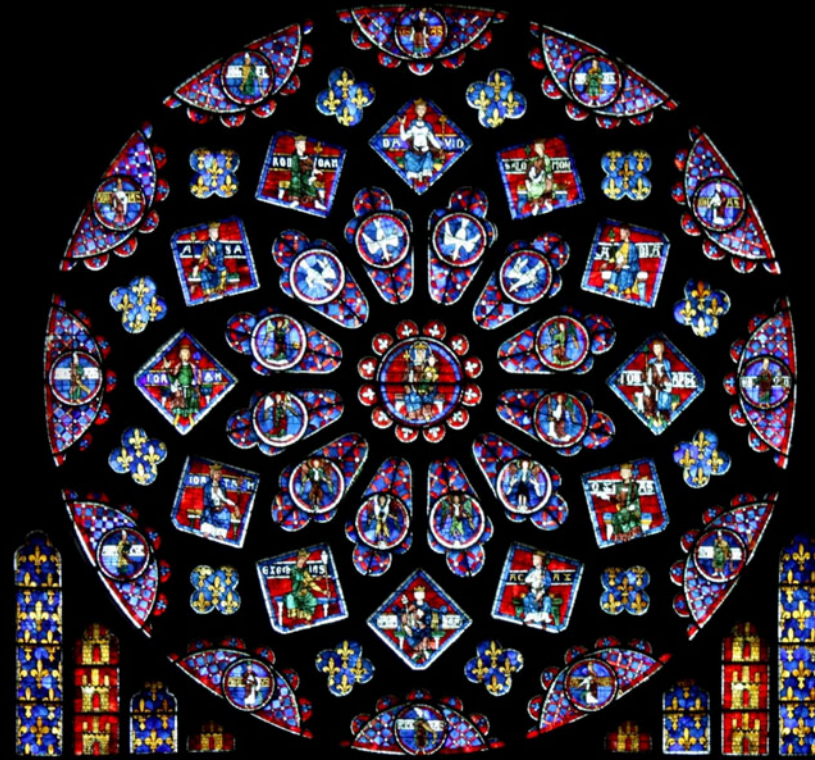


Gothic Architecture

12th century to mid 16th century



ARCH 1121 - HISTORY OF WORLD ARCHITECTURE TO 1900









Gothic

Professor: Shelley E Smith, PhD
email: ssmith@citytech.cuny.edu

Course Overview:

- What is architecture? What is history?
- Prehistoric, Mesopotamia, Egypt
- Early Aegean, Greece
- India & Southeast Asia, China & Japan
- Rome, Early Christian & Byzantine, Islamic
- Early Medieval, Romanesque, Gothic
- The Pre-Columbian Americas, Africa
- The Renaissance, Baroque, Rococo in Europe
- 18th Century & Neo-Classicism in Europe & America

Timeline of Gothic architecture

1150	1200	1250	1300	1350	1400	1450	1500	1550
Early		Gothic High		Gothic Late				
Romanesque Late						Renaissance Early	Renaissance High	
Late Byzantine						Ottoman High		
<p>St.Denis,Paris: 1135-1144</p> 	<p>Chartres Cathedral, France: 1194-1220</p> 	<p>Doges Palace, Venice: 1309-1424</p> 				<p>King's College Chapel, England: 1466-1515</p> 		
<p>Notre Dame, Paris 1163-1345</p> 	<p>Salisbury Cathedral, England: 1220-1260</p> 			<p>Cathedral Milan, Italy: 1386-1572</p> 			<p>The Suleymaniye Mosque, Istanbul: 1550-57</p> 	
<p>1119 First university founded in Bologna, Italy 1147-49 Second Crusade loses territory in Palestine, Syria</p>	<p>1199 Richard the Lion Heart dies 1209 Francis of Assisi establishes order of beggar-monks</p>	<p>1252 Inquisition begins using instruments of torture 1271 Marco Polo travels China 1291 Crusades end</p>	<p>c. 1310-20 Dante writes Divine Comedy in Italy c. 1337 First cannons 1337-1453 100 Years' War England and France starts</p>	<p>1348-49 Black Death 1/3 of Western Europe population 1387 Chaucer publishes Canterbury Tales</p>	<p>c.1420 Renaissance begins in Northern Italy 1429 Joan of Arc battles to drive English from France in 110 Years War</p>	<p>1453 Constantinople falls to 1492 Moors driven from Spain; Columbus 1493 First Spanish in New World</p>	<p>1517 Reformation 1519-21 Magellan circumnavigate the globe 1519-21 Cortez conquers Mexico</p>	<p>1559 Elizabeth I England 1585 English found Virginia 1588 Spanish Armada defeated</p>

Gothic Architecture 1140-1500

Influenced by Romanesque Architecture

While Romanesque remained solid and massive – Gothic:

- 1) opened up to walls with enormous windows and**
- 2) replaced semicircular arch with the pointed arch.**

Style emerged in France

Support: Piers and Flying Buttresses

Décor: Sculpture and stained glass

Effect: Soaring, vertical and skeleton-like

Inspiration: Heavenly light

Goal: To lift our everyday life up to the heavens

Gothic Architecture 1140-1500

Dominant Art during this time was Architecture

Growth of towns – more prosperous

They wanted their own churches – Symbol of civic Pride

More confident and optimistic

Appreciation of Nature

Church/Cathedral was the outlet for creativity

Few people could read and write

Clergy directed the operations of new churches- built by laymen

Gothic Architecture 1140-1420

Began soon after the first Crusaders returned from Constantinople

Brought new technology: Winches to hoist heavy stones

New Translation of Euclid's Elements – Geometry

Gothic Architecture was the integration of Structure and Ornament – Interior Unity

Elaborate Entrances covered with Sculpture and pronounced vertical emphasis, thin walls pierced by stained-glass

Gothic Architecture Characteristics:

Emphasis on verticality

Skeletal Stone Structure

Great Showing of Glass: Containers of light

Sharply pointed Spires

Clustered Columns

Flying Buttresses

Pointed Arches

Ogive Shape

Ribbed Vaults

Inventive Sculptural Detail

Gothic Architecture 1140-1500

Abbot Suger had the vision that started Gothic Architecture

He wanted to enlarge his crowded church, and have larger windows

He imagined the interior without partitions, flowing free

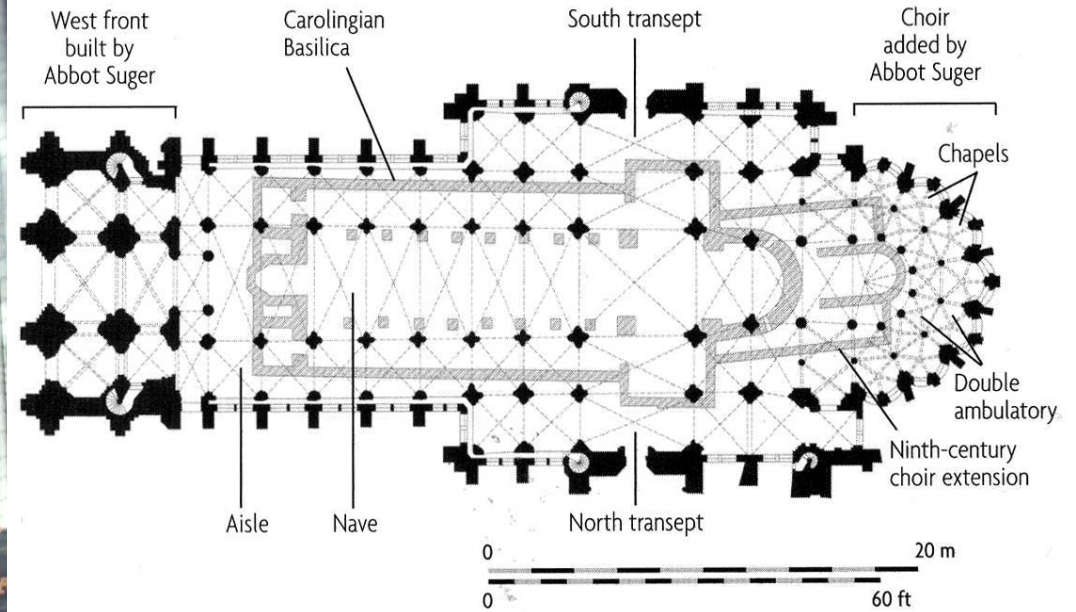
Reconstructed the Choir of his Church – St. Denis (1135-44)

Used the Pointed Arch and Rib Vault



St. Denis 1137-1144

An integration of the various spaces such as, radiating chapels and ambulatory



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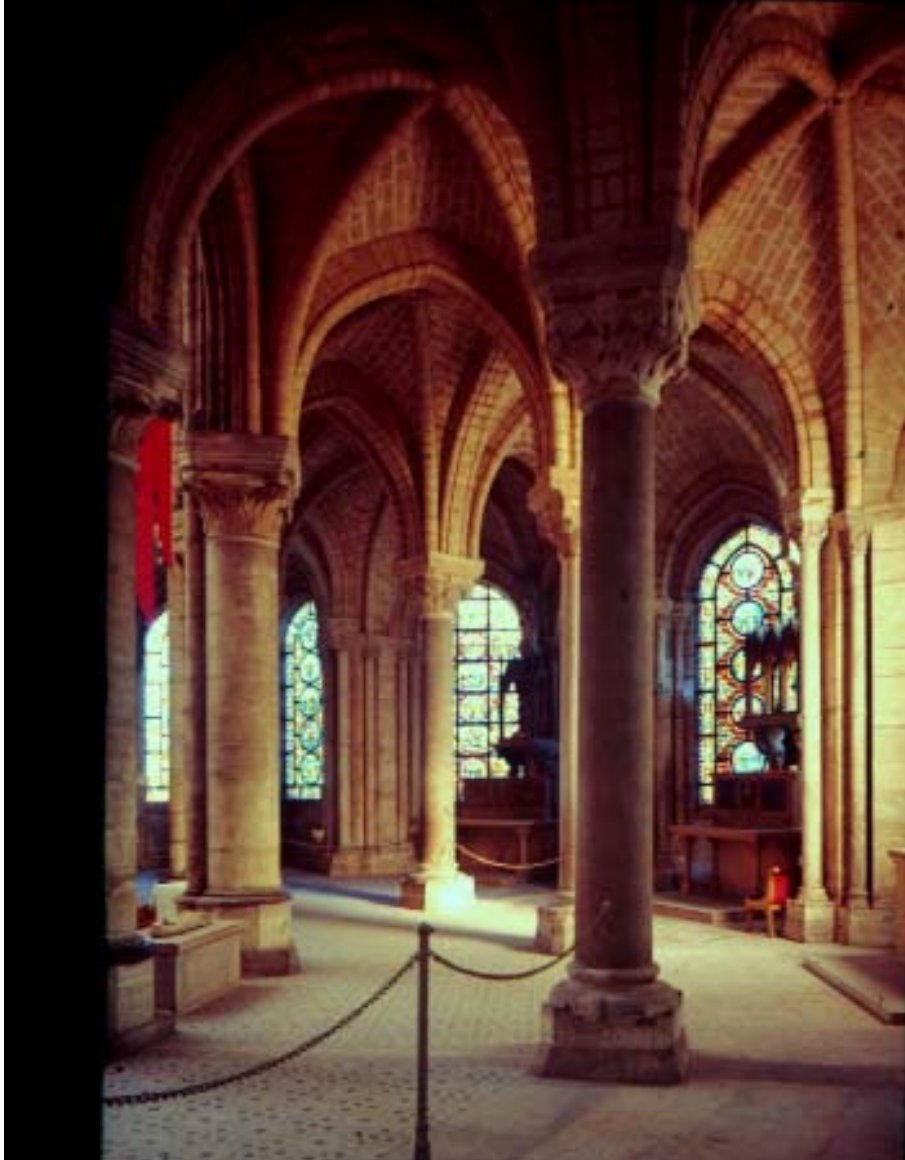
St. Denis 1137-1144

Replaced Stone walls in Chapels with Stained Glass



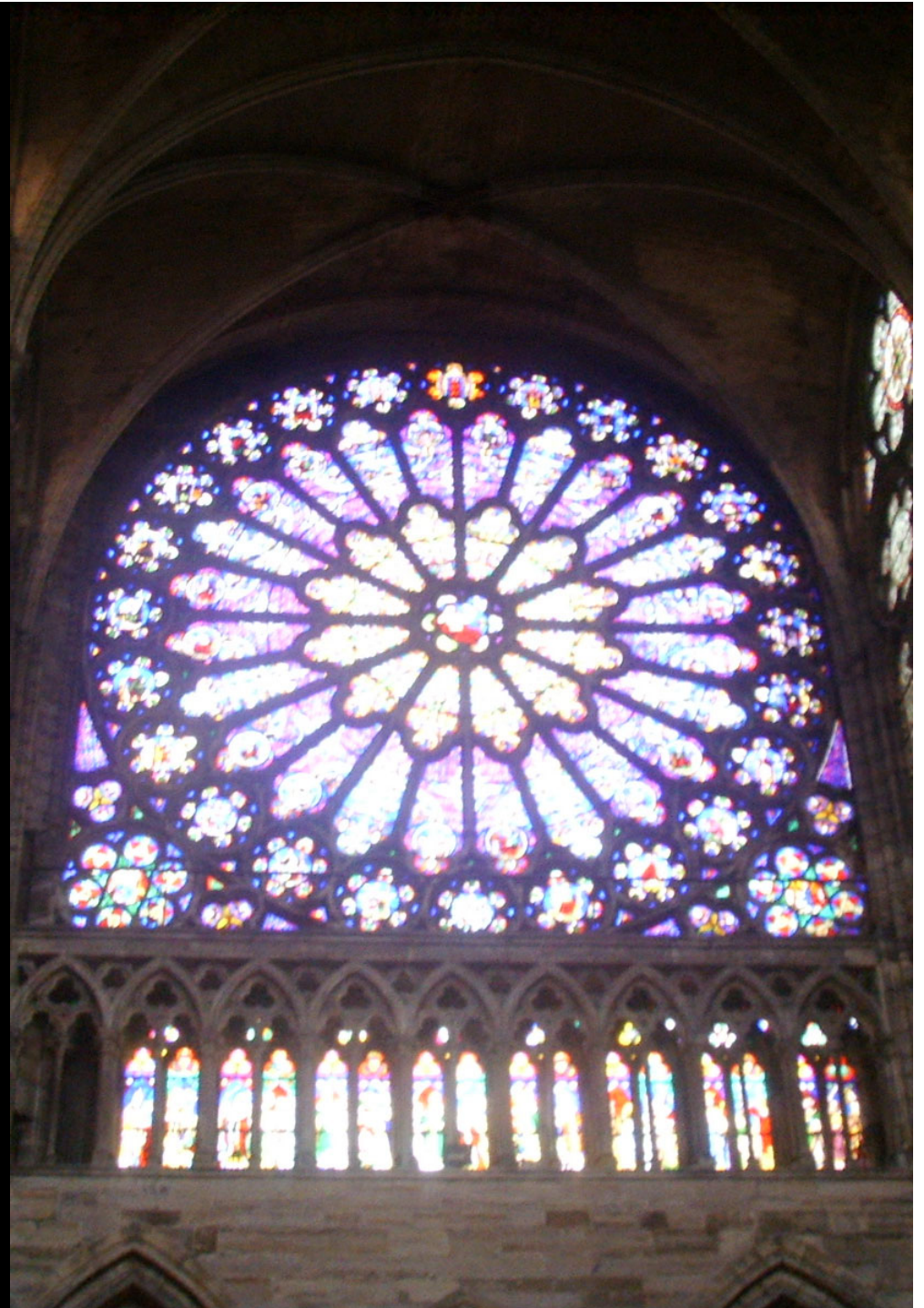
St. Denis 1137-1144

Substituted thin columns for heavy piers in the Ambulatory



St. Denis 1137-1144

Rebuilt the West Façade and installed the first Rose Window between two towers



St. Denis 1137-1144



Rebuilt the West Façade & installed the first Rose Window between two towers

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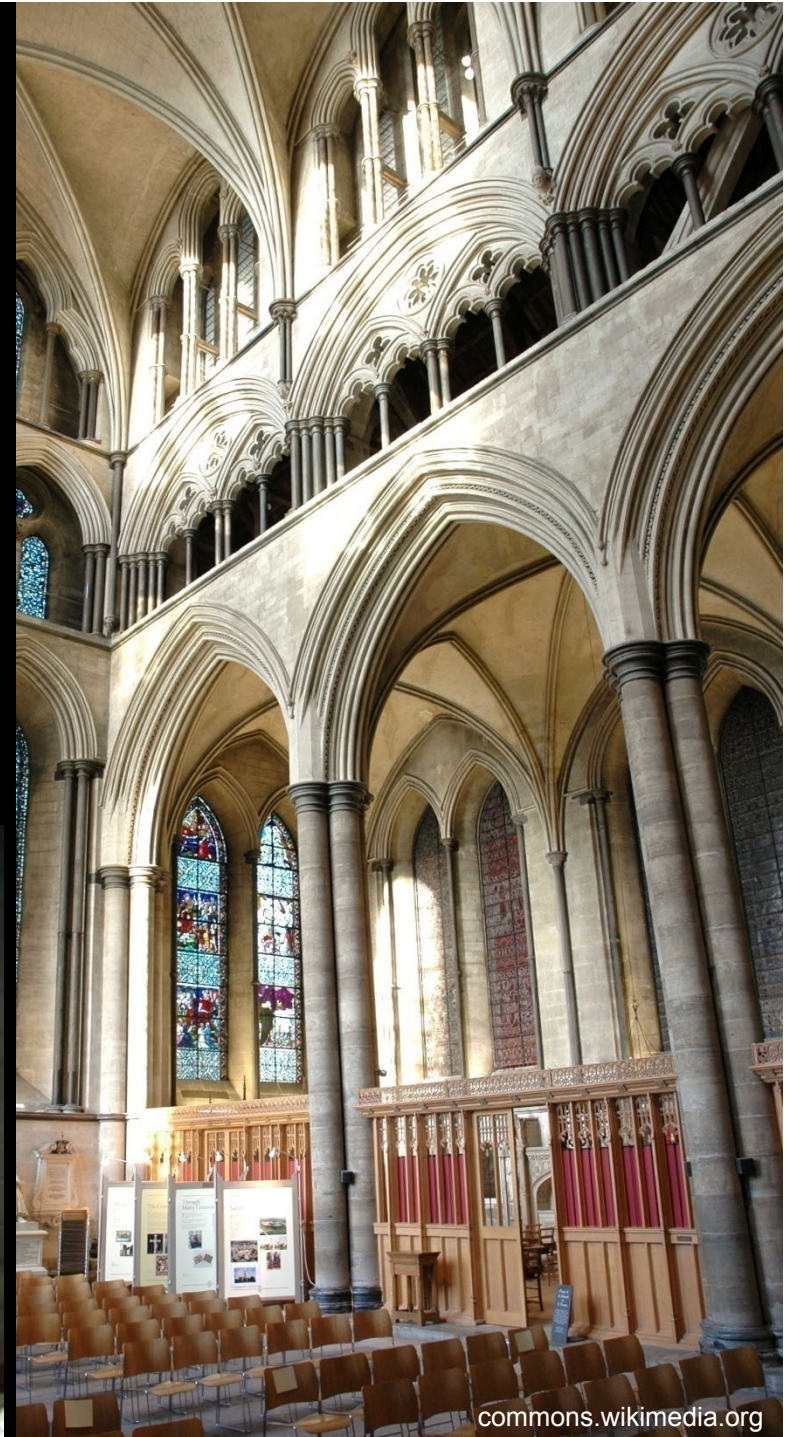
The Pointed Arch

Typical Roman Arch could only span square bays

Pointed arch allowed for various sizes of bays (rectangular)

Shape could be varied, made flatter or more pointed

Exerted far less lateral force than the typical arch



Rib and Panel Concept

Concentration of forces at points of support rather than bearing walls

System of vertical ribs or piers at regular intervals that supported the vaults above

Advantages: Large windows, relatively light –skeleton-like



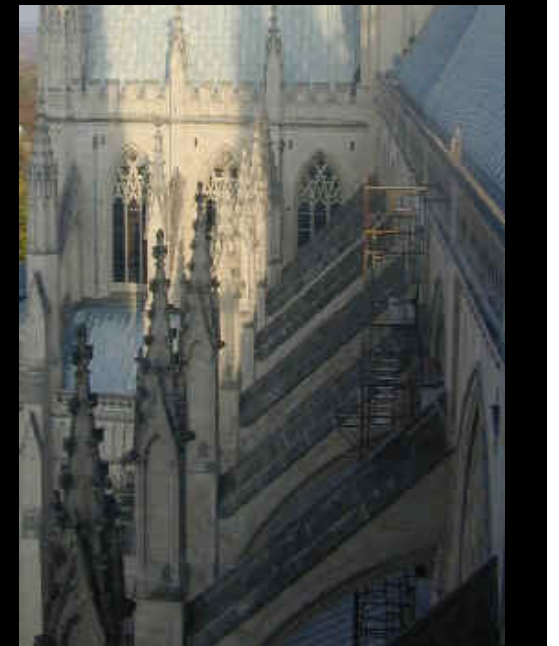
The Flying Buttress

Gothic Vaults exerted tremendous forces both vertically and laterally

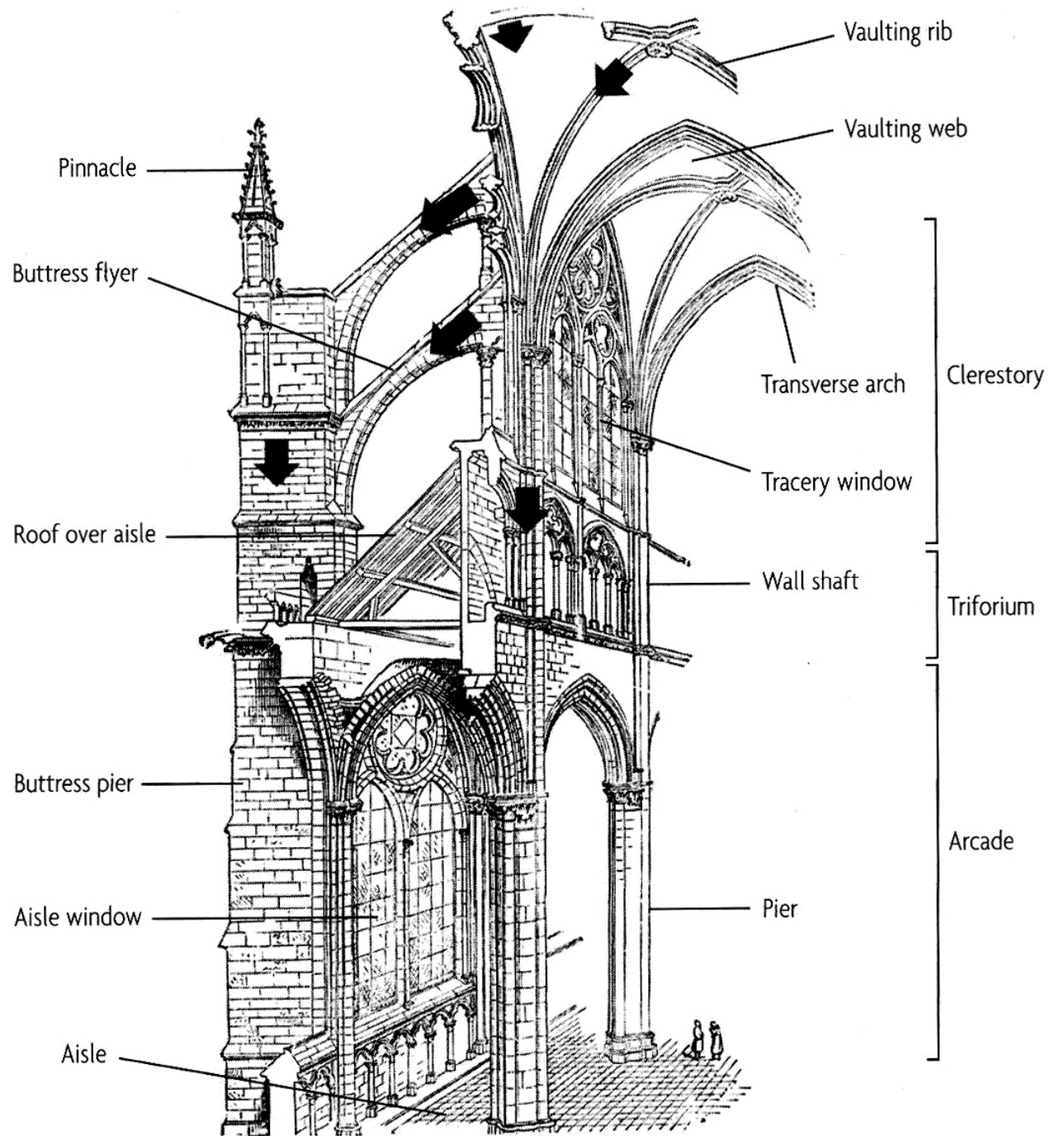
Downward loads were concentrated on piers, while the lateral loads needed to be resolved.

Heavy pier buttresses at right angles to the exterior walls counteracted the lateral forces

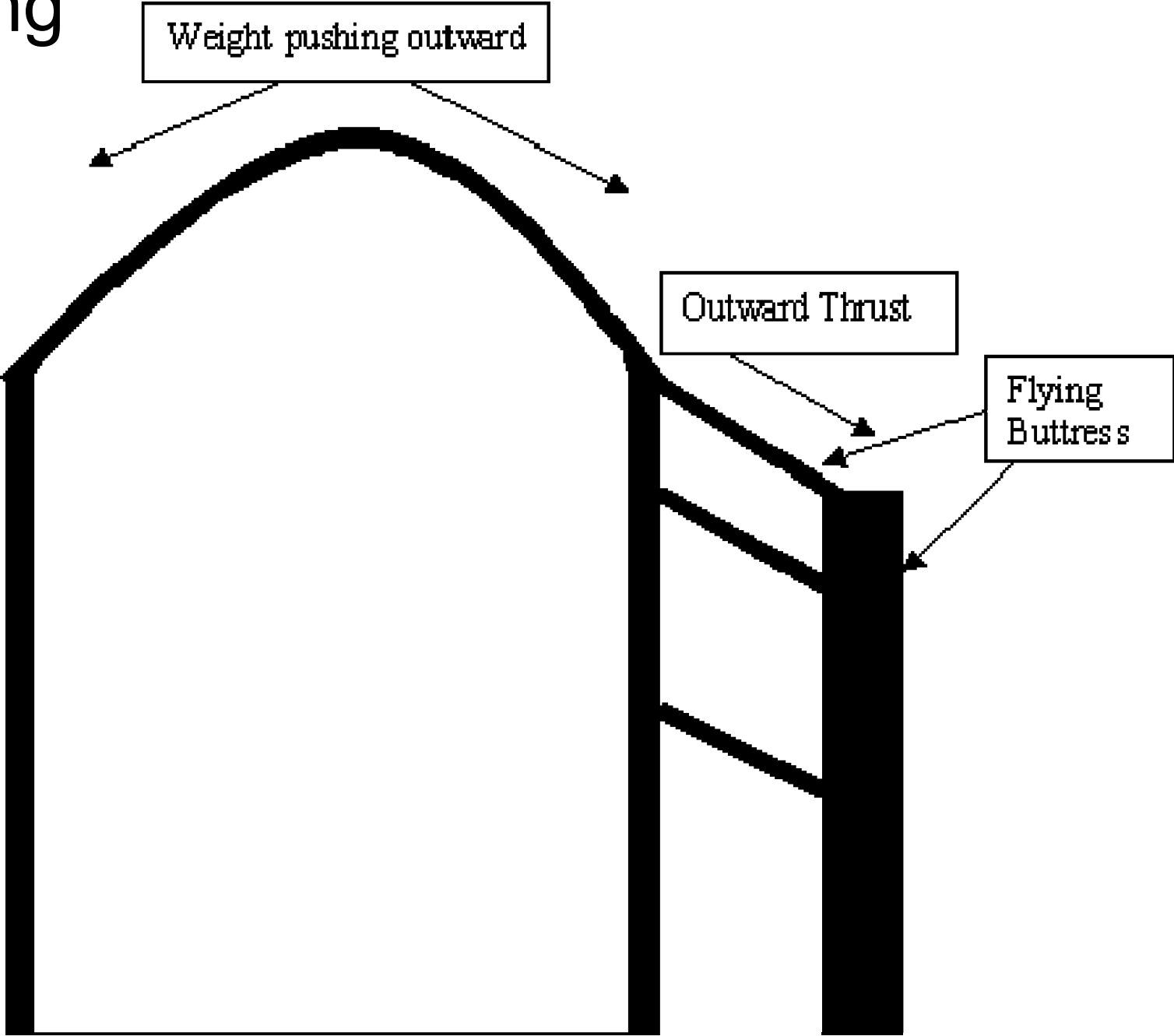
Side Aisles were incorporated into the Flying buttresses



The Flying Buttress



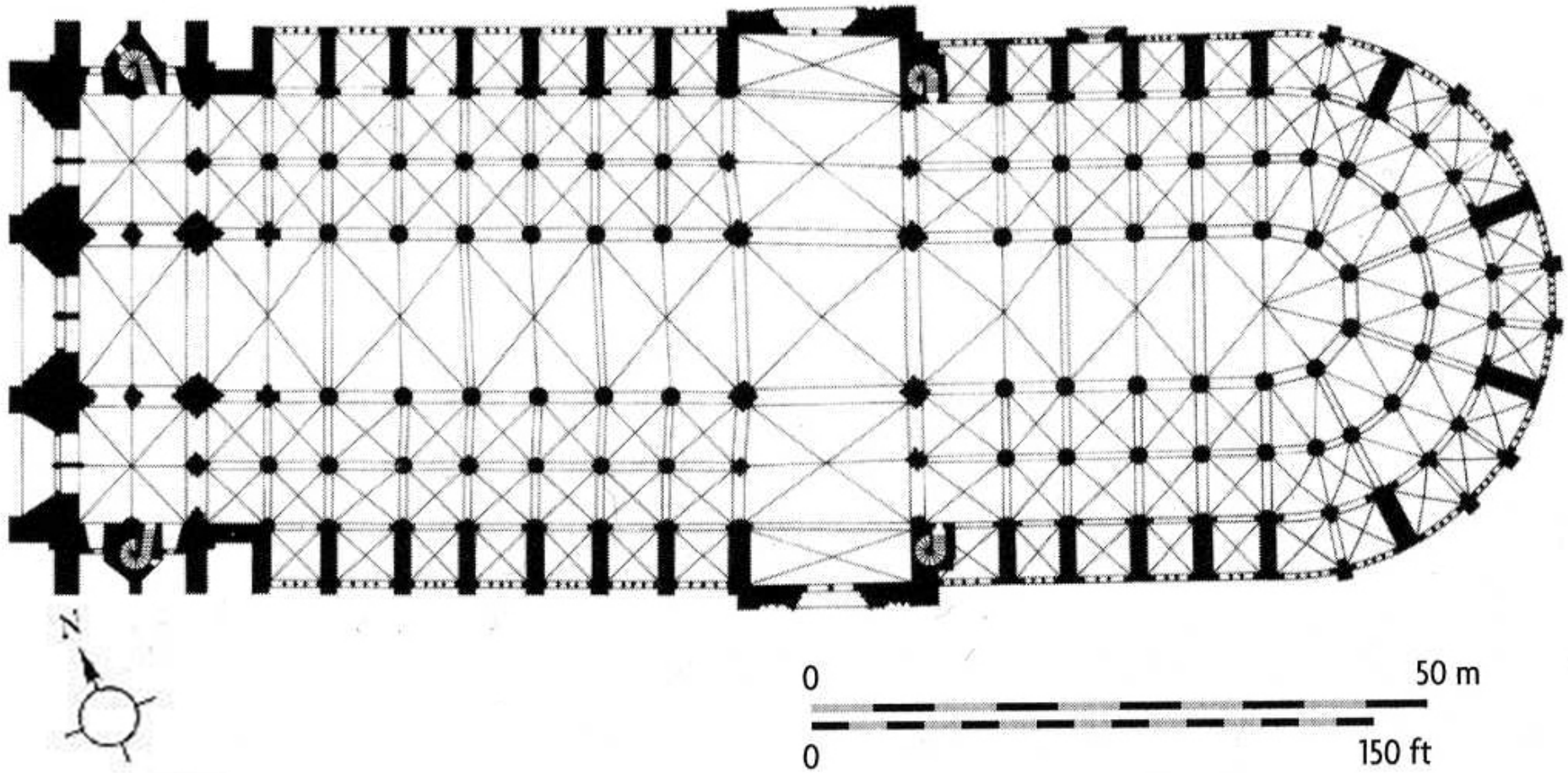
The Flying Buttress



Notre Dame, Paris, 1163 – c. 1250

Continuous aisles that terminated in a Chevet (round apse)

Compact Cruciform Plan



Notre Dame, Paris
1163 – c. 1250

Early Gothic Church

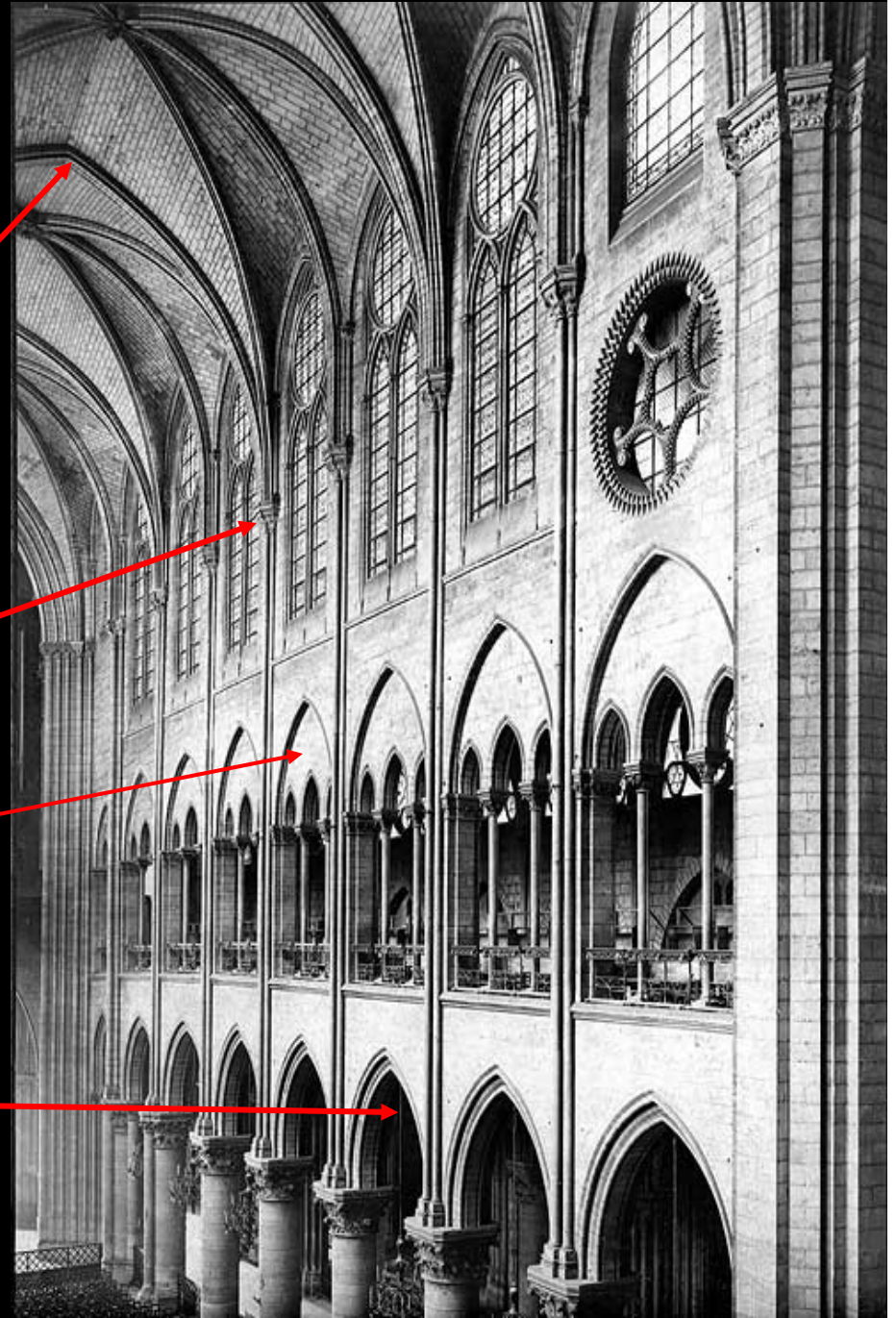
110' high to vault crown

Three story arrangement:

1. Clerestory

2. Triforium

3. Nave arcade



Notre Dame, Paris, 1163 – c. 1250



Notre Dame

Paris, 1163 – c. 1250

Western Façade with
twin Towers- deeply
recessed portals and
Rose Window

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Notre Dame

Paris, 1163 – c. 1250

South Tower

Galerie des Chimères

West Rose Window

The Kings' Gallery

Portal of the Last Judgement

Portal to the Virgin

Portal to Saint Anne



Notre Dame, Paris, 1163 – c. 1250: Portal to the Virgin



Notre Dame, Paris, 1163 – c. 1250: Flying Buttresses

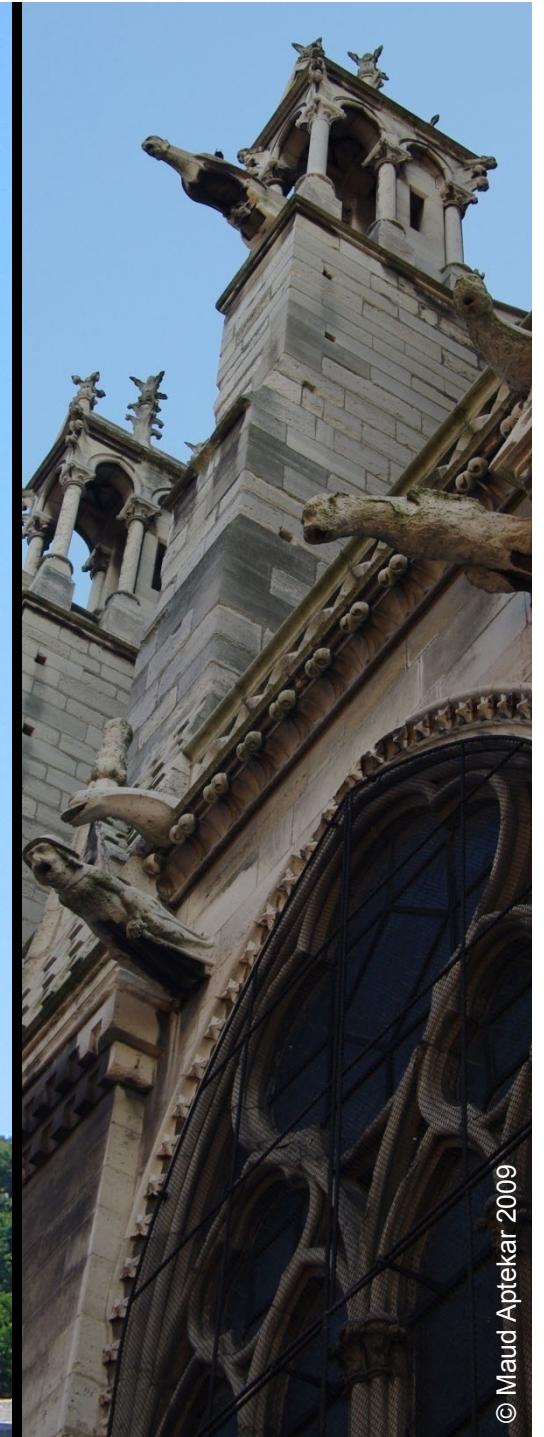
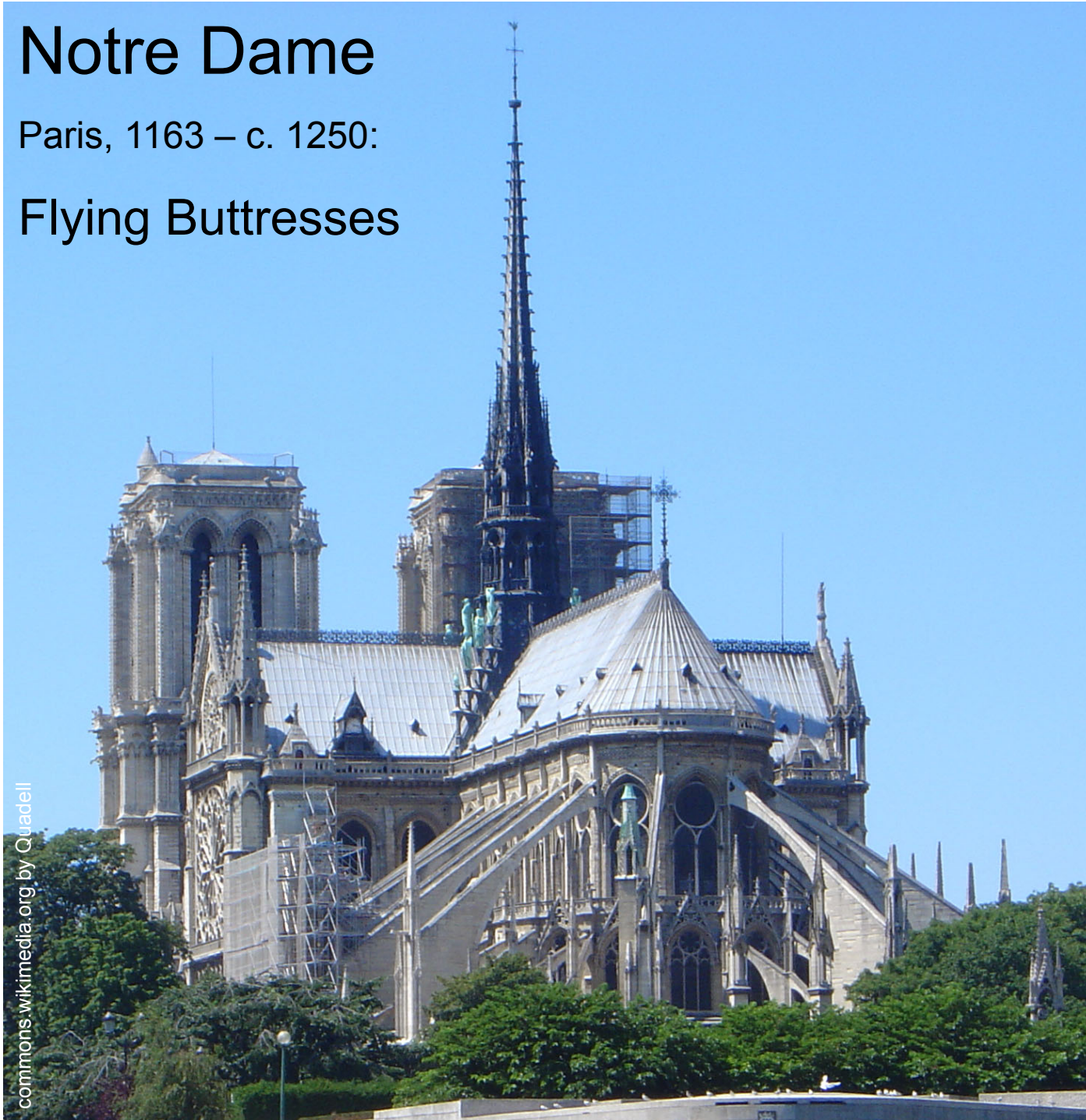


Notre Dame

Paris, 1163 – c. 1250:

Flying Buttresses

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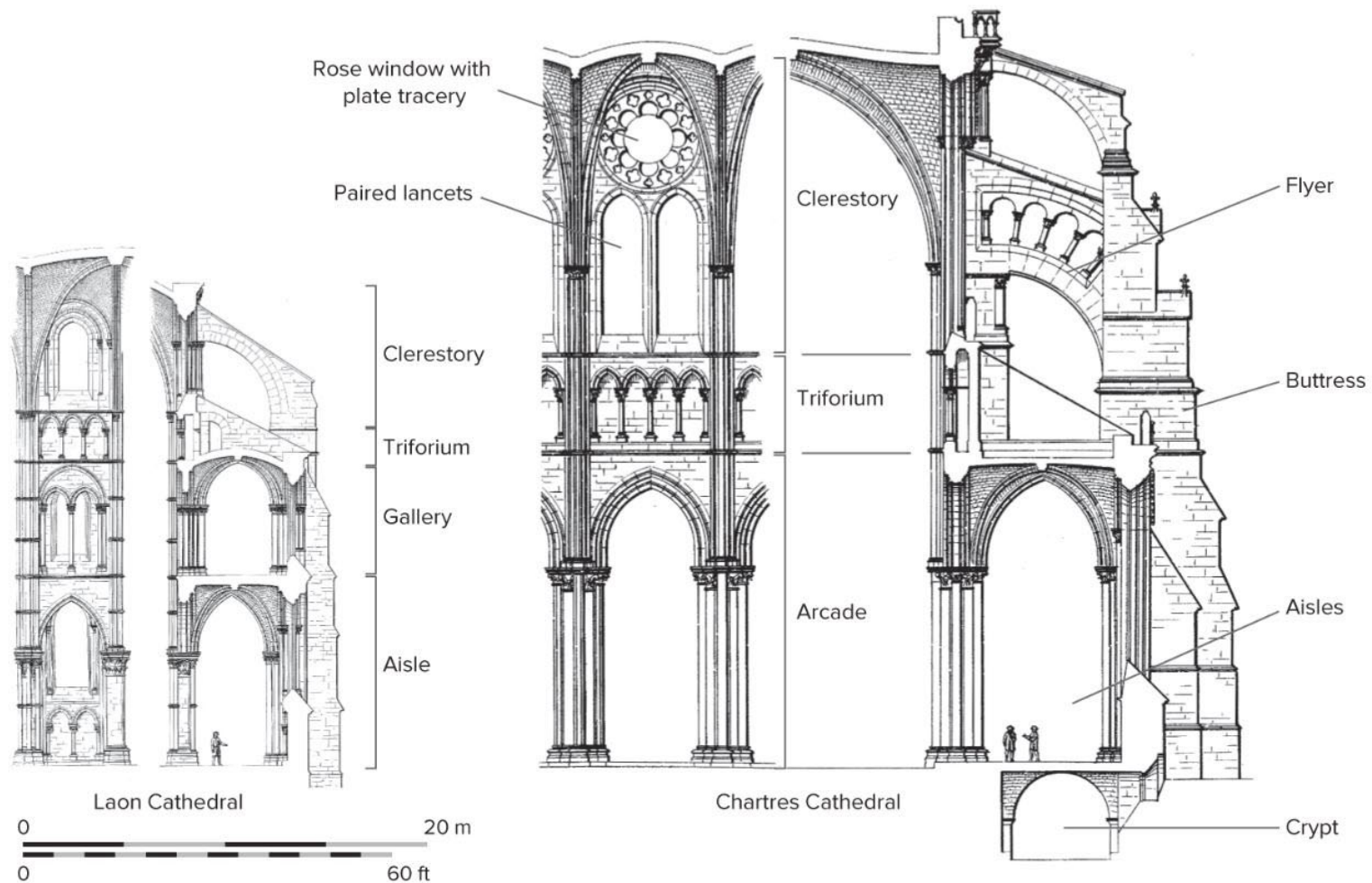
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High Gothic

Chartres Cathedral
1194-1230

Built to house the
tunic worn by the
Virgin Mary when
she gave birth to
Jesus Christ





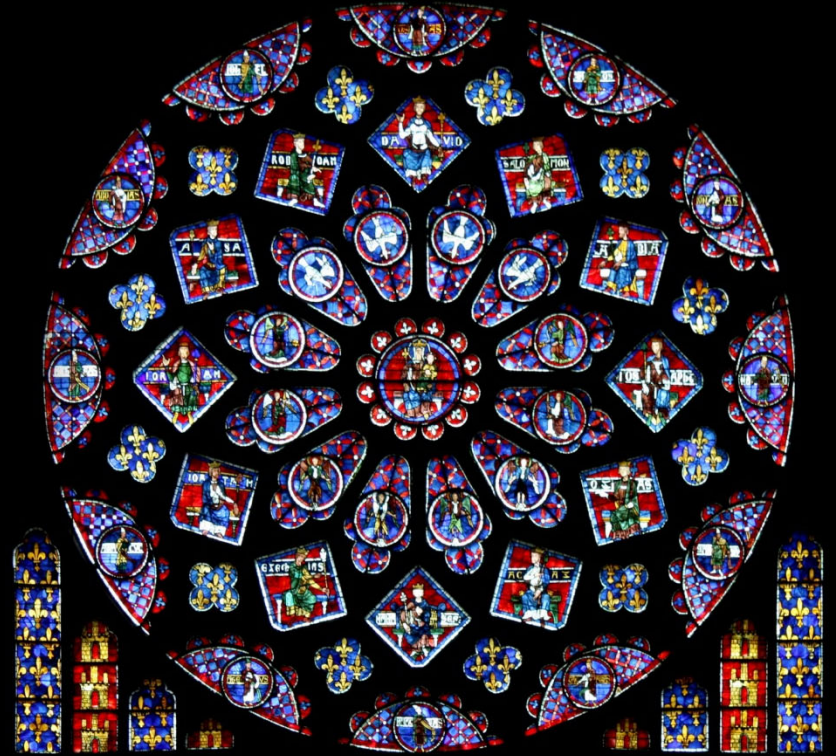
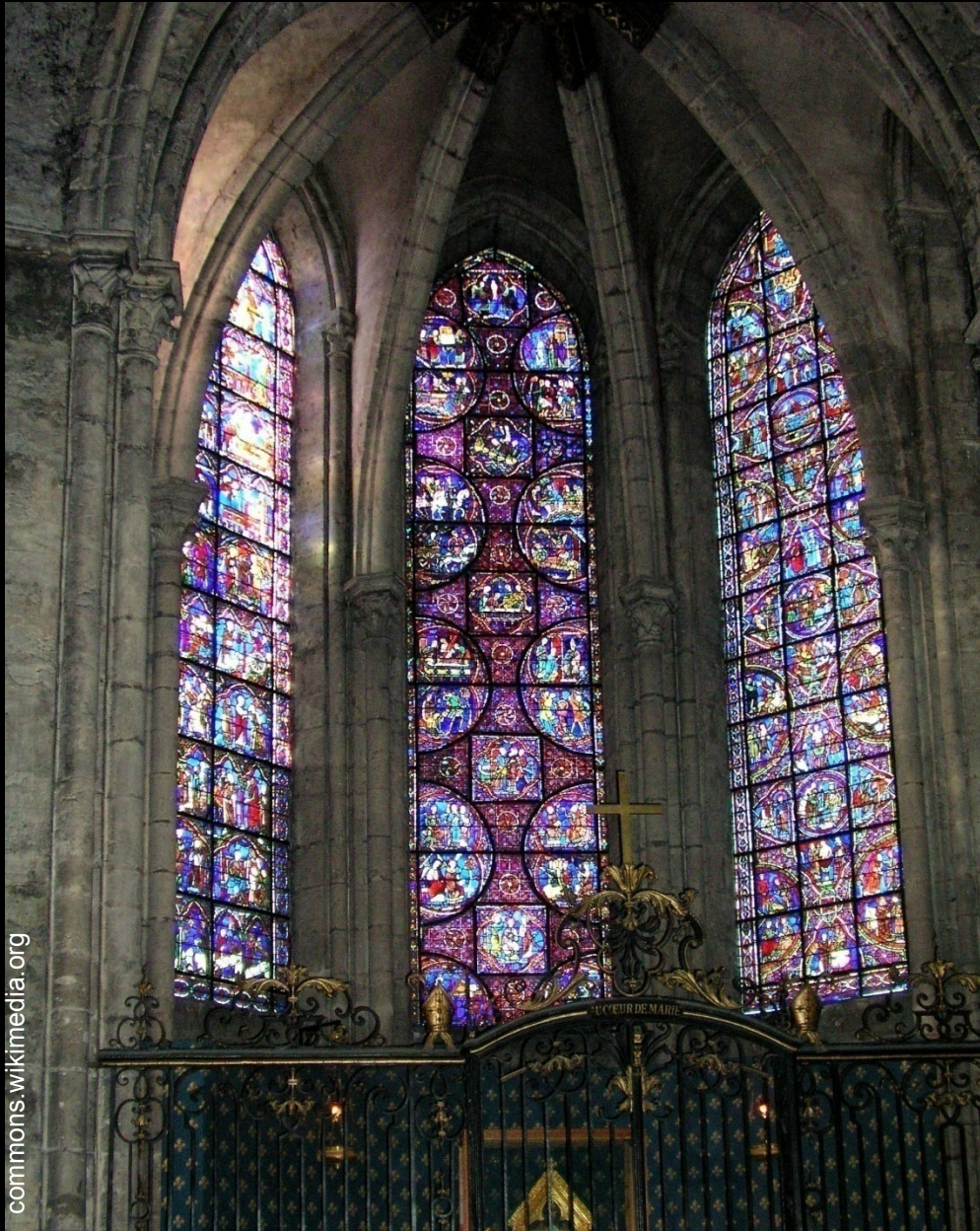
Elevations and sections of Laon Cathedral nave and Chartres Cathedral nave. Neither drawing includes the wooden roof trusses. (Fazio 2019, fig. 9.15)

Evolution from Early to High Gothic:

- From Sexpartite vaults (over two bays) to Quadripartite vaults (over one bay)
- Simplified interior elevations of three divisions: arcade, triforium, clerestory
- Increased width and height of the arcade and clerestory

Chartres Cathedral: 1194 - 1230

Retains much original stained glass



Chartres Cathedral: 1194-1230

Elongated portal sculptures



[commons.wikimedia.org by Wikipeder](https://commons.wikimedia.org/wiki/File:Chartres_Cathedral_-_Westwork_-_Detail_-_01.jpg)

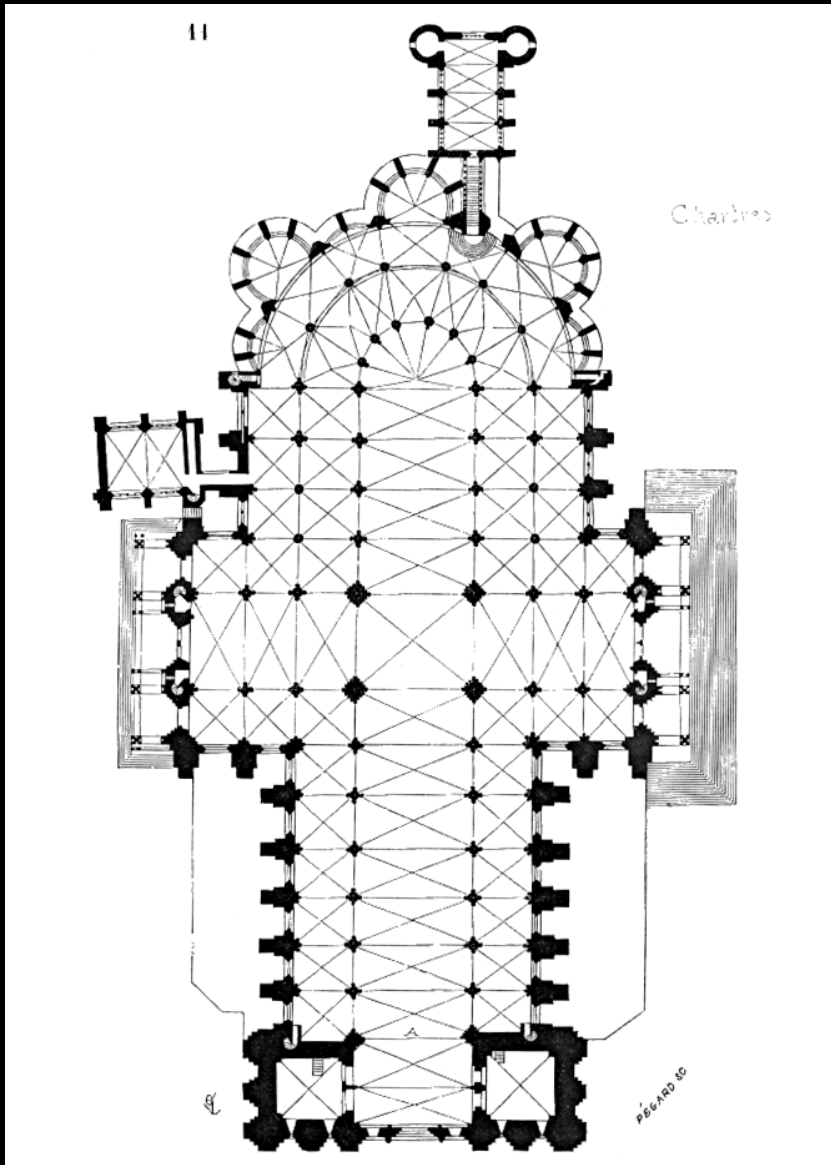


[commons.wikimedia.org](https://commons.wikimedia.org/wiki/File:Chartres_Cathedral_-_Westwork_-_Detail_-_01.jpg)

Chartres Cathedral: 1194 - 1230

Entire city worked on Cathedral

92' long singled-aisled nave



Chartres Cathedral North Porch



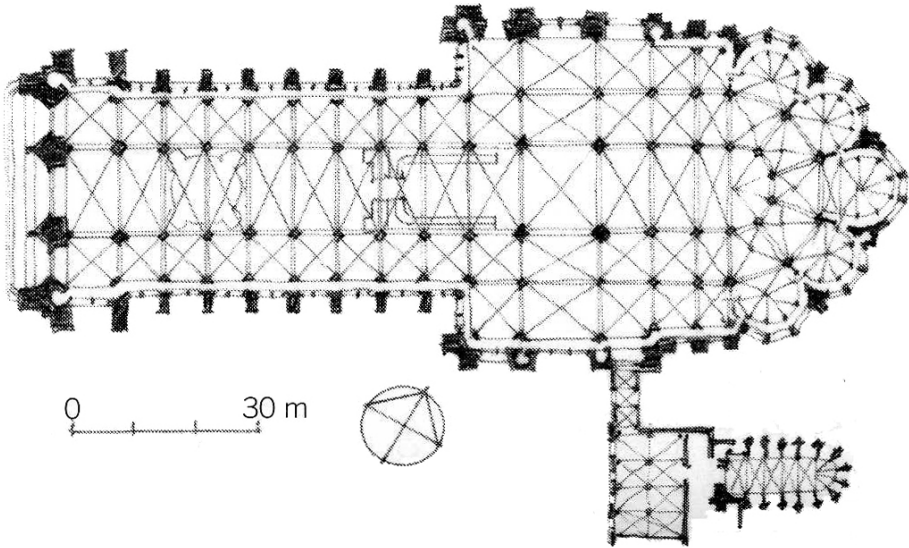
Chartres Cathedral: 1194 - 1230

Flying buttresses



Reims Cathedral, Reims, France begun 1211

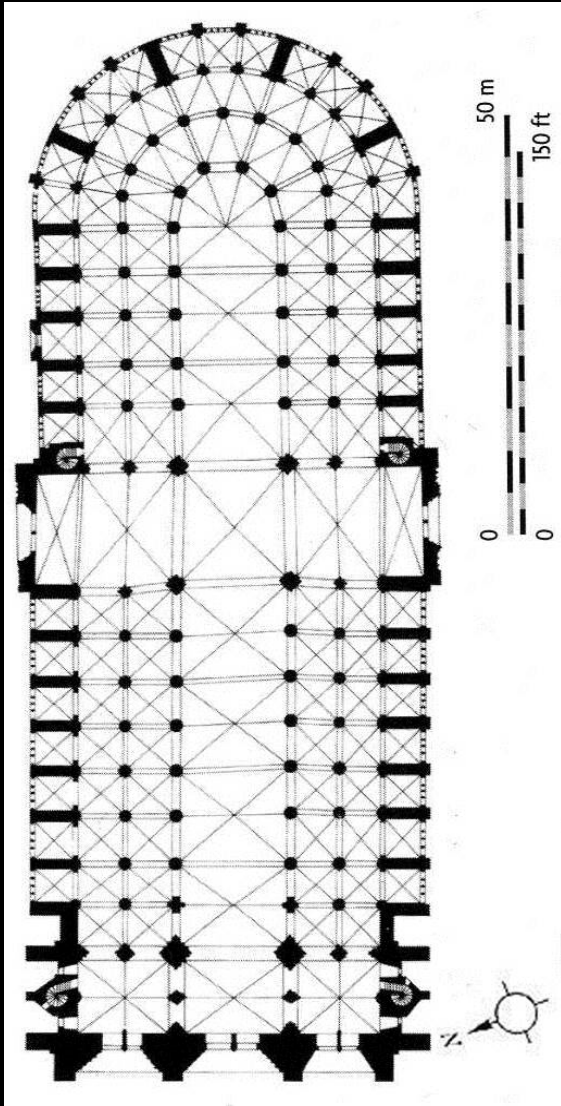
Cornell University Library 3090.01436



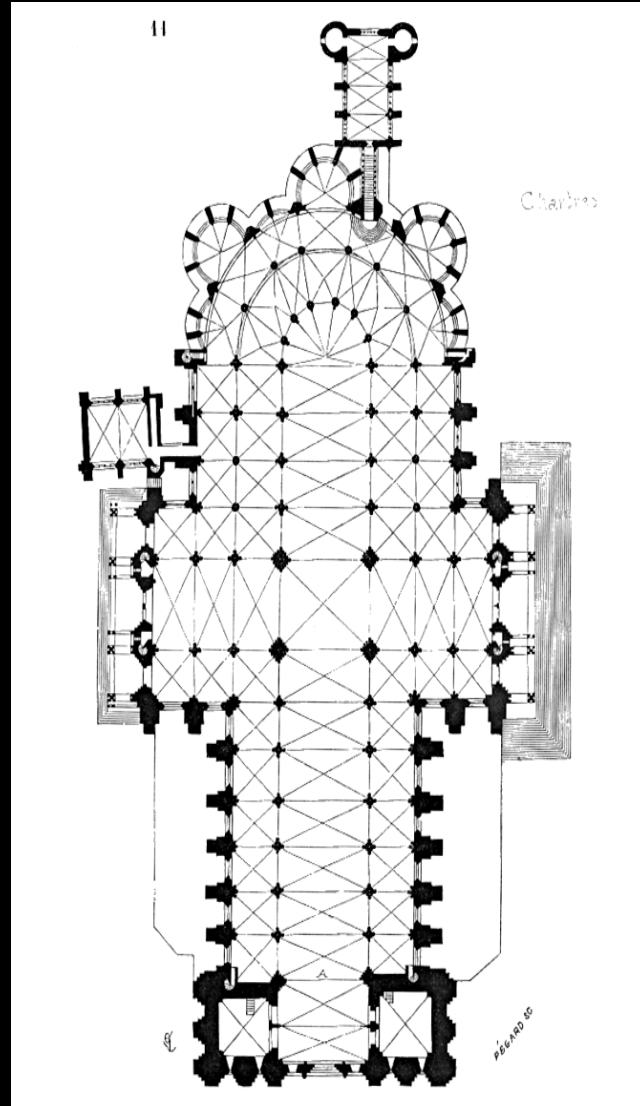
www.flickr.com By drbparsons

david parsons photography

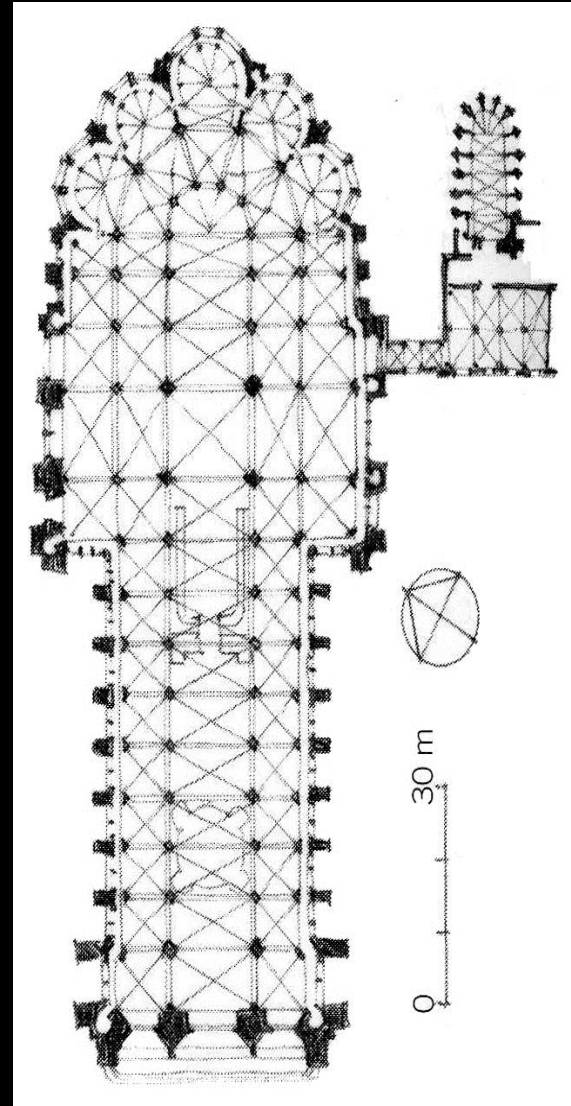
Notre Dame Paris



Notre Dame Chartres



Rheims Cathedral



Notre Dame, Paris, France



© Maud Aptekar 2009

Reims Cathedral, France



www.flickr.com By BenedictFrancis



Sainte-Chapelle, Paris, 1243-1248

England:

Structural elements of the Gothic style were adopted earlier in England than anywhere else.

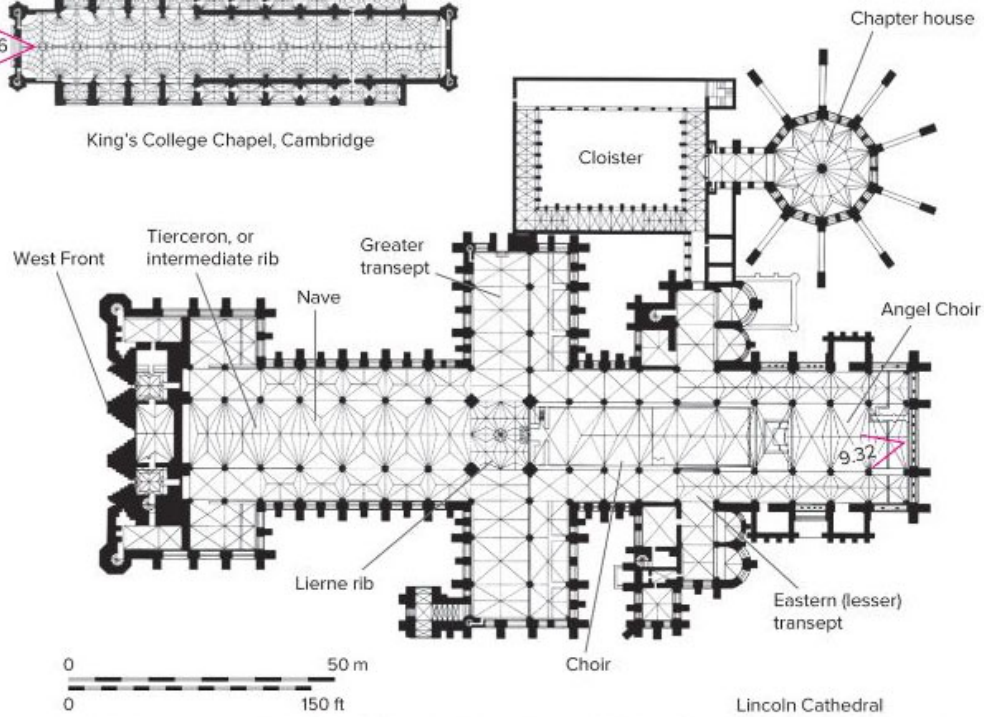
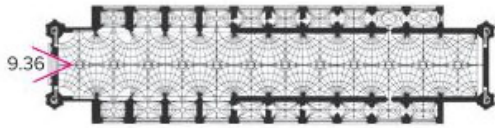
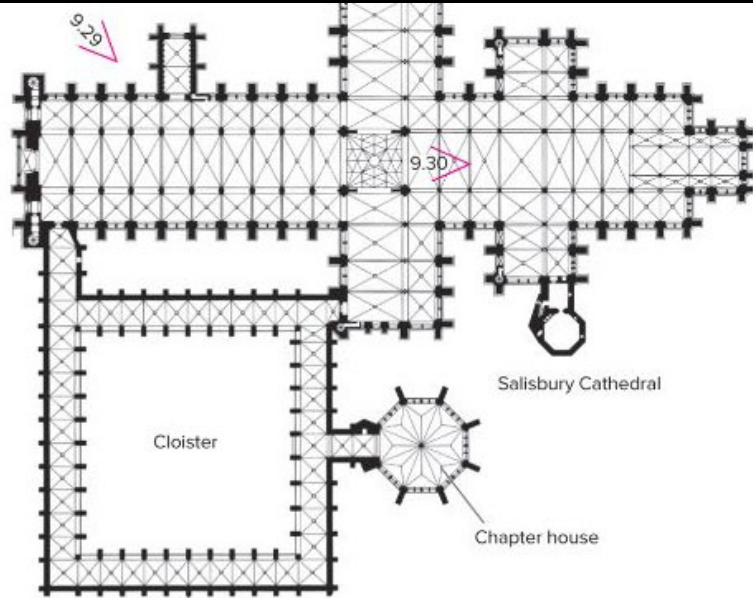
English Cathedrals were longer, narrower and lower than the French

Transepts were more pronounced

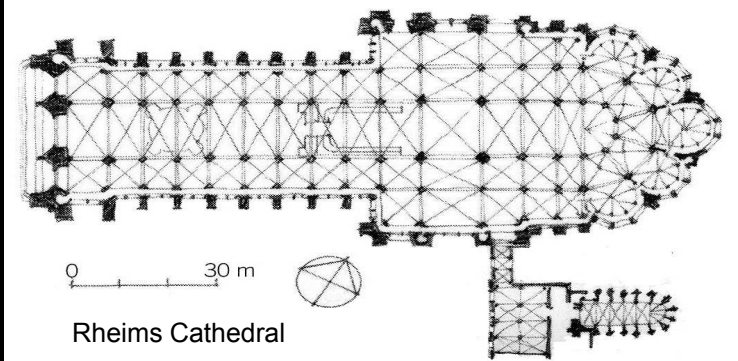
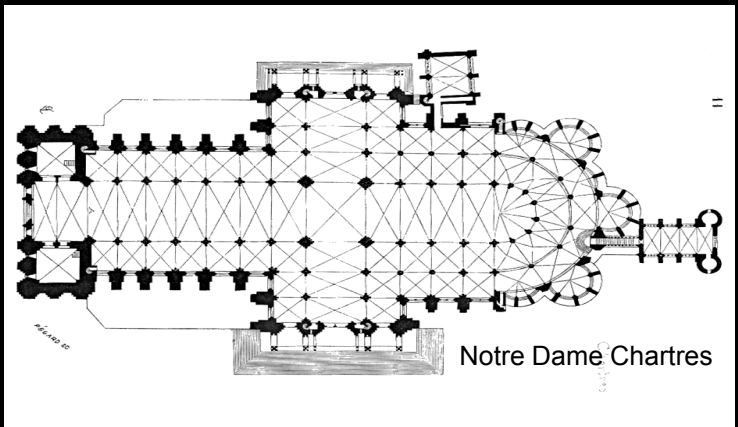
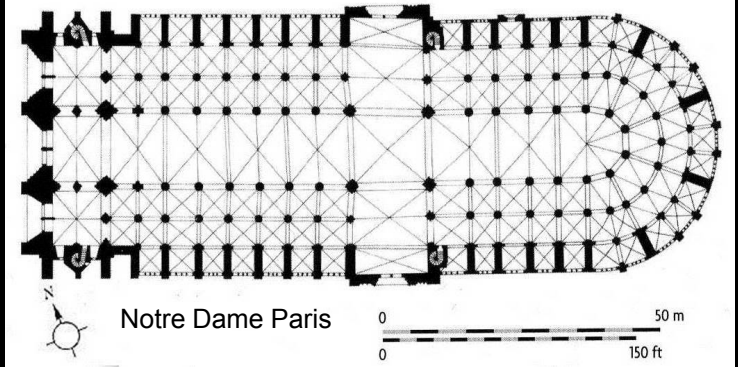
Apses were generally square

English Churches were more solemn

English Gothic Churches



French Gothic Churches



Salisbury Cathedral:

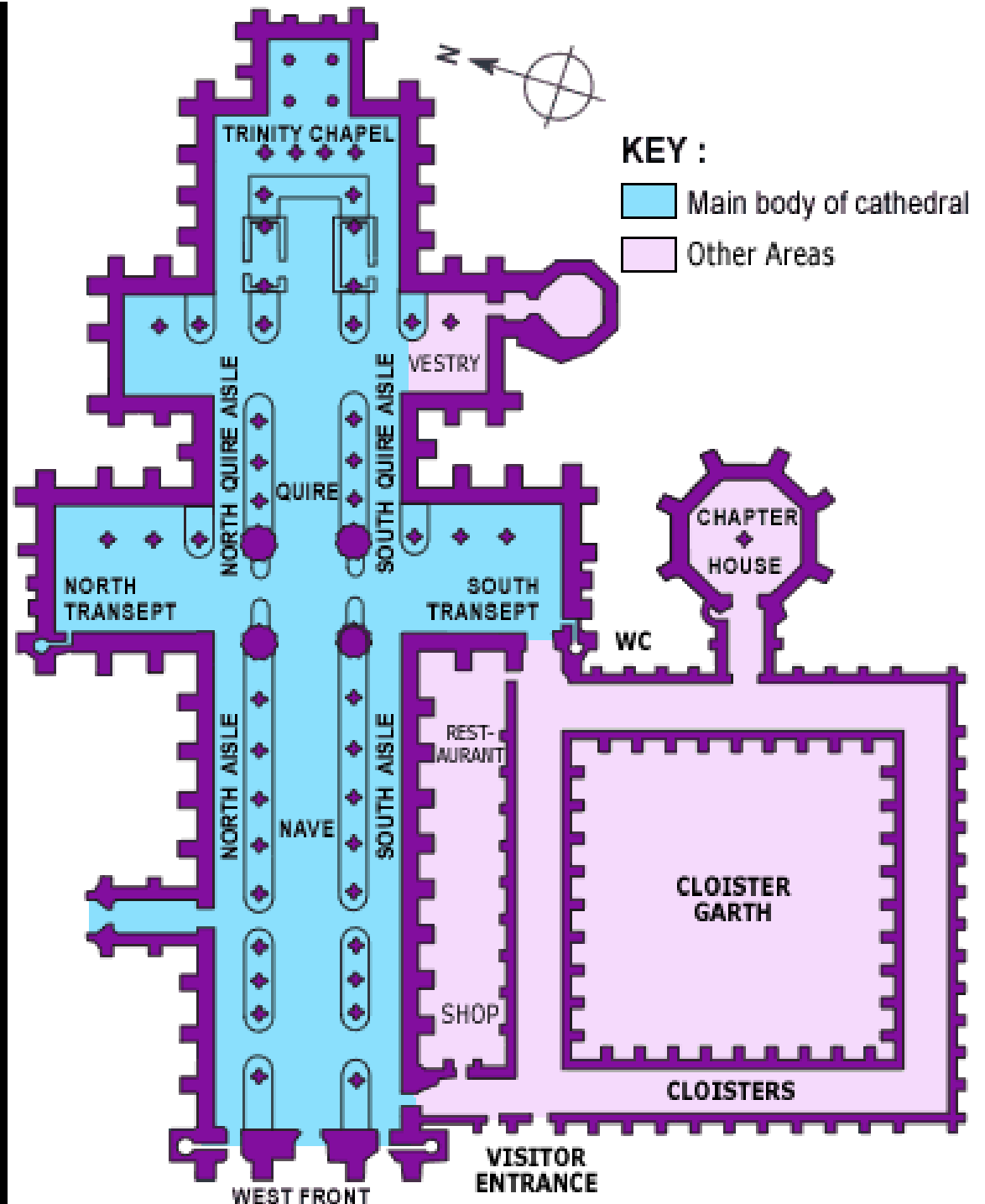
1220 - 1260

Completed in 40 years.

Double Transepts

Horizontal emphasis with
Great Central tower over
the crossing with spire
was 400' tall

Nave is 84' tall



Salisbury Cathedral, England: 1220 - 1260



Salisbury Cathedral, 1220 - 1260

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Salisbury Cathedral, England: 1220 - 1260



Salisbury Cathedral, England: 1220 - 1260



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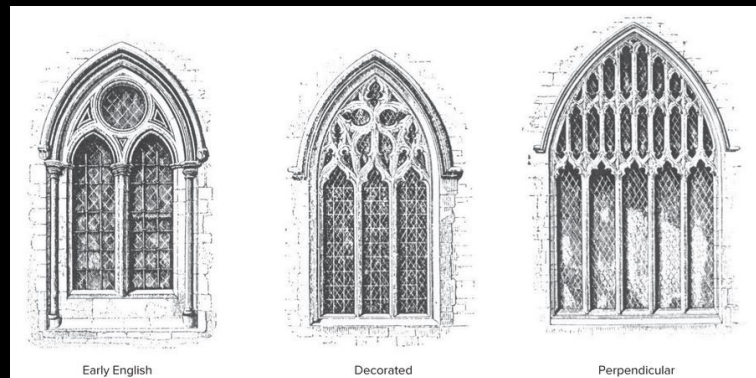


[commons.wikimedia.org](https://commons.wikimedia.org/wiki/File:Salisbury_Cathedral_nave.jpg) by Moody

English Gothic

Characterized by three overlapping phases:

1. Early English – period of High Gothic in France, c. 1175-1265
2. Decorated – vaulting elaborated with extra ribbing, c.1250-1370
3. Perpendicular - panel tracery, conical fan shape vaulting (fan vaults), c. 1330-1540



Early English

Decorated

Perpendicular



Lincoln Cathedral Choir, 1192-1180

(Fazio 2019, fig. 9.31)



Ely Cathedral lantern, 1322-1336

(Fazio 2019, fig. 9.34)

King's College Chapel,
Cambridge, England: 1466-1515



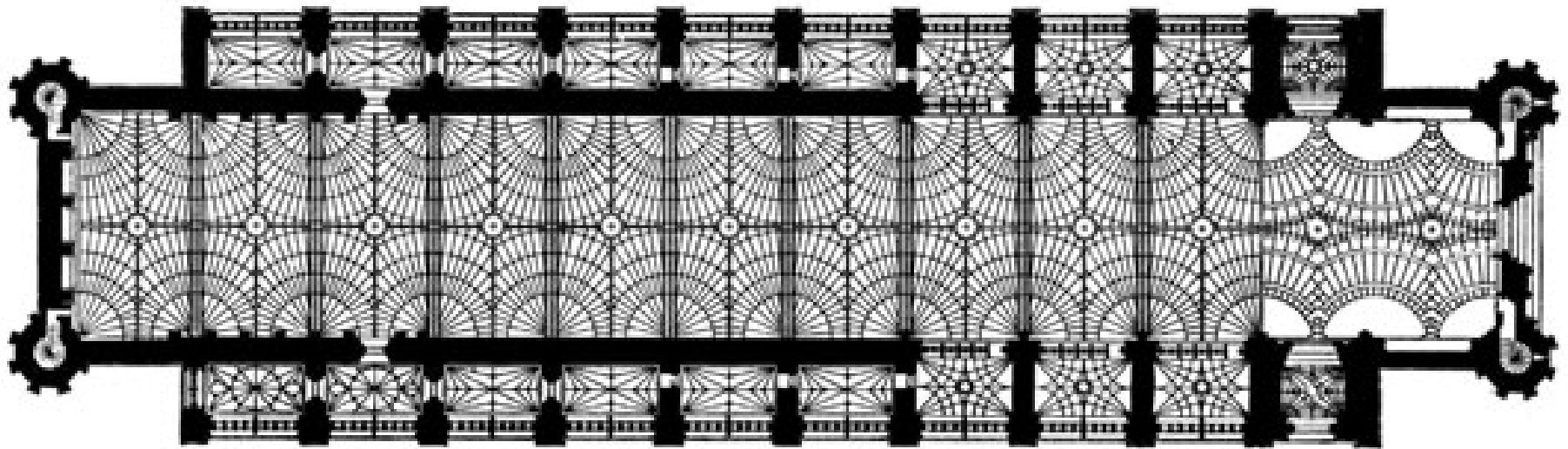
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[commons.wikimedia.org](https://commons.wikimedia.org/wiki/File:King%27s_College_Chapel_Cambridge.jpg) by Gunnar Wrobel

King's College Chapel, Cambridge, England: 1466-1515

Late Gothic Architecture: More geometric and machine-like than the more organic earlier Gothic works



King's College Chapel, Cambridge, England: 1466-1515



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King's College Chapel, Cambridge, England: 1466-1515



commons.wikimedia.org



commons.wikimedia.org by Andrew Dunn

Italy:

Generally the character of the Architecture was still influenced by Rome

Internal tie beams were preferred to Flying Buttresses

Surface Decoration was preferred to structural articulation

Lower more horizontal manner

Flat pitched roofs

Small windows without tracery

Cathedral Milan, Italy: 1386-1572



Cathedral

Milan: Begun at the end of the 14th Century

Extremely lofty – rising 150' at the nave and 100' at the side aisles

Known as "Church of the Hundred Spires"

Over 6000 individual sculptures



Cathedral Milan, Italy: 1386-1572



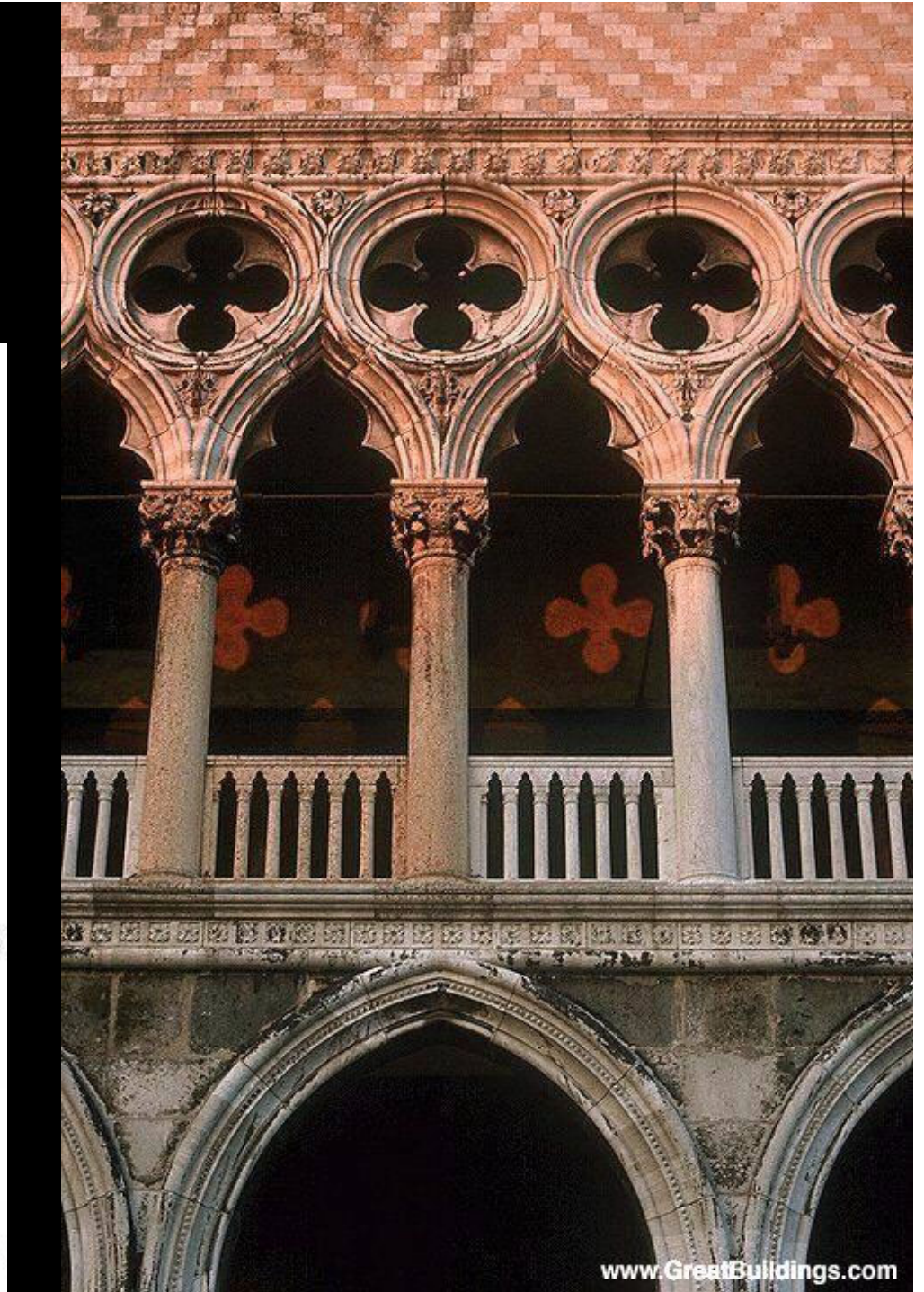
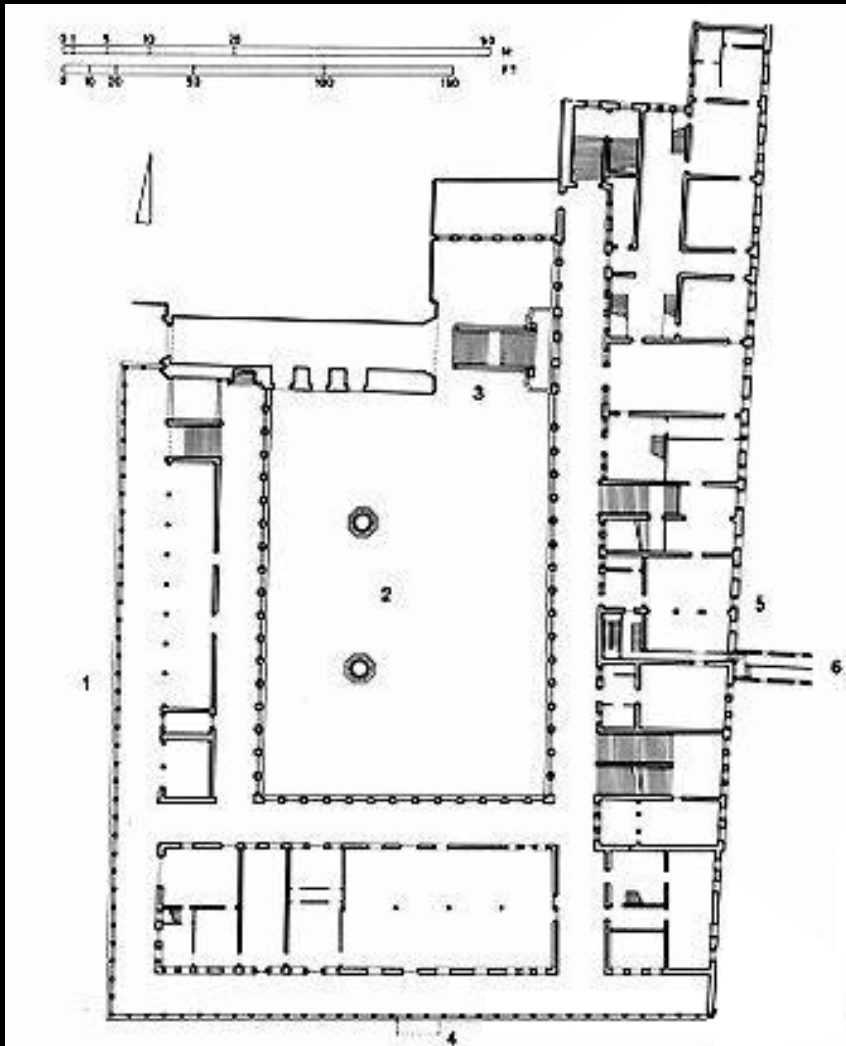
Doge's Palace, Venice, Italy: 1309-1424



Doge's Palace,

Venice Italy: 1309-1424

Designed by Giovanni
and Bartolomeo Buon



Doge's Palace (Venice): Begun at the end of the 14th Century

Lacy network of arcades and open stonework

Marks the highlight of Italian Gothic

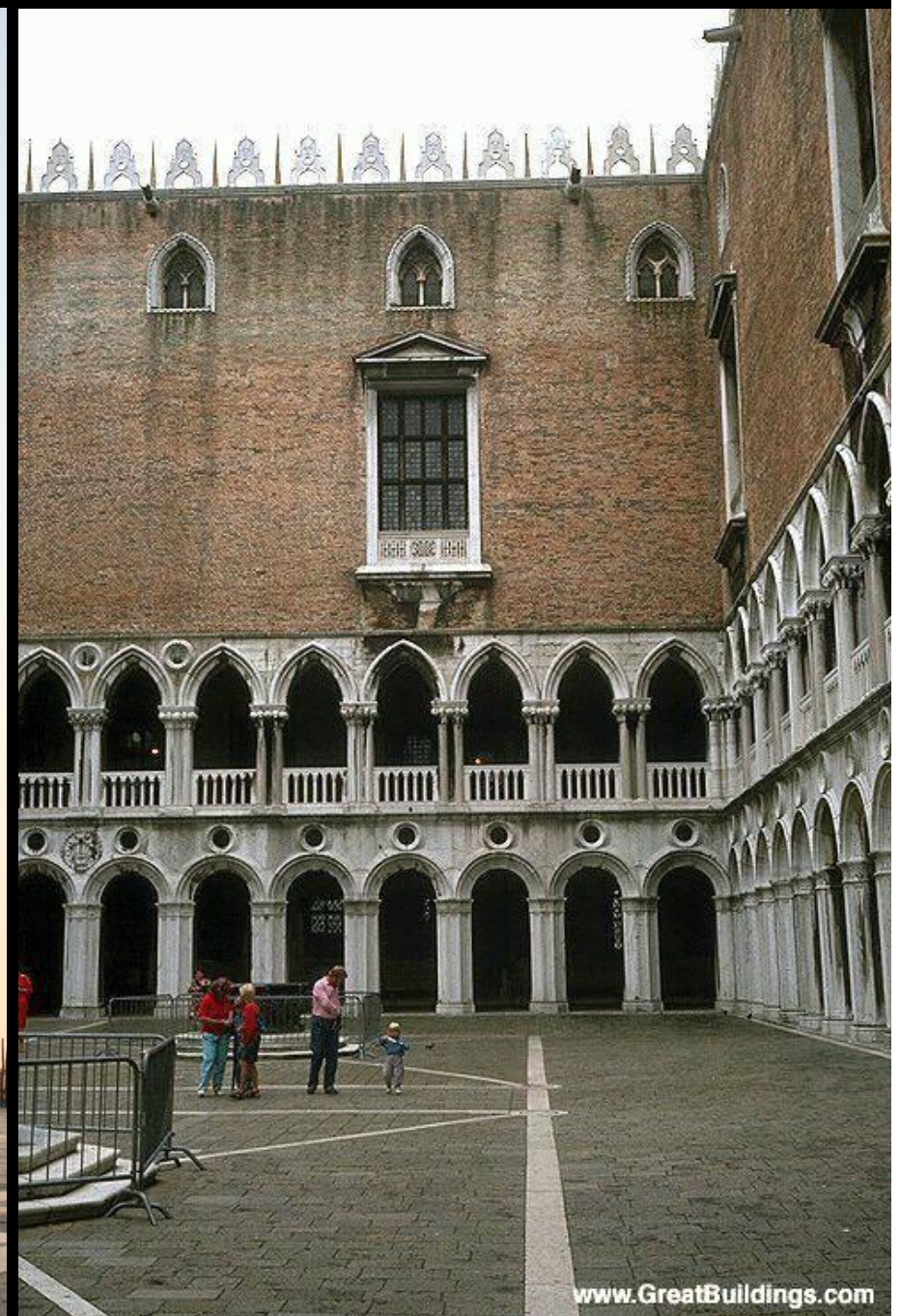
Non-Ecclesiastical Building



Doge's Palace, Venice Italy: 1309-1424



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www.GreatBuildings.com



(Fazio 2019, fig. 9.47)

Medieval House, Cluny, 12th century



(Fazio 2019, fig. 9.47)

Medieval House, Cluny, 12th
century



(Library of Congress, HABS)

Frank Lloyd Wright, Morris Gift Shop, San
Francisco, 1948



Frank Lloyd Wright, Morris Gift Shop, San Francisco, 1948

(Acroterion Wikimedia)



Frank Lloyd Wright, Morris Gift Shop, San Francisco, 1948

(Daderot Wikimedia)

Reading: Fazio, Moffet & Wodehouse
A World History of Architecture* or *Buildings Across Time
Chapter 9

