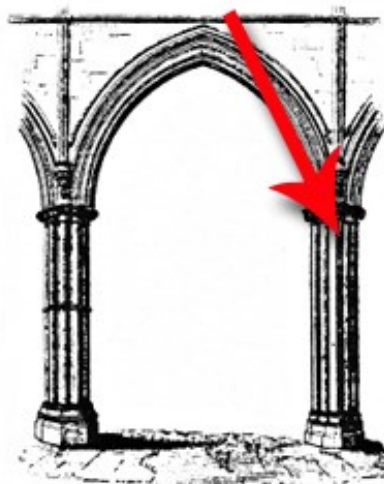


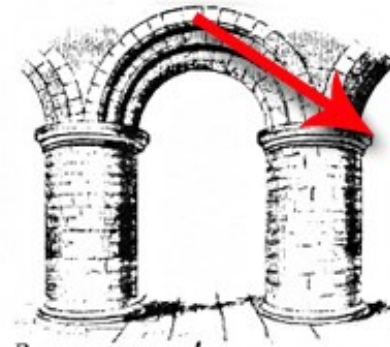
Gothic Architecture.

The pointed Gothic arch directs the thrust down in a more vertical direction than the round Romanesque arch therefore requiring less bulky support



Gothic arch

The round Romanesque arch requires bulkier supports as the thrust is more horizontal



Romanesque arch

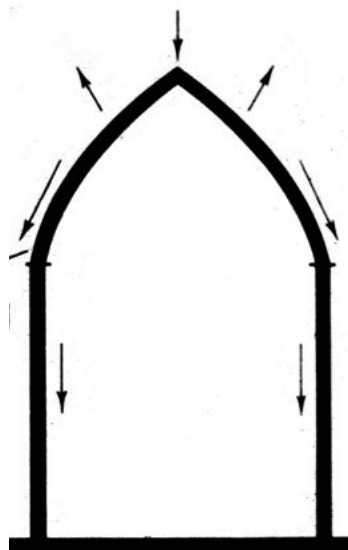
The pointed Gothic arch is the secret of the dizzy heights the cathedral builders were able to achieve, from around the 13th Century. Columns became more slender, and vaults higher. Great open spaces and huge windows became the order of the day, as the pointed arch began to replace the rounded Roman-style arches of the Romanesque period. We will compare the two styles.



On the left are the later arches of Salisbury Cathedral, c. 1230, in the Gothic style with elegant and slender piers. On the right are the Romanesque arches of Gloucester Cathedral with their huge cylindrical supports of faced stone filled with rubble, from around 1130.



This is a drawing of praying hands by Albrecht Dürer, 1508, in the Albertina Gallery in Vienna. If you hold your hands like this and imagine someone pressing down on your knuckles, you'll feel your finger ends move upwards.



In this diagram you can see the effect of these forces on a Gothic pointed arch, where some of the thrust is upwards, alleviating part of the weight of the vault.

There are different types of Gothic windows.



Early English lancet windows, built 1234, east end of Southwell Minster, Nottinghamshire, England



13th Century, plate tracery in the south aisle west window, All Saints Church, Hopton, Suffolk, England



St. Dunstan's Church, Canterbury. Early English Decorated Style, 13th Century.

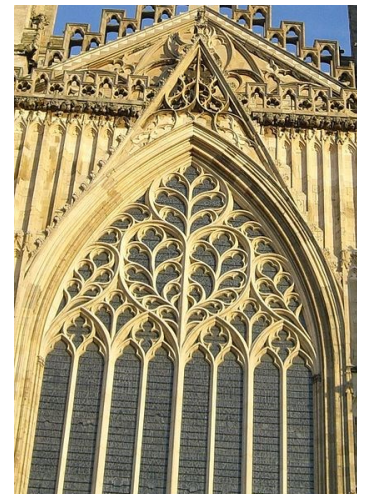
The first structural windows with pointed arches were built in England and France, and began with plain tall and thin shapes called lancets. By the 13th Century they were decorating the tops of the arches and piercing the stonework above with shapes such as this 4 leaf clover quatrefoil. Then the pierced plates of stone evolved into stone tracery which became more decorative and contained mullions and arches which transmit the forces through the opening and allowed the windows to be bigger. This is called the Early Decorated Style.



Wells Cathedral, Curvilinear Decorated style window, 13th Century.



Late Decorated Gothic window tracery in a Curvilinear style bordering on Flamboyant., the Church of St Mary, Snettisham, Norfolk, England, late 14th Century.



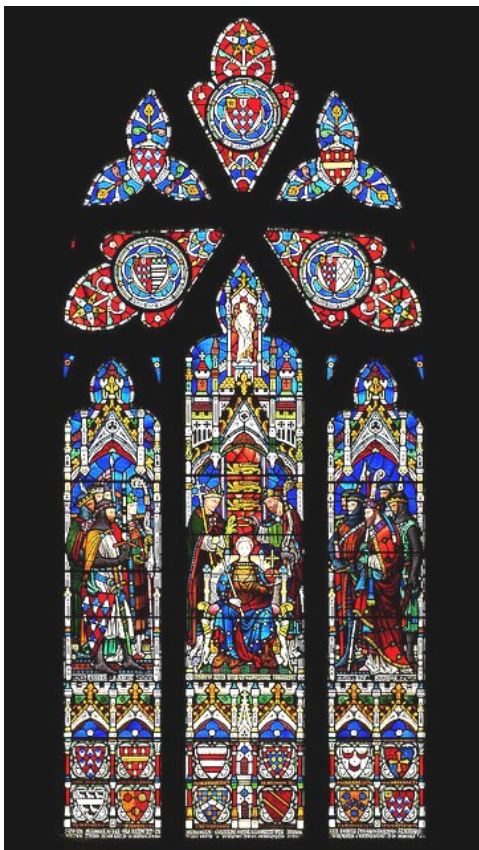
The west facade of York Minster (1338), Flamboyant.

From this point the decoration of windows becomes more and more complex. Sometimes it is very regular in shape, at other times curvy, and when it develops into wild and complex tracery such as the great west window at York Minster, it is called Flamboyant after the French word for flame.

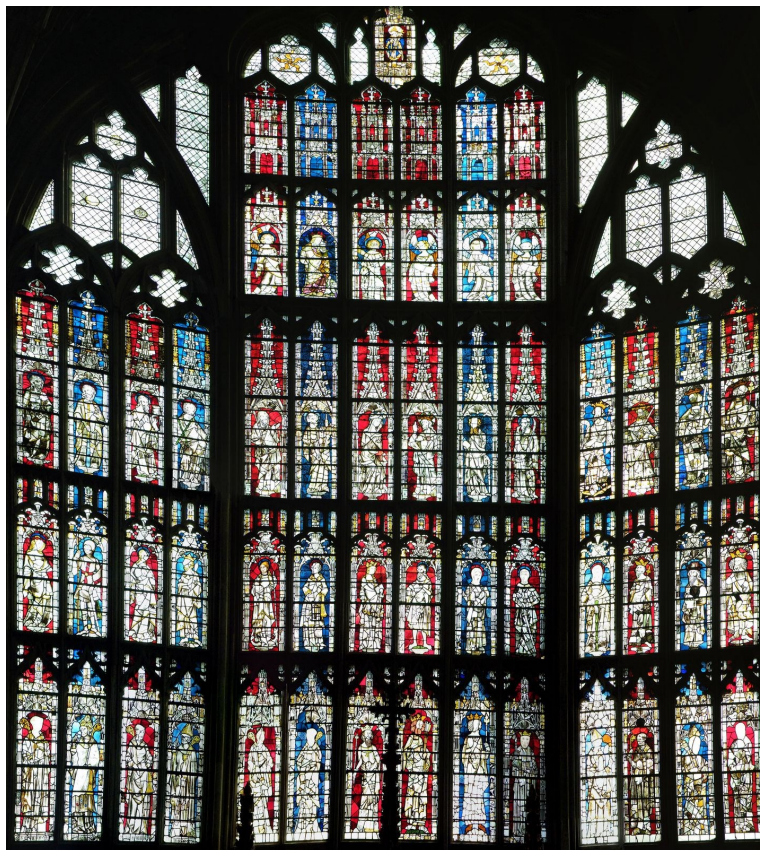
In England we have a final stage of Gothic windows called Perpendicular Gothic, which appears quite regimented and formal, consisting of horizontal and vertical panels, with shaped tops to each section and mullions supporting pointed arches to give structure to the huge space.

Kings College Chapel, Cambridge, 16th Century.

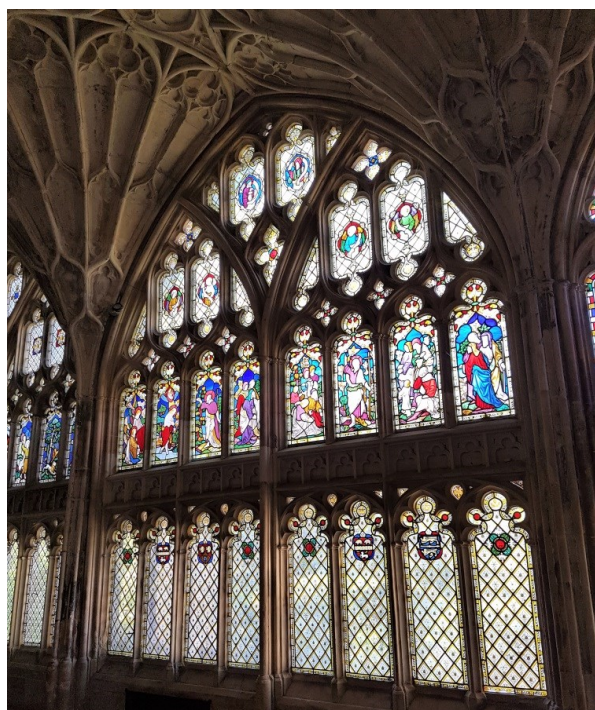




Coronation of Henry III Window, Gloucester Cathedral, 19th Century glass in 13th Century tracery. Simple ornamental shapes, Decorated style.



14th Century great east window, perpendicular style. Notice the impression of separate panels, the heavy vertical mullions, and the smaller pointed arches within the structure.



Above: Late 14th Century windows in the cloisters, perpendicular style. Note the width of the windows and the arched tracery to support the vault.

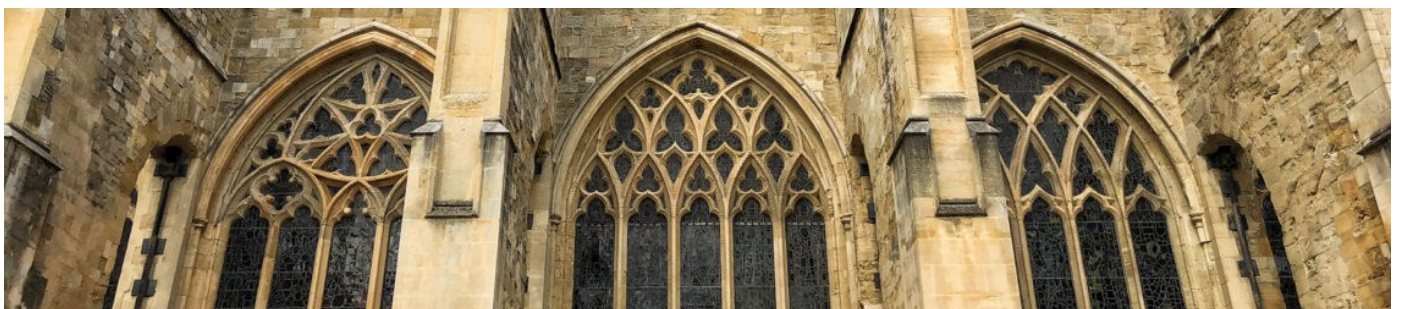
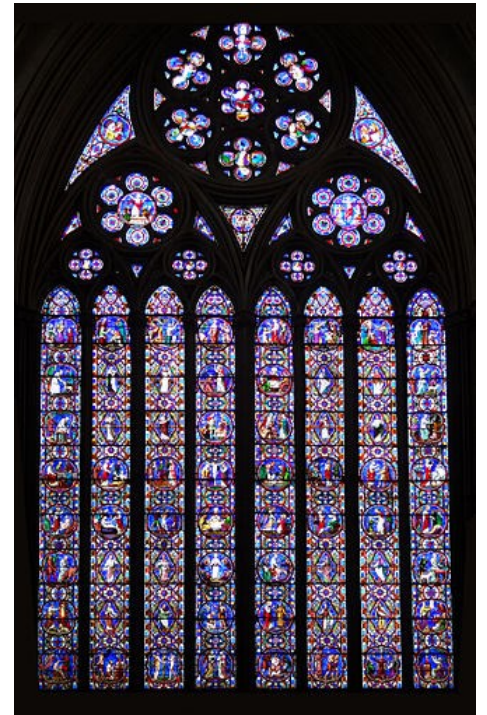
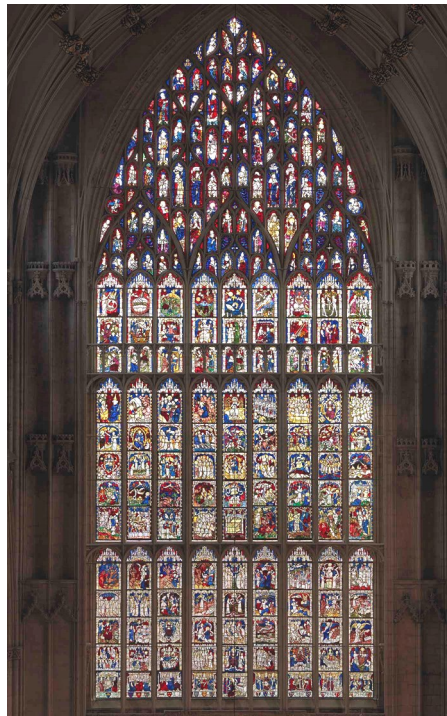
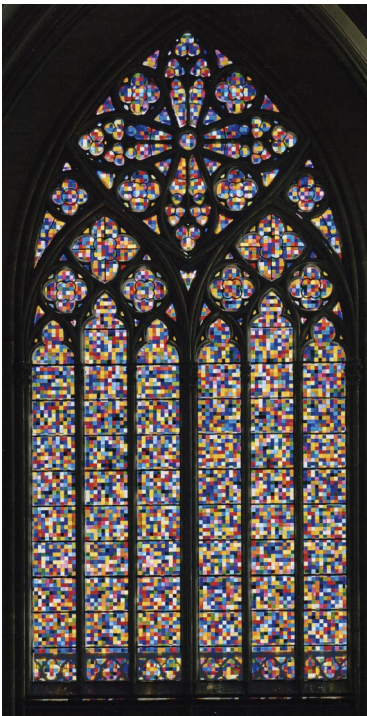
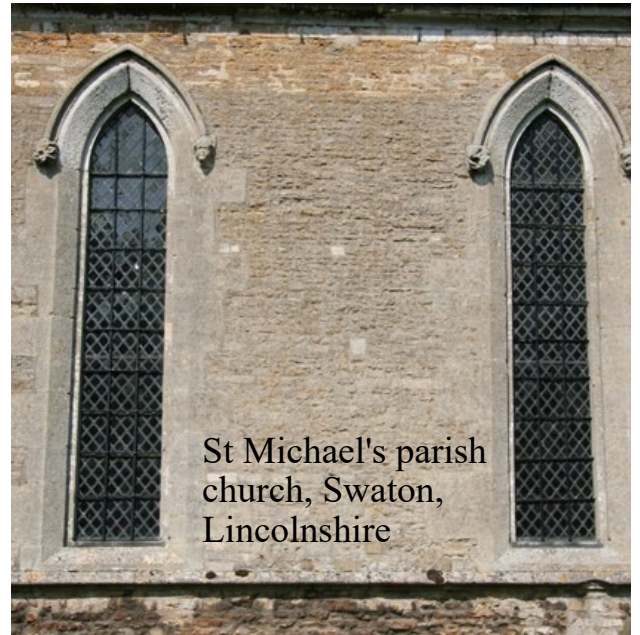


Above right: Aisle windows from the outside, decorated gothic on the left, perpendicular gothic on the right. There are castellations on the parapet above and each bay is separated by a statue in a niche, above a pinnacle which is part of a buttress.



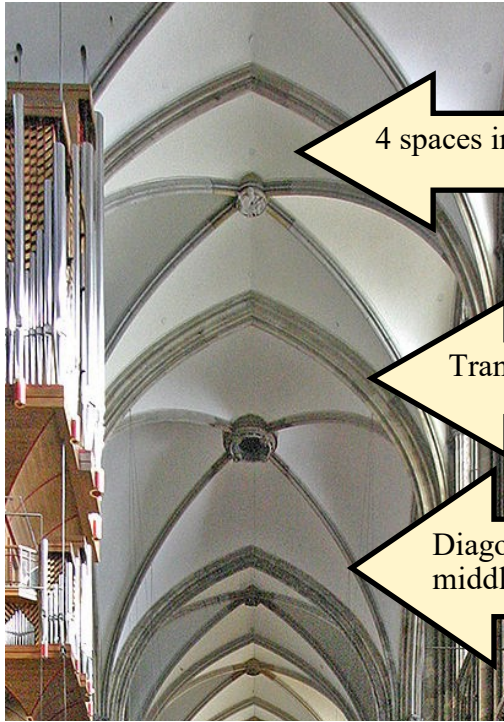
Right: Perpendicular tracery within Norman (Romanesque) round arched window.

Some for you to try.



Quadripartite Vaulting

Quadripartite vaulting in Cologne Cathedral, c.1300. The left hand side is partly obscured by the organ.

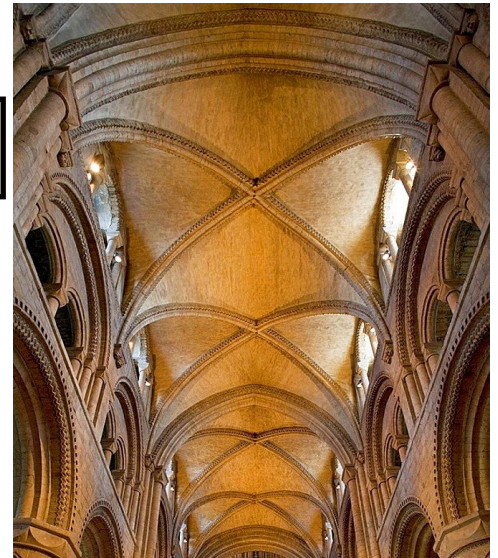
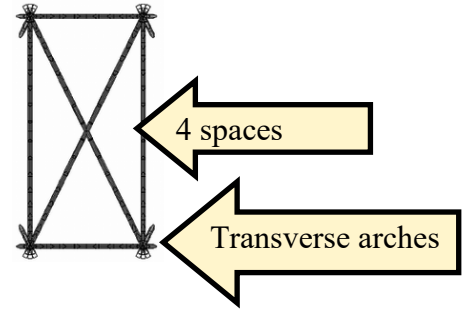


4 spaces in between the stone ribs.

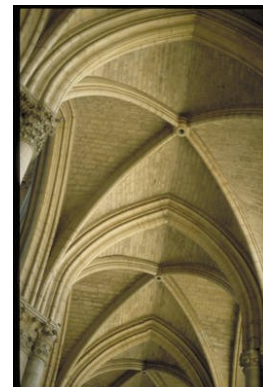
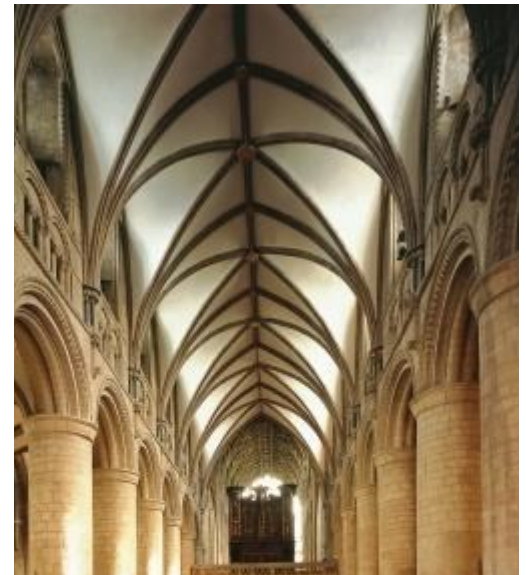
Transverse arches carried on piers

Diagonal ribs with a roof boss in the middle where they cross.

Some vaults do not have the transverse ribs evident. Durham on the right has alternate ones, but it is still quadripartite vaulting.



Some quadripartite vaulting has a ridge rib running down the length of the nave, such as this 13th Century example from Gloucester Cathedral, but it is nevertheless still classed as a quadripartite vault.



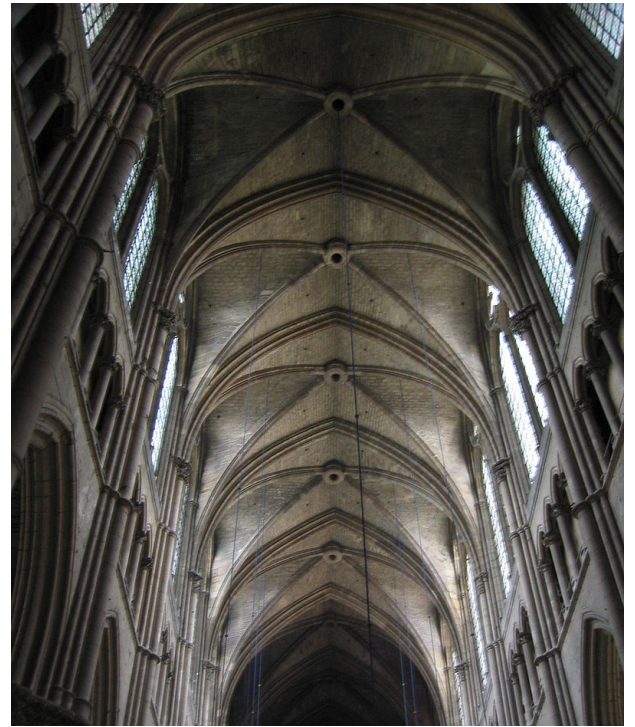
Other examples.

Sexpartite Vault.

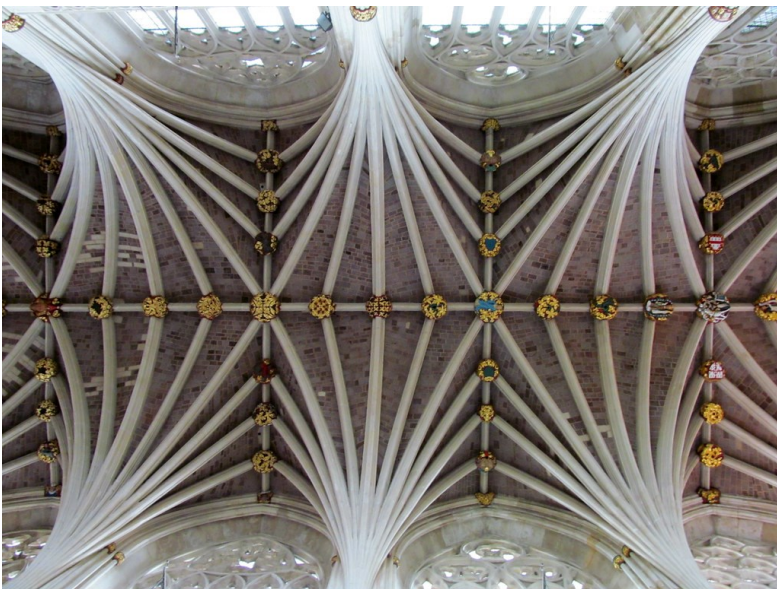
This (left) is a **Sexpartite vault** at Lyon Cathedral. It has an extra transverse arch at the centre of the diagonal ribs, making six parts.



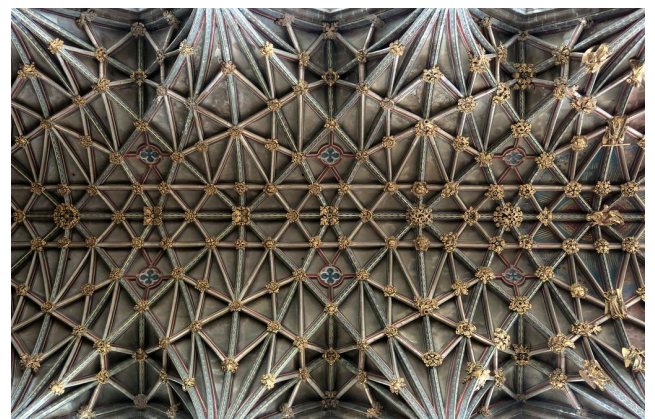
Right, the sexpartite vault of Reims, 13th Century.

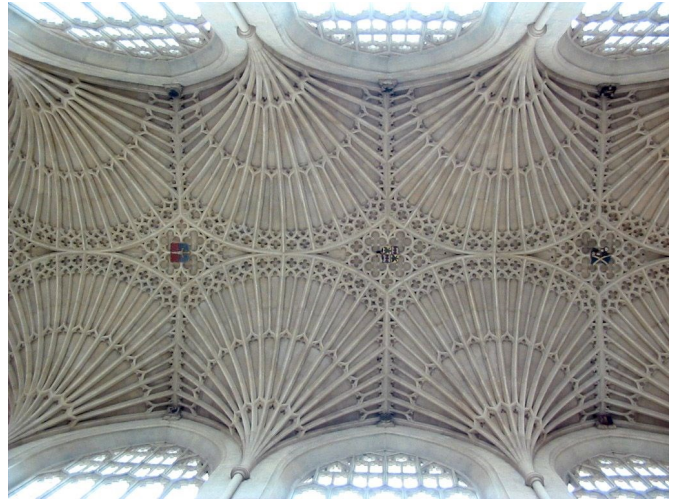


Left: **Tierceron Vault** at Exeter Cathedral, 14th Century. Tiercerons are extra ribs which radiate out from the pier. It is **not** a true fan vault. Below is the Chapter House of Wells Cathedral and you can see that this kind of vault is suitable for circular rooms.



Below: **Lierne Vault** in the Lady Chapel of Ely Cathedral, 14th Century. Liernes look like match sticks forming a complex geometric pattern like nets attached to the ribs. To its right is the lierne vault in Gloucester Cathedral Choir, also 14th Century.





Fan vaulting in King's College Chapel, Cambridge, upper left. Fan Vaults are associated with the Perpendicular style of architecture, and they look like tierceron vaults but they have the panelled appearance that perpendicular windows also have. On the right is the 16th Century fan vault in Bath Abbey.

Some vaults are just weird:



Above: St.-Anne's church at Annaberg, Germany, from 1513. Right: Lincoln Cathedral, 14th Century.
Below: Langton Chapel inside the Winchester Cathedral.
Below right: Old Royal Palace, Prague.

