

**Kaur Alttoa**

## ON THE ORIGINAL PLAN OF NOUSIAINEN CHURCH

### *Abstract*

The author discusses the original plan and dating of the Church of Nousiainen in SW Finland. With reference to structural features and comparative materials, the author concurs with recent suggestions of a later date for the construction of the church than previously assumed.

*Kaur Alttoa, Ilmatari 38, EE-2400 Tartu, Estonia.*

In Finnish medieval architecture The Church of Nousiainen undoubtedly occupies a significant place. The tomb of St. Henry, the patron saint of Finland, alone gives it a unique position. Also the nave, with its polygonal west part, is very unusual. Last but not least, with the exception of Turku Cathedral, with its complex building history, there are no other sacral buildings in Finland for which so many different conceptions concerning the initial architectural design have been suggested.

In its present state, Nousiainen Church is a three-aisled hall church with a polygonal apse to the sanctuary (Fig. 1). On the north side is the sacristy, in the south the porch and a burial chapel, which was added in 1901. The vaults lean on quadrangular piers. The attached supports along the nave walls, consisting of shafts of different sizes, are shaped differently from the piers.

Skippping the earlier historiography of the church, one should start with Iikka Kronqvist's interpretation (Kronqvist 1948; Fig. 2a). Until then, the sanctuary had been considered a later addition to the original church. However, he argues that the whole foundation is from the same time. The shape of the ground plan is derived from the Western tradition of a church with two sanctuaries, whereas the western one was dedicated to St. Henry. Pointing out the difference between the forms of the wall supports and piers, Kronqvist concludes that the vaults and piers we see today originate from a later reconstruction. The shape of the wall piers gives a hint that there were originally compound piers. They were located in the same place as nowadays, only the western pair of piers was missing, and there was

a large half-dome with radial ribs in the western part of the church. Judging by the shapes of the bricks, the author associates Nousiainen Church with Turku Cathedral, and these in turn with the 13th-century brick buildings of Middle Sweden (including the Church of Our Lady in Sigtuna). On the basis of these analogies, I. Kronqvist assumes that the church dates back to the time of Bishop Johan I (1286–90) (Kronqvist 1948: 38, 43–46).

In 1952 an article by Lars-Ivar Ringbom (Ringbom 1952: 222–234) was published. He analyses the vault-supporting wall piers, where thick shafts alternated with thinner shafts (the author calls them respectively 'old and young soldiers'; Fig. 3). At the longitudinal walls the supports consist of five elements (the second and fourth ones are 'old'). L.-I. Ringbom regards the thicker elements as supports for the ribs; the transverse arch leaned on the shaft between them, while the wall ribs (formerets) started from the outer shafts. Judging by the position of the 'old soldiers', the author derives the direction of the ribs, and from this concludes that originally the church has been two-aisled (Fig. 2b). To the western part where a single 'old soldier' is framed by two 'young soldiers' he gives a similar solution as Kronqvist. He also agrees on the dating of the church given by Kronqvist, but the idea of the patterns of the church is new - the Church of St. Henry's tomb follows the example of the Church of Christ's Grave. L.-I. Ringbom's conceptions have generally been supported by Tove Riska in 'Suomen Kirkot' (Riska 1961: 223–226).

The next study on this subject is in Bo Lindberg's article on Turku Cathedral (Lindberg 1975:

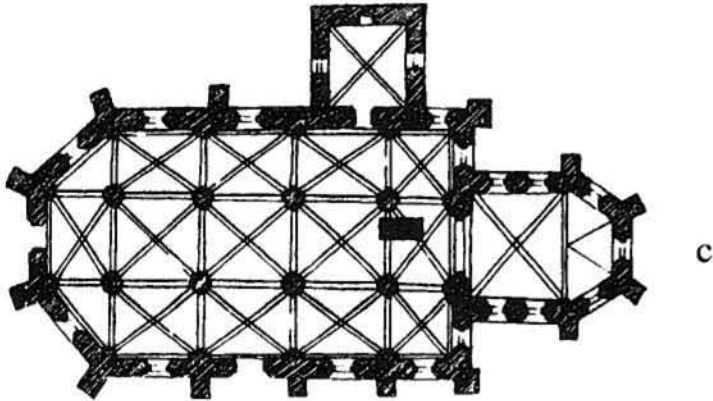
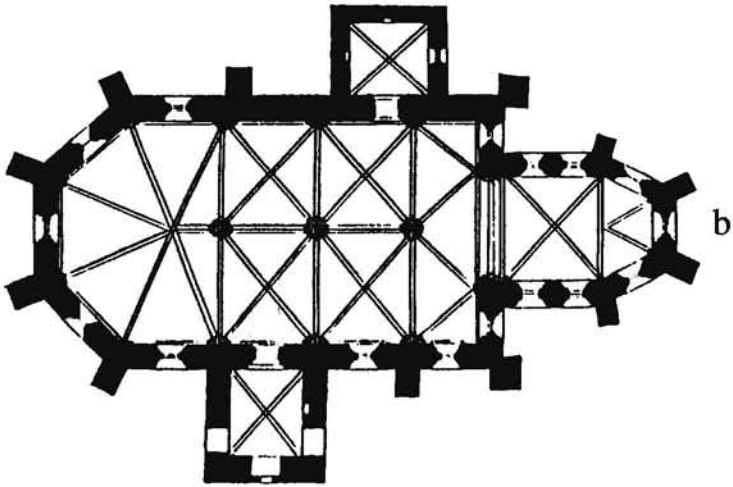
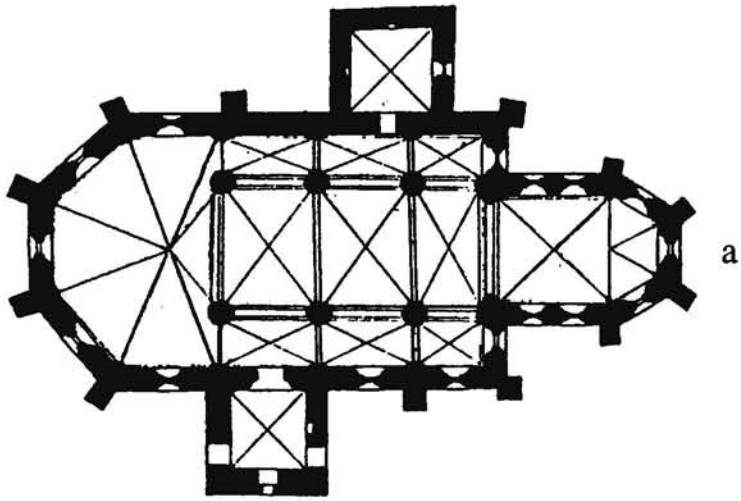


Fig. 1. Nousiainen Church. Photo P-0. Welin 1967, National Board of Antiquities, Department of Monuments and Sites.

19 etc.). He could also rely on the data from the archaeological excavations of 1967–1968. The author's notion is that St. Henry's grave, which is older than the present day church, was originally situated at the same site as the later cenotaph, i.e. in the eastern bay of the body near the longitudinal axis. From here the author draws the firm conclusion that the church could have never been two-aisled, since in that case the easternmost pier would have been situated exactly on top of St. Henry's grave. The excavation also showed that the chancel arch was originally 1.5 metres narrower than it is today. Judging from this information, the author gives his opinion about the original form of the church: it was three-aisled, with the piers being closer to the longitudinal axis than they are at present (Fig. 2c). Lindberg does not agree with the proposed scheme of the western part – it would have been constructively disastrous – and places an additional pair of piers there (Lindberg 1975: 19–20). Concerning the dates, the author finds that the attached round columns of Turku Cathedral and Nousiainen Church do not have much in common with the strong half-columns in St. Mary's Church

in Sigtuna. In conclusion, he shifts the time of the building of Nousiainen Church to a somewhat later date: it had hardly been started before 1300 (Lindberg 1975: 41, 52).

The key to explaining the initial planning of Nousiainen Church lies in the wall supports. The first to attract our attention are the ones of the longitudinal walls. As already indicated, the diagonally situated elements (the second and the fourth) have always been interpreted as supports for the ribs. However, we must ask the very simple question of where in fact were the ribs and the transverse arches. The author does not recall even one instance in Western medieval architecture where the dimensions of the ribs dominate over the size of the transverse arches. As a rule, the ribs are more modest in size than the transverse arches, or they can be equal (in other words, there are transverse ribs instead of transverse arches). From this we can make only one conclusion, which at first glance may seem strange. In Nousiainen Church the transverse arches were not designed perpendicular to the longitudinal walls; instead, they were designed diagonally (Fig. 4). From this it follows that the bays



*Fig. 2.* Nousiainen Church

- a – by I. Kronqvist (1948).
- b – by L.-I. Ringbom (1952).
- c – by B. Lindberg (1975).

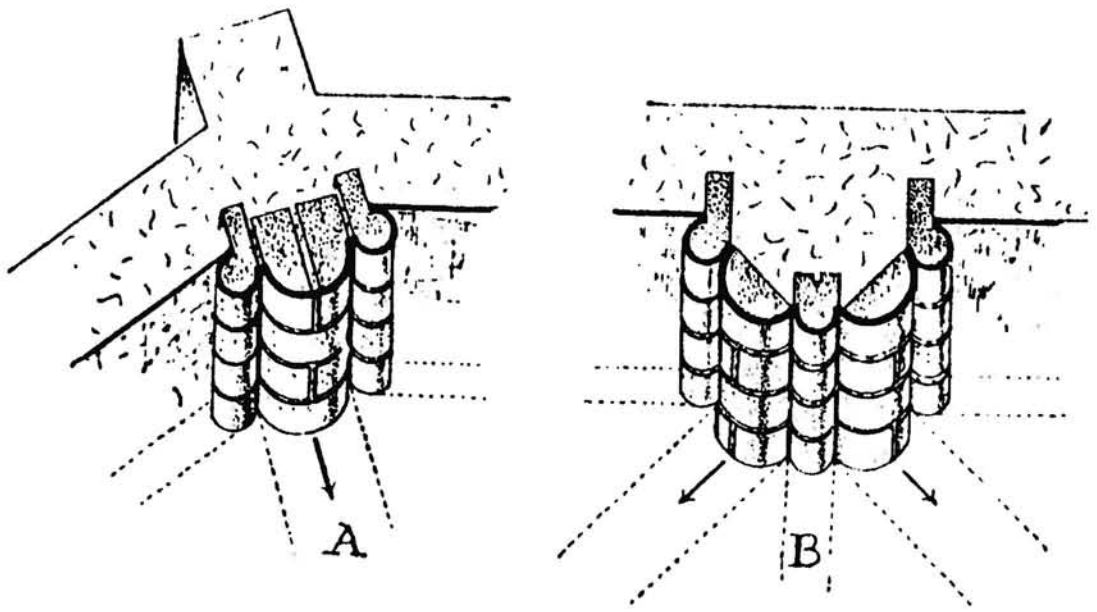


Fig. 3. Wall supports by L.-I. Ringbom (1952).

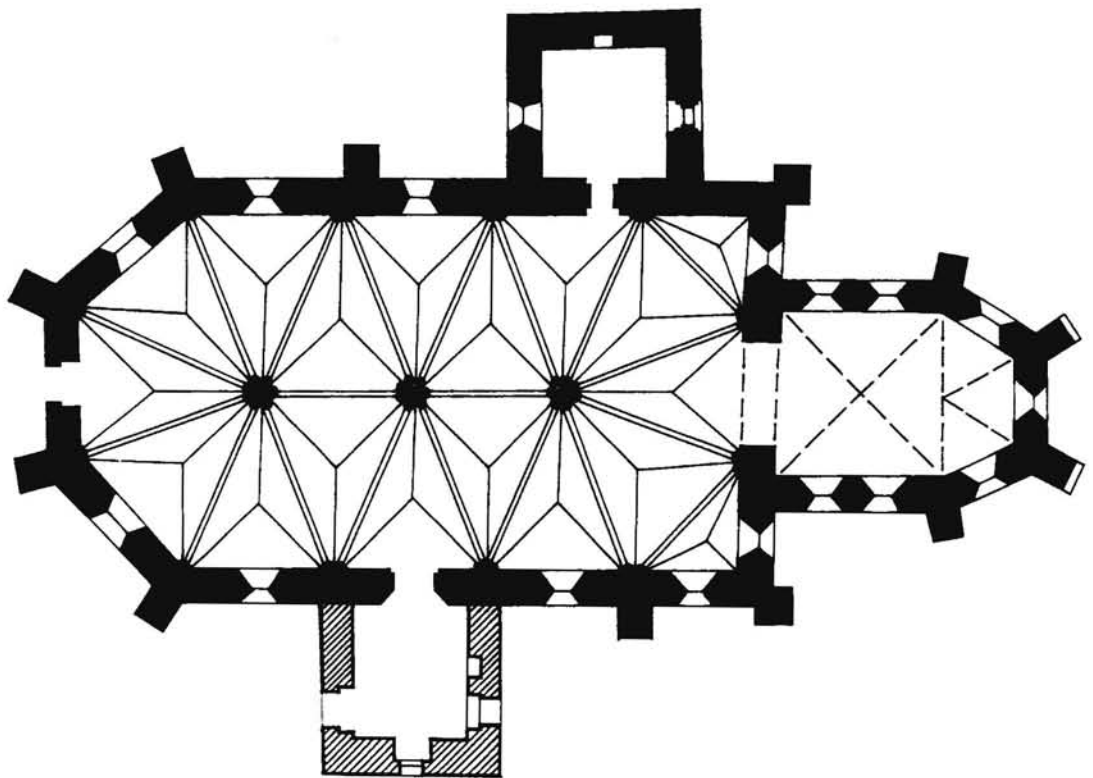


Fig. 4. Nousiainen Church by K. Alftoa. Drawing by I. Kuuse.

were planned to be triangular. This being the case, the piers would be situated on the longitudinal axis, and therefore the concept of a two-aisled body must be again be taken into consideration.

As mentioned above, the thin outer shafts have been interpreted as supports for the wall ribs. In the case where each vault element has its own support it could be possible that one shaft was designed for the wall rib – if there was a plan to build them at all. To explain that question, we must also take into account the solution of the corners of the eastern side of the body, where there is only a thin shaft ('young soldier'). In all the restoration studies that have been proposed, it is obvious that the easternmost bays 'limp': while there is only a rib starting from the shaft on the western side, at the other corner of the same bay there are three elements – one rib and two wall ribs – starting from one thin shaft. It should be stressed that the masters who worked at Nousiainen were professionals of high standard – the brickwork of the windows and the portals demonstrate that they were also familiar with the principles of brick architecture. Therefore it is not possible to explain the solutions as 'accidental (the masters' distortion) or barbarically ignorant', which can be the case with some other Finnish medieval buildings. The northeastern and southeastern corners lead us to the conclusion that the thin shaft was to support the rib; hence, the outer shafts of the longitudinal walls had the same function. It appears that there was no plan to build any wall ribs at all. If we add the above-mentioned statement that the bays were triangular, then the result will be a quite common so-called three-ray-vault (*Dreistrahl-gewölbe*).

Let us next consider the western polygon. As already mentioned, the composition of the wall supports is different here – one thick shaft framed by two thinner shafts. According to Lindberg, the middle component should support the transverse arch and the rib at the same time, since the outer components are for the wall ribs. Thus, we see again a contradiction between vault supports and vault components. But in the case of the proposed triangular three-ray-vault, each component is exactly in place: an 'old soldier' marks a transverse arch, while a 'young soldier' marks a rib (and there are no traces indicating the wall ribs). The location of the buttresses of the polygonal part also points to the radial solution<sup>1</sup>.

With regard to the eastern part of the body, the supports along the longitudinal wall suggest that in the eastern bay there was another transverse arch that proceeded from the thick shaft up to the chancel arch, which was originally much narrower. When the chancel arch was enlarged, only a frag-

ment of the northernmost thin shaft remained. The latter supported the rib of the small triangular additional bay in the northeastern corner of the church. As a result of such a vault pattern the area of St. Henry's grave in the eastern part of the nave forms an integral whole which is not divided by any of the piers.

We agree with B. Lindberg that the massive quadrangular piers in the Church of Our Lady in Sigtuna (see Berthelson 1943) have little in common with the forms derived from the compound piers in Nousiainen Church (Lindberg 1975: 41). It has always been pointed out that in Turku Cathedral there are similar forms as in the wall supports at Nousiainen, hence the genetical connection between the two. It is worth noting that the main element of that composition, semiround profile brick, found frequent use in Finnish architecture. Such bricks have been found at least in the churches of Kirkkonummi and Perniö, and yet another one of the kind should be in the Museum of Kastelholm. However, this list ought to show that connecting two buildings – in this case Nousiainen Church and Turku Cathedral – only on the basis of a single brick form is too tenuous a conclusion.

Where could we find prototypes for the solutions of Nousiainen Church? Ringbom refers to one plan analogy – the Chapel of St. Nicholas in Soest (Ringbom 1952: 233–234; Fig. 5). This is in fact a two-aisled chapel with a polygonal western part. However, the similarities between the two buildings end here. The main difference is that in Soest the western part was designed as an entrance space, with a loft above it. This separates the western polygon both functionally and visually from the nave. Entirely different, however, are the architectural forms of this Romanesque chapel dating from the 12th century (Dehio 1969: 539) or from around 1200 (Linnhoff 1986: 3). Having seen both these buildings, it is hard to see any kind of genetic connection between them. On the other hand, one must support another idea suggested by Ringbom – the burial church of St. Henry follows the example of the Church of Christ's Grave (Ringbom 1952: 234). It is not important whether Nousiainen Church was similar to the church in Jerusalem; Richard Krautheimer has demonstrated how cardinal a medieval architectural copy can differ from its example. This is especially true in the case of the numerous imitations of the Church of the Holy Grave (Krautheimer 1942: 2–7).

The proposed vault composition may appear slightly unusual, but covering a room with triangular bays is not unknown in Europe. In this case we deal with the so-called jumping vaults (*Springgewölbe*). They were erected at a time period that dif-

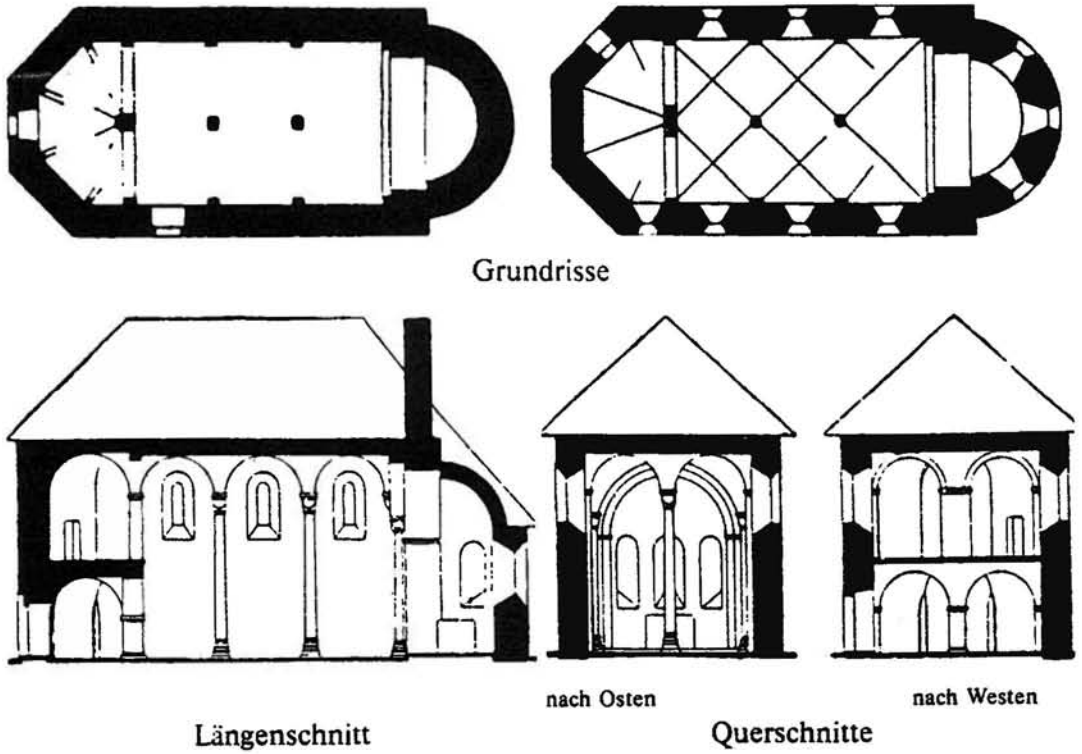


Fig. 5. Soest. Chapel of St. Nicholas. By E. Linnhoff (1986).

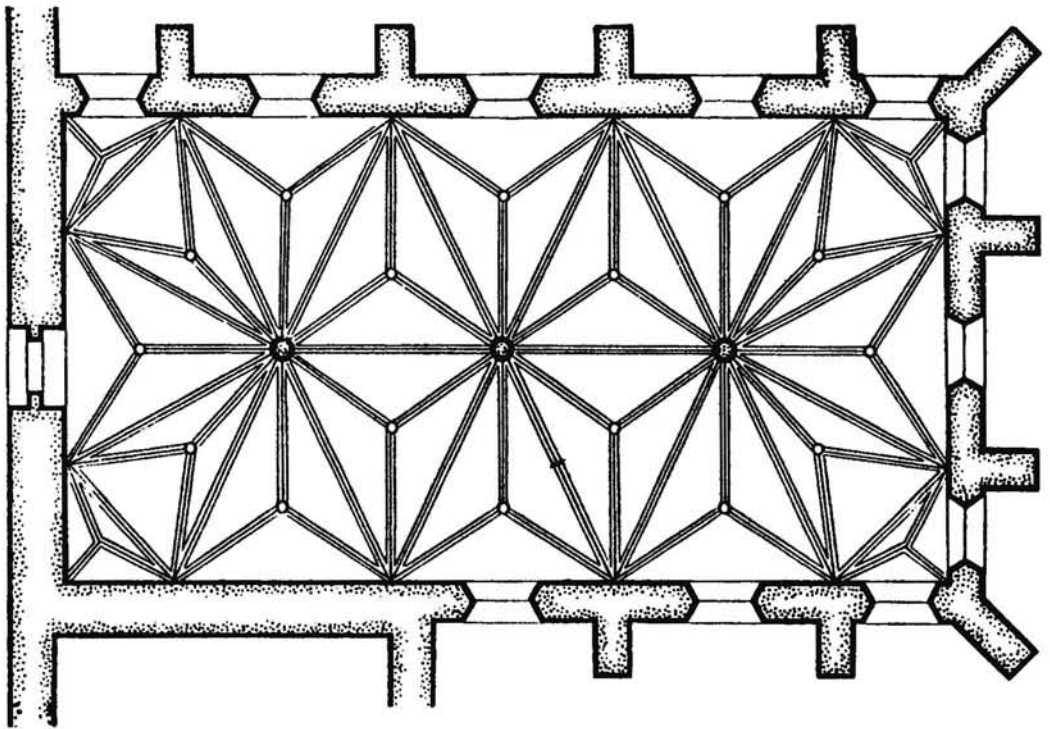


Fig. 6. Bebenhausen Monastery. Refectory. By K.-H. Clasen (1961).

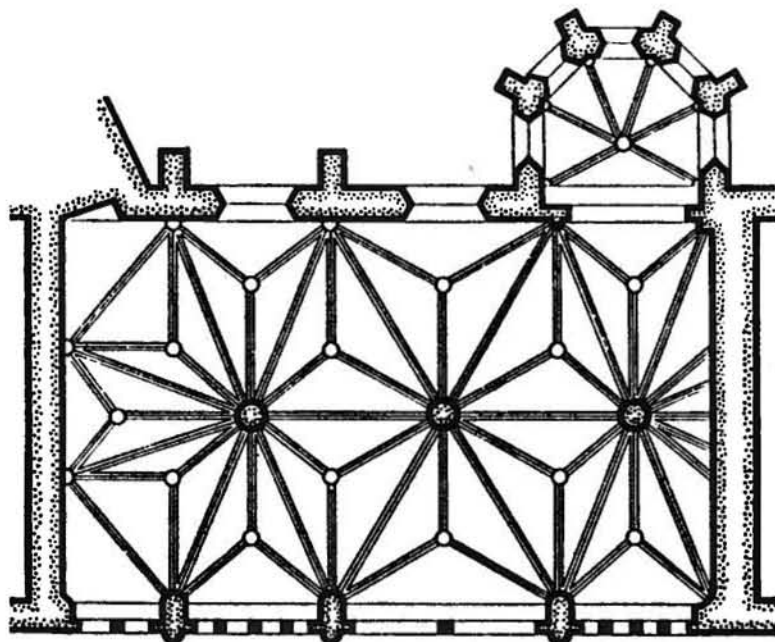


Fig. 7. Maulbronn Monastery. Chapter-house. By K.-H. Clasen (1961).

fers completely from the traditional date of Nousiainen Church. A comparable vault system can be found in the summer refectory of the Cistercian Monastery of Bebenhausen dating back to 1335 (Clasen 1961: 52; Fig. 6). The vault composition as a whole is under consideration here, not particular architectural details (in Bebenhausen the vaults start from the wall corbels and the extremely slender piers are octagonal). We can also name the chapter-house of Maulbronn Monastery from the second quarter of the 14th century (Clasen 1961: 54; Fig. 7). Some quite close solutions can be found in Central European churches dating back to the second half of the 14th century: Stopnica (*post* 1362) and Scydlow (*post* 1355) in Poland. After 1367 the same shapes start to spread in Bohemia (Skubiszewski 1980: 95–97). The aisles in Wrocław's Holy Cross Church are also worth mentioning (however, besides the similarities, there are also many differences). If in the earlier literature the completion of the church was placed around 1371 (Clasen 1961: 65), then later on it has been modified to *ante quem* 1350 (Mroczo 1980: 117).

There is another aspect that must be taken into consideration when talking about the date of Nousiainen Church. Before the archaeological excavations it was very logical to assume that the original plan was completed and the church was reconstructed later. In 1967–68 it turned out that there is no evidence of earlier piers in the church. Therefore, one could assume that the church was never

finished according to the original conception. After the completion of the walls, the building plans were radically changed. They rejected the initial concept of a two-aisled body. It is likely that the three-aisled solution was more suitable for a parish church. Knowing the importance of Nousiainen, it is hardly believable that after the walls were built, the incomplete church would have stood unused for 70–80 years. It is also questionable that the church had for a temporary wooden ceiling for a long time. Thus, there could not be a large gap between the two building periods – the presently existing vaults and piers cannot be much younger than the walls.

In 1377 the Pope issued the letter of indulgence to those who helped in building Nousiainen Church: *...ad fabricam ipsius ecclesie manus porrigentibus adjutrices* (FMU no. 857)<sup>2</sup>. Based on that, Iikka Kronqvist dates the present-day vaults to the end of the 14th century, in any case later than 1377 (Kronqvist 1948: 68). L.I. Ringbom associates the erection of the vaults with wall painting that were created in the end of the 14th century or the beginning of the 15th century as suggested by L. Wennervirta (Ringbom 1952: 225). T. Riska gives the same time specification (Riska 1961: 225, 227).

It is worth recalling that three-ray vault is known also in Finland, i.e. the *Herrainkellari* (Lords' Cellar) hall in Turku Castle (Fig. 8). We must note that besides similar composition elements there are also discrepancies, and we should not try to associate

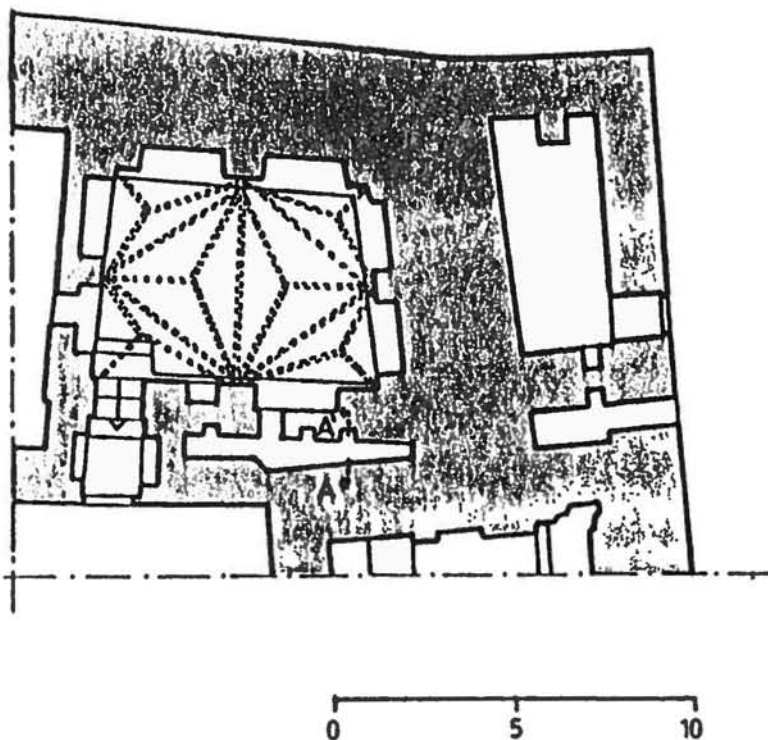


Fig. 8. Turku Castle. *Herrainkellari*. By K. Drake (1986).

those two buildings with the same masters. Knut Drake refers to the analogies of the vaults in Prussia since the 1350s; but considering the beginning of the spread of the stellar vault in Scandinavia, he places the room to the 1410s (Drake 1986: 128). Here one must mention that in the second half of the 14th century in the case of several buildings in Estonia, Central European examples and mediation were present; namely in the castle of Kuressaare, the apse in Valjala Church, and the Cathedral and St. John's Church in Tartu (Raam 1978, Markus 1991, Alttoa 1992: 17 etc., Alttoa 1988: 270–271). Let us stress that we are talking about the area and time of the spread of both the jumping vault and the three-ray rib. On the other hand, the jumping vault and three-ray rib were used in the chapels of St. Jacob's Church in Stettin (Szczecin), which is associated with Hinrich Brunsberg (Zaske 1978: 190 etc.). Buildings by the same master definitely had impact upon another medieval building in Turku in the 15th century, viz. Turku Cathedral (Gardberg 1987: 18).

As for the sanctuary, all the researchers have outlined the present-day situation in their restoration studies of the original church. However, it is difficult to agree with this concept. Assuming that the

whole church was planned at the same time, we would suppose that the principles of the vaulting of the sanctuary and the nave were similar. In the sanctuary, the only vault supports are the thin shafts ('young soldiers'), one in each corner. Consequently, there was initially planned a vault with a fan-like composition of ribs that started radially from a single boss or crown and formed an undivided whole above both the quadratic and the polygonal part of the sanctuary.

At this point we are limited to only outlining some problems. More precise conclusions require a broader knowledge of the comparison materials and Finnish medieval architecture as a whole.

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This paper was for the most part completed before the publication of Markus Hiekkänen's doctoral dissertation (Hiekkänen 1994). It was interesting to note that, although proceeding from totally different criteria, Hiekkänen also rejects the suggested analogy between Turku Cathedral and Nouisainen Church, dating the latter to a much later period, between 1440 and 1470 (Hiekkänen 1994: 224), which is not in contradiction with the above mentioned vault analogies.