

Churches

1) The Word CHURCH

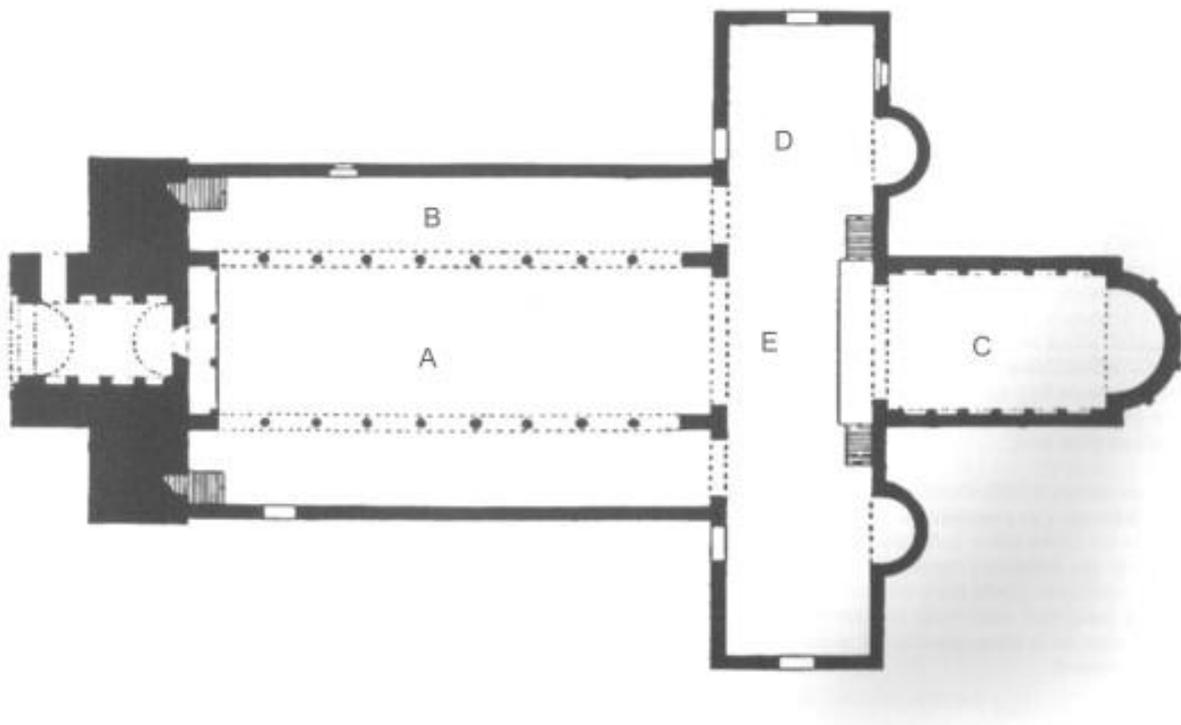
The word “Church” in English comes from the Greek word KYRIOS which means *Lord, Master*, i.e. *Christ*.

In French or Italian the word which means “Church” (*église, chiesa*) comes from the Greek word ECCLESIA which means *assembly*.

Hence the Church is at the same time the assembly of believers and the body of Christ.

The word Church means also the building in which this assembly comes together for worshipping Christ. The builders of the churches tried, through symbolism, to represent the structures as if it were the body of Christ itself. The church has the shape of the cross.

Hersfeld - 10th century



A = nave / B = aisle / C = choir with altar / D = transept / E = transept crossing (tower in most cases)

2) THE TWO TYPES OF CHURCHES

Basically, there are two kinds of churches:

- 1) the ones which have parallel naves, called basilicas,
- 2) and the ones almost circular, called with central plan.

A) The basilica

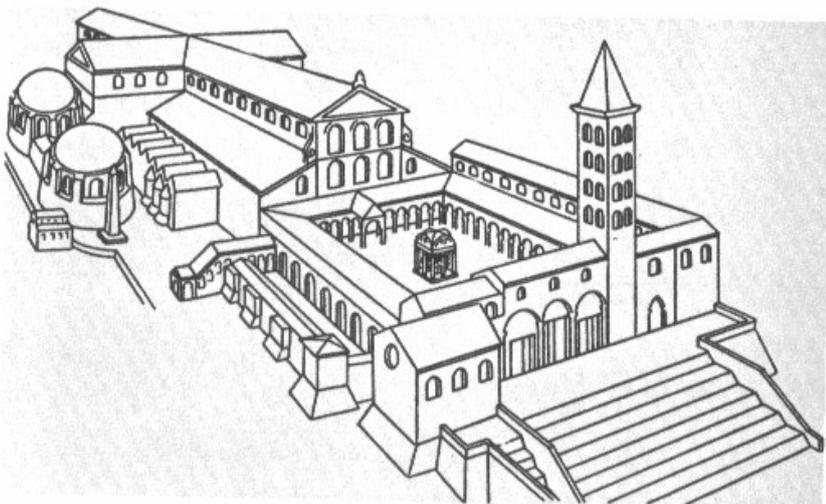
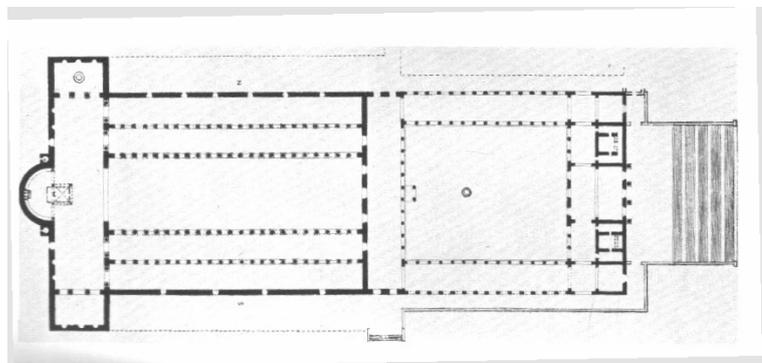
This form is an inheritance from the Roman Empire. The basilica was a public building in Roman times where people used to come together: two parallel walls and a wooden structure for the roof.



St Demetrius, Thessalonika
5th century

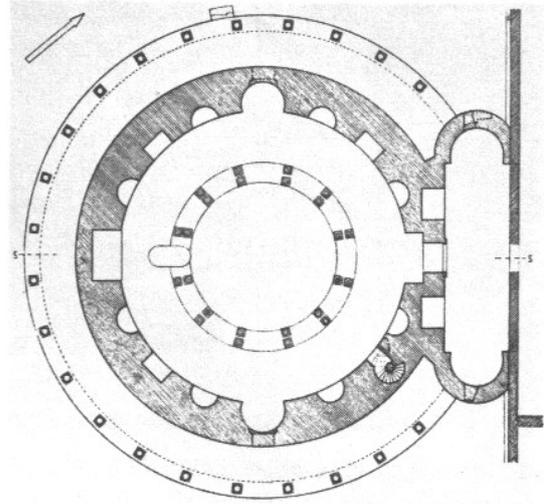
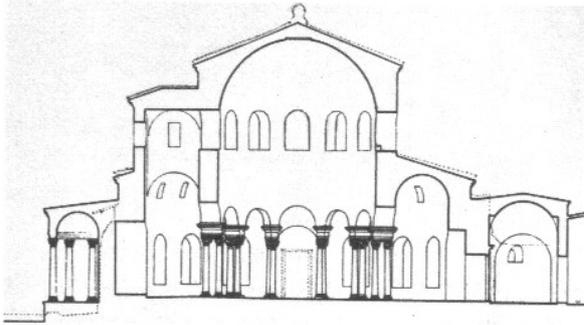
This form stresses a main orientation and a movement of progression towards the altar. It creates a strong hierarchy between the mundane (the world behind the entrance) and the sacred (the altar) and between the people and the clergy.

St Peter's, Rome,
previous basilica,
4th century

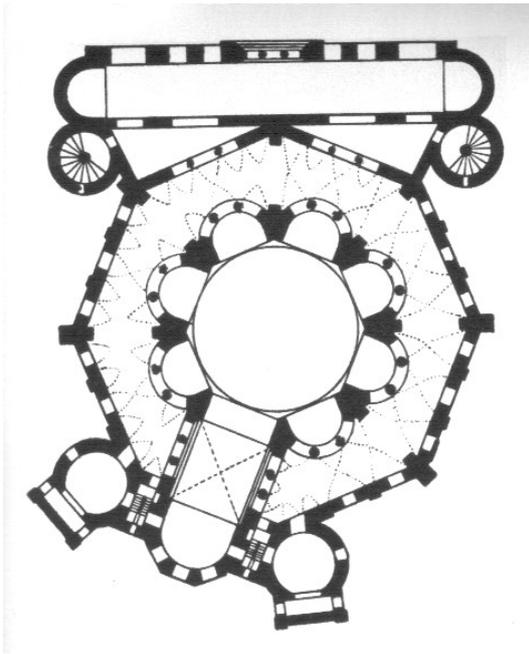


B) The Central plan

It occurs mostly in Byzantine architecture. This form is also compatible with the form of the cross. *Santa Constanza, Rome, 4th century.*



San Vitale, Ravenna, 6th century.



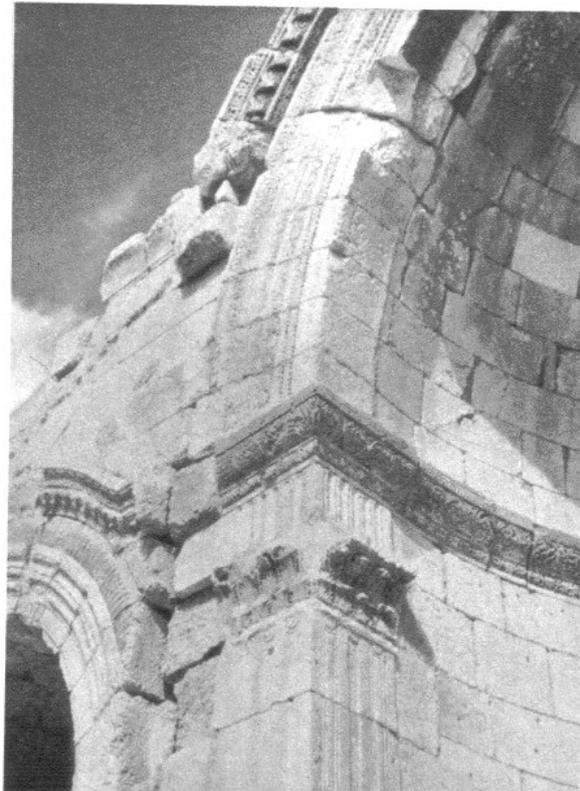
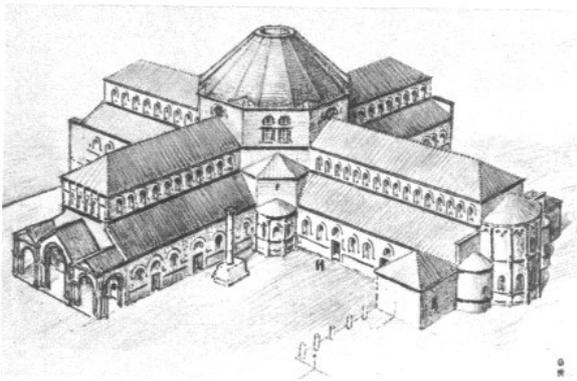
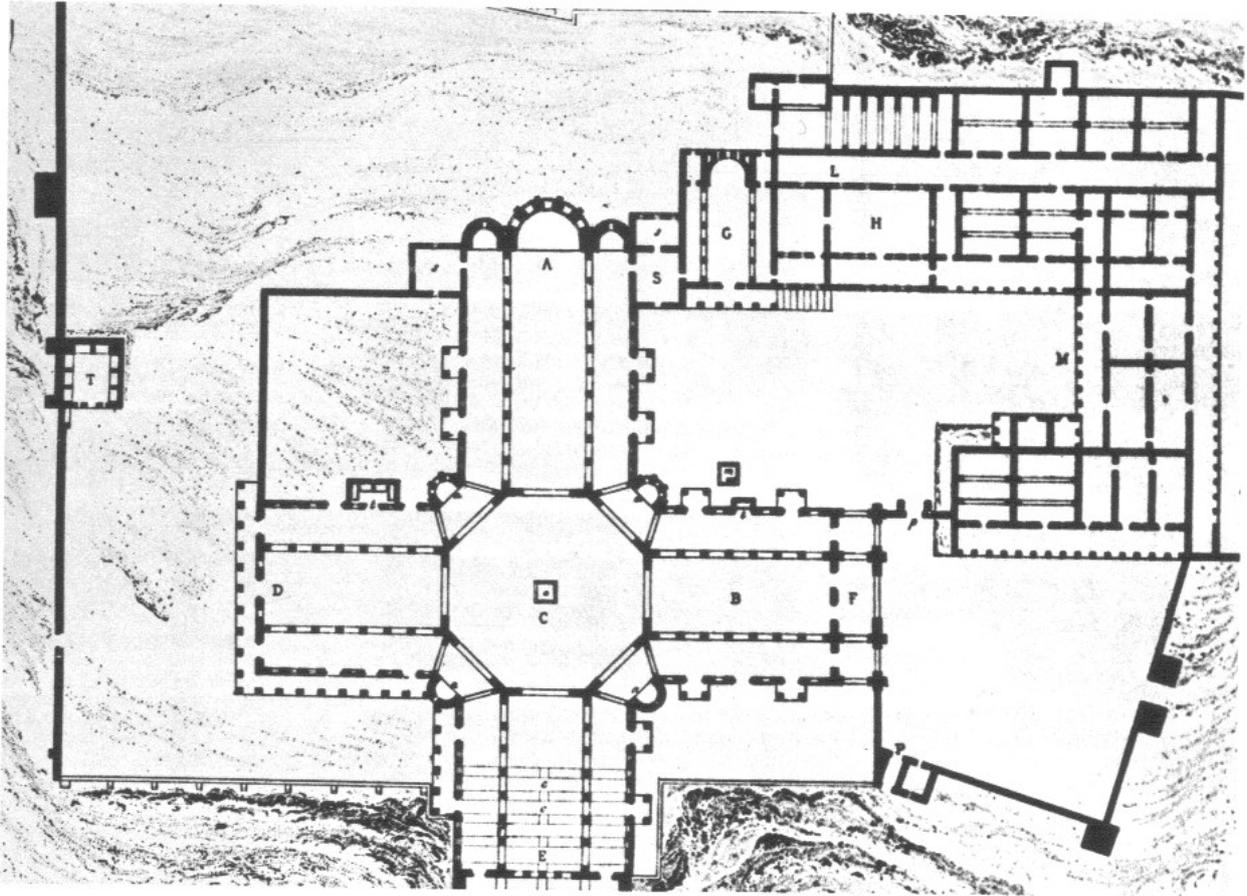
Centrality

The dome is supported by half-round protrusions in the walls, called apses. These apses are curved and supported by columns: there are no walls between and no alignment of the supports.

It has an effect of lightness and immateriality. The dome seems to be floating.

St Symeon, Syria, 5th century - plan and reconstitution - combines central and basilical plan.

(1) — plan of Saint Symeon, p. 170-100. I mit.

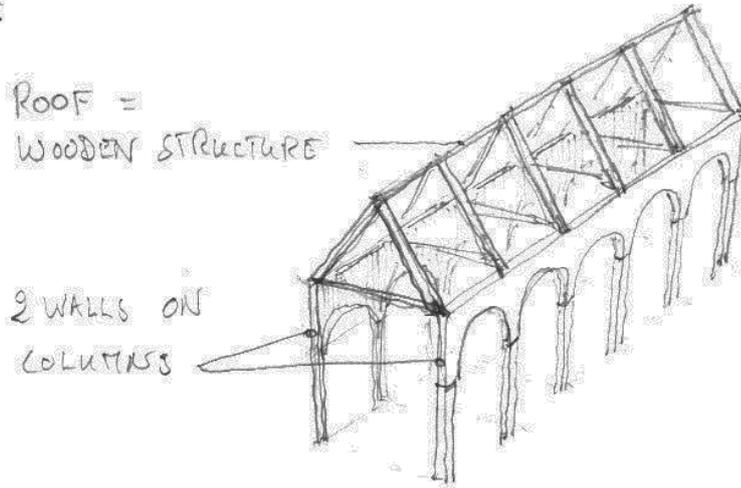


3) EVOLUTION OF THE BASILICA

The main challenge in building churches could be defined as the answer to the following question: how to express our adoration of God with matter? how to celebrate the sacred with profane means, according to physical laws? This is the tension between spirit and matter.

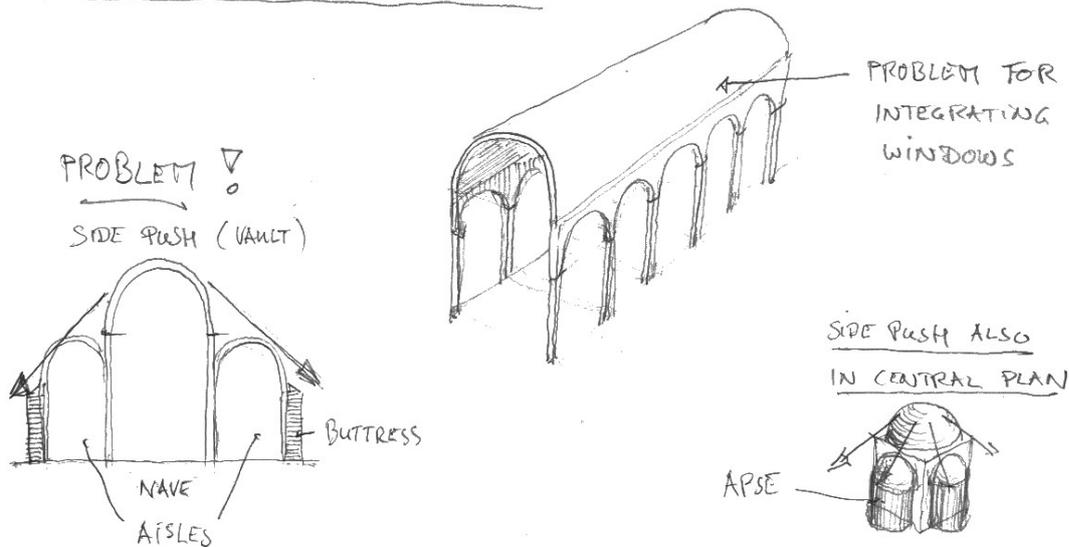
The basilica (used in the Roman Empire) consists in two walls and a wooden structure for the roof.

BASILICA



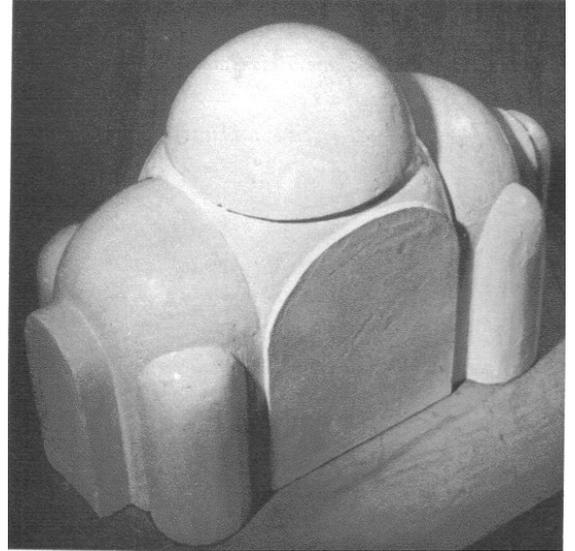
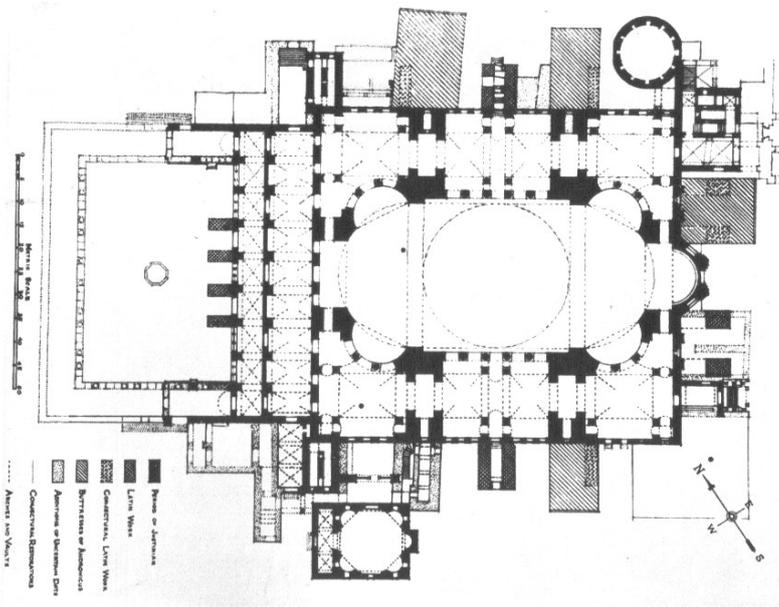
The time of Romanesque architecture, from the 10th century onwards, consists in the attempt of covering the basilica with a rounded ceiling in a form of a vault; this kind of half tunnel, which is covering the nave, reinforces the movement towards the altar, but generates side forces which have to be kept in control. Aisles and side buttresses are needed to resist the lateral push.

ROMANESQUE: BARREL VAULT



4) EVOLUTION OF THE CENTRAL PLAN

In the oriental architecture the weight of material must not be felt: the dome which covers the central space must seem to be floating. *Sancta Sophia, Constantinople (Istanbul), 6th century.*



The whole volume seems to form one uniform and weightless volume which looks as if suspended from the top of the dome.
The light is the material!

5) BYZANTINE SPIRITUALITY

The main accent of byzantine spirituality can be described as centred on the hope of meeting God: in contemplation, the immaterial dimension is dominant. Therefore Sancta Sophia is a good expression of this form of spiritual sensitivity.

Domes, curved surfaces and apses help to create this dematerialised expression.

Vladimir, Russia, 12th century

Most of the Orthodox churches kept this model of the central plan.



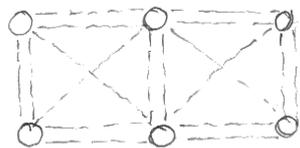
6) THE ROMANESQUE COMPOSITION - THE SQUARE

When the wooden roof structure is replaced by a barrel vault, the nave becomes blind, because the side windows are difficult to integrate. Light is nevertheless necessary to lead the movement towards the altar. The building must therefore be decomposed in a row of square bays which follow each other. Each square bay is made out of the crossing of two barrel vaults. It creates an ambivalence between the movement towards the altar (sacredness) and the side opening towards fellow companions and surrounding nature.

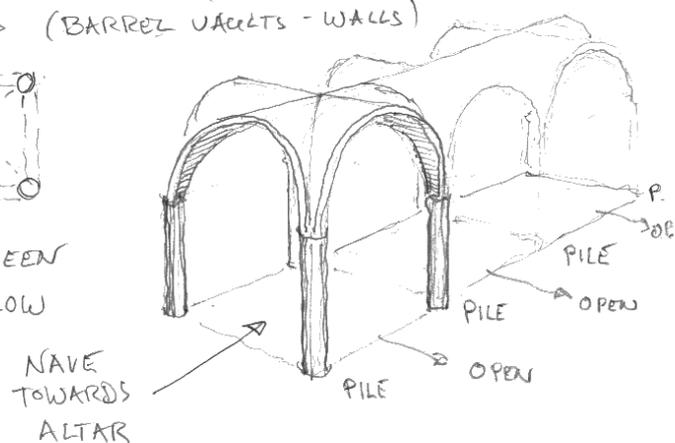
ROMANESQUE : SQUARE PLAN

EACH SQUARE = 2 BARREL VAULTS CROSSING

FORCES ACTING IN PLANES (BARREL VAULTS - WALLS)



SQUARE: ALTERNANCE BETWEEN
PILE AND SIDE OPENING → SLOW
RHYTHM



Romanesque is therefore characterised by a strong and slow alternation of piles (pillars) and side openings (square bays). There is an ambivalence in the movement towards the altar.

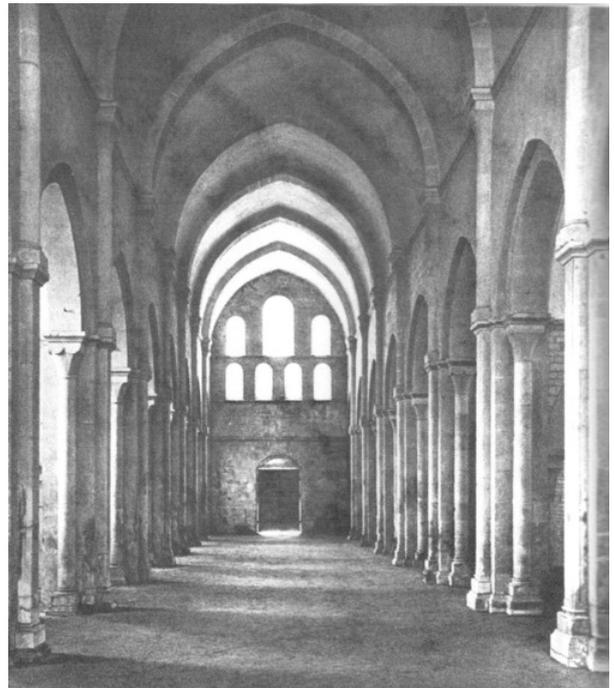
7) ROMANESQUE SPIRITUALITY

This ambivalence between sacredness and materiality is very typical of romanesque spirituality, which lives in a constant tension between incarnation and salvation. Matter and spirit do not oppose one another, they are co-creators.



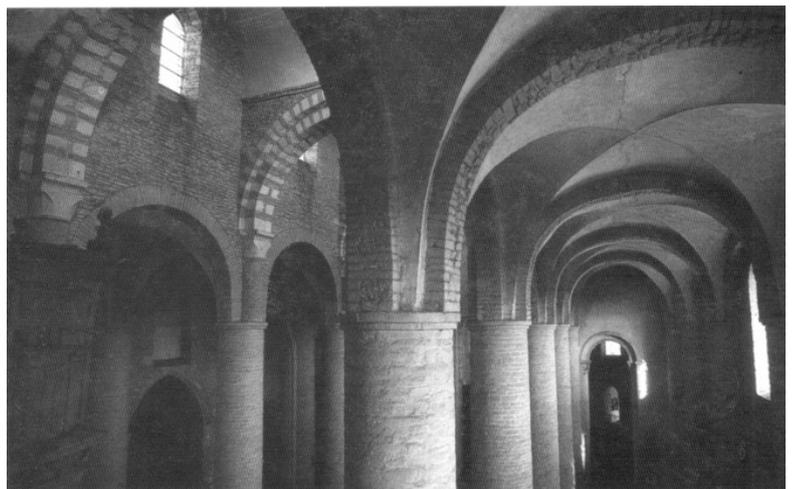
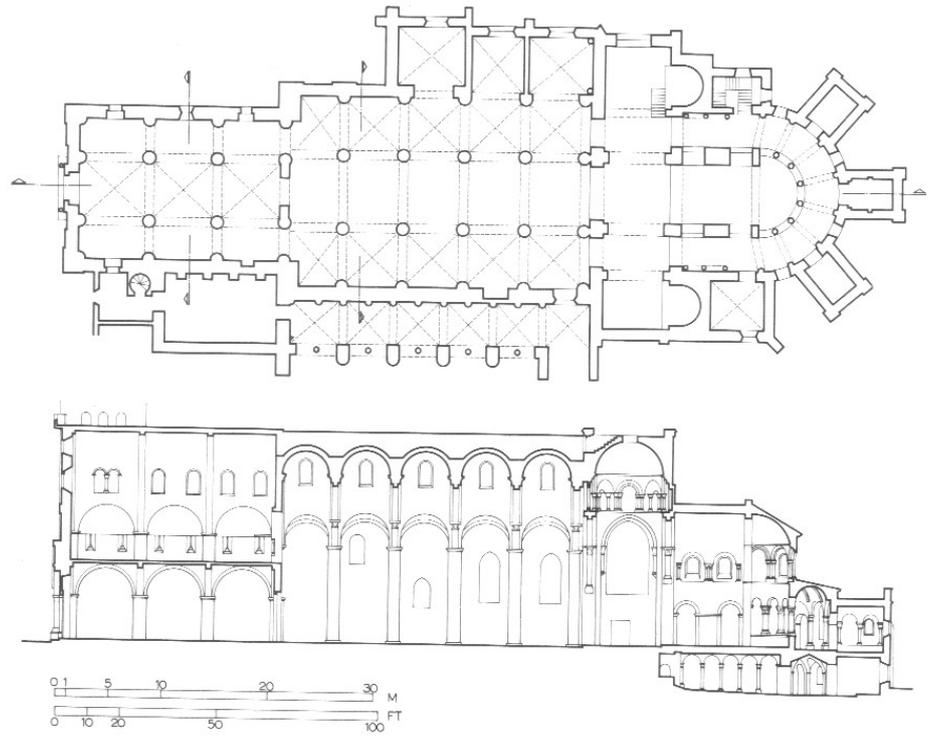
*Vignory, France,
wooden roof - no side forces.*

*Fontenay, France,
12th century,
barrel vault - no windows.*



*Conques, France, 11th century
The wall remains clearly materialised,
although many windows and columns take
away its heaviness.*

*St Philibert,
Tournus, France,
11th century.*



*Heavy round piers,
transversal barrel vaults,
transversal plane at each
vault between two bays,
tower at the transept
crossing.*



The transversal orientation of the barrel vaults is underlined by the successive transversal planes of the vaults and makes the progression toward the altar slower. The square form of each bay is underlined.

8) THE EVOLUTION OF THE GOTHIC

The slow and strong alternation of piles in the romanesque architecture breaks the continuity towards the altar. Similarly the wall appears non existing between the columns but very full and heavy above them. The gothic will tend to improve the horizontal as well as the vertical continuity by:

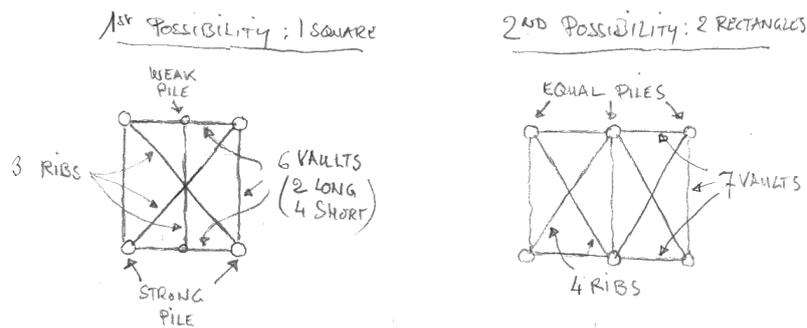
- dividing the square bays in two rectangular bays in order to double the number of pillars (piles) and accelerate the rhythm in the progression toward the altar.
- structuring the wall to improve the continuity in the vertically.

GOthic

MANY COLUMNS TO AVOID SLOW RHYTHM → CONTINUITY → QUICK RHYTHM

FORCES ACTING IN LINES: VAULTS, RIBS, COLUMNS, FLYING BUTTRESSES

ALMOST NO MORE WALLS !



Lausanne, Switzerland, 13th century. Left: the square bay is divided in 6 parts with alternation of thick pillars (strong piles) and thin pillars (weak piles). Right: the square bay is divided in two bays with each one 4 parts.

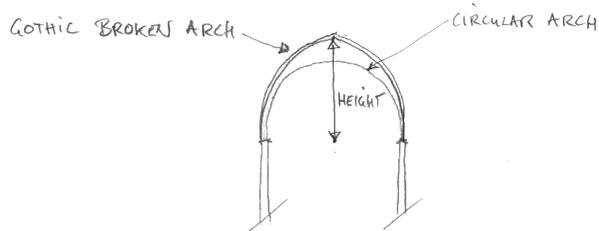


The surfaces tend to disappear and to be replaced by lines. The forces are mastered and follow these lines: pillars, ribs, and buttresses.

PROBLEM :

- ① COMPARE THE LENGTHS OF THE DIFFERENT ARCHES AND RIBS : THEY ARE ALL DIFFERENT.
- ② COMPARE THE HEIGHTS OF THE DIFFERENT ARCHES AND RIBS : THEY ARE ALL THE SAME. BECAUSE RIBS HAVE TO MEET IN THEIR MIDDLE.

SOLUTION : THE ARCH IS "BROKEN" IN ITS MIDDLE
→ GOTHIC ARCH

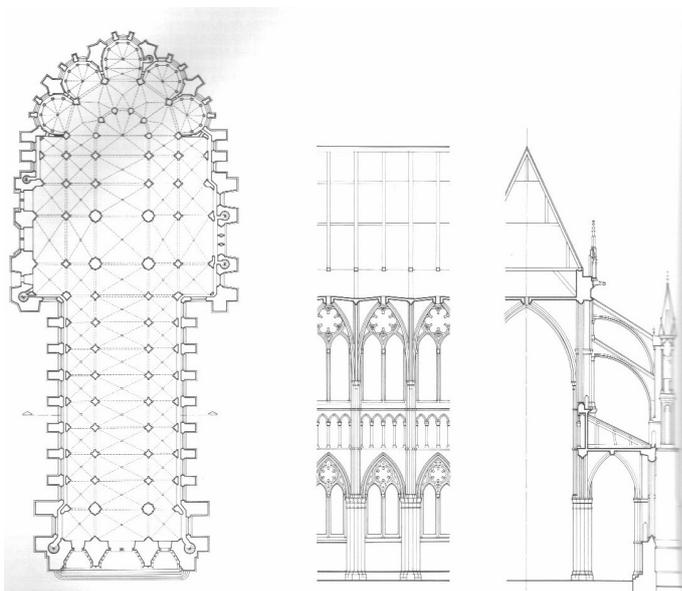


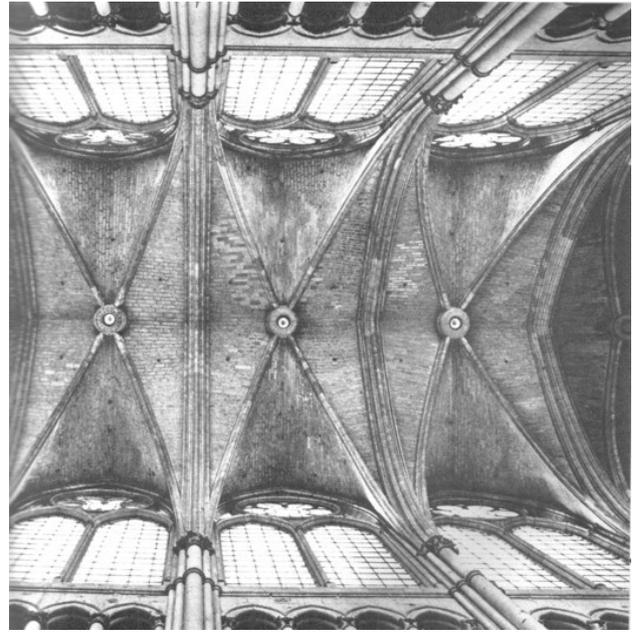
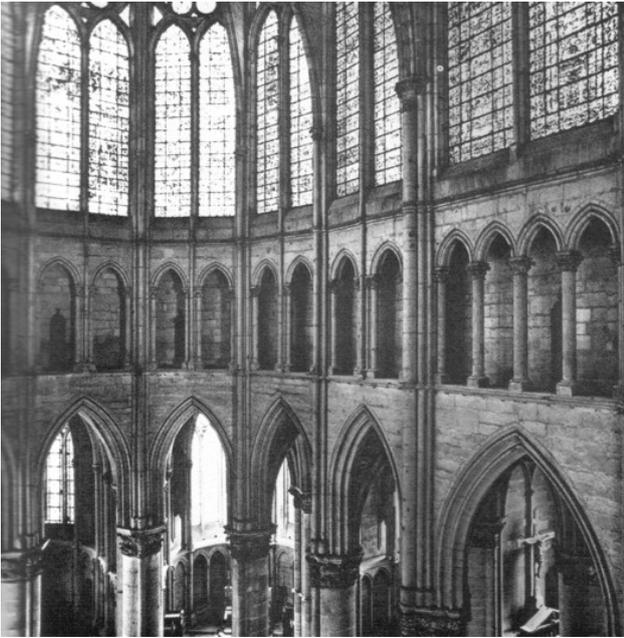
9) GOTHIC SPIRITUALITY

The Gothic time is the time of the Scholastic which tries to structure thought and religion. It is the rationalist time of Thomas Aquinas who contributes to structure the dogmas of faith and to create the new official catechism. Aristoteles is rediscovered; it is the time of logic. The logic is the main tool of the *Summa Theologica* by Thomas Aquinas.

Gothic architecture is the expression of this attempt to structure the world (or at least our understanding of it).

Reims, France, 13th century.





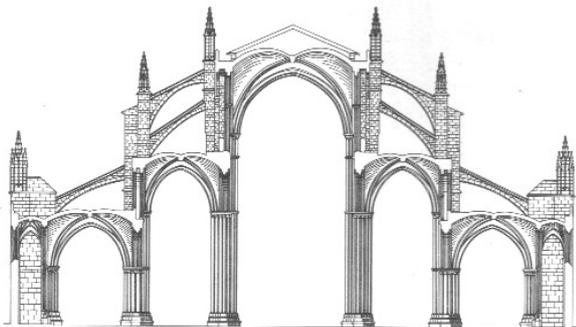
Reims. The wall has practically disappeared. Forces are acting along lines. Vertical and horizontal continuity is created: vertical and horizontal lines do not contrast as distinct elements; they are part of the general structure.



Left: Reims flying buttresses retain the side push of the main vault.

Bellow left: Toledo, section with nave, aisles and flying buttresses.

*Bellow: Ste Chapelle, Paris, 13th century
...like a steel construction!*



10) THE CHURCH AS A PLACE OF ENERGY

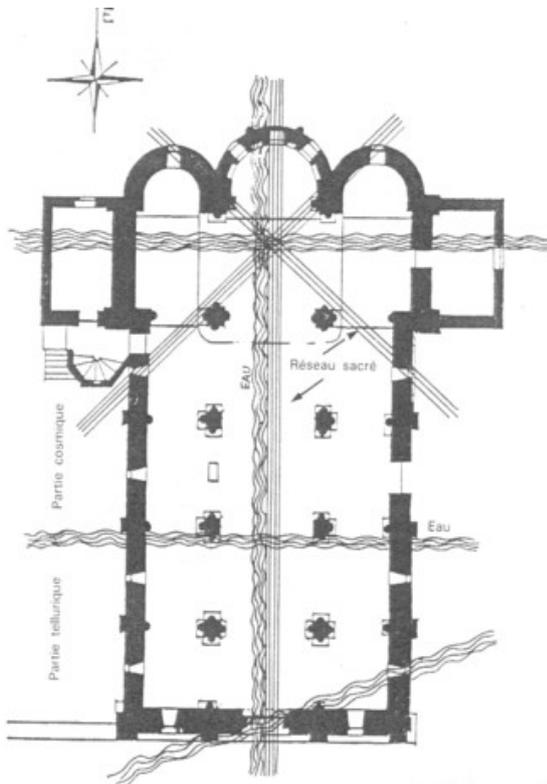
The energy on earth is not spread in a regular way. Some places accumulate more energy. There are veins of energy running on the surface of our planet.

Old churches used to be built in a place of special energy. In Europe they often replaced places of Celtic worship.

The tower of the church, generally situated on the transept crossing has a role as energy captor as a menhir would do. A menhir is a standing stone like in Stonehenge.

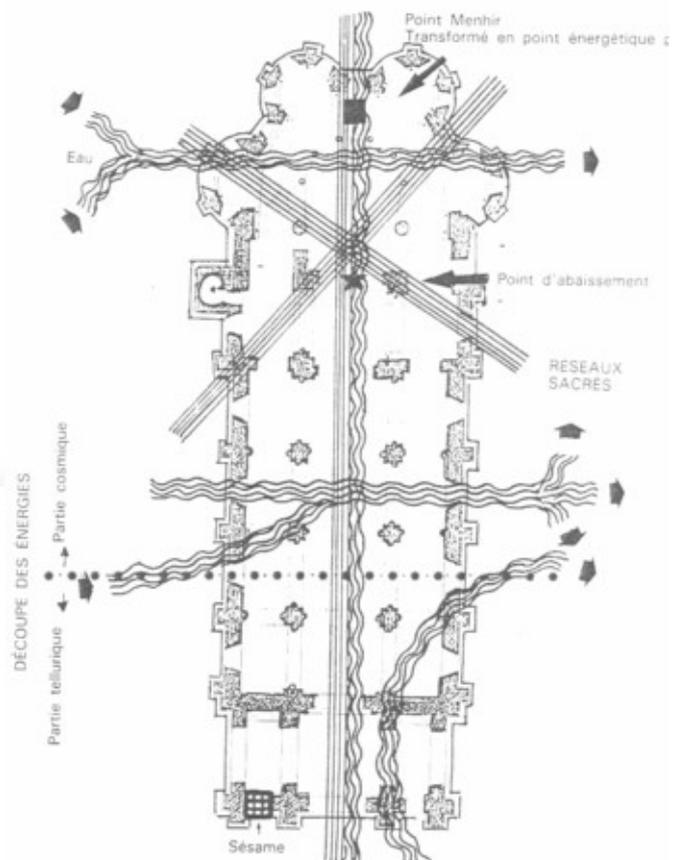
The movement of the procession inside the church was like the movement of a rotating part in an electric motor. The people were recharged with energy, under the tension in the existing magnetic field.

The lower part of the church (near the entrance door) had a lower energy. It was the profane part. The baptismal font used to be for this reason at the back of the church. Baptism is a walk from darkness (baptismal font at the back of the church) toward light (the transept crossing).



Thuret, France (left)

Flows of energy and streams of water in a romanesque church in Auvergne



Chatel-Montagne, France (right)

The dotted line shows the limit between the telluric (earthly) part and the cosmic(celestial) part.