

English Summaries

Early Tower Burials

By Hans Stiesdal

It has been generally believed that Romanesque or Late Romanesque Danish church towers (which are contemporary with or a little later than the churches to which they belong) may have served as burial places for great noblemen or noblewomen who were benefactors of the church in some way. The fact that benefactors or founders could obtain an important burial place inside the church is well known from the royal and ecclesiastical tombs in for example Ringsted and Sorø churches (see "Danmarks Kirker", Sorø amt). As for the village churches, the discovery of importantly placed brick burials in the tower of Hammarlunda church (in Scania) is most convincing. As no other important tombs are found here, there is reason to believe that the buried couple could be the benefactors who built the tower, or even the whole church (or at least part of it). Similarly suggestive finds have been made at Löddeköping (Scania), a wooden church long since demolished, and to a certain degree also in the "broad" west tower of Tryde church (Scania), also demolished. Burials have also been found in Roskilde, in the demolished churches of St. Olai and St. Hans. It must be emphasized that it is only the conspicuous, often axial, siting of the burials which leads to their interpretation as "founders' tombs".

During recent years, the floors of the six West Zealand church towers listed below have been excavated. They are all published in "Danmarks Kirker" except Vallekilde. In four of these churches there were possible founders' tombs (or burials of founders of the towns). Frederiksborg amt: *Jørlunde church*. In the secondary, Late Romanesque tower a well-built tomb of calcareous tufa was found, immediately to the north of the central axis. It could be the northern tomb of a centrally situated pair (fig. 5). The excavation had to be stopped before this possibility could be examined. *Uggeløse church*. In the secondary tower, now demolished, a brick tomb was found

placed near the central axis (fig. 9). A tomb built of granite and limestone was excavated in the secondary tower of *Ramløse church* (fig. 13). It seems to have been placed there shortly after the original floor was laid (fig. 14). *Københavns amt: Himmelev church*. In the secondary, "broad" limestone tower, on the central axis, the cranial niche of a limestone tomb was discovered complete with cranium (fig. 6). This niche must have been part of a major tomb (fig. 15). The last three tombs mentioned all contained women. *Holbæk amt: the square tower of Nørre Jernløse church* is contemporary with the stately building. It never contained any tombs. Neither did *Vallekilde church*, which must in the past have had a broad tower system at the west end of the nave, perhaps with twin towers. The tower system was simply too narrow for tombs.

Churches built by Calcareous Tufa

By Henrik Græbe

Calcareous tufa is a kind of limestone. The stone is easily accessible in nature and easy to process. Archaeology has long ago demonstrated that this was the preferred building material for the earliest stone churches, from about the second half of the eleventh century. Churches built of (or containing) this type of stone are therefore regarded as being very old, with an absolute upper limit around the middle of the twelfth century.

The limestone churches are, however, not homogeneous. Bishop Svend Nordmand built four large ones on Zealand during the 1060's, and they are all different, although the characteristic plan of one of them (the Church of Our Lady in Roskilde), a basilica without a transept, can also be seen in eastern Jutland. In the area around Jelling church in east central Jutland is a group of parish churches, obviously following a local tradition with a single nave

and a chancel without an apse. Another longlived tradition is visible on Zealand.

The dating problem is highlighted by the excavations in the deserted medieval town of Slangerup in northern Zealand, where two churches built of calcareous tufa have been excavated. One is a large basilica (fig. 3), very like Our Lady in Roskilde and datable to the late eleventh century, and the other is a "normal" parish church possibly erected in the third quarter of the 12th century (fig. 6).

Literary sources relate how King Erik Ejegod was born on a manor in Slangerup – this might have been around the year 1050. Then he built a church on the site, this presumably being the late eleventh century basilica. Can this large building really be justified only by the birth of the king, and intended only for use by him and his household? Was the basilica erected in the countryside, in a village, or in a town?

The parish church of St. Michael is located barely 100 metres north of the King's church on the top of the hill (fig. 7). It could be an even older structure, but excavations have revealed a conventional romanesque plan similar to several other parish churches built of calcareous tufa in the neighbourhood. It cannot be older than the King's basilica, and might be dated to the reign of Valdemar the Great (1157-1182) when the King's basilica was taken over by a convent. This forced the villagers to build their own parish church, namely St. Michael.

These hypotheses suggest that the tradition of using calcareous tufa might have continued until brick took over around 1170. Another problem, specific to Slangerup, is whether the town grew out of the manor, or whether there was a larger population unit there at an earlier period. The two churchplans do not answer this question, and it will be necessary to complete the picture with excavations in the town area.

The Limestone Churches in the Vicinity of Grenå – Research History and Roofing

By Jens Velle

For the last 100 years the nine still standing romanesque village churches of limestone situated in a circle around the town of Grenå have regularly been subject to the interest of the historians. In 1896 a comprehensive survey "Grenaaegens Kridtstenskirk" was published, the illustrations of which for a long time were repro-

duced again and again in various contexts. Since 1976 the author and the photographer Poul Pedersen have worked on this group of churches: they have been thoroughly photographed, samples of the stone have been collected (see the following paper) and the roofings have been examined. In cooperation with the dendrochronological laboratory of Wormianum a series of datings of the roofing timbers have been made in this connection, and several of the roof constructions have been dated. In most cases they are gothic constructions over chancel extensions. It is the idea that the present investigations are to be published in a monograph to replace the old work from 1896.

The Source of Limestone used as a Building Material in Village Churches in the Neighbourhood of Grenå, Jutland

By Erik Thomsen

The purpose of this paper is firstly to trace the origin and mode of transport of the limestone used in the construction of ten churches in the neighbourhood of Grenå (fig. 1), and, secondly, to examine the quality of this limestone as a building material.

The churches are built of the so-called "Bryozoan limestone". This whitish-grey limestone is of Danian age (lower Tertiary). A similar limestone is found in the coastal cliffs at Sangstrup and Karlby (fig. 3), and it has been traditionally assumed that the building stones were quarried from the cliffs. However, preliminary age determinations of the limestone in the cliffs and in a few of the churches suggest another source for at least some of the building material.

In order to determine the source of the stone, a geological map of the area has been prepared. The geological survey shows that the limestone formations dip away from the coastal area at approximately ten metres per kilometer (fig. 5), and that the bryozoan limestone is confined to a narrow strip along the coast (fig. 6). More detailed age determinations using coralloliths (fig. 4) show that this limestone can be divided into two zones (zones 2 and 3 on figs. 5 and 6). The coastal cliffs at Sangstrup and Karlby belong to zone 2, while the zone 3 type outcrops in small areas on the beach at Fornæs and Kragenæs (figs. 6 and 8).

The ages of between seven and eleven stones were determined from each of the churches (fig. 7). The results reveal that the church-

ches of Nødager, Lyngby and Vejlbj were built solely of material quarried on the beaches at Fornæs and Kragenæs (fig. 9). Furthermore, material from Fornæs and Kragenæs has also been extensively used in the churches of Gjerrild, Rosmus and Grenå Gamle Kirke.

Stones from Sangstrup and Karlby cliffs were used in significant amounts only in the churches in the vicinity of these cliffs. Thus the churches of Voldby and Karlby were built exclusively of material from the cliffs, and about half the stones in the churches of Hammelev and Enslev derive from the same source.

Why did the builders prefer to quarry from the small outcrops at Fornæs and Kragenæs, rather than work on the large cliffs at Sangstrup and Karlby? The question cannot be answered unambiguously, but two suggestions may be given. Firstly, the limestone at Fornæs and Kragenæs is normally slightly harder than that from Sangstrup and Karlby. Secondly, quarrying on the beach was definitely less hazardous than at the cliffs.

The building stone was all procured in the coastal area, and transportation was primarily by ship. In this connection the now drained Kolindsund east of Grenå undoubtedly played an important role (fig. 9).

Bryozoan limestone is soft and relatively porous, but nevertheless forms a stable building material. Post-quarrying diagenesis is slight and consists mainly of the formation of a thin lime crust on the outer surface of the stones (fig. 12).

The Enemies of our Churches: Fire? Pressure? Moisture? Heat? etc.?

By Elna Møller

Damage to the masonry of our medieval churches is not just a problem to restorers but also to archaeologists, although they are naturally primarily interested in damage which concerns the discussion on the age or chronology of a church.

In such cases the verification of the cause of damage may be the only possible way to determine whether or not the damage can be substantiated by a written source.

In our early medieval sources we find comparatively many statements about fires. Information which has sometimes carried too much weight in the determination of the age of the church. This is partly confirmed by the very insignificant damage to the masonry

caused by two contemporary fires (cp. figs. 1-4), partly by the results of recent investigations in two churches, the cathedral of Ribe and the village church of Borum. In these churches extensive damage to the granite ashlar has until now been attributed to fires. In Ribe the damage is, however, a direct consequence of the change of the wooden ceilings for stone vaults (cp. fig. 5). This caused an alteration of the static balance: the walls were pressed outwards causing an oblique pressure (fig. 7-8) which also injured the corners of the ashlar (fig. 10). The corner ashlar of Borum church are also affected by altered static balance (fig. 11), and the same applies to a number of churches with secondary vaults (cp. fig. 6).

Church walls have many other enemies, e.g. variations of temperature, ascending and descending earth-moisture and its humus content, which by way of capillarity attacks the face stones from the inside (fig. 9). However, we do not have sufficient knowledge about them.

That the apparently strongest of all our building stones seems to be especially susceptible to damage is probably due to several reasons: the poor connection between the ashlar's glaciated back and the core of the wall, the often very fragile edges of the ashlar, the poor breathing ability of the granite, the few and thin joints and the apparent brittleness to oblique pressure.

The first Generation of Norwegian Churches

By Håkon Christie

The article is a survey of modern Norwegian church archaeology. In the Middle Ages there were close to 1500 churches in Norway. Approx. 275 of them were built of stone, while practically all the others were stave churches. Of these stave churches no more than 30 have been preserved up to our time. In other words, in the course of time more than 1000 stave churches have been pulled down, and the only possible way of finding out anything about their appearance and method of construction to-day is to carry out archaeological excavations on the sites where they stood. In many cases a more recent church is now standing on the site of the former stave church, and the traces of the old church are beneath the floor of the new one. Often, however, the new church was built somewhere else, and in such cases the site of the stave church lies in the open. Records

made so far indicate that there are between 500 and 1000 church sites lying in the open in Norway.

The Norwegian Cultural Heritage Act states that both medieval buildings and their remains are protected. The same applies to church sites and graves dating from the Middle Ages. In practice the Act means that any digging on old church land must be carried out as an archaeological excavation. This applies to vacant church sites as well as to those beneath the floors of later churches.

The activity in the field of church archaeology that has taken place under these provisions over the past 30 years has included roughly 30 major excavations. These investigations have given us a great deal of new knowledge, throwing light on the oldest generation of churches built in Norway, the mission churches of the 11th century, which previously we knew practically nothing about. As a rule only the holes in the ground made for the supporting posts of the building remain of these early churches, but assisted by the evidence provided by the holes it is possible to determine the groundplan of the church and to form an idea of its method of construction.

Evidence from similar excavations in other countries gives the impression that early European wood architecture was characterized by many different methods of construction. Against this background the Norwegian material is strikingly homogeneous.

The Norwegian churches of the 11th century had walls with a structural skeleton of powerful posts standing in holes in the ground. There is a clear structural connection between the 11th-century churches with posts set in the ground and the stave churches of the 12th and 13th centuries that have been preserved up to our time. Archaeological excavations on old church sites and historical investigations of the construction of standing stave churches reveal stages in the development which went on from the time of the mission churches with posts set in the ground to the long-lasting stave churches of the 12th century.

Stone Architecture of Medieval Norway

Problems and Results of a Generation of Study, 1950-1980

By Hans-Emil Lidén

The study of medieval church architecture in Norway since 1950 is

characterized to some extent by a reaction against the tendency of the previous generation to compile old knowledge to construct comprehensive syntheses. Since the 1950's, activity has been devoted less to writing general surveys, and more to writing monographs on individual buildings based on archaeological investigations.

The author discusses some of the interesting new problems that have arisen as a result of this intensified research.

Did west works exist in some Norwegian churches? Were some of them two-storied ("dobbelt-kapelle")? What were the factors determining the building process when a new stone church was to be erected?

The time has come to pursue questions like these, and many others, instead of writing general surveys of Norwegian church architecture.

Church Archaeology of Sweden

By Karin Andersson and Margit Forsström

An inventory of churches and their property began in the seventeenth century, when Sweden became one of the great powers of Europe. It became necessary to establish a historical background to its new political position.

The eighteenth century was to a large extent dominated by a strong interest in useful industrial and agricultural innovations. Historical studies and documentary work was nevertheless carried out by various scholars on an independent basis. The seventeenth and eighteenth century drawings are of priceless value, since they were produced while the medieval churches were still practically unaltered.

In the beginning of the nineteenth century a greater interest in Swedish history arose, and laws concerning the preservation of antiquities became more strict. Every parish was requested to deliver a report describing the parish church and its furnishings to the Central Office of National Antiquities.

The first archaeological investigations in the proper sense of the word were closely connected with the restorations of some of the Swedish cathedrals. When Lund cathedral was undergoing repairs in the 1830's C.G. Brunius studied the standing fabric and discussed the history of the building. For the first time an archaeological task of this kind was carried out with the application of scientific methods and with a proper source-conscious approach.

It was not until the beginning of the twentieth century that investigations of this kind followed on a larger scale. 1912 saw the beginning of the publication of *Sveriges kyrkor* ("The Churches of Sweden", an art historical inventory) and until now about 600 churches have been published in nearly 200 volumes.

The article mentions some of the most important publications and research projects from this century.

In the 1930's and 1940's the organisation of County Custodians of Antiquities was established in nearly all the Swedish provinces. Their studies of various churches under restoration now amount to a very large number.

In Lund the tradition of church archaeology has been maintained since the days of Brunius. There have been many remarkable results from excavations carried out in the town centre. In the 1960's the Department of Medieval Archaeology, headed by Erik Cinthio, was constituted at the University of Lund. The tradition of source-conscious investigations of the standing fabric of the churches, and of stratigraphic excavations inside the churches and in their close surroundings, has thereby been spread wider in the country.

Church archaeology is a very wide term. It includes not only archaeological investigations, but also studies of the fabric including the remains of older windows and doors. The groundplans of various churches are also an object of study. The topographic, historical, social and economic situation at the times of building and modifying a church are also important.

Among the most important neighbouring sciences that must be mentioned are dendrochronology, numismatics, osteology and textile analyses. Studies of old maps and papers in archives are also very important.

Previously it was mainly art historians who wrote about churches. Stress was laid on questions of style and decoration, and on church inventories. Most interior excavations in the first half of the twentieth century took place in ruined churches. Since then it has become more common to excavate inside churches which are still in use but undergoing restoration. Important objects of study include traces of earlier churches, which usually appear as postholes. Graves are also important indications of churches preceding the present structures. They can be documented both inside and outside a wall, and provide a lot of information about a wooden church, for example.

More thorough analyses of the walls of not only cathedrals but also parish churches out in the country have also become more

common. The materials in different parts of the church give an idea of relative chronology. Remains of old doors and windows can of course also be seen. A handbook on the documentation of buildings has recently been published by the Central Office of National Antiquities.

The combination of archaeological excavation and analysis of the walls which has now become the rule rather than the exception, was successfully carried out by Erik Cinthio in the 1950's during his research on Lund cathedral. Recently more interest has been paid to the building process not only of the stone cathedrals but also of the churches built of brick.

Medieval Wooden Churches in Sweden

By Erland Lagerlöf

Sweden does not have much in the way of preserved wooden churches of medieval date when the many well-preserved stave churches of spruce-covered Norway are held up in comparison. Only one stave church is known – *Hedared* in Västergötland – and eleven medieval timber churches, of which several have been converted and interfered with since the Reformation. Others are on the other hand well-preserved, indeed almost undisturbed, for example *Granhult* church in Småland, *Södra Råda* in Värmland and *Tångersåsa* in Närke.

Although few medieval wooden churches have survived, we know that most of the Swedish stone churches of the Middle Ages were preceded by wooden ones. This means that hundreds of wooden churches once existed. We know that this was the case through preserved remains, archaeological excavations and archival material. We also know that a stone choir could be built up against the still-standing nave of a wooden church, and that the two sections, each consisting of their distinctive material, could function together. This was established in among other places *Silte* on Gotland during excavations a few years ago.

The dating of the early wooden churches has been problematic. It is difficult to date these relatively simple buildings on the grounds of style or construction. It is therefore of the greatest interest that dendrochronology has been used, giving the possibility of a precise date. The investigations that have so far been carried out have in some cases produced sensational results. The stave church at *Hedared*, believed to date from the thirteenth century, has been

dated by dendrochronology to the beginning of the sixteenth century. The investigation shows that the trees were felled between 1498 and 1503; the church would thus have been built around 1505. The preserved timber churches seem to have been built from the first half of the thirteenth century (Granhult and Tångeråsa) and throughout the Middle Ages.

A project on the early timber churches is at present taking place for the publication *Sveriges Kyrkor* (Sweden's Churches, published by the Central Office of Antiquities). The intention is that the investigations will result in three inventory publications. The first part, covering Småland and parts of Östergötland, has appeared June 1983; the second part, dealing with Västergötland, Värmland and Närke is scheduled for 1984. The third volume will deal with the other areas where early timber churches have now vanished, but where documentary sources or archaeological evidence show that they once existed.

Stave Churches in Lund

By Anders W. Mårtensson

In the Middle Ages 27 churches were built in Lund, eight of which were part of monasteries. Until now remains of four stave churches all from the 11th century have been found. As regards building technique they represent three various types of construction which is worth noticing considering the early dating. The four churches were dedicated to St. Maria Minor, St. Clemens, St. Drotten and St. Stephen, fig. 1.

The remnants of St. Maria Minor were investigated 1911-12. The remains of the walls were the undisturbed lower part of strong planoconvex oak planks, fig. 3. The stave church has had a rectangular nave and an almost square chancel with a straight east end. The presence of two rows of rough oak posts inside the walls of the nave and chancel can be interpreted as if the roof of the church was carried by a post-construction. The total length of the church was approx. 24 m.

A minor part of the stave church of St. Clemens was investigated in 1932, fig. 5. Unlike the stave church of St. Maria Minor the Clemens church had round corner posts, which indicates that this church had a different roofing system than St. Maria Minor. A corresponding system of planoconvex buried wall planks and round corner posts is found in the stave church of Greenstead, England.

The stave church of St. Clemens could have been built by Canute the Great some time after 1020.

The south part of St. Drotten stave church was examined in 1961 and 1974 a supplementary investigation of the north part, fig. 7-9, was carried out. The total length of the church was 26 m. As can be seen from the pictures the Drotten church closely corresponds to St. Maria Minor with buried wall planks and two inside rows of rough oak posts. The three aisles created by the inside post rows are not reflected in the exterior. Thus the churches of St. Drotten and St. Maria Minor have not been basilican built but must have appeared as the reconstruction, fig. 10. By way of dendrochronological analysis and stratigraphical methods St. Drotten's lifespan can be dated to 1050-1100. Presumably St. Maria Minor existed at the same time. Both churches were probably built on the initiative of the king, more specific by Sven Estridsen, 1047-74.

Remnants of the stave church of St. Stephen were investigated 1978 at Stora Södergatan. The excavation proved that this church had a different construction than other churches found in Lund. In the main part of the church the vertical wall planks have rested on a sill construction. Nothing was left of the sill but parts of sill stones in their original place, which indicated the construction of the church. The discovery of three planoconvex posts in the west shows that the original west wall had a different sill construction like the one in fig. 16. Noticable is that chancel and nave had the same width, fig. 15.

The length of the church was calculated at approx. 18,5 m. The stave church of St. Stephen must have been in use in the period of 1050 to approx. 1110 and can have been built by a private person named Toke as indicated by the inscription on a runestone found there.

The fact that the three churches of St. Drotten, St. Maria Minor and St. Stephen were probably built around 1050 also indicates the existence of a corresponding number of parishes. The accomplishment of a church-reorganization could have implied that Lund got a further number of parishes with corresponding churches at this time. In the paper further three parish churches are mentioned, which could have been built in wood at or after the mid 11th cent. It is also possible that another two wooden churches have been found which could have been built in an early period of the 11th cent.

The Medieval Church Towers of Öland

By Ragnhild Boström

Öland is the smallest province of Sweden. It is an island 135 km by 15 km, lying in the Baltic off the southeast coast of the Swedish mainland. The oldest churches were wooden stave churches, built in the 11th century. In the 13th century they were replaced by stone churches (fig. 1), comprising a nave and a narrow, short chancel with an apse. One third of the churches, those of higher rank, had a tower, either in the west (the majority) or in the east. In the interior they had wooden ceilings or open roof trusses, except the apses which had stone vaults. The towers were slim bell towers with doors at the ground floor level. In churches without towers, the bells were hung in ridge-turrets or in timbered bell-towers in the churchyard. These early stone churches had only one function, namely as places of worship.

During the period 1170 to 1240 the southeastern coast of Sweden were invaded by heathen pirates from southern and eastern coasts of the Baltic Sea. This caused the churches to be rebuilt in various ways to enable them also to function in a defensive role (fig. 2). By the middle of the thirteenth century all the Öland churches had been completely altered to serve both for worship and defence. In general, very little was then altered until the late 18th century, when a great wave of demolition started. By 1871, 9 churches had totally vanished, to be replaced by new structures. Many naves and chancels were pulled down and replaced by light and spacious hall churches (in which nave and chancel are in one). However, there do remain twenty towers of early medieval date. In spite of the great demolition, we know a good deal about the old buildings, thanks to old records and above all to several detailed drawings from 1634 and after (figs. 3, 5, 6, 10a). Step by step the churches were adapted for their defensive purpose. The naves and chancels were vaulted, the walls made higher, and above all the vaults were converted into shelters and strongholds (fig. 5, 6b, d) reached by narrow flights of stairs in the walls. Churches without towers had east or west towers added, heavy structures without doorways at ground floor level and internally divided into several storeys, separated from each other by barrel vaults and joists (figs. 13, 15, 16). These vaults sometimes alternate in direction, so that the ground floor vaulting is north-south, the first floor east-west, and so on, or vice versa (fig. 16). About one third of the churches were transformed into the so-called pack-saddle churches (Fig. 6b, d, e). Archers' storeys were sometimes added to "peaceful" bell towers (figs. 6a, b, c, d). Towers of

defensive purpose like Högsrum and Vickelby which originally were also built to take bells, subsequently had an archers' storey added (figs. 6c, 14, 15).

Figs. 3 and 4 show Smedby church, which was replaced by a new one in 1852. The legend in fig. 3 is a brilliant description of a fortified church, with its strong walls, heavy vaults, dark and narrow wall staircases, secret cell, pit for throwing stones (cf. fig. 13) etc.

Fig. 5 shows three churches with two or three storeys, the room for holy service always being the ground floor as in all the Öland churches. a-b: Böda, with detail of its ridge-turret, with sound holes. c: Källa. d: Egby.

Fig. 6 shows different types of fortified churches. The east towers of Råpplinge (b) and Runsten (d) are built on top of a chancel with its walls reinforced on the outside, while the east tower of Resmo (e) rests on buttresses inside the chancel walls, like Köping (fig. 8).

Fig. 7 shows the north nave door of Resmo. A very long oak beam covers the entrance opening. This English type of doorway is not known in Sweden outside Öland, although there are several examples in Denmark (Jutland); this region had great influence on Swedish church architecture in early medieval times, as both countries belonged to the archdiocese of Lund.

Fig. 8 is a plan of Köping church, which vanished in 1805. A "peaceful" church dating from the early 12th century and of remarkable size, it had an east tower added on buttresses on the inside of the chancel walls. Its doorways were probably of the same type as the one in fig. 7.

Fig. 9 shows Hulterstad church, dating from the early 12th century and one of the oldest churches on Öland. It was inspired by some of the very early churches of Zealand. The aisles had separate roofs.

Fig. 10. Hulterstad church around 1200. A defensive tower was built on the west part of the nave, after the original west tower was demolished. Fig. 10a shows that the three aisles now have the same roof, probably because the church had been vaulted as a hall church at the same time as the defensive tower was built. Many details of the interior are like fig. 13.

Fig. 11. Clerestory window, now in the first floor of the tower – the westernmost clerestory walls from the original church are reused in the secondary tower.

Fig. 12. Load-bearing arch under the staircase of the defensive tower of Hulterstad. Part of the scaffolding survives, and the impressions of the scaffold boards are very sharp.

Fig. 13. Ventlinge. Plan and section to the south of the west tower. In the southeast corner, there is a hole for dropping stones from the first floor. The steps of the first staircase are triangular, set in such a way that one must keep in step in order not to stumble and fall.

Figs. 14 and 15. Vickelby church. An archers' storey is a later addition to a defensive tower, which was also built to contain four bells (there are holes for the bell ropes in the vault). The west doorway of the tower is secondary, about 1270.

Fig. 16. Föra pack saddle church in its first phase, before the nave was vaulted and a shelter room was added on top of the nave vaulting.

The Churches of the Kalmar Region in the Middle Ages

By Karin Andersson

The churches of the Kalmar coast show some resemblances to the churches on Öland, especially with reference to their fortified character in the early thirteenth century. However, the Kalmar churches are nevertheless characterized by certain distinctive marks. There are two round churches, and also a rather unique type of church with a secular ground floor underneath the main body of the church, dating from the twelfth century. A characteristic feature of thirteenth century architecture is the choir with an apse built into a straight eastern wall.

The aim of this article is to point out the architectural and functional characteristics of the fifteen churches in the area, and to discuss their datings.

The oldest stone church in the area is Hossmo, dating from the early twelfth century. The round churches in Hagby and Voxtorp, and the churches in Halltorp, Kalmar, Åby and Ryssby, probably belong to the second half of the same century.

There was intense building activity in the area in the first decades of the thirteenth century. New churches were being built and old ones altered. A complete change takes place from architectural refinement in plans, materials and sculptural details, to an at times rough, fortified character. Whether this indicates that the parishioners assumed the management of the churches and put aside the private owners, or whether the reconstructions were

undertaken as a result of a central decree, is hard to decide at this stage of the investigations.

The area around Kalmar has always been difficult to defend. The coast is very long and open, and during the Middle Ages the Danish border was nearby. In the beginning of the thirteenth century the position was extremely dangerous. A major expansion of Danish military power was taking place in the Baltic. The Hanseatic League was rapidly growing, and various Slavonic peoples ravaged the coasts. This political background must have been responsible for the special character of the churches of the coast around Kalmar.

The Archaeological Study of Churches on Gotland and the Romanesque Stone Church of Västergarn

By Waldemar Falck

Right from the beginning of the 19th century the scientific study of medieval churches has quite a long tradition on the isle of Gotland. Two outstanding names were C.G. Brunius and particularly Johnny Roosval. Real excavations began in 1910 in the church ruin of St. Clement's in the heart of Visby. During the last 15 years a number of excavations have taken place in Visby (Ryska Kyrkan, "The Russian Church", St. Clement's, the St. Nicolas Church, the St. Michael, in the cathedral, in the St. Johannes' and St. Peter's churches, also in the leprosy church of St. George north of the town-wall) as well as in country churches (Bunge, Silte and the Västergarn churches).

In particular the Västergarn ruined romanesque church c. 23 km south of Visby was of archaeological interest. In 1974 a large scale excavation was carried out. The main purpose of the paper is to present the excavation results.

The Västergarn ringwall of defence character to-day only encircles a few dwellings. Some 700 years ago it was a flourishing site. For a long time two medieval churches have been known in this site. One still in use from the gothic age, the other badly ruined and considered a small predecessor of the gothic choir, all that was to be built of the later church. Possibly the civil war of 1288 put a sudden end to the Västergarn harbour, at a time when Visby had already by far outdistanced Västergarn in an internal trade competition.

The excavation showed that the romanesque ruin belonged to a

27 meter long church, which at the time of building in the second half of the 12th century was probably one of the largest, perhaps by far, of the Gotland country stone churches.

Earlier the gothic church was thought to have succeeded the romanesque one. The excavation material proved that they were probably both in use after the end of the 13th century when the second church was built. They could perhaps be considered as a criterion of urbanization, which may also be indicated by the encircling "town"-wall and the stone fortress-tower (turret) right east of the churches.

The town-wall, earlier considered to be from the Viking age, was now at least in part dated to the Middle Ages.

Church Archaeology in Finland

A Survey of the Research History

By Marja Terttu Knapas

Finland has approx. 75 medieval stone churches. Most common are long churches without church towers, built from granite with brickwork architectural details and vaults. The earliest stone churches were built at the end of the 12th century in Åland and in the southwest of Finland. The majority of the stone churches are from the late Middle Ages. Wooden churches in the blockwork were found parallel with the stone churches. Examples of this blockwork of church from the end of the 15th century have been studied.

Church archaeological investigations in Finland was initiated by the founding of the "Finska Fornminnesföreningen" in 1870 and the government service of The Archaeological Commission in 1884. The first large methodical excavation of a medieval church was carried out at the beginning of the 1920s by Juhani Rinne in the Åbo cathedral prior to the restoration of the church. In the 1930s minor trial excavations were carried out even in medieval parish churches.

When the restoration activities were resumed in the 1950s the architectural interests were dominating and a lot of work went on in the churches without proper archaeological investigations at all. In the 1960s a narrow method of architectural-archaeological investigation was adapted with the purpose of supporting the restoration of architectural details.

In the 1970s a more varied archaeological interest arose, which

could not until recently be used in connection with the restoration of some medieval churches. In Finland the field work of the church archaeology has always been carried out in connection with restoration or construction work in the churches.

Supervising authority for all archaeological excavation activities in Finland is the Museiverket in Helsinki. In Museiverket all excavation reports, finds and material from all church investigations are filed. The material and finds relating to the churches of Åland are kept in the Ålands Landskapsmuseum in Mariehamn due to the autonomy of the Åland Islands.

Farm and Church

Connections between church and farm illustrated by archaeological investigations on the Faroe Islands and in Greenland.

By Knud J. Krogh

Archaeological investigations in the settlement of Sand, on Sandoy in the *Faroe Islands* have revealed an eleventh century church under the now standing church, and in the churchyard a building presumably a dwelling was found which was apparently contemporary with the early church. Against this background the suggestion is put forward that the church was erected as an integral part of the farmstead to which the presumed dwelling structure belonged. Similar combinations of farm and church are suspected in other places on the *Faroe Islands*, and reference is made to Iceland, where there was a close connection between church and farm due among other things to the ecclesiastical system with privately owned churches until about 1300. It is suggested that the Faroese ecclesiastical system may have resembled the Icelandic. Mention is also made of Faroese finds of remains of so-called prayer houses, which apparently correspond to the small farm churches or chapels which were such a common element in medieval Iceland, where they were called "bænhús".

The suggestion of connections between farm and church on the *Faroe Islands* is based on weak evidence, because such relationships are not mentioned in the written sources, and because the question has so far hardly been the object of archaeological investigations. The situation is on the other hand clear in one of the

other medieval Norse societies, namely that of the *Greenland settlements*, Østerbygden and Vesterbygden, where Norse settlement occurred at the end of the tenth century and stopped around 1500, for reasons as yet unknown. Not one of the many churches that have been found lay isolated. All are very close to a farmstead. A series of plans is reproduced, showing farmsteads which include a church. Among the churches are a number of very small churches and chapels, which would not seem to have received tithes from any particular area; it is reasonable to suppose that they are prayer houses corresponding to the Icelandic ones. This notable connection between church and farm in medieval Greenland forms the basis for the suggestion that the ecclesiastical system which is only vaguely referred to in the written sources, could have been similar to that of Iceland which is much better described in the early texts.

The question is finally raised as to whether the close connections between church and farm, which seem to occur all over the north Atlantic area, could reflect a similar situation elsewhere in Scandinavia at the time when the ecclesiastical structure was established in the Norse settlements around the north Atlantic. The sequence of events which seems to be visible at Sand church on the Faroes may turn out to be common throughout Scandinavia. The farm itself is the first to be built. Later, after the arrival of Christianity, the church is added to the group of buildings. Finally, after a time the church displaces the farm all together, and forces it to move elsewhere; this is presumably caused by changes in the economic structure of the church. From this it is concluded that by undertaking archaeological investigations in and near churchyards one should bear in mind the possibility of finding a long-vanished farmstead.