

ENGLAND'S TRIBUTE TO THE ARCHITECTS & CRAFTSMEN OF FRANCE

By John Swarbrick, F.S.A., F.R.I.B.A.

KING EDWARD THE CONFESSOR AND THE
ROMANESQUE ABBEY CHURCH OF WESTMINSTER

THE full extent of England's indebtedness to the Architects and Craftsmen of France during the mediaeval period is by no means generally recognised. From the Normans in particular our ancestors had much to learn. They not only showed our forbears how our churches, fortifications and other structures should be built: they enriched our language, the phraseology of the law and brought this country into touch with the culture of the Continent and the Mediterranean area. Even to this day, when an Act of Parliament receives royal assent the words, "Le roi le veult" are still used, as they have been since the Conquest. Moreover the names of the Heralds' attendants, as for instance Rouge Croix Pursuivant of Arms, the terminology of the Heralds' College and the descriptions of armorial bearings are frequent reminders.

The Normans, who settled permanently in this country, together with the Anglo-Saxons, the Scots and the Welsh are now united in the vast English-speaking community that extends all over the world and are broadly described as the English, but in the mediaeval period the word English was generally understood to describe the Anglo-Saxon invaders, who had conquered the greater part of the country south of the Border. From them, our ancestors acquired the language they spoke, but their speech would be almost as unintelligible to most Englishmen today as the contemporary patois of the Normans. We can therefore regard the historic facts quite disinterestedly and without the slightest racial partiality.

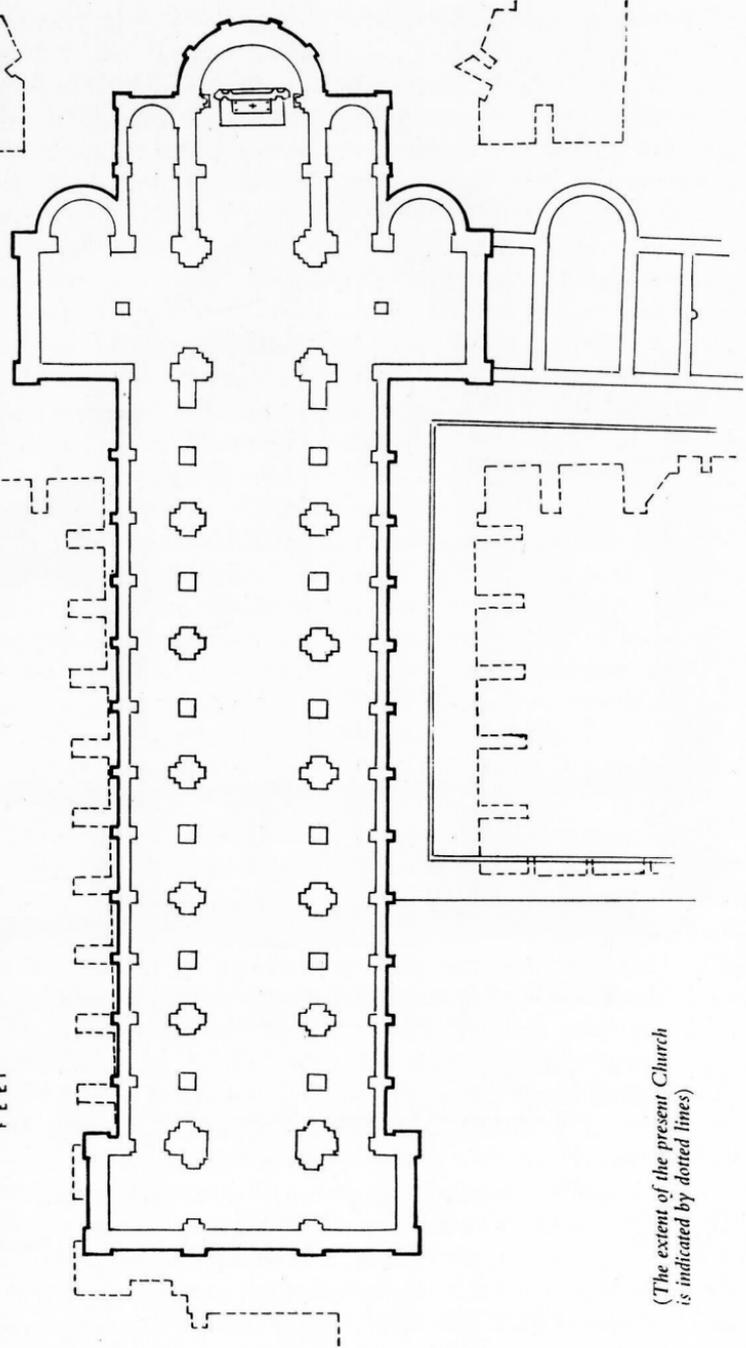
Now we can understand how the descendants of Rollo, the Viking, had established themselves in Northern France and allied themselves with the interests of the Church of Rome and how, by so doing, they had brought themselves into the closest association with the ancient and more advanced civilisation of the Mediterranean area. Their religious fervour combined with their desire to acquire all that civilisation had to offer enabled them to develop a culture more advanced than that of their

co-religious neighbours on the opposite side of the English Channel. Almost uninterrupted access to the Mediterranean and to Italy enabled the Normans to progress much more rapidly than the Anglo-Saxons, who led an insular life beyond a secure sea frontier, that debarred them from the more advanced activities and interests of the Continent. The linguistic and racial differences must have made normal intercourse for Anglo-Saxons almost impossible. Exploration of the Continent by the early English was only a casual privilege for those who were members of specially organised religious pilgrimages and for those able to avail themselves of the limited trading facilities then existing. Some idea of the restricted life of people in this country may be obtained by perusal of Bede's *Ecclesiastical History of the English Nation*.

The Anglo-Saxons of mediaeval times included amongst their number craftsmen who could illuminate the Lindisfarne Gospels, execute fine metalwork and carve the beautiful stone crosses of Bewcastle and Ruthwell but who could not design and erect extensive structures, like those being built in Normandy and elsewhere on the Continent. Compared with such work, their efforts were mainly immature and crude. Nevertheless, William of Poitiers, a chaplain of William the Conqueror, wrote: "The women of England are as skilful with the needle and gold embroidery as their men folk excel in every craft. Moreover, Germans most knowing in such arts were wont to settle amongst them."

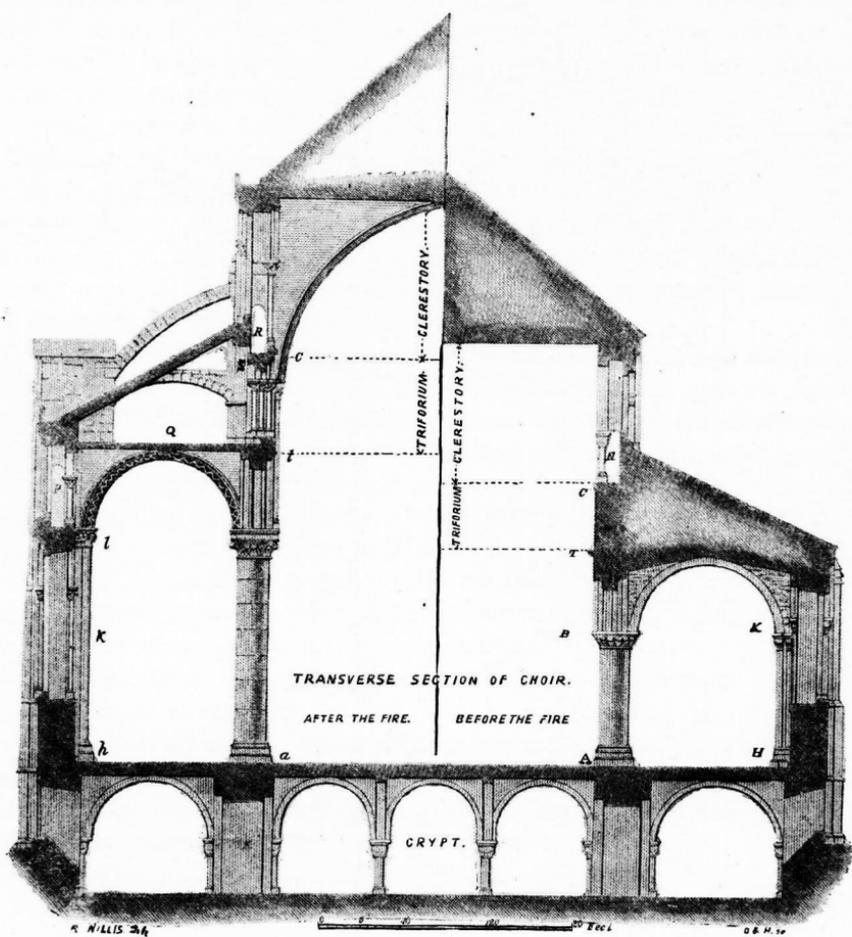
In those days, the term architect was not used in Northern Europe and structural works were usually said to be designed and directed by a Master of the Works or a Master Mason, but as the modern practice is to describe the designer and supervisor of the erection of buildings as an architect, the distinction may be regarded as immaterial. In ecclesiastical records a Master Mason was usually referred to in mediaeval Latin as "cementarius".

The first important monumental building to be erected in England after the Roman period was the Benedictine Abbey Church of Westminster, built under the direction of King Edward the Confessor, which was constructed like the Church of the Abbey of Jumièges in Normandy. This was completed in the year 1065, shortly before the death of the Confessor. Edward was a man with profound religious convictions, perhaps more suited in some respects for the cloister rather than the throne. For the cost of this structure, he was entirely responsible. In his *Chronicles*, William of Malmesbury stated that this church was "the first in England erected in the fashion which now all follow at great expense". This was his description of the style we now know as Romanesque. If there had not been exceptionally good relations between the Confessor and William, Duke of Normandy, it would be difficult to account for the



(The extent of the present Church is indicated by dotted lines)

2. THE ABBEY CHURCH OF KING EDWARD, THE CONFESSOR, AT WESTMINSTER, based on the research of Mr. Lawrence Tanner, C.V.O., F.S.A., and the late Sir Alfred Clapham, C.B.E., P.P.S.A., F.B.A.



Reproduced from "The Architectural History of Canterbury Cathedral," by the
Rev. Prof. R. Willis, M.A., F.R.S.

3. CANTERBURY CATHEDRAL: SECTION THROUGH CHOIR

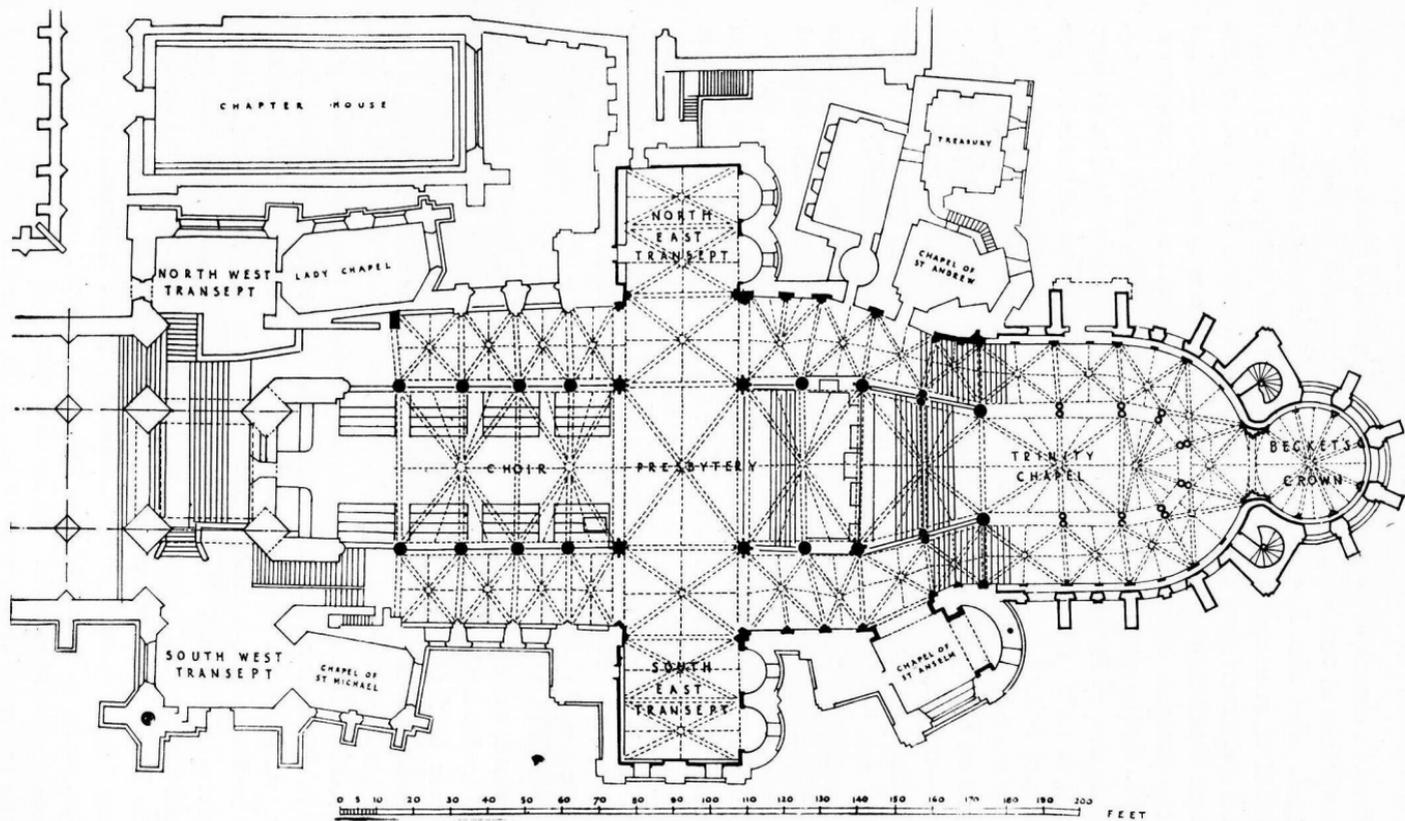
*The Choir of
William of Sens*

*The Choir of
Archbishop Lanfranc*

erection of a church of such magnitude in England, by building operatives so inexperienced and ill-equipped as those available on this side of the Channel, after the Roman occupation. Normally, progress in the evolution of structural methods in a country like Anglo-Saxon England was comparatively slow and the result of experiments. The rapid progress made at Westminster was due to personal influence, close family ties and the co-operation of fully qualified Norman workmen of experience.

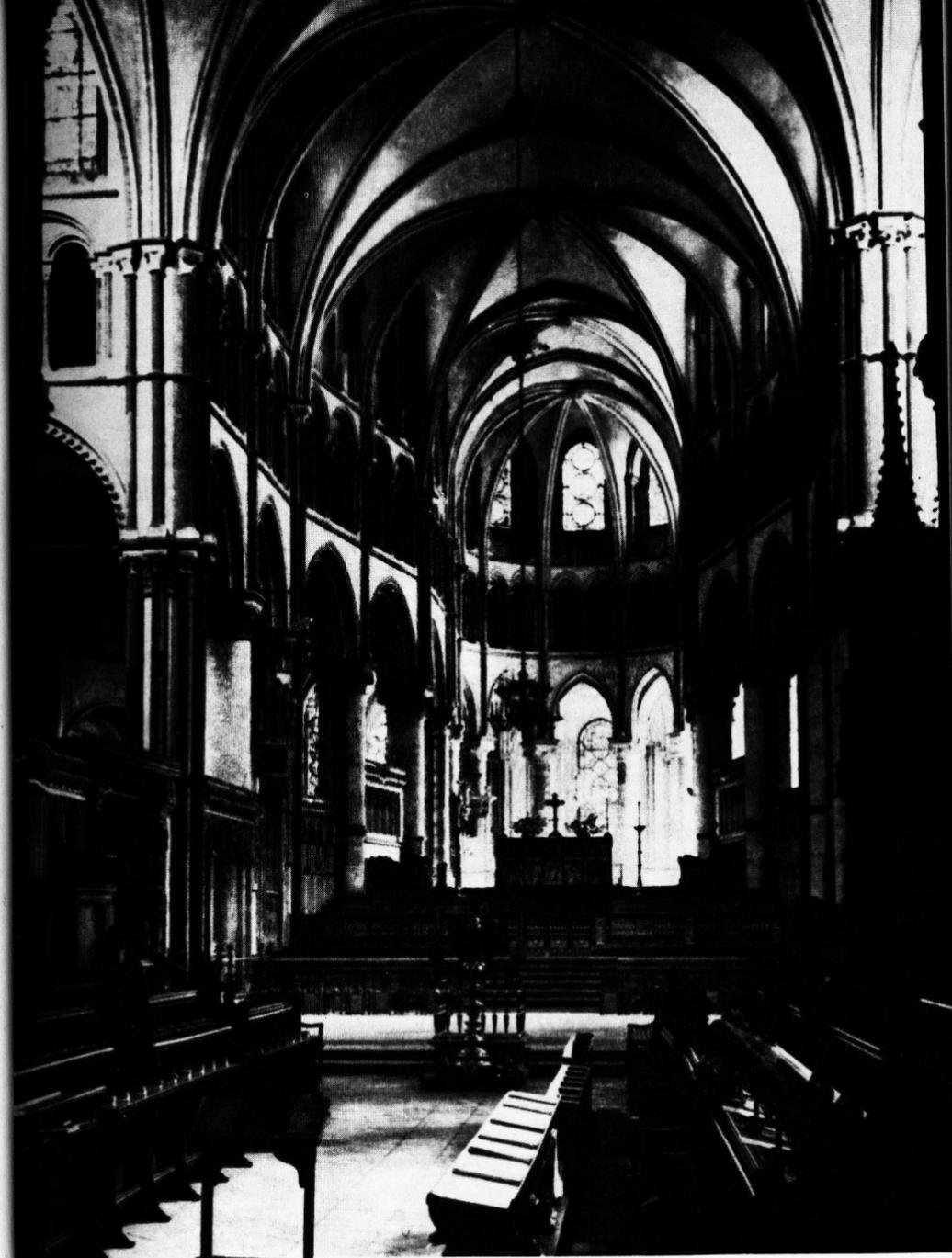
Edward was the elder son of Aethelred the Unready and Emma, the daughter of Robert the Fearless, Duke of Normandy, who were married in 1002. He was born at Islip in Oxfordshire, and attended the Monastery School at Ely Cathedral, where he learnt to sing psalms. In 1013 he was taken by his mother to the Court of her brother, Richard the Good, then Duke of Normandy, but in 1014 he and his younger brother, Alfred, were entrusted to the care of Alfhun, Bishop of London. It appears that Richard II, Duke of Normandy, received the title "the Good" because he was much influenced by the ideals of ecclesiastical reform, which had spread from Cluny in the tenth century and was a much more active patron of the monks than his ancestors had been. When Aethelred was elected by the witenagemot as King in the following year, the two boys were sent to Normandy to be educated. At this receptive stage in their lives, Edward and Alfred perfected their knowledge of French life and soon learnt to prefer the French language to Anglo-Saxon. Much of Edward's time was spent in the Abbey of Jumièges in association with ecclesiastics who did much to cultivate an outlook on life that he would not have gained in England, where he found his countrymen uncongenial and ill-informed.

Towards the close of King Canute's reign, Duke Robert was accompanied by Edward, when he sailed from Fécamp on his ill-fated attempt to invade England. Owing to the wind, the fleet was driven to Jersey and the expedition abandoned. It is recorded that in 1039, Edward and Alfred participated in an invasion, this time with a fleet of forty ships, and landed at Southampton, where they defeated the English with great loss. In Winchester, Edward stayed with his mother, who was living there. Alfred tried to reach London, but was seized by Earl Godwin, who handed him as a prisoner at Guildford to the Saxon King, Harold Harefoot (1035-1040). With a barbarity characteristic of the dark ages, Harold removed his eyes and treated him with such cruelty that he died. Queen Emma and Edward returned to the Continent. There the Queen obtained the protection of the Count of Flanders at Bruges and incited Harthacanute, a more bellicose son of her second marriage to King Canute, to invade England. An invasion with sixty ships followed, and a landing was made at Sandwich in June, 1040, after King Harold had died.



4. CANTERBURY CATHEDRAL: CHOIR

The work of William of Sens is indicated in black. The subsequent more easterly work around Trinity Chapel and Becket's Crown of William the Englishman is mass-lined in black



5. CANTERBURY CATHEDRAL: CHOIR

Harthacanute was offered the crown, but he, too, proved himself an unprincipled tyrant. Two years later, in June, 1042, he died. On April 3rd, 1043, Edward was crowned at Winchester by the Archbishop, supported by Alfric of York. He was then about forty years of age.

After the coronation, King Edward filled his Court with Normans, Flemings and Bretons, who anticipated honours and careers in England. He also sent gifts to Norman nobles and to others he granted yearly pensions. As time passed, their numbers increased, for Edward made them welcome, as he preferred their society to that of Anglo-Saxons and Danes, whom he found uncongenial and uncultured, even when comparatively affluent. As bishoprics were in the King's preferment, he appointed his friend, Robert, Abbot of Jumièges, Bishop of London in 1044. He also gave the see of Dorchester to one of his Norman chaplains in 1046. Before his coronation he made a vow of pilgrimage to Rome, but the witenagemot advised him not to leave the country. Accordingly, he sent an embassy to Rome to appeal to Pope Leo for absolution. This was granted on condition that he would give to the poor the money that a journey would have cost him and would build or restore a monastery in honour of St. Peter. This he undertook to do.

In 1051, Duke William of Normandy came to England with many of his followers to visit his cousin, King Edward. This was a memorable occasion, on which he was warmly welcomed and presented with gifts, that he appreciated. The Duke returned to Normandy with the impression that the King would do what he could to secure his succession. In the same year, the King commenced the rebuilding of the Benedictine monastery at Westminster in fulfilment of the charge laid upon him by Pope Leo. This task was completed in 1065. During the rest of his life he was engaged in expediting the erection of the abbey church. Presumably a considerable number of men were employed and some of these must have been Normans. The new church was said to have been erected a short distance away from the old Saxon building, so that the monks might be able to conduct services without interruption, whilst the new church was being built.

The design of the new church was based on that of the Church of the Abbey of Jumièges at Bayeux, where Odo, the brother of Duke William, had been appointed Bishop. In the Church at Jumièges, the Confessor had long taken a deep interest and he doubtless believed that no finer model for the church at Westminster could be found. In his book, *Westminster Abbey Re-examined*, Professor Lethaby recorded all that was known in 1925 regarding the Confessor's church. Although well-known authorities differed, it was generally agreed that the end of the building was terminated with an apse, without a chevet and ambulatory. As the

building at Jumièges was so remarkably like the one at Westminster, the professor considered that corresponding parts of the structure at Westminster might be inferred from those in the existing ruins at Jumièges. The internal length of the presbytery at Westminster, comprising two bays and the apse, was about 56 feet. The width of the bays was 17 feet 6 inches. At Jumièges the width of the nave, inclusive of the aisles, is about 66 feet 6 inches, and Dean Robinson gave the corresponding width of the Confessor's nave as 72 feet. The corresponding width of the present nave at Westminster is 71 feet 9 inches, or almost the same as that in the Confessor's church.

Like the other Romanesque churches afterwards erected in England, it doubtless had a flat timber ceiling, with painted decorations. Vaulted naves and choirs were not erected until after those at Durham Cathedral were commenced. It had been stated that the high vaults over the choir at Durham were not completed until 1104, but, as pointed ribs may be seen in the vaulting over the nave, this is presumably of a much later date than the vaulting over the choir.

The church was consecrated on Innocents' Day, December 28th, 1065, but the King was too ill to attend the magnificent ceremony and his place was taken by the Queen. On January 6th, 1066, he died in the adjacent palace. His remains were interred before the High Altar in the new church. On October 13th, 1163, his body was first translated by Archbishop Thomas of Canterbury, in the presence of King Henry II. At the coronation of King Henry III in 1236, the sword of Edward the Confessor was carried before the King by the Earl of Chester.

As the chroniclers have not recorded that the Romanesque church of King Harold at Waltham, dedicated in 1060, was exceptional in any way, it may be assumed that it did not rival that of the Confessor. Both King Edward and the Queen attended the Festival of the Invention of the Cross at Waltham on May 3rd, 1060, which was celebrated by the Archbishop of York. The Festival of the Invention of the Cross is held annually on May 3rd to commemorate the finding of the true Cross by Helena, the mother of Constantine the Great, the first Christian Emperor, in A.D. 326.

THE GROWTH OF ECCLESIASTICAL BUILDING UNDER THE NORMANS

It was mainly due to the interest of William, Duke of Normandy, his friend, Lanfranc of Pavia, the Prior of Bec, afterwards Archbishop of Canterbury, and Robert the Abbot of Jumièges, afterwards Bishop of London, that Edward the Confessor was enabled to erect the great Romanesque Abbey Church of Westminster, one of the largest Romanesque buildings then to be seen in Europe.

William was a son of Duke Robert II of Normandy and a half-brother of Odo, Bishop of Bayeux. He became Duke in 1035, after the death of his father on pilgrimage. As Duke of Normandy, he was a liege lord of the King of France. From his earliest years he must have been familiar with his cousin Edward, afterwards King of England, for the two had much in common. William was a man of iron, a great fighter, and Edward, a man reluctant to be involved in any war that could be avoided, but both had deep religious convictions. In those days, the Church of Rome contained both Cardinals who would not sanction slaughter and others like Pope Urban II, who proclaimed the First Crusade, and St. Bernard, Abbot of Clairvaux, who preached the second. Both the Confessor and the Conqueror were regular in their devotions, generous supporters of the Church and not men, like their successors, who often kept sees vacant in order to enrich their own personal treasuries, and who granted preferments to the highest bidders. Both Kings were conscientious in making no gain out of the Church. On the other hand, they endowed the Church and the monasteries with their worldly wealth. Simony, or the buying and selling of ecclesiastical preferments, was rife in the mediæval period and the Conqueror's son, Rufus, was one of the flagrant offenders, owing to the exactions of his unscrupulous treasurer, Ranulf Flambard, the rector of Godalming, who became Bishop of Durham.

Prior to Duke William's visit to England in 1051, it became known that he wished to marry his cousin, Matilda, a daughter of the Count of Flanders. Of such marriages the Church did not approve, and at the Council of Reims in 1049, the marriage was forbidden by Pope Leo IX, and the Duke incurred the risk of excommunication as a penalty if he should fail to comply. Amongst those who disapproved was William's friend, Lanfranc, then Prior of Bec, who objected to the wedding on the ground of consanguinity. As a result, the Prior fell into disgrace at Court; but, upon reflection after the marriage, Lanfranc reconsidered the matter more favourably and finally promised to confer with the Pope and advocate the Duke's cause. The appeal took place in 1059, when Pope Nicholas II granted a dispensation, six years after the marriage had been celebrated. The grant was subject to a condition that both the Duke and his wife should each build and endow a monastery. In obedience to the decree, the Abbaye aux Hommes or St. Étienne and the Abbaye aux Dames or La Trinité were founded at Caen in 1062, under the direction of the Duke.

Two years later, Harold, then Earl of Wessex, was shipwrecked on the coast of Ponthieu and handed over to the Duke of Normandy. Before he was allowed to return to England, he was required to swear that he would



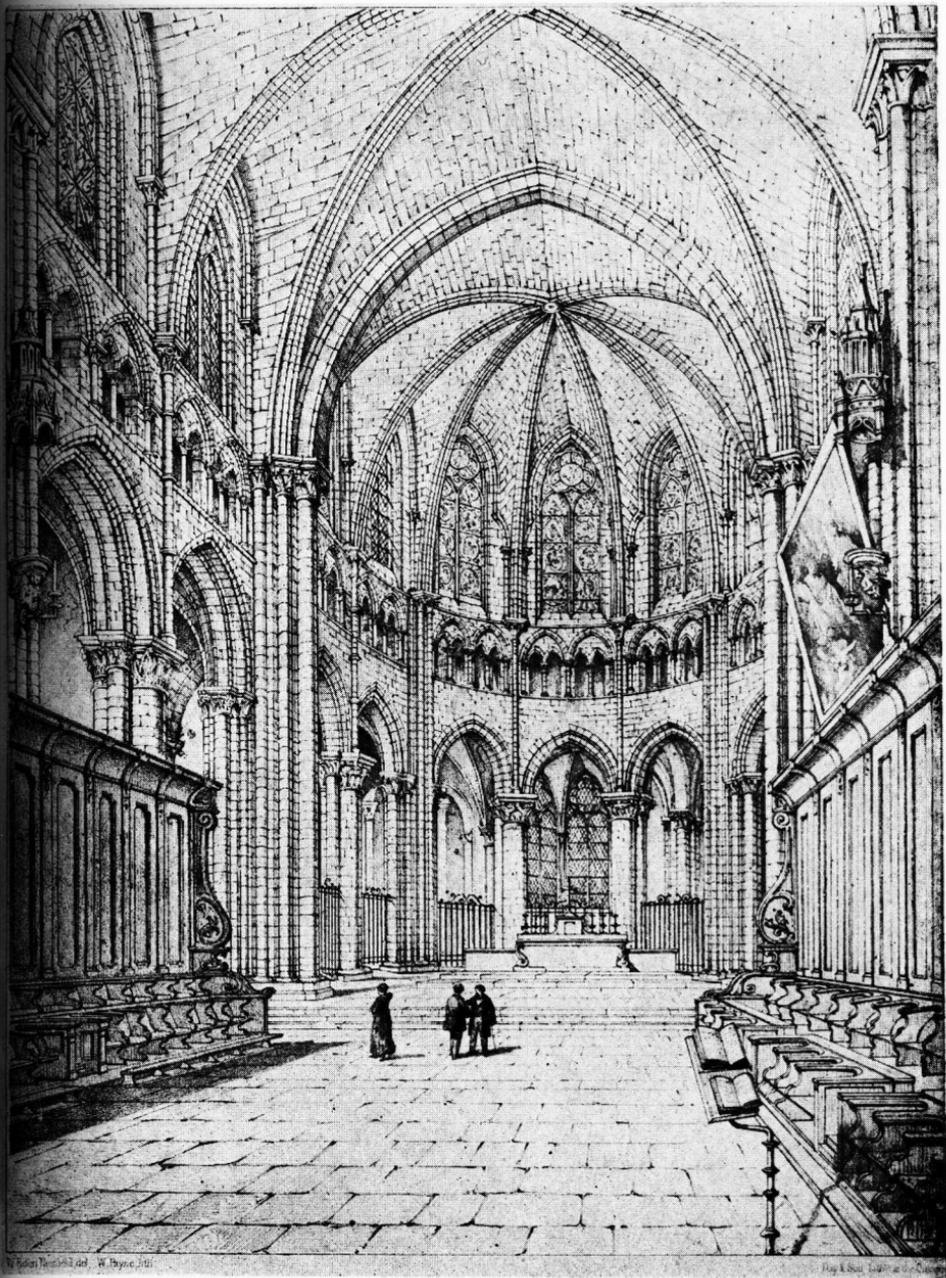
6. CANTERBURY CATHEDRAL: CHOIR

National Buildings Record



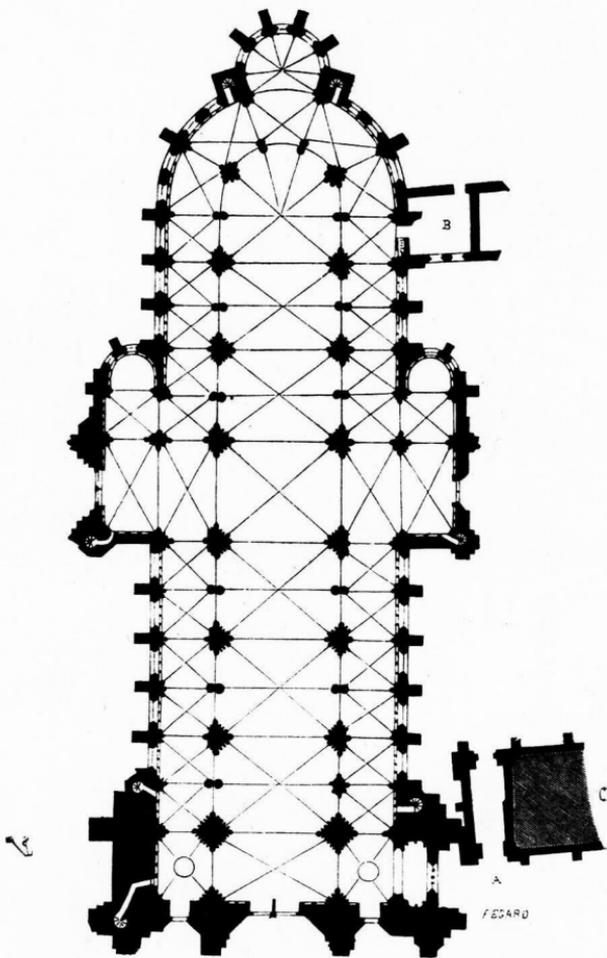
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7. SENS CATHEDRAL: CHOIR



Drawing by W. Eden Nesfield, Architect, from "Specimens of Mediaeval Architecture," published in 1862

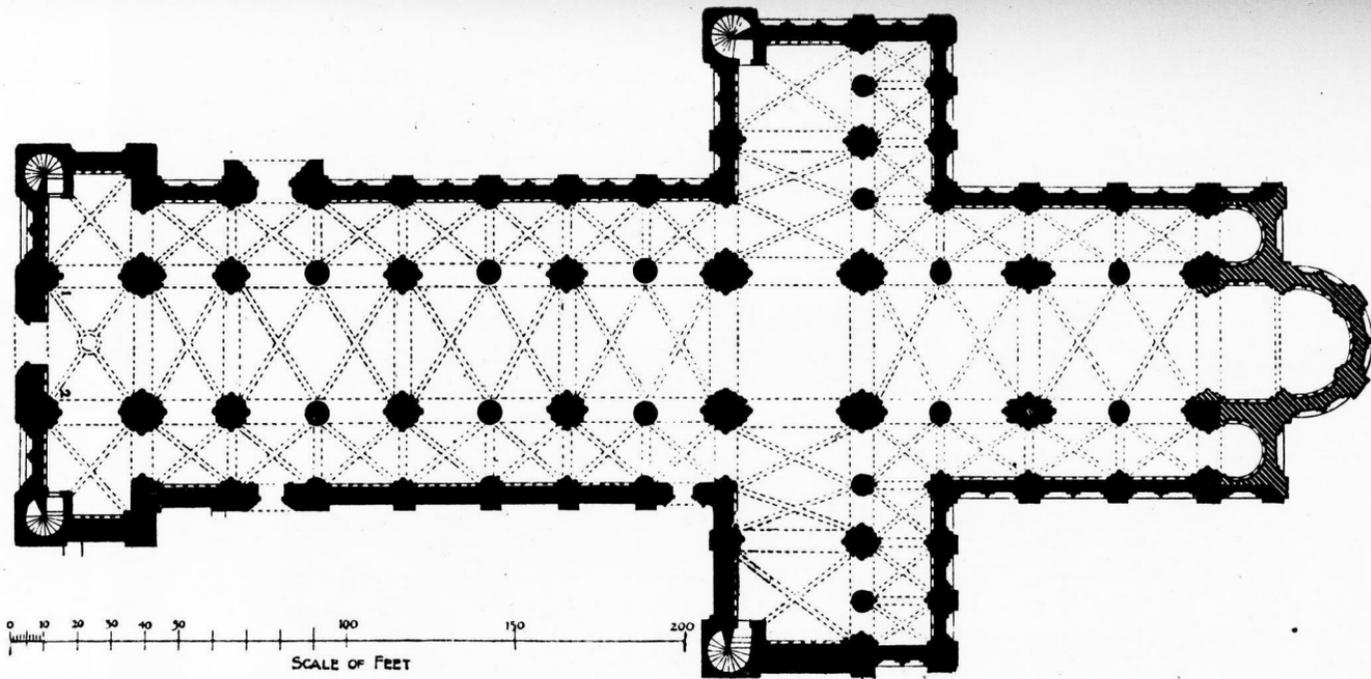
8. SENS CATHEDRAL: CHOIR



From "Dictionnaire de l'Architecture," by E. Viollet-le-Duc

9. SENS CATHEDRAL

Restored Original Ground Plan



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10. DURHAM CATHEDRAL: GROUND PLAN



National Buildings Record

II. DURHAM CATHEDRAL: NAVE

support the Duke's claim to the crown of England on the death of the Confessor. Possibly he may not have been aware that, when he took the oath, he was in the presence of relics revered by the Church. This incident is recorded on the Bayeux Tapestry.

The gratitude of William to Lanfranc for his diplomatic services in connection with the dispensation raised him more highly than ever in the Duke's esteem, and it is believed that, when the Duke heard of the coronation of Harold as King of England, he not only sent messengers to the newly elected King, demanding his allegiance, but also arranged for Lanfranc to assist during negotiations with Pope Alexander II, who was once a student in the Monastery School of Lanfranc at Bec. In response to the negotiations, the Pope sent his blessing, a ring with a relic of St. Peter and a consecrated banner, as tokens of approbation and to give the invasion the character of a Holy War or Crusade. A condition of the papal blessing was that William, if successful, would fulfil a vow to establish a monastic house in England. In consequence Battle Abbey was built.

After the Conquest, William as King of England sent Lanfranc to Rome as his representative. On August 15th, 1070, the King with the Pope's approval appointed Lanfranc Archbishop of Canterbury, and on the 29th he was consecrated by the Bishop of London, supported by eight other bishops. During the rest of his life, Lanfranc worked in full accord with the Conqueror in their efforts to strengthen the power of the papacy in England, subject to the presentation to offices in both Church and State being left in the discretion of the Crown. Regarding this condition, William remained as obstinate as in the matter of his marriage, even incurring once again the risk of excommunication, but Lanfranc, with diplomatic genius and profound interest in the Church, eventually convinced the Curia that the Conqueror would act with the utmost discretion. No doubt, William, too, believed that, with his intimate knowledge of local conditions and the counsels of Lanfranc, their combined judgment would be more reliable than that of the Curia. This would presumably be one of the matters discussed when Lanfranc went to Rome in 1071 to receive his pallium from the Pope.

Whilst William was engaged considering the civil and economic problems of the country, Lanfranc was solving those relating to administration of the Church. He had a very poor opinion of most Anglo-Saxon churchmen and regarded them as woefully ignorant. By means of synods, he contrived to depose those who did not impress him favourably. Only two Anglo-Saxon bishops held their sees when he came to England, and only one was retained by the Crown—Wolfstan, Bishop of Worcester. The monasteries were regarded as the strongholds of national aspirations

and to cope with this danger he appointed Norman superiors. In such an atmosphere there was little scope for any display of initiative in structural work by Anglo-Saxon Master Masons, if in fact there were any with experience, beyond those trained on the Confessor's abbey church at Westminster.

Whilst Lanfranc was reforming the Church, the King had other problems to consider. Although he enlisted local levies in his English Army he treated the wealthy Saxon landowners with suspicion and seized almost all the best land except that belonging to the Church and the monasteries. This land was distributed amongst his Norman followers, but he retained more Crown lands for his own use than any English king had ever possessed. Hunting in the deer forest was one of his favourite forms of recreation.

With the help of the Domesday Survey, he was able to tax the manors to the utmost practicable extent. The nature of the procedure in connection with the redistribution of confiscated estates can be inferred from the case of Cheshire, where almost the entire area was allotted to Hugh Lupus, Viscount of Avranches, but the income was only £200 per year.

In 1067, the Anglo-Saxon cathedral church at Canterbury was destroyed by fire, but in the short space of seven years it was rebuilt in the Romanesque style, like the buildings in Normandy. In this task, Lanfranc was probably assisted by his friend, Gundulf, who had been appointed to the neighbouring see of Rochester. Gundulf was one of the distinguished scholars trained by Lanfranc in the Monastery School at Bec, and was also an architect. Lanfranc's students included Ernost, former Bishop of Rochester, Guitmund, Bishop of Avranches, William de Bona Anima, Archbishop of Rouen, and Anselm of Badagio, afterwards Pope Alexander II. The new cathedral at Canterbury was cruciform with two western towers, a central lantern and a nave with eight bays. At this time the choirs and naves of cathedrals were not vaulted and had flat ceilings, which were painted with decorative designs. The presbytery was terminated with a semi-circular apse, without a chevet and ambulatory. A detailed description of the church and its equipment was included in the Chronicle of Gervase, the monk of Canterbury. In some respects it resembled the Confessor's abbey church at Westminster. Its length internally, including the two towers, was about 285 feet. The length internally of the nave, exclusive of the two western towers, was about 165 feet. The timber ceiling at Canterbury was about 63 feet above the floor level of the nave. The height of the flat ceiling of St. Étienne at Caen was about 70 feet above the pavement. In other respects both buildings appear to have been remarkably alike.

It is highly probable owing to the intimacy and friendship of the Archbishop and Bishop Gundulf, that the Bishop, in his capacity as architect, was frequently consulted regarding some of the important ecclesiastical buildings then in course of erection. He was evidently a man of wide experience. In his early days he was employed as a clerk on the secretarial staff of Rouen Cathedral. Then he made the acquaintance of William, who became second Abbot of St. Étienne at Caen and Archbishop of Rouen, in the days before they took the vow to enter religious life, and when they were both on pilgrimage to the Holy Land. Afterwards he met Lanfranc and Anselm and won their profound regard. Lanfranc found him an excellent man of business and brought him to Canterbury, where he was given an appointment at the cathedral. Then, with the King's approval, he appointed Gundulf Bishop of Rochester in March, 1077, in order to have him as a neighbour. One of his first duties was to rebuild the old Anglo-Saxon Church of Rochester, which had become ruinous. When the choir was completed he translated the relics of Paulinus to a new shrine and provided conventual buildings for sixty monks. Previously the cathedral had only five remaining English secular canons. Gundulf also designed and erected Rochester Castle and a considerable part of the Tower of London, including the White Tower, and other buildings. Probably at no time in the history of the Church was there greater activity in erection of cathedrals and monasteries than there was during the reign of the Conqueror. In all cases ecclesiastical appointments were in the patronage of the Crown and in all instances Archbishop Lanfranc was consulted. The action of the King was probably due in most cases to the recommendation of the Archbishop.

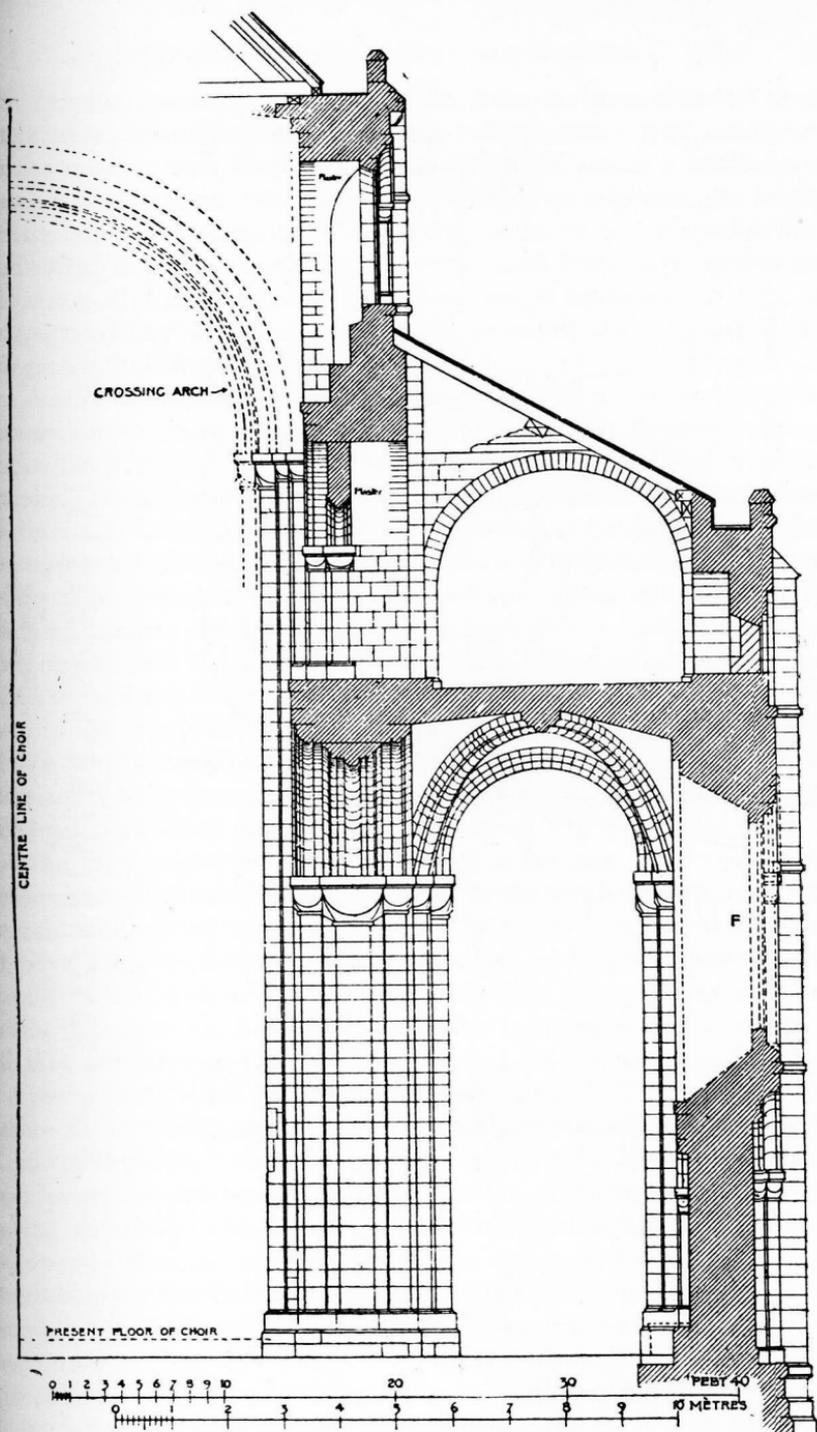
In 1070, the year in which Lanfranc was appointed, the erection of Canterbury Cathedral and of Battle Abbey was commenced. The building of the Romanesque Cathedral of Lincoln followed in 1072 and that of Old Sarum in 1075. In 1077, Abbot Paul of Caen, a kinsman of Lanfranc, commenced the erection of the Benedictine Abbey Church, now the Cathedral of St. Albans, and in the same year Bishop Gundulf began to build Rochester Cathedral. In 1079, Bishop Walkelin, a relative of the Conqueror erected the great Norman Cathedral of Winchester. This and London Cathedral were the largest ecclesiastical buildings in the country. The work of the Cathedral of London was commenced by Bishop Maurice in 1087, the year in which the Conqueror died. Before his death Ely Cathedral was commenced in 1081 and Worcester Cathedral in 1084.

Abbot Paul was an altogether exceptional man. He had been a member of the convent of St. Étienne at Caen, of which Lanfranc was Abbot in 1066. His first task on becoming Abbot of St. Albans was to

rebuild the monastery and its church. In doing this he had stone and brick quarried from the extensive Roman remains of Verulamium. As these were regarded as the work of pagans, they possessed no sentimental interest to the Normans. Towards the cost of rebuilding, Lanfranc contributed a thousand marks. Profiting by the example of the Archbishop, when he was at Bec, Abbot Paul made the monastery a School of Learning, and both rebuilt and endowed the scriptorium, in order that books might be copied by competent scribes and illuminators. To the Abbey he presented relics, vestments, ornaments and twenty-eight precious volumes, in addition to psalters and other service books.

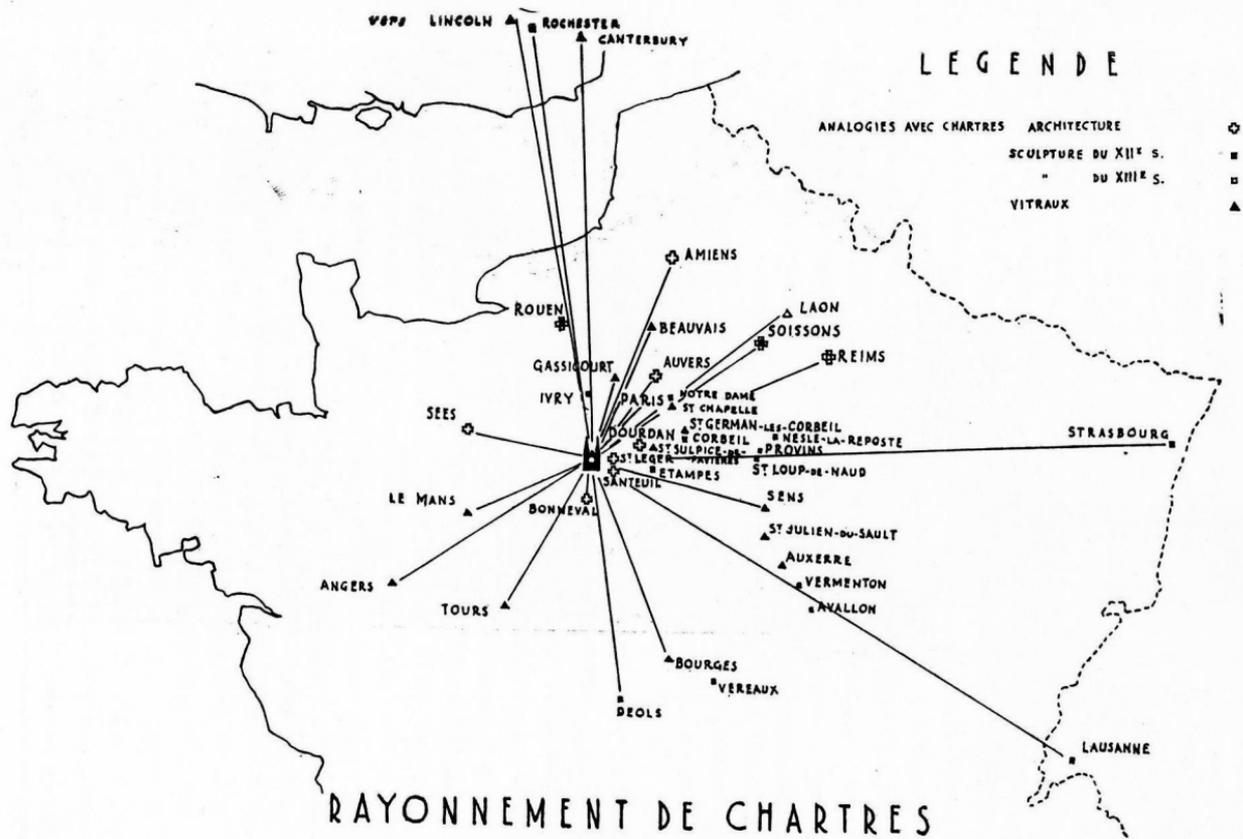
Like the Archbishop, he had a poor opinion of Anglo-Saxon monks and showed his disregard by destroying the tombs of his predecessors. According to Matthew Paris, the chronicler, he even neglected to translate the remains of Offa, the King of Mercia, who founded the Abbey. Nevertheless, he accepted the gift of bells for the great tower, provided by Lyulf, an Englishman and his wife, who sold some of their flocks in order to provide the money. Perhaps this incident may have convinced him that some Anglo-Saxons could be generous in religious causes and had learnt not to harbour racial resentment, regardless of the disdain of both their Archbishop and Abbot.

Walkelin, the Bishop of Winchester, began life as one of the King's clerks, but being a kinsman the Conqueror appointed him to the see. Like the King, he was a determined man, who knew how to achieve his object, the erection of a cathedral worthy of the ancient capital of England, of which his Majesty would be proud. After the manner of the other Romanesque churches erected at the same time, it had a flat timber ceiling, but, in this case, the church had abnormal length. From the inside of the Norman apse formed by the ambulatory, around the chevet, there is a length of about 425 feet to the inside of the present west front, and if the length is increased by the inclusion of the Norman Lady Chapel, the measurement is over 50 feet longer. The north and south transepts and the crypt are the main visible remnants of the great building that Walkelin planned. Norman church architecture of the type used at Winchester, St. Albans and elsewhere was little removed from that of some of the buildings designed for purely military purposes. As a lesson in architectural design it is well to compare the effect of the standard Norman treatment with that obtained in later years in the same nave and choir, where William of Wykeham removed the triforium storey and incorporated the void in the nave and choir arcades. The effect of increased height was most impressive to spectators on the pavement, as the architects of France discovered when the pointed arch came into general use afterwards. Compared to the lighter structural members of Wykeham's design,



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12. DURHAM CATHEDRAL: SECTION THROUGH CHOIR



the massive, gaunt masonry of the Norman builders, although most impressive, lacked the charm we find in Wykeham's work, and even in the more massive work at Durham Cathedral, where a treatment in smaller scale has been introduced, as a foil, to give contrast. The beauty of the style we proudly but incorrectly describe as "Early English" had not then been designed by the architects of France, and neither the bishops nor their Master Masons realised how mere structures could be proportioned so as to convey an impression of the superb grandeur that we find in buildings of a later period.

According to the chronicles, the Bishop used his persuasive powers to enable him to obtain from the Conqueror timber for the new building and asked if he might take from Hempage Wood, three miles from Winchester, as much timber as the woodmen could fell in three days and three nights. The King consented to what appeared to be such a reasonable request, but the Bishop, overwhelmed with zeal, employed as many tree-fellers as he could hire. The men, proud of their efficiency and having no trade restrictions, complied with his request, and at the end of three days and nights, the Wood had ceased to exist. With deep humility the Bishop implored the King for forgiveness and enquired whether as a penalty the King would demote him to the office he formerly held as one of his Majesty's clerks. This absolute penitence appealed to the irate William, who forgave him with the words, "Indeed, Walkelin, I am too prodigal a giver and you too greedy a receiver".

The only serious trouble of the King in his later years was due to determination of his eldest son, Robert Curthose, either to extort a more generous allowance or to succeed his father as Duke of Normandy. "I have not", he declared, "even the means of giving largesse to my vassals. I have had enough of being in thy pay. I am determined now at length to enter into my inheritance, so that I may reward my followers". He then asked for the Duchy of Normandy to be transferred to him, as a fief under the Crown. When this request was refused, he gathered together all the discontented barons, organised a revolt and withdrew to his Castle of Gerberoy, near Beauvais. In order to subdue him a whole army was levied and the support of Philip I, King of France, obtained; but during an engagement in January, 1079, the fighting was so fierce and unexpected that the besieging force was defeated. One sally was so overwhelming that the King was unhorsed and narrowly escaped capture. In addition, William Rufus, the second son, was wounded as he endeavoured to support his father. As a result of this engagement the King agreed to leave Normandy to Robert on his death and peace was restored.

In 1086, Queen Matilda died, and in the following year William invaded the French Vexin. Whilst watching the burning of Mantes he

was thrown from his horse and seriously injured. As a casualty he was carried into Rouen, where he died on September 9th. Shortly before death he sent a sealed letter to Archbishop Lanfranc, expressing his wish that William, his second son, should succeed him as King of England. His remains were conveyed to Caen, his favourite residence, and interred in the Church of St. Étienne, in the Abbaye aux Hommes, of which he was the founder.

Although Robert Curthose succeeded to the Duchy of Normandy on the death of William the Conqueror, on September 9th, 1087, the barons in Normandy rose and besieged the ducal castles, in co-operation with his younger brother, William Rufus, who had become King of England. In this way an era of incessant civil war was resumed.

One of the chief aims of Rufus was the recovery for the English Crown of the Duchy of Normandy, but the possession by influential English barons of extensive estates in Normandy proved an embarrassment, as there was an element of disloyalty at home. In 1088, the Earl of Kent, Bishop Odo of Bayeux, who was also the uncle of Rufus, was ambitious to assert himself as the national leader and adviser of the King in England. Accordingly he organised a rebellion, nominally in favour of Duke Robert of Normandy. For a time he appeared to command extensive support, but Archbishop Lanfranc and all the prelates of the Church, with the solitary exception of William of St. Carilef, Bishop of Durham, stood by the King. Lanfranc had been the unfailing friend of the Conqueror and, knowing his last wishes, resolved to remain loyal to the end. With the help of a large part of the baronage of England, all the rebel castles were soon captured and Bishop Odo was obliged to withdraw to Normandy.

In the following year, Archbishop Lanfranc died. Before the coronation of Rufus, the Archbishop insisted upon obtaining from him a promise that he would in all things be led by his counsel, but the King, with his characteristic unreliability, did not keep his promise and merely became angry when reminded. In all probability, Lanfranc felt little reluctance to oppose the futile rebellion of Bishop Odo, as the bishop had been his implacable enemy. The animosity of Bishop Odo was probably due to resentment caused by the Conqueror's reliance upon the judgment and subtlety of Lanfranc, the Italian lawyer who became Archbishop.

Immediately after losing the influence of Lanfranc there was a great change for the worse in the conduct of the King. In place of Lanfranc, he took as his adviser Ranulf Flambard, the rector of Godalming, who became his chief minister. Flambard had been one of the royal chaplains, and had impressed Rufus by his skill in devising ways of raising money. One of his recommendations was to postpone filling the vacant see of

Canterbury and to take the revenue for his own use. Soon this method of procedure became a regular practice in the case of all preferments in the royal grant, unless some wealthy churchman felt disposed to purchase a benefice. In fact, in addition to the vacancy at Canterbury, the King became responsible for others in the bishoprics of Winchester and Salisbury, and in eleven abbacies.

In 1093, Rufus became very seriously ill. Fearing that this illness might be a divine judgment and that he might not recover, he decided to offer the Archbishopric of Canterbury to Anselm of Aosta, afterwards St. Anselm, the successor of Lanfranc as Abbot of Bec. Most likely this was the course of action recommended by Lanfranc, shortly before he died, and subsequently ignored. After the King's recovery, Gundulf, Bishop of Rochester, who knew him well, expressed the hope that his illness might prove a timely warning and that in future he would live a reformed life, but the King's only response was to utter one of his awful oaths.

Instead of openly continuing the campaign against his elder brother Robert in Caen, Rufus offered to assist him in recovering Maine from their younger brother Henry, afterwards King Henry I of England, on condition that Robert would cede to him Cherbourg, Mont St. Michel, and some other rights attaching to the Duchy of Normandy. Robert agreed, the two brothers advanced against Henry and divided the spoil. Afterwards, from his new bases, Rufus attacked Robert again. Then in 1095 he opened negotiations with their brother Henry. These, however, proved unnecessary, for in 1096 Robert accepted the call of Pope Urban II for volunteers to deliver the Holy Sepulchre from the infidels. In order to raise enough money to equip and maintain adequate forces in the field, he mortgaged the Duchy of Normandy to Rufus for 10,000 marks. With the help of grants from ecclesiastical sources Rufus soon found the money, doubtless hoping that Robert might never be able to refund the loan. So Robert and his forces went to the Middle East, via Constantinople, accompanied by his uncle, Odo, Bishop of Bayeux, his brother-in-law, Stephen, Count of Blois, and his cousin, Robert II, Count of Flanders. Particulars of their activities are recorded in *A History of the Crusades* by Steven Runciman.

Amongst the most important ecclesiastical buildings commenced during the reign of Rufus was Gloucester Cathedral, begun in 1089. This building was the abbey church of a Benedictine monastery and the erection of the Romanesque structure was commenced by Serlo, the Norman abbot, a former canon of the Church of Avranches and afterwards a monk of the Church of Mont St. Michel. In August, 1089, the year of the foundation of the Norman building and of the death of

Archbishop Lanfranc, there was a memorable earthquake that affected the entire country and did serious damage to the earlier buildings. Eleven years later, in 1100, the abbey church was completed and King William Rufus died. Regarding the dedication of the new building, Florence of Worcester wrote: "The church which Abbot Serlo, of revered memory, had built from the foundations at Gloucester, was dedicated (on Sunday, July 15th) with great pomp by Samson, Bishop of Worcester, Gundulf, Bishop of Rochester, Gerard, Bishop of Hereford, and Herveas, Bishop of Bangor".

Chichester Cathedral was commenced in 1091, and the Benedictine Abbey Church of Chester, now the Cathedral, in the following year. The work at Durham Cathedral was begun in 1093, and in 1099 Flambard commenced the erection of the Church of Christchurch Priory in Hampshire. The finest of these buildings was the majestic cathedral at Durham, the most impressive structure of the Romanesque period in England. In addition to its intrinsic merit, its situation and grouping on the hill surrounded by the River Wear are superb, both from a scenic point of view and as a fortified site for the Bishop's castle.

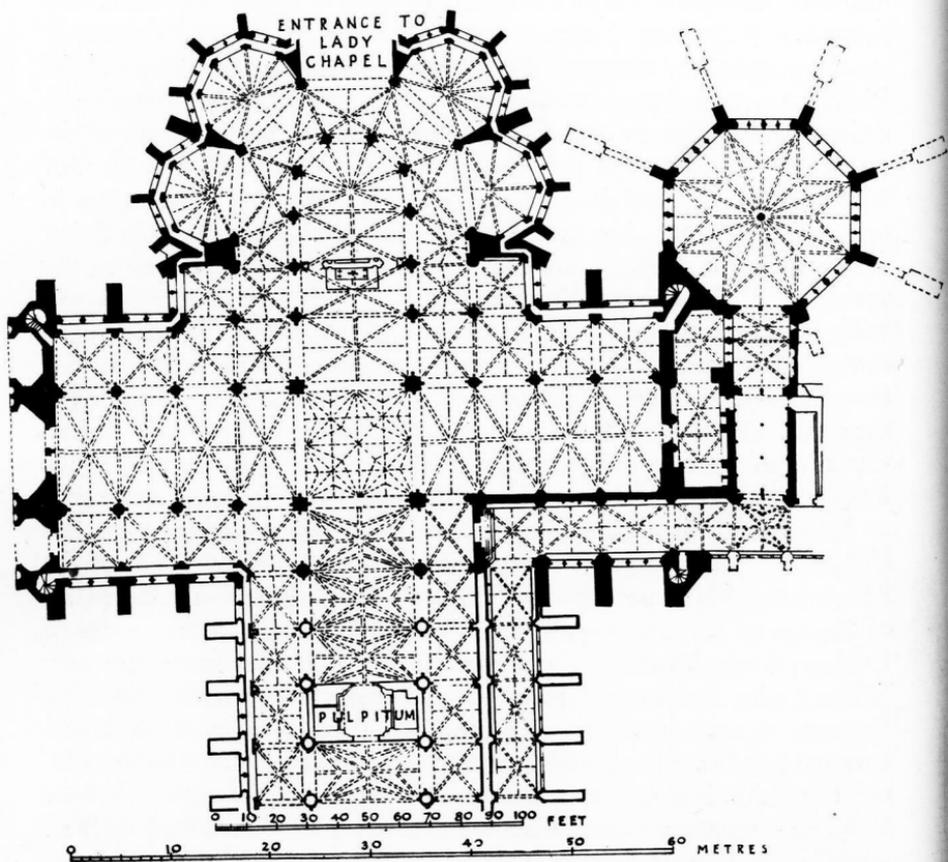
It is surprising to find that owing to the rebellion in 1088 of Bishop Odo of Bayeux, Durham Cathedral came to be designed as we see it today. This was due to designs having been brought from Normandy by the rebel Bishop, William of Saint Carilef. Most of the leaders in the rebellion were treated with leniency, but Rufus made an exception in the case of the Bishop. Bishop William had been Prior of the monastery of St. Carilef, near St. Calais, in the county of Maine. Then he became Abbot of the neighbouring monastery of St. Vincent, where he attracted the attention of William the Conqueror, who appointed him Bishop of Durham. After his accession to the throne, William Rufus made the Bishop his chief minister and entrusted him with the administration of public affairs. The confidence placed in Bishop William further aggravated the indignation and discontent of Bishop Odo, who expected similar recognition. This disappointment induced Bishop Odo to join the rebels, but there must have been general amazement when it was learnt that Bishop William had deserted Rufus in order to support his disloyal uncle. The *Anglo-Saxon Chronicle* recorded that he was "doing as Judas did to our Lord".

The King ordered his immediate arrest and a State prosecution seemed inevitable. The Bishop avoided arrest and replied from Durham, stating that he would go to the King if provided with a sufficient and safe escort, but added that not every man was qualified to judge a bishop. After two months, the rebellion was suppressed and Archbishop Lanfranc was authorised to advise the King regarding the prosecution. The Bishop

adroitly endeavoured to cause delay, pleaded privilege and offered to purge himself of treason by his personal oath. The King insisted that the Bishop should be tried as a layman. Artfully Carilef endeavoured to negotiate about the terms on which he should appear and about the possession of Durham Castle.

On November 2nd, 1088, the witenagemot met at Salisbury and the Bishop was called upon to defend himself. With all his dexterity he endeavoured to invent pretexts for preventing the consideration of the real issues. Particulars of the proceedings were recorded by William of Malmesbury in *Gesta Pontificum*. Lanfranc was the chief speaker in opposing his claims, but the Bishop declined to admit the jurisdiction of the Court in the case of a bishop and threatened to appeal to the apostolic see. Finally the King declared, "I will have your castle as you will not follow the justice of my Court". Finally it was agreed that the castle should be held by three barons, pending the trial, and that, if found guilty, he should be at liberty to go abroad, after surrendering the castle. Durham Castle was taken on November 14th, and the Bishop was allowed to sail to Normandy, where he was welcomed by Duke Robert and given the chief appointment in the administration of the duchy.

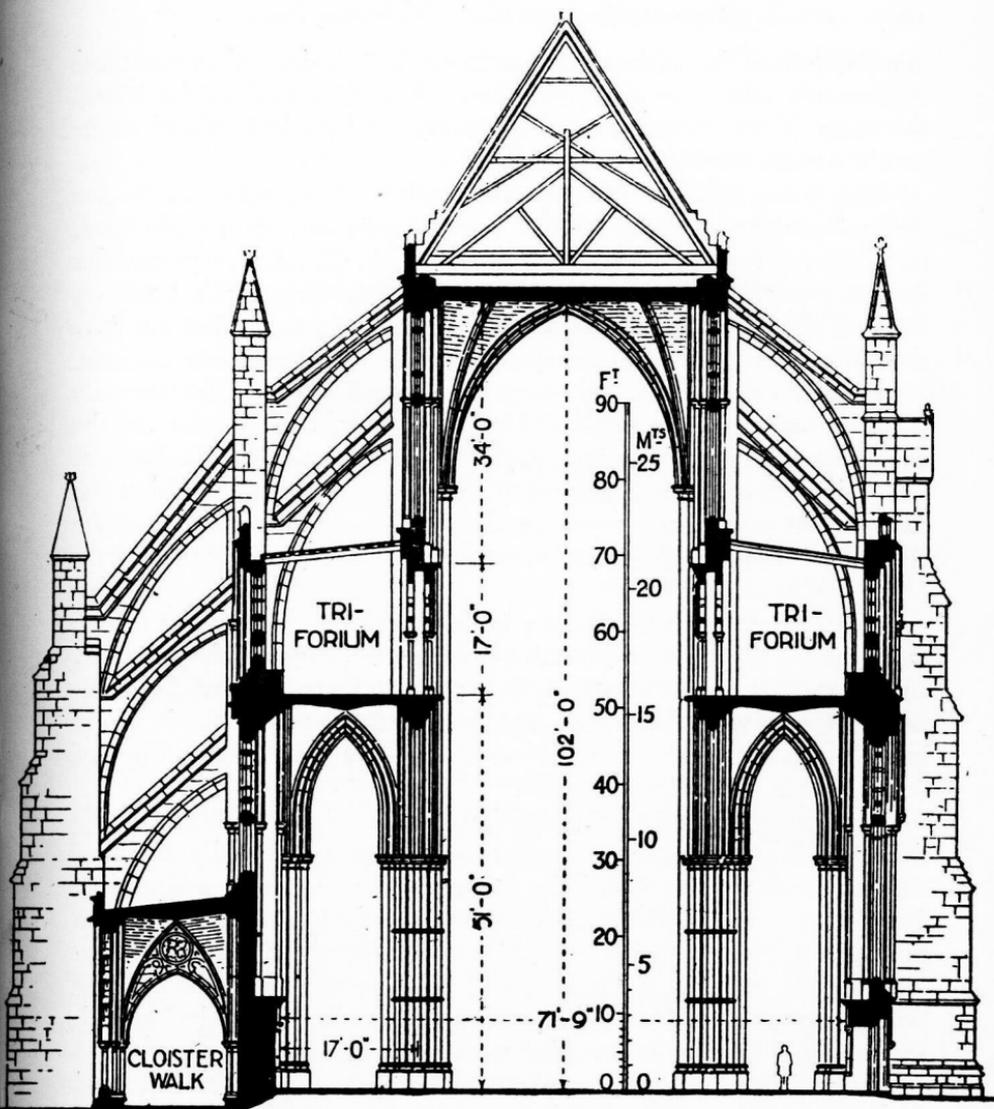
Nevertheless, the Bishop longed to return to England and to ingratiate himself with the King. With this object he rescued a garrison of the King's levies who were besieged in a castle. According to the Chronicle of Simeon of Durham he also wrote a letter of advice to the monks of Durham during his absence, which he ordered to be read once each week. When Duke Robert and King Rufus became reconciled, before the Duke mortgaged the duchy, the Bishop was restored to favour again and permitted to bring back with him to Durham vessels and vestments for the church and most important of all designs for the new cathedral. Building operations were started without delay and carried on with all possible expedition at the expense of Bishop Carilef. The foundation stone was laid on August 11th, 1093. The Bishop died at Windsor on January 2nd, 1096, but, during the two and a half years that had elapsed since the consecration, remarkable progress had been made. The choir had been completed and the nave commenced before he died. After his death, the rest of the nave was completed in accordance with the original design. This was an exceptional achievement, as the high-ribbed vault over the choir was the first erected in either England or France. In all probability, this work could not have been done without the assistance of an experienced Master Mason from Normandy. Owing to the reconciliation of the two brothers, assistance of this kind could doubtless be arranged without any difficulty. It is interesting to think that this experiment was carried out in England without any mishap. This was a very different



14. WESTMINSTER ABBEY

Plan of Choir

The extent of the work supervised by the King's Master Mason, Henry de Reynolds, is indicated in black



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 From the "History of Architecture," by Prof. Sir Banister Fletcher, D.Lit., P.P.R.I.B.A., F.S.A.

15. WESTMINSTER ABBEY
 Section through Nave

The height to the crown of the vaulting is about 100 feet

experience from that of the masons at Beauvais Cathedral, when structural experiments took place some years later. According to Dr. John Bilson the vaults of the choir aisles date from 1096 and the high-ribbed vaults over the choir were erected in 1104.

The results of Dr. Bilson's investigation were published in the *Archaeological Journal* (Vol. XXIX, Second Series, pp. 101-160) in 1922. In February, 1932, ten years later, Prof. R. A. Cordingley prepared a further report, which was published in Canon Greenwell's book on Durham Cathedral. In this report the professor wrote: "Here we have the earliest type of stone-ribbed vault. The vault compartments are long, narrow rectangles, spanned by segmental diagonal ribs and approximately semi-circular transverse arches. This pronounced oblong plan of the vault compartments results in a very oblique intersection of the diagonal ribs and the keystone is consequently a pronounced lozenge joined to the adjacent ribs in a primitive way by almost triangular shaped stones. The cells are of stone rubble, plastered on the under-side, supported directly on the backs of the ribs.

"After Carilef's death the responsibility for the continuance of the work and for the provision of funds would, in the vacancy of the bishopric, automatically pass to the monks. It is possible, therefore, that from this time resources were diminished, and that at certain periods funds would be so low as to necessitate consideration of cheaper and simpler forms of building than originally intended".

Fortunately, the translation of the remains of St. Cuthbert to the shrine in the apse was such a notable event that it renewed enthusiasm and presumably strengthened the financial position, for in a period of forty years (1093-1133) the entire Norman cathedral from the apse to the western towers is stated to have been completed. If this completion included the vaulting of the nave and the construction of the existing pointed transverse arches of the vaulting, the credit of introducing such arches would have to be accorded to the Cathedral of Durham and not to that of Canterbury, as most people believe. It is, however, admitted that some portions of the building at Durham received a wooden roof as a temporary measure. If there should be any lack of evidence that the use of pointed transverse arches in the vaulting at Durham preceded the use at Canterbury by William of Sens, it would probably be better to let Canterbury retain the laurels, as it can produce indisputable documentary and visual proof.

THE EVOLUTION OF ECCLESIASTICAL ARCHITECTURE

There is probably no more circumstantial evidence of the way in which a French Master Mason endeavoured to assist craftsmen in England

than that preserved in the Chronicle of Gervase, a monk of Christ Church, Canterbury. It is assumed that he was born about 1141. The events of his narrative occurred in 1174, so he would be over thirty years of age at the time. It is known that he did not begin writing his Chronicle until 1185, so he would be writing from recollection about incidents that happened eleven years earlier, but which would still be comparatively fresh in his mind.

This record is of so much interest that it is best to record some extracts from it. As it was written in the mediaeval Latin of the Church, the best course is to reprint some extracts from the translation made by the Rev. R. Willis, the Jacksonian Professor at Cambridge in 1845. The extracts relate to the destruction of Archbishop Lanfranc's cathedral by fire; owing to its inflammable timber roof, and the erection of the present vaulted choir, in accordance with the designs of William of Sens, a well-known elderly French architect, who had completed the work at the Cathedral of Sens for the French Archbishop. The fire began on September 5th, 1174.

EXTRACT FROM THE CHRONICLE OF BROTHER GERVASE
AS TRANSLATED BY PROFESSOR WILLIS

The Conflagration

"In the year of grace one thousand, one hundred and seventy-four, by the just but occult judgment of God, the church of Christ at Canterbury was consumed by fire, in the forty-fourth year from its dedication, that glorious choir, to wit, which had been so magnificently completed by the care and industry of Prior Conrad.

"Now the manner of the burning and repair was as follows:

"In the aforesaid year, on the nones of September, at about the ninth hour, and during an extraordinarily violent south wind, a fire broke out before the gate of the church, and outside the walls of the monastery, by which three cottages were half destroyed. From thence, while the citizens were assembling and subduing the fire, cinders and sparks carried aloft by the high wind, were deposited upon the church, and being driven by the fury of the wind between the joints of the lead, remained there amongst the half-rotten planks, and shortly glowing with increasing heat, set fire to the rotten rafters; from these the fire was communicated to the larger beams and their braces, no one yet perceiving or helping. For the well-painted ceiling below, and the sheet-lead covering above, concealed between them the fire that had arisen within.

"Meantime the three cottages, whence the mischief had arisen, being destroyed, and the popular excitement having subsided, everybody went home again, while the neglected church was consuming with internal fire unknown to all. But beams and braces burning, the flames rose to the slopes of the roof; and the sheets of lead yielded to the increasing heat and began to melt. Thus the raging wind, finding a freer entrance, increased the fury of the fire; and the flames beginning to shew themselves, a cry arose in the church-yard: 'See! see! the church is on fire'.

"Then the people and the monks assemble in haste, they draw water, they brandish their hatchets, they run up the stairs, full of eagerness to save the church, already, alas! beyond their help. But when they reach the roof and perceive the black smoke and scorching flames that pervade it throughout, they abandon the attempt in despair, and thinking only of their own safety, make all haste to descend.

"And now that the fire had loosened the beams from the pegs that bound them together, the half-burnt timbers fell into the choir below upon the seats of the monks; the seats, consisting of a great mass of woodwork, caught fire, and thus the mischief grew worse and worse. And it was marvellous, though sad, to behold how that glorious choir itself fed and assisted the fire that was destroying it. For the flames multiplied by this mass of timber, and extending upwards full fifteen cubits,¹ scorched and burst the walls, and more especially injured the columns of the church.

"And now the people ran to the ornaments of the church, and began to tear down the pallia and curtains, some that they might save, but some to steal them. The reliquary chests were thrown down from the high beam and thus broken, and their contents scattered; but the monks collected them and carefully preserved them from the fire. Some there were, who, inflamed with a wicked and diabolical cupidity, feared not to appropriate to themselves the things of the church, which they had saved from the fire.

"In this manner the house of God, hitherto delightful as a paradise of pleasures, was now made a despicable heap of ashes, reduced to a dreary wilderness, and laid open to all the injuries of the weather.

"The people were astonished that the Almighty should suffer such things, and maddened with excess of grief and perplexity, they tore their hair and beat the walls and pavement of the church with their heads and hands, blaspheming the Lord and His saints, the patrons of the church; and many, both of laity and monks, would rather have laid down their lives than that the church should have so miserably perished.

"For not only was the choir consumed in the fire, but also the infirmary, with the chapel of St. Mary, and several other offices in the court; moreover many ornaments and goods of the church were reduced to ashes.

The Operations of the First Year

"Bethink thee now what mighty grief oppressed the hearts of the sons of the Church under this great tribulation; I verily believe the afflictions of Canterbury were no less than those of Jerusalem of old, and their wailings were as the lamentations of Jeremiah; neither can mind conceive, or words express, or writing teach, their grief and anguish. Truly that they might alleviate their miseries with a little consolation, they put together as well as they could, an altar and station in the nave of the church, where they might wail and howl, rather than sing, the diurnal and nocturnal services. Meanwhile the patron saints of the church, St. Dunstan and St. Elfege, had their resting-place in that wilderness. Lest, therefore, they should suffer even the slightest injury from the rains and storms, the monks, weeping and lamenting with incredible grief and anguish, opened the tombs of the saints and extricated them in their coffins from the choir, but with the greatest difficulty and labour, as if the saints themselves resisted the change.

"They disposed them as decently as they could at the altar of the Holy Cross in the nave. Thus, like as the children of Israel were ejected from the land of

¹ About twenty-five feet.

promise, yea, even from a paradise of delight, that it might be like people, like priest, and that the stones of the sanctuary might be poured out at the corners of the streets; so the brethren remained in grief and sorrow for five years in the nave of the church, separated from the people only by a low wall.

"Meantime the brotherhood sought counsel as to how and in what manner the burnt church might be repaired, but without success; for the columns of the church, commonly termed the pillars, were exceedingly weakened by the heat of the fire, and were scaling in pieces and hardly able to stand, so that they frightened even the wisest out of their wits.

"French and English artificers were therefore summoned, but even these differed in opinion. On the one hand, some undertook to repair the aforesaid columns without mischief to the walls above. On the other hand, there were some who asserted that the whole church must be pulled down if the monks wished to exist in safety. This opinion, true as it was, excruciated the monks with grief, and no wonder, for how could they hope that so great a work should be completed in their days by any human ingenuity.

"However, amongst the other workmen there had come a certain William of Sens, a man active and ready, and as a workman most skilful both in wood and stone. Him, therefore, they retained, on account of his lively genius and good reputation, and dismissed the others. And to him, and to the providence of God was the execution of the work committed.

"And he, residing many days with the monks and carefully surveying the burnt walls in their upper and lower parts, within and without, did yet for some time conceal what he found necessary to be done, lest the truth should kill them in their present state of pusillanimity.

"But he went on preparing all things that were needful for the work, either of himself or by the agency of others. And when he found that the monks began to be somewhat comforted, he ventured to confess that the pillars rent with the fire and all that they supported must be destroyed if the monks wished to have a safe and excellent building. At length they agreed, being convinced by reason and wishing to have the work as good as he promised, and above all things to live in security; thus they consented patiently, if not willingly, to the destruction of the choir.

"And now he addressed himself to the procuring of stone from beyond sea. He constructed ingenious machines for loading and unloading ships, and for drawing cement and stones. He delivered moulds (templates) for shaping the stones to the sculptors (stone masons) who were assembled, and diligently prepared other things of the same kind. The choir thus condemned to destruction was pulled down, and nothing else was done in this year.

Operations of the First Five Years

"The master began, as I stated long ago, to prepare all things necessary for the new work, and to destroy the old. In this way the first year was taken up. In the following year, that is, after the feast of St. Bertin (Sep. 5, 1175), before the winter, he erected four pillars, that is, two on each side, and after the winter two more were placed, so that on each side were three in order, upon which and upon the exterior wall of the aisles he framed seemly arches and a vault, that is, three claves (keystones or bosses) on each side. I put *clavis* (keystone) for the whole ciborium (vault) because the *clavis* (keystone or boss) placed in the middle locks up and binds together the parts which converge to it from every side. With these works the second year was occupied.

"In the third year he placed two pillars on each side, the two extreme ones of which he decorated with marble columns (Purbeck marble shafts) placed around them, and because at that place the choir and crosses (transepts) were to meet, he constituted these principal pillars. To which, having added the keystones and vault, he intermingled (interposed) the lower triforium from the great tower to the aforesaid pillars, that is, as far as the cross (crossing), with many marble columns. Over which he adjusted another triforium of other materials, and also the upper windows. And in the next place, three claves (keystones or bosses) of the great vault, from the tower, namely, as far as the crosses (crossing). All which things appeared to us and to all who saw them, incomparable and most worthy of praise. And at so glorious a beginning we rejoiced and conceived good hopes of the end, and provided for the acceleration of the work with diligence and spirit. Thus was the third year occupied and the beginning of the fourth.

"In the summer of which, commencing from the cross (crossing) he erected ten pillars, that is, on each side five. Of which the two first were ornamented with marble columns to correspond with the other two principal ones. Upon these ten he placed the arches and vaults. And having, in the next place, completed on both sides the triforia and upper windows, he was, at the beginning of the fifth year, in the act of preparing with machines (timber centrings) for the turning of the great vault, when suddenly the beams broke under his feet, and he fell to the ground, stones and timbers accompanying his fall, from the height of the capitals of the upper vault, that is to say, of fifty feet. Thus sorely bruised by the blows from the beams and stones, he was rendered helpless alike to himself and for the work, but no other person than himself was in the least injured. Against the master only was this vengeance of God or spite of the devil directed.

"The master, thus hurt, remained in his bed for some time under medical care in expectation of recovering, but was deceived in this hope, for his health amended not. Nevertheless, as the winter approached, and it was necessary to finish the upper vault, he gave charge of the work to a certain ingenious and industrious monk, who was the overseer of the masons; an appointment whence much envy and malice arose, because it made this young man appear more skilful than richer and more powerful ones. But the master reclining in bed commanded all things that should be done in order. And thus was completed the ciborium (vault) between the four principal pillars. In the keystone of this ciborium (vault) the choir and crosses seem as it were to meet. Two ciboria (vaults) on each side were formed before the winter; when heavy rains beginning stopped the work. In these operations the fourth year was occupied and the beginning of the fifth. But on the eighth day from the said fourth year, on the ides of September, there happened an eclipse of the sun at about the sixth hour, and before the master's accident.

"And the master, perceiving that he derived no benefit from the physicians, gave up the work, and crossing the sea, returned to his home in France. And another succeeded him in the charge of the works; William by name, English by nation, small in body, but in workmanship of many kinds acute and honest. He in the summer of the fifth year finished the cross (crossing) on each side, that is, the south and the north, and turned the ciborium (vault) which is above the great Altar, which the rains of the previous year had hindered, although all was prepared. Moreover, he laid the foundation for the enlargement of the church at the eastern part, because a chapel of St. Thomas was to be built there.

"For this was the place assigned to him; namely, the chapel of the Holy Trinity,

where he celebrated his first Mass, where he was wont to prostrate himself with tears and prayers, under whose crypt for so many years he was buried, where God for his merits had performed so many miracles, where poor and rich, kings and princes had worshipped him, and whence the sound of his praises had gone forth into all lands”.

Apparently William of Sens had become a paraplegic, owing to injuring the base of his spine when he fell. This would not deprive him of his mental faculties. Hundreds of paraplegics in this country can do most careful work and are regularly so employed, but unfortunately they cannot control their lower limbs and are to that extent crippled. The reference to “the master reclining in bed” and directing “all things that should be done” is pathetic. It is proof that he loved his work. It was probably his main interest in what remained of life. He was devoted to his duty and determined not to leave the Brethren in the lurch. He must have known a good deal about the mechanical thrust of vaulting ribs, the problems that arise in vault construction of this kind and the difficulties in handling heavy pieces of masonry without mishap and a repetition of a misfortune, similar to his own. With true zeal he remained until an Englishman with the same name had mastered the details of the technique. The younger William may not have had prior experience as an architectural designer, but he must have learnt enough of the technical side of the task to be able to carry on the work, provided that he was supplied with architectural drawings, full size details, templates and verbal instructions. All these William of Sens would presumably be able to supply.

Finally, when he had done all that he could, he longed to return to his kindred at Sens and to end his days with them. Those who admire the lovely work that he designed and directed to the best of his ability must feel a profound debt of gratitude to him for his fine example and courageous devotion to duty. His heart was in his work and he was determined to do all that was humanly possible to help. Let us also remember William the Englishman, who co-operated so loyally, in a true brotherly spirit. The whole of the work was completed in 1184.

The loyalty with which William the Englishman adhered to the design of the French architect is highly creditable. Apparently he did not attempt to make original, distinctive variations and carried on the work so uniformly that no one would have imagined what had really happened, if Brother Gervase had not written his Chronicle. The coupled columns of the piers, a most unusual feature, were continued from the High Altar and round Trinity Chapel, which contained the shrine of St. Thomas Becket. This was significant, because similar coupled columns had been provided on both sides of the nave and choir of the Cathedral of Sens, which William had designed for the French Archbishop. There does not

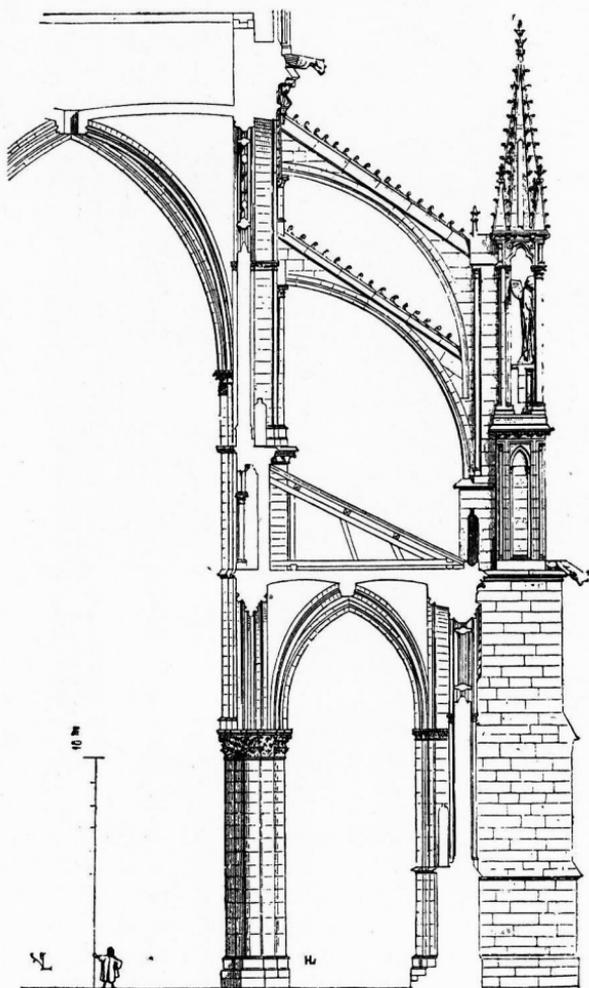
appear to be any cathedral in France, in which coupled columns have been provided in this way. So we may assume that William of Sens was an original designer and not one who merely copied the work of others.

A striking feature about the work at Canterbury was the early use of the pointed arch, generally both in the walls and arcades, as well as in the vaulting. This was probably the first time that the pointed arch, the most striking feature of Gothic evolution was used in this country, but it was used in France in 1115. This remarkable innovation we owe to William of Sens, who had used it in Sens Cathedral between 1143 and 1168. The vaulting at Sens was of the sexastyle type. Vaulting of this type he also introduced at Canterbury. When sexastyle vaulting is used, it is customary to combine two bays of the choir or nave in one vault compartment or panel. Two bays of the nave had been combined in one vault panel at Durham Cathedral, but there each vault compartment had only two diagonal ribs, and consequently each panel has only four cells or severies, as they are frequently called. When the vaulting is sexastyle, there are six severies in each vault panel and three radiating ribs from each side of the central aisle, all meeting in a central boss.

The work of William of Sens at the Cathedral of Sens is said to date from 1143 to 1168. If he was 33 years of age, when he was appointed Master Mason at Sens in 1143, he would have been born in 1110. Consequently, when he entered upon his duties at Canterbury in 1175 he would be 65 years of age.¹

Steven Runciman expresses his view in *A History of the Crusades*, Vol. III, that the architects taken to the Holy Land by the French Crusaders took the advice of local builders. He wrote—"Their use of pointed arches was learnt in the east. The first known examples in the west are in two churches built about the year 1115 by Ida of Lorraine, the mother of the first two Frankish rulers of Jerusalem. Her eldest son Eustace of Bologne, had recently returned from Palestine. It is difficult not to believe that returning architects popularised the new device in the west, where it was developed to suit local needs". It appears that the two churches referred to were at Wast and Saint Wilmer at Boulogne. Pointed arches of almost the same date may be seen at Cluny. The first church built by the Crusaders in the east was the Cathedral of St. Paul at Tarsus, finished before 1102. This was a French Romanesque building

¹ In *La Cathédrale de Sens*, written by the Abbé Eugène Chartraire, a well-known archaeologist, in the series of *Petites Monographies des Grands Édifices de la France*, the Abbé assumes that the foundations of the Cathedral of Sens were laid in 1130 and not in 1140. He then points out, that if Master William was 30 years of age in 1130, he must have been 79 in 1179, when the unfortunate accident occurred. The explanation may be that, if the erection of Sens Cathedral was commenced in 1130 and not in 1140, as I have understood, Master William may not have commenced his work there when building began. Possibly the local archives at Sens may remove all uncertainty, if they have been preserved.



From "Dictionnaire de l'Architecture," by E. Viollet-le-Duc

16. REIMS CATHEDRAL
Section showing flying buttresses

The height to the crown of the vaulting is about 125 feet



Photo by Jean Roubier

Lent by the French Government Tourist Office

17. REIMS CATHEDRAL: EAST END

with pointed arches. Although the outward thrust of pointed arches is considerable, it is not as great as that of round arches.

In his *Dictionnaire de l'Architecture*, Viollet-le-Duc recorded his belief that the eastern extremity of the cathedral at Canterbury still preserves all the characteristics of the apse of the Cathedral of Sens, not only in its plan but also in its construction, its mouldings and its ornamental sculpture with greater refinement and lightness. "This", he wrote, "is explained by the interval of some years, which separates these two constructions. We believe that William the Englishman only followed the designs of his unfortunate predecessor, who must have been the Master of the Works of the cathedral at Sens. The chevet of Canterbury Cathedral enables us to reconstruct the chevet of the Cathedral of Sens, as we have done."

The reader was referred to a reconstructed plan of the cathedral at Sens, which is reproduced in Plate 9. This is helpful, as it enables us to visualise the cathedral as it was originally, before a series of structural alterations had been made.

Viollet-le-Duc added the following footnote: "The only part of this restoration which is open to debate would be the circular chapel in the axis, replaced by a deeper elevated chapel after the fire at the end of the thirteenth century. But there is so much likeness between the chevet of Canterbury and that of Sens that we are strongly disposed to believe that the Crown of Becket is only an imitation of a similar chapel built at Sens by Master William before his departure for England. Let us not forget that it was in 1168 that the Cathedral of Sens was completed, and that it was in 1175 that William began the construction of the Choir of Canterbury".

Apparently there can be little doubt that the inference of Viollet-le-Duc was substantially correct.

WESTMINSTER ABBEY

An account of the full extent of England's indebtedness to the Architects and Craftsmen of France would be regrettably incomplete without the expression of our gratitude for the service a French Master Mason rendered in connection with the erection of Westminster Abbey and the Chapter House, during the reigns of King Henry III of England and King Louis IX of France, best known as St. Louis.

On October 28th, 1216, the nine-year-old Henry was crowned King at Gloucester. In his *Chronica Majora*, Matthew Paris recorded the memorable scene, in these words: "Standing before the High Altar, with Jocelin Bishop of Bath dictating the oath, he swore in the presence of clergy and people that he would give honour, peace and reverence to God

and His Holy Church and its ministers all the days of his life. He swore that he would show strict justice to the people committed to him, that he would destroy evil laws and unjust customs, and would observe the good and make everyone else observe them. Then he did homage to the most Holy Roman Church and to Pope Innocent for the kingdoms of England and Ireland; and he swore that so long as he held his kingdom, he would faithfully pay the thousand marks which his father had bestowed upon the Roman Church". The reign that followed was one of fifty-six years' duration, in which the racial prejudices of the early Norman period in England were gradually superseded by a more equitable approach to national problems. During the years that had passed, a generation of capable craftsmen had grown up and the need for external assistance was by no means so great as it was at the time of William the Conqueror. Unlike the Norman kings, Henry wished to be regarded as a true Englishman, born on English soil, and as an admirer of Edward the Confessor; but after his marriage in January, 1236, to Eleanor of Provence, a daughter of Raymond Berenger IV, Count of Provence, he also became greatly interested in the affairs of Provence, Poitou and other parts of France. This became so obvious that Matthew Paris wrote: "Little by little, the King invited such legions of Poitevins that they almost filled the whole of England, and wherever he went he was surrounded by hosts of them. Nor could anything be done in the realm, except what the bishops and the crowd of Poitevins chose".

The King was devoted to his clever and accomplished Queen, who encouraged his love of art and particularly his interest in the craftsmanship of Southern France. He was also sincerely religious and often attended three Masses in a day. In fact, religious ceremonies inspired his fervour and gave him assurance. For the Pope, he had profound regard and consulted him about all matters of importance.

The extent to which the King kept in close touch with the papal see may be gathered from a copy of a letter sent to the King by the Pope in 1245, which is included in the Chronicle of Matthew Paris. It reads as follows:

"Innocent, bishop, etc., etc., to his well-beloved son in Christ the illustrious king of England, health and apostolic benediction,—Towards your person, as a devoted son of the apostolic see, we feel a special paternal regard, and to your entreaties, as far as is compatible with our reverence to God, we give attentive ear, and grant a willing assent. Whereas you have, by our well-beloved Master Laurence, your appointed messenger to the apostolic see, as also by your royal letters, humbly begged us, that, as you propose in the approaching summer to proceed with an army to punish the perfidy of some of your rebellious subjects, we should hold as excused from attending the council which we shall with God's permission hold, at the ensuing feast of St. John the Baptist's Nativity,

our venerable brother, the bishop of Carlisle, and our beloved son the abbot of Westminster, whom you wisely appoint to take charge of your kingdom, whilst you are absent on that expedition, and also our venerable brother the bishop of Llandaff, who has been deprived of all the wealth of his bishopric by the enemies of your majesty, and our well-beloved son the abbot of St. Edmund's, who is suffering from gout, and the abbot of Waltham, who is broken down and worn out by old age; we in our earnest desire to promote the welfare and establish the peace of your kingdom, are ready to show all favour and grace to you, and, on your behalf, to your friends, as far as we can do as compatibly with our duty to God, and therefore by the authority of these presents, grant your request, at the same time earnestly begging your majesty not to be offended at our not having thought proper to admit of your excuse on behalf of our brother the archbishop of York, as mentioned in your royal letters aforesaid, and also urged on us by the aforesaid Master in your name; for, as he is an honourable member of the church of God, we consider his presence as necessary to the aforesaid council. Given at Lyons, the twentieth of May, in the second year of our pontificate”.

Regarding the welfare of the Church in France and England, the Pope was exceptionally well informed and in the welfare of all ecclesiastical bodies generally he was profoundly interested. In Louis IX, King of France, and in Henry III of England, he had two loyal supporters, who were ambitious to render to the Church the greatest services that were possible. Despite their religious convictions, strained political relationships and the ambitions of the Continental powers were an incessant embarrassment for them both.

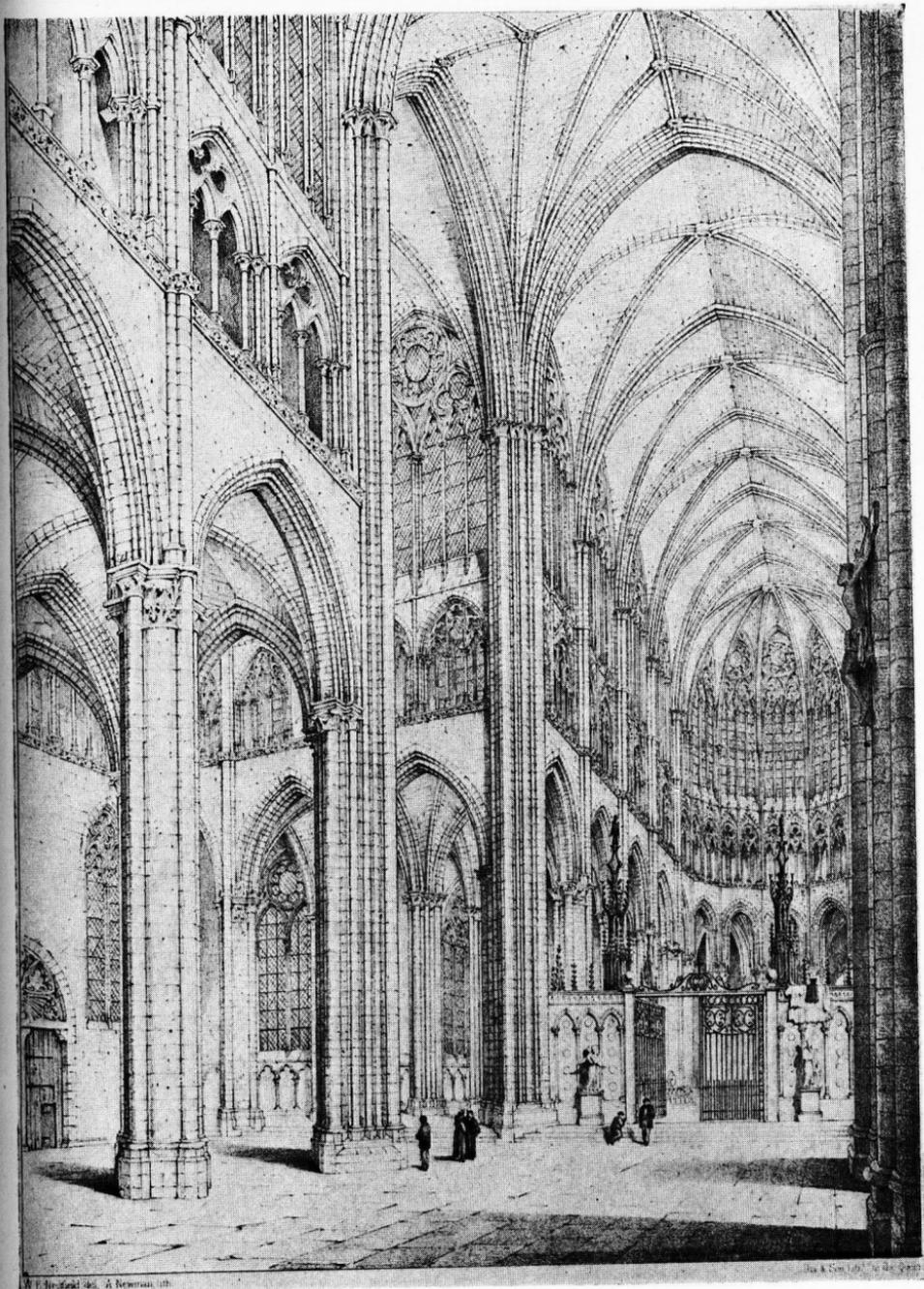
Prof. Powicke tells us that “Louis IX was definitely one of the leading statesmen in western Christendom and that Henry, with a more conscientious assiduity but with much less success was trying to become the same”. Consequently the clash of political interests kept the two Kings apart for years, but as time passed they both began to realise the importance of close personal contact. Nevertheless, it was not until December, 1254 that Henry visited Paris for the first time. That occasion was a great family reunion, for Margaret of Provence, the Queen of France, and Eleanor, Queen of England, were sisters. Prof. Powicke tells us Louis met Henry at Chartres and that on December 9th they went to Paris together. “There”, the professor writes, “they feasted and discussed their problems together in the most fraternal way. Henry who was a good judge of architecture, saw the sights. All the ladies of the house of Provence were there, Queen Margaret, Queen Eleanor, Sanchia, Countess of Cornwall, who had made the journey from England to join her sisters, Beatrice, the wife of Charles of Anjou, and their mother. It was a family party, and Henry was happy. King Louis's one regret was that the twelve peers and the whole baronage of France had not rallied to bless the new friendship.”

In the meantime, Henry had been dealing, amongst many other

things, with religious problems in England. Pope Innocent had learnt about the unsatisfactory condition of the old Westminster Abbey, which he described as "consumed by excessive age". To comfort him, King Henry had assured him that the Abbey would be rebuilt, at his own expense, even as the former Abbey building had been rebuilt by King Edward the Confessor without any charge upon the limited resources of the monastery. In 1220, the young King laid the foundation stone of the Lady Chapel of the Abbey, on the site on which King Henry VII's chapel now stands. Then followed years of inactivity. In 1241, he heard of the arrival in France of the Crown of Thorns. To relieve his anxiety, he was promised a phial of the Holy Blood, but he was still overwhelmed with impatience. He was as ambitious as Louis, but he did not want to render a tribute to the Church that would be immeasurably inferior to the fine architectural work, of which the French people were so justly proud. Nowhere could he find in England a single Master Mason, who had done anything in the least comparable with the daring and amazing achievements of the French architects and craftsmen. They had erected something entirely new, so full of charm that earlier English work was completely overshadowed and seemed lacking in spirit and grace.

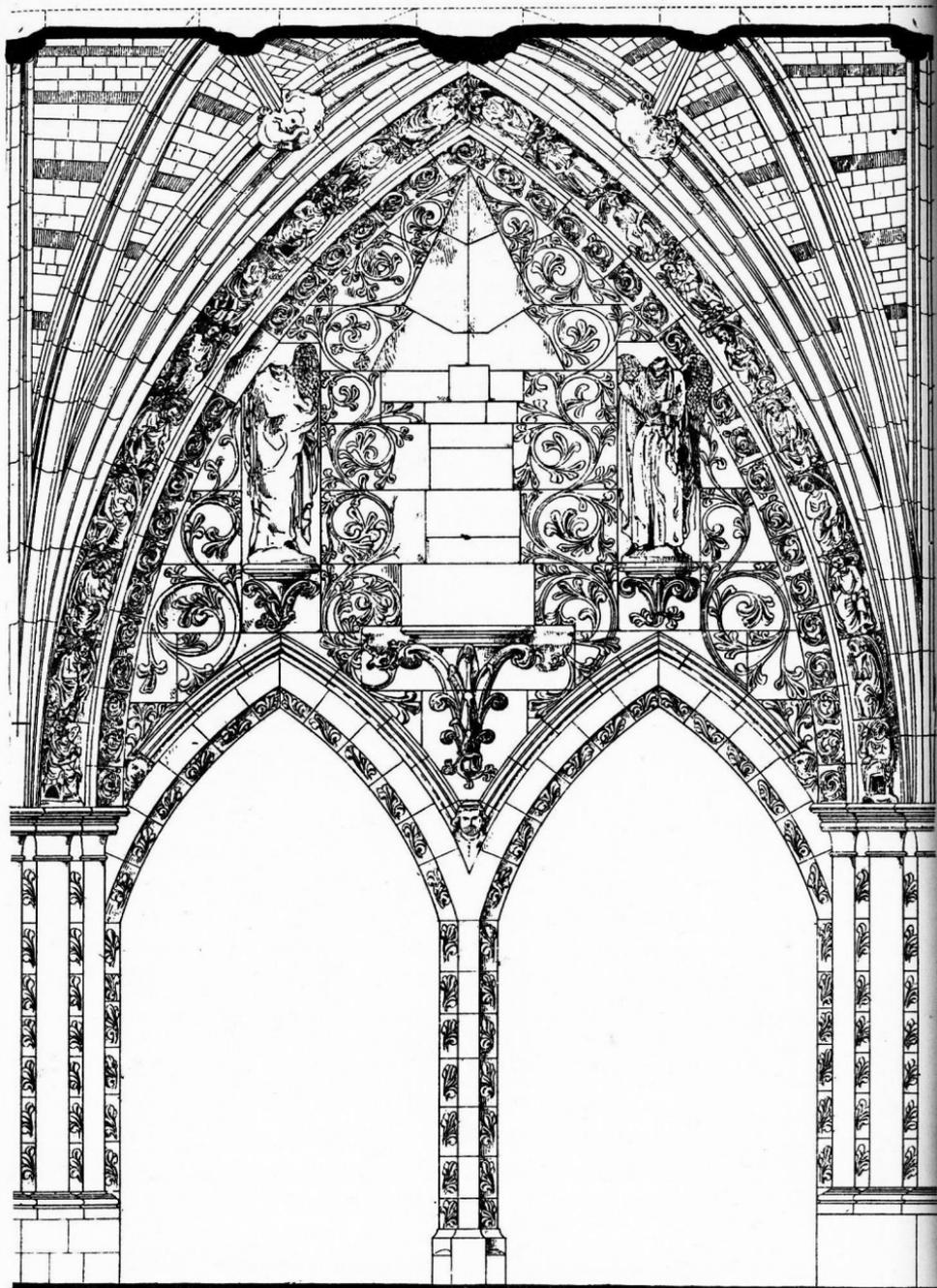
The Coronation church of France, the Cathedral of Reims, doubtless aroused especial interest. With it, the King and Queen Eleanor must have compared the old dilapidated Romanesque abbey church of the Confessor, then so hopelessly out of date. To think favourably of that structure with its ponderous construction, round arches and flat, painted timber ceiling, only about 50 feet above the floor was impossible, although it had seemed so wonderful to an earlier generation. When the King and Queen heard of the soaring height of the vaulting at Reims, 125 feet above the pavement of the nave, of the graceful pointed ribs springing like branches from the clustered shafts, when they learnt about the graceful effect of the chevet and of the light streaming through the stained glass windows, making it all look like the very gate of Heaven, they must have been completely overwhelmed. This was too much. We can imagine with what despair the King must have told the Pope about his disappointment and about his inability to find in England a single Master Mason, upon whom he could rely to undertake work of such exceptional difficulty.

With the blessing of the Pope, the approval of King Louis and the concurrence of the local ecclesiastical authorities, Henry must have learnt with great relief that his most ambitious hopes would be realised to his complete satisfaction and that the requisite technical assistance could be provided. Doubtless the King was warned that he must on no account entrust the erection of vaults of a height of anything like 100 feet to a Master Mason, who had not had successful experience in the erection of



*Drawing by W. Eden Nesfield, Architect, from "Specimens of Mediaeval Architecture,"
published in 1862*

18. AMIENS CATHEDRAL: EAST END



By permission of the Architectural Association (London)

19. DOORWAY FROM THE CLOISTER TO THE CHAPTER HOUSE
WESTMINSTER ABBEY

Drawn by F. G. Knight, 1873



Photo by Jean Roubier

Lent by the French Government Tourist Office

20. AMIENS CATHEDRAL: WEST FRONT



Photo: "Estel," Lavelle et Cie. Paris

21. CHARTRES CATHEDRAL: ROYAL PORTAL WITH STATUES OF THE SAINTS: WEST FRONT

vaulting ribs, piers and flying buttresses in one of the great churches of France. The right way of doing work of this kind had only just been discovered by experiment, as calculations of this kind in the mechanics of building were not made until long afterwards. A man who was an expert in structural technique was obviously essential to ensure success.

Possibly the King may have been told of the disastrous experiments made at Beauvais Cathedral about this time. Work at the cathedral there was commenced in 1225. But, even if the King was not informed of the work done at Beauvais, he would at least have been told of preliminary experiments that had been made elsewhere and of the regrettable consequences of errors.

During the mediaeval period, many errors were made, owing to under-estimating the effect of the thrust of vaults, for even experts were not infallible. Outside the Chapter House at Westminster, flying buttresses had to be built during the fourteenth century to counteract the spread of the vaults. At first it was assumed that strong attached buttresses would be sufficient.

From official records, it is possible to ascertain how the work at Westminster progressed. The architect employed was Master Henry de Reyns, an artist of the highest order and an authority on structural mechanics. His qualifications are recorded in his work. Few English architects today could achieve such impressive effects. Reyns was the English way of spelling Reims at the time, just as it is now the custom to write Venice instead of Venezia and Naples instead of Napoli. Canon Westlake, one of our greatest authorities in his great work on Westminster Abbey, expressed his belief that Henry de Reyns was a member of the staff employed at Reims Cathedral. He pointed out that Henry was not the chief Master Mason in charge of the work at the cathedral and recorded that, for the years 1211-31, the office was filled by Jean d'Orlais, from 1231-47 by Jean de Loup and from 1247-55 by Gaucher de Reims, but he suggested that Master Henry might have received his training under Master Jean de Loup. He also added: "Now Reyns was the common contemporary spelling of Reims as may be instanced by the phrase *Draps de Reyns* or the sentence *apud Reyns—fuit inunctus in Regem Francorum*, various other examples might be cited".

It is most remarkable that, after the large Lady Chapel was built in 1220, there is no evidence of any further structural development, until Henry de Reyns was appointed in 1243. This surprising inactivity was presumably due to delay in obtaining the services of a sufficiently qualified Master Mason. Canon Westlake wrote: "Master Henry comes quite

suddenly into notice by reason of his receiving on December 10th, 1243, together with one William le Brun, a gown of office as Master of the King's Masons". Le Brun held the office of Keeper of the King's Works at Windsor Castle. In 1244, Master Henry was sent to York to direct operations on the defence of the castle. Prof. W. R. Lethaby states, in his most interesting book *Westminster Abbey and the King's Craftsmen*, that at the Record Office there are two Rolls of Accounts of the fabric at Westminster for the years 33-37 Henry III and that in them he found the entry "Magister Henricus Cementarius". No other mason was mentioned at the time. The professor also made the discovery that the details of the King's chapel at Windsor, commenced in 1239, corresponded with those at Westminster Abbey. This may indicate that Master Henry employed at Westminster one of the King's Masons formerly on the staff at Windsor Castle.

As the Chapter House formed part of the structure undertaken by the King, there can be little doubt that it was designed by Henry de Reyns and that the work was carried out under his supervision between 1248 and 1253. It is stated that according to the accounts Master Alberic was employed on task-work or sectional contracts. The precise nature of the work done in this way is apparently not recorded, but presumably he was a sculptor. Other polygonal chapter houses were built in England, as at Lincoln, Beverley, Salisbury and York, but the one at Lincoln appears to be the only one of earlier date. The Salisbury Chapter House seems to be a copy of the one at Westminster. The entrance doorway at Westminster was described by Prof. Lethaby as "one of the most beautiful things in English art". Matthew Paris referred to this structure in the year 1250, when he described it as "the incomparable Chapter House".

Owing to neglect and misuse, the Chapter House gradually became ruinous, but Sir Gilbert Scott, the grandfather of Sir Giles, restored the vaulting and the structure generally, in a most sympathetic and practical manner. During comparatively recent years much of the sculpture at the entrance to the Chapter House from the cloister has unfortunately perished but a drawing by Mr. F. G. Knight in the *Architectural Association Sketch Book* of 1873, records much that has now been lost, and is here reproduced. This plate was also included amongst the illustrations in Prof. Lethaby's book *Westminster Abbey and the King's Craftsmen*. It is most regrettable that the beautiful carving in the cloisters was executed in soft oolitic stone that will not stand the erosive acids in the London atmosphere. Over fifty years ago, when I was sketching foliage on a capital in the cloisters, I endeavoured to remove the dust by blowing on it, whilst on the top of a ladder. To my amazement, the force of my breath blew one leaf away.

One of the impressive features in the Abbey was the use for the first

time in this country of bar-tracery in the windows. This innovation presumably came from Reims Cathedral.

Master Henry appears to have been employed at the Abbey until his death, about 1254-55, when he was succeeded in office by Master John of Gloucester, who was presumably an Englishman. Master John loyally carried out the design of Henry de Reyns, after his death, just as William the Englishman completed the design of William of Sens at Canterbury Cathedral. When the fifth bay of the nave was completed in 1269 building operations were suspended for 100 years, during which time the rest of the nave of Edward the Confessor was retained. During the eleven years that elapsed from his appointment in 1243, much work was done, as the plan on Plate 14 indicates. It appears that Master Henry died when building operations had reached the second bay of the nave and that Master John completed the second, third, fourth, and fifth bays or one bay beyond the west end of the ritual choir and the pulpitum. On October 13th, 1269, the choir was consecrated.

It is interesting to observe that the church of Edward the Confessor was retained as long as possible. Presumably it was demolished bay by bay, as the erection of the new Abbey building progressed westward. An entry in the Close Roll for June 4th, 1246, records that a house was purchased for the accommodation of Master Henry the Mason. He therefore must have been living upon the site, in order to have the closest supervision of the work in progress. Canon Westlake also calls our attention to another record. He wrote: "In the year 1256, on the 12th day of March, to be precise, two or three years after Master Henry disappears from the accounts, a deed was signed by which a yearly rent of five shillings for a certain messuage in Westminster was made over in perpetual alms to Abbot Richard de Crokesley and his monks for the support of a lamp in the Lady Chapel. The donor describes himself as 'Hugh, son of the late Master Henry de Reyns Mason', and states that the messuage had been a gift to him from his father. From this we infer that the rent was to be paid annually in order that prayers for the soul of Henry de Reyns, the King's Master Mason, might be made. The original of this deed is not forthcoming, but a copy of it appears among the writings of the Lady Chapel in the Great Chartulary of the Abbey known as *Domesday*".

The most remarkable feature of the development of Gothic architecture was its evolution as a form of structural expression, prompted by religious fervour, that reached a climax more rapidly in the vicinity of the Ile de France than elsewhere and which was transported to England, owing to the responsive mind of King Henry III, who was described by the Royal Historic Monuments Commission as "the greatest builder and the greatest patron of the arts, who has ever occupied the throne of England." An

impressive story of the King has been summarised by Professor F. M. Powicke, in his book *King Henry III and Lord Edward*,¹ when he described a memorable celebration in the Abbey, recorded by Matthew Paris, in the *Chronica*. The professor wrote: "Louis of France had already planned to build the Sainte Chapelle in his palace on the Seine to enclose the Crown of Thorns, which reached France in March, 1241. In the same year the new cathedral at Reims, where the kings of France were crowned, had been finished. Henry would not be left behind. His mood is seen in the story told by Matthew Paris of the celebration in 1247 of St. Edward's day. The King had received from the east a portion of the Holy Blood. The authenticity of the relic was attested in letters sealed with the seals of the masters of the Temple and the Hospital, the patriarch of Jerusalem, archbishops, prelates and magnates of the Holy Land. Clad in humble raiment on foot, Henry carried the precious vase from St. Paul's to the Abbey. He held it with both hands as he passed along the uneven road and never lifted his eyes from it. He bore it in procession round the church, which was so crowded that a man could hardly move. The Bishop of Norwich celebrated the Mass and preached. Matthew Paris was sitting on the step which separated the royal seat from the area, and the King, filled with holy exultation, bade him write an account of all that had been done".

Impressive as the interior of the Abbey undoubtedly was on St. Edward's day in 1247, the North front with its triple portals and magnificent sculptural treatment must have also provided an unforgettable memory. Probably the original West front of Amiens Cathedral, as we could see it before the bombardment of the first World War, was one of the best surviving records of what the North front of the Abbey was

¹ In a footnote on page 571, Vol. II of *King Henry III and Lord Edward*, Prof. Powicke stated that it was not true that Master Henry, the architect, came from Reims. A statement of this kind should be capable of proof, but the only evidence he produced in support of this statement was that "the name (de Reyens) in various forms is common enough for the Essex township of Rayne, just north of the road between Bishop's Stortford and Coggeshall". This proves nothing, unless the professor can produce proof in addition that an Englishman bearing the name of de Reyens was an experienced Master Mason and had received his training in the erection of one of the great churches in France, with vaulting rising to a height of over 100 feet above the pavement. Rayne or Raine is a pleasant rural village, with an area of just over 2,000 acres of pastoral and agricultural land, two miles to the west of Braintree. I find it difficult to believe that the professor was fully aware of all the circumstances when he made this statement.

There may be some who imagine that an English artist may have acquired all the necessary technical experience by going on a sketching tour like Villard de Honnecourt, but experience of structural design is not gained by merely sketching buildings. Some of the illustrations in this book were drawn in France by W. Eden Nesfield, a well-known Victorian architect; but one of his regrets in later years was that, although he had produced careful perspective drawings, he had not studied constructional problems. He added that he would have to revisit France, before he could produce satisfactory tangible results. In fact, there is no evidence that even Villard de Honnecourt could have successfully designed and supervised the erection of a lovely building like Westminster Abbey.

like, when the sculptors and carvers had completed their work, under the direction of Henry de Reyns. Sir Gilbert Scott and Professor Lethaby both took the view that the North portal of Westminster was more like the West front of a typical French church than anything of the kind in England. The professor went so far as to state in *Westminster Abbey and the King's Craftsmen* that he believed that the design "was founded on specific study of the then just completed front of Amiens".

On Plate 20 a photograph of the West front of Amiens Cathedral, taken before the bombardment, has been reproduced. Prof. Lethaby also stated in the same work that he regarded it as certain that Westminster Abbey Church was designed after a careful study had been made of the Cathedrals of Reims and Amiens and of the Sainte Chapelle and that parts like the apsidal chapels were practically copied from the French prototypes.

Owing to the use of the marvellously hard, marble-like stone from Berchères, near Bonneville, in the work of Chartres Cathedral, it is possible to see in the external sculpture the beauty of twelfth-century carving, with clearer definition than in contemporary external sculpture anywhere else in either England or France. This is partly due to a pure, uncontaminated atmosphere. It is not unlikely that this twelfth-century sculpture on the exterior of the West front of Chartres Cathedral is the best indication of the type of sculpture which adorned the original North front of Westminster Abbey. In Westminster, the work done externally in soft oolitic stone steadily deteriorated in a deplorable way. Moreover the whole of the external walls of the Abbey have had from time to time to be refaced, like our Houses of Parliament. Ever since the Abbey was built, the effect of the erosive action of sea-coal from Newcastle on the soft freestone has been observed. In 1253 "Carbone Marino" was referred to in a Fabric Roll. To convey an impression of what early mediaeval sculpture was like, a detail from one of the carved portals on the West front of Chartres Cathedral has been reproduced on Plate 21.

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