laon Cathédral***

50+ years after  
*Saint-Denis*  
completed c **1215**

***early gothic***



***Laon Cathedral***



*Laon Cathédral* portals have deep *archivolts*



Looking straight up at the ***crossing***



***Laon***

upper tower  
pavilions turn 45°

bulls



# ***Notre Dame of Paris***

completed ***1260***

# *Notre Dame of Paris*



# NOTRE-DAME DE PARIS.

PAR VICTOR HUGO,

SECONDE ÉDITION.



PARIS,  
CHARLES GOSSELIN, LIBRAIRE,  
RUE SAINT-GERMAIN-DES-PRÉS, N° 9.  
M DCCC XXXI.

Victor Hugo

1830

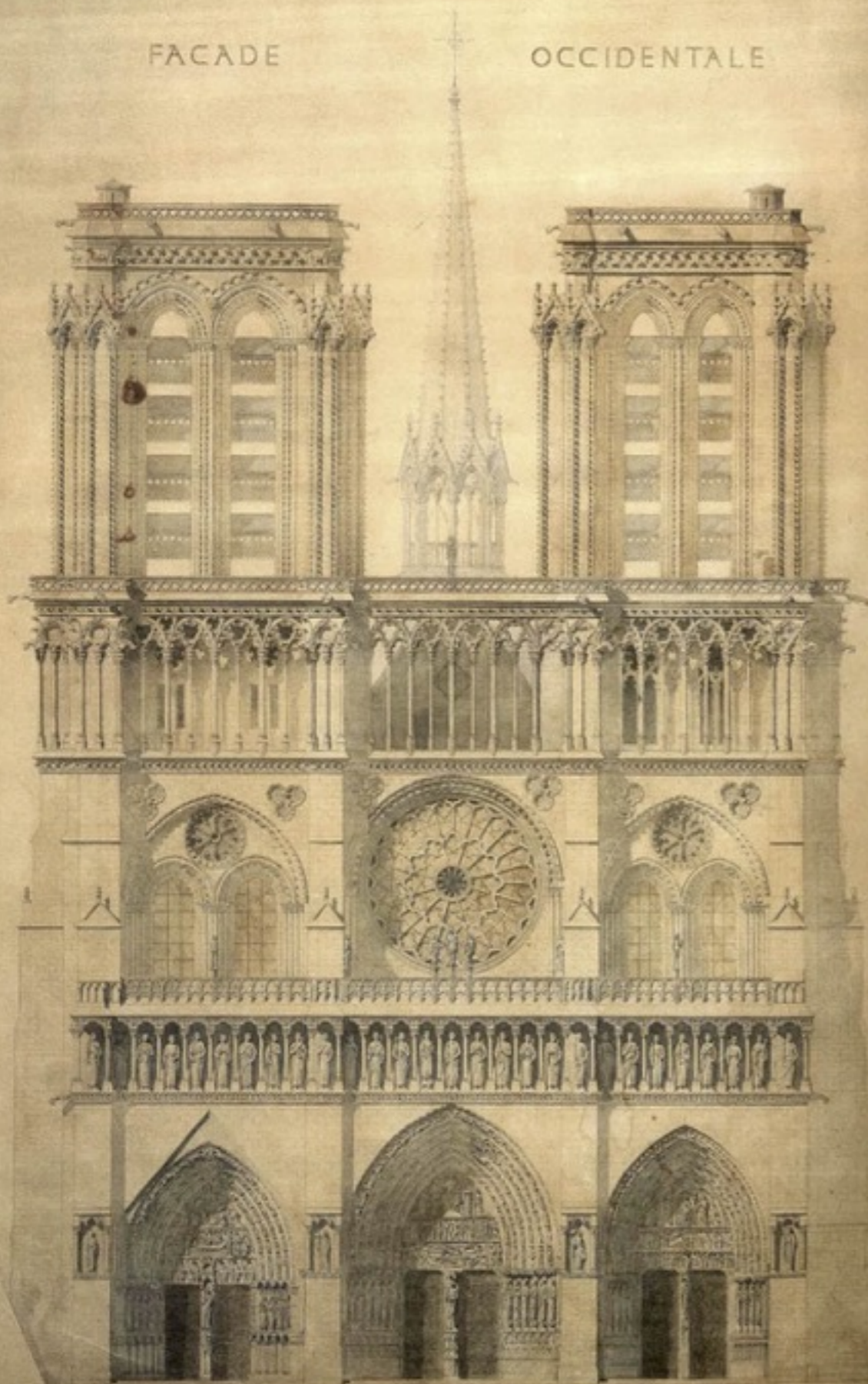




NOTRE DAME

FACADE

OCCIDENTALE



## *Notre Dame of Paris*

restored in the 1840s  
begins concept of  
*preservation*

end