

## THE “GLASS CHURCH” IN THE PILIS MOUNTAINS The Long and Complex History of an Árpád Period Village Church

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*Art historical and archaeological research in Hungary has long been dealing with medieval village churches, although these relatively simple buildings cannot be compared to the large cathedrals and monastic churches. Village churches generally fulfilled the same function for several centuries, even if they were rebuilt from time to time. This was the place where the local community pursued its religious activities, and the inhabitants of the settlement and the parish were buried in the churchyard. Three years ago we began the intensive archaeological investigation of a church such as this as well as the surrounding buildings at a site called Pomáz-Nagykovácsi-puszta located in the Pilis Mountains. In this case, however, the archeological investigations and the written sources provided a rather unusual profile. By the Late Middle Ages the church was not used by the people of the nearby village any more, but the Cistercian monastery of Pilis located a bit further away established an estate around it. What is even more interesting, the building seems to have ceased to function as a church by the end of the Middle Ages. Thus, the ongoing research contributes to our understanding of the kind of buildings comprising Central European monastic estates and of how these were used. As the analysis is still in process, this brief summary presents only some preliminary results. In addition to the changes in the function of the building we touch upon some questions related to the structure and building materials of the church, the related burials, and the architectural complex erected around it.*

### RUINS ON THE EDGE OF THE PILIS MOUNTAINS

These ruins, located between the modern settlements of Pomáz and Pilisszentkereszt and not far from the former manor of the Podmaniczky family, had already attracted the attention of some local historians studying the area in the 19<sup>th</sup> century.<sup>5</sup> The architectural remains hidden in a clump of trees on a small hill rising 15-20 meters above the valley of a stream and the modern road cover a territory that measures approximately 60x60 meters. The hill is bordered by a gully on the north, and by cultivated fields and meadows at the southern foot of the hill and on the other side of the road (Fig. 1).

Through local traditions and previous research into monastic history it was well known that in

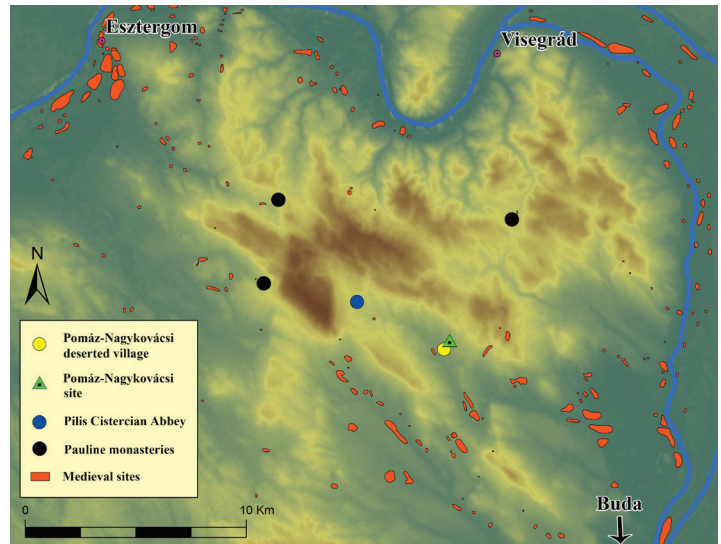


Fig. 1: The Pomáz-Nagykovácsi-puszta site in the Pilis Mountains. Medieval sites were surveyed by the Archaeological Topography of Hungary program. (map: Zsuzsa Eszter Pető)

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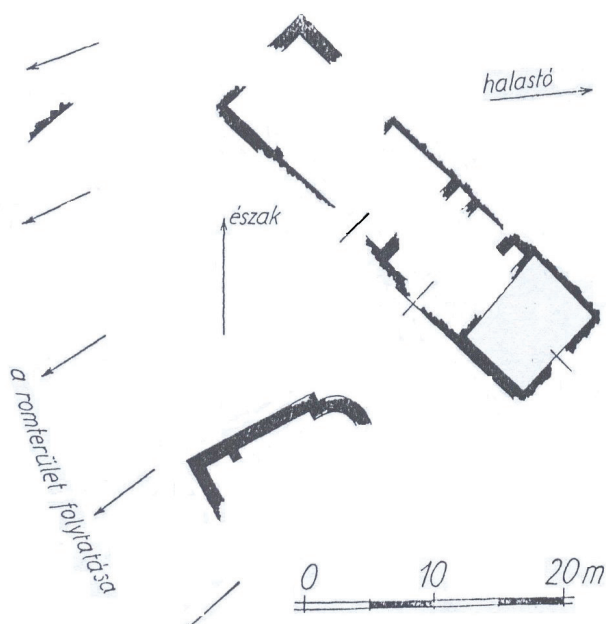


Fig. 2a: Ground plan drawn by László Krompecher after his excavations. Krompecher, László: *A pilisi apátság romjainak fellelése*. *Technika. A Magyar Mérnökök Lapja* 15 (1934), fig. 31

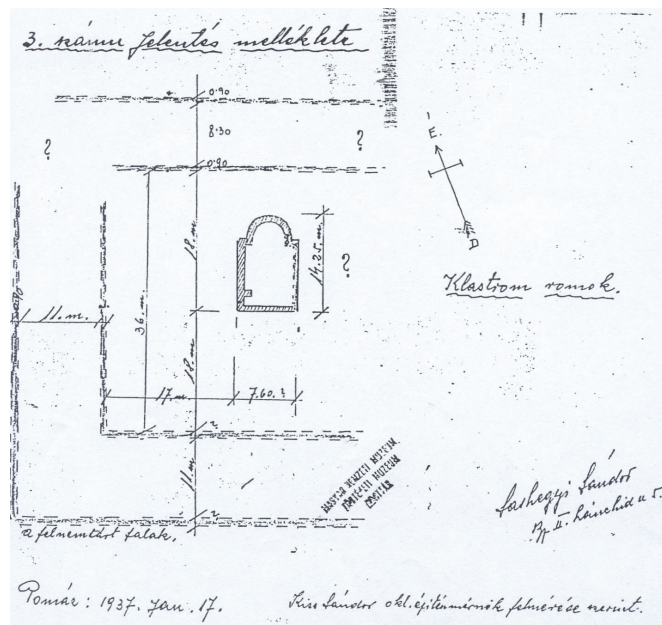


Fig. 2b: Ground plan reconstructed by Sándor Sashegyi

the Middle Ages a number of monastic communities lived in the Pilis Mountains. As the ruins at the Pomáz site cover a more or less rectangular area, reminiscent of the wings of a monastic complex at first glance, researchers first attempted to identify their exact function along these lines. László Krompecher, a professor at the Technical University in Budapest started to deal with the site in 1927, and based on the ground plan he reconstructed from the visible ruins he determined it was the Cistercian abbey of Pilis.<sup>6</sup> From the following year on he carried out excavations as well that unfortunately did not exactly correspond to professional standards. He published a new, different ground plan in a second paper about the excavations (Fig. 2a). This drawing represents a small, single aisled church with a semi-circular apse, and an oblong building located to the northeast, the orientation of which was conspicuously not in line with that of the church.<sup>7</sup>

A local amateur archaeologist, Sándor Sashegyi followed – and criticized – Krompecher’s excavations, and afterwards he himself had an architectural survey made of the visible walls. The same kind of church building appears on these drawings as well, but here surrounded by three wings making a U shape and oriented parallel with the church (Fig. 2b). Sashegyi, however, identified the complex with the Holy Cross Monastery of the Pauline order.<sup>8</sup> This debate was resolved for good by the results of two further excavations. István Méri and Júlia Kovalovszky found the aforementioned Pauline monastery at the site called Klastrompuszta<sup>9</sup> near Kesztölc, and more thorough research on the ruins located at Pilisszentkereszt carried out by László Gerevich produced an irrefutable identification of them with the Cistercian monastery of Pilis.<sup>10</sup>

<sup>6</sup> Krompecher, László: A pilisi ciszterci apátság és a pilisszentkeresztnek szentelt pilisi pálos kolostor építészeti maradványai (Architectural Remains of the Cistercian Abbey of Pilis and the Pauline Monastery of Pillis Dedicated to the Holy Cross of the Pilis). *A Magyar Mérnök- és Építész-Egylet Közlönye* 49–50, 9 December (1928), 329–333.

<sup>7</sup> Krompecher, László: A pilisi apátság romjainak fellelése (Discovery of the Ruins of the Pilis Abbey). *Technika. A Magyar Mérnökök Lapja* 15 (1934), 36–37, fig. 31.

<sup>8</sup> Belitzky, János – Sashegyi, Sándor: *Pomáz* (Budapest: Belitzky, 1939), 20–22.

<sup>9</sup> The toponym means a deserted monastic site.

<sup>10</sup> Kovalovszky, Júlia: A pálos remeték Szent Kereszt-kolostora (Méri István ásatása Klastrompusztán) (The Holy Cross Monastery of the Pauline Hermits [The Excavation of István Méri at Klastrompuszta]). *Communicationes Archaeologicae Hungariae* (1992); Gerevich, László: Pilis Abbey a Cultural Center. *Acta Archaeologica Academiae Scientiarum Hungaricae* 29 (1977), 155–198; Gerevich, László: Grab der Gertrud von Andechs-Meranien in Pilis. In: *Sankt Elisabeth, Fürstin, Dienerin, Heilige. Katalog* (Sigmaringen: Thorbecke, 1981–82), 334–336; Gerevich, László: Ergebnisse der Ausgrabungen in der Zisterzienserabtei Pilis. *Acta Archaeologica Academiae Scientiarum Hungaricae* 38 (1985), 115–152.

The area was nationalized by the Hungarian state after the Second World War, and warehouses for a pharmaceutical company were erected and were in use here up to the late 1990s. During this time, the research on the ruins was halted. Sándor Soproni, an archaeologist from the regional museum interfered only when a latrine was to be established right in the apse of the church in 1951.<sup>11</sup>

The issue of how the site can be interpreted was next raised by the experts performing an archaeological topographic survey of Hungary in the 1980s. They detected the archaeological traces of a medieval village on the opposite side of the road running at the foot of the hill. The site of a deserted village called Kovácsi in the written sources was also detected, and the small church excavated by Krompecher was identified as its parish church.<sup>12</sup> The village of Kovácsi had already been identified here in the 18<sup>th</sup> century, when, after the Ottomans were expelled from Hungary, the landowning Wattay family was able to return to their territories and they used medieval documents to identify their estates and to prove their right of ownership.<sup>13</sup>

Though the archaeological topography did not provide any interpretation of the wings around the church, the issue was re-introduced into the scholarly discussion by it. Tamás Guzsik, an architect dealing with architectural history identified the site with a place name indicated in a medieval list of Pauline monasteries.<sup>14</sup> Later, however, his theory was disproved, as the monastery mentioned in the list turned out to have been located somewhere else, and not in the Pilis area.<sup>15</sup> József Laszlovszky offered a new interpretation in 2009 based on historical and archaeological sources. He argued that since according to a charter dating from 1254 the village of Kovácsi was owned by the Cistercian abbey of Pilis, the situation was probably also the same during the entire later Middle Ages.<sup>16</sup> Already prior to the more recent excavations, this piece of information suggested that no singular answer can be given to the question about the former function of the architectural remains, but one has to reconstruct processes and changes that took place over several centuries.

### THE ON-SITE RESEARCH INTO THE BUILDINGS

New research started with a survey of the surface features and the above-ground remains of the buildings. In the mid-90's the architectural students Bálint Ásztai and Beatrix Szabó investigated the complex.<sup>17</sup> Their survey confirmed Krompecher's observations concerning the difference between the orientation of the church and that of the three wings (*Fig. 3*). This suggested that the structures were not constructed at the

<sup>11</sup> He mentioned two disturbed graves and some finds in his report. See Dinnyés, István et al.: *Pest megye régészeti topográfiája. A budai és szentendrei járás* (Archaeological Topography of Pest County. The Buda and Szentendre Township), vol. 1. Magyarország régészeti topográfiája 7 (Archaeological Topography of Hungary 7). (Budapest: Akadémiai Kiadó, 1986), 23/12, site No. 196.

<sup>12</sup> *Ibid.*

<sup>13</sup> The toponyms Nagykovácsi and Kiskovácsi even today mark areas located along the road leading from Pomáz to Pilisszentkereszt. The official name of the site is Pomáz-Nagykovácsi-pusztá, which includes both the church on the hilltop and the settlement in the valley.

<sup>14</sup> Guzsik, Tamás: *A Pálos rend építészete a középkori Magyarországon* (The Architecture of the Pauline Order in Medieval Hungary) (Budapest: Mikes Kiadó, 2003), 40.

<sup>15</sup> Solymosi, László: Pilissziget vagy Fülöpsziget? A pálos remeteélet 13. századi kezdeteihez (Pilis Island or Fülöp Island? On the Beginnings of the Pauline Hermits' Life in the 13<sup>th</sup> Century). In: *Emlékkönyv Orosz István 70. születésnapjára* (Festschrift for the 70<sup>th</sup> Birthday of István Orosz), ed. Angi, János – Barta, János Jr. (Debrecen: Multiplex Media, 2005), 11–23; Laszlovszky, József: Ciszterci vagy pálos? A Pomáz-Nagykovácsi-Pusztán található középkori épületmaradványok azonosítása (Cistercian or Pauline? Identification of the Medieval Architectural Remains Located at Pilis-Nagykovácsi-pusztá). In: *A ciszterci rend Magyarországon és Közép-Európában* (The Cistercian Order in Hungary and Central Europe), ed. Guitman, Barnabás (Piliscsaba: Pázmány Péter Katolikus Egyetem Bölcsészettudományi Kar, 2009), 191–208.

<sup>16</sup> *Ibid.* The data related to the abbey were collected by Hervay, Ferenc Levente: *Repertorium historicum ordinis cisterciensis in Hungaria* (Roma: Ed. Cistercienses, 1984), 142–144.

<sup>17</sup> Ásztai, Bálint – Szabó, Beatrix: Középkori romok a Pilisben (Medieval Ruins in the Pilis Mountains). *Élet és Tudomány* 53 (1998)/24, 750–751; Laszlovszky, József: Ciszterci vagy pálos? A Pomáz-Nagykovácsi-Pusztán található középkori épületmaradványok azonosítása (Cistercian or Pauline? Identification of the Medieval Architectural Remains Located at Pilis-Nagykovácsi-pusztá). In: *A ciszterci rend Magyarországon és Közép-Európában* (The Cistercian Order in Hungary and Central Europe), ed. Guitman, Barnabás (Piliscsaba: Pázmány Péter Katolikus Egyetem Bölcsészettudományi Kar, 2009), 200, and figs 207–208.

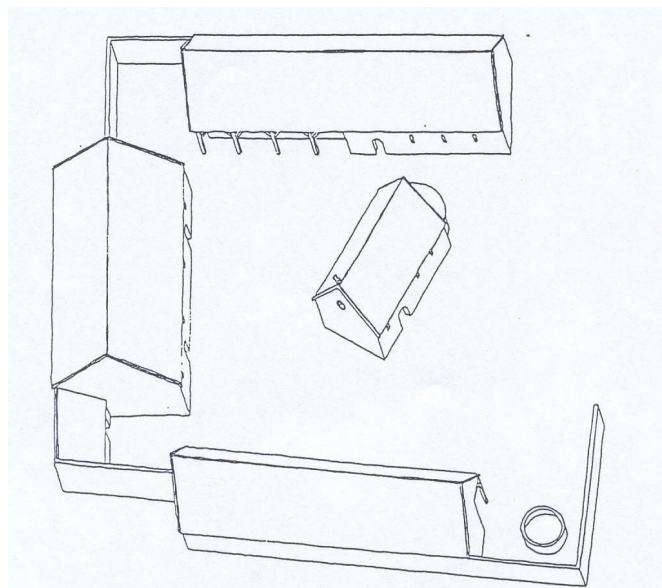
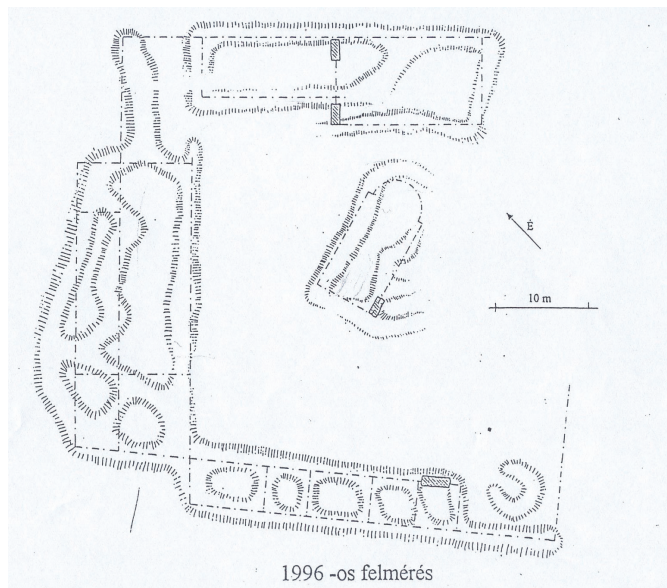


Fig. 3: Ruins visible on the surface in the mid-1990s (survey by Bálint Ásztai and Beatrix Szabó)

same time. As a next step, already in the framework of the new research campaign, geophysical and field surveys were carried out, and in 2011 with the support of the owner we finally started excavations in the area of the ruins, which by this time were already in private ownership.

The remains of the church were covered by a meter and a half of thick stone debris, in which we could clearly distinguish Krompercher's excavation trenches (Fig. 4). It was discovered that he only opened these above the walls, tracing their line, but fortunately he stopped at the level where the ground plan could be identified – at the top of the remains – and thus he did not destroy the entire stratigraphic context. We unearthed the ashlar-built walls of the church, which survived on the western side to a height of about 100-120 cm measured from the original building ground level. (Fig. 5). In the area of the sanctuary, however, only the first row of ashlars was preserved, or in some places only the foundations (Fig. 6).

We employed a variety of documentation methods during and after the excavation. In addition to the traditional architectural-archaeological survey (a stone-by-stone drawing corrected and measured with a total station), the church and the finds were scanned with a laser scanner<sup>18</sup> (Fig. 7), and we also used drones during the photo documentation of the buildings. All these will contribute to a detailed analysis of the structural and architectural characteristics of the church, and the complex stratigraphy of the site.

The small (14x7 m), single-nave church was oriented towards the east, with some degree of deviation towards the northeast (Fig. 8). The semi-circular

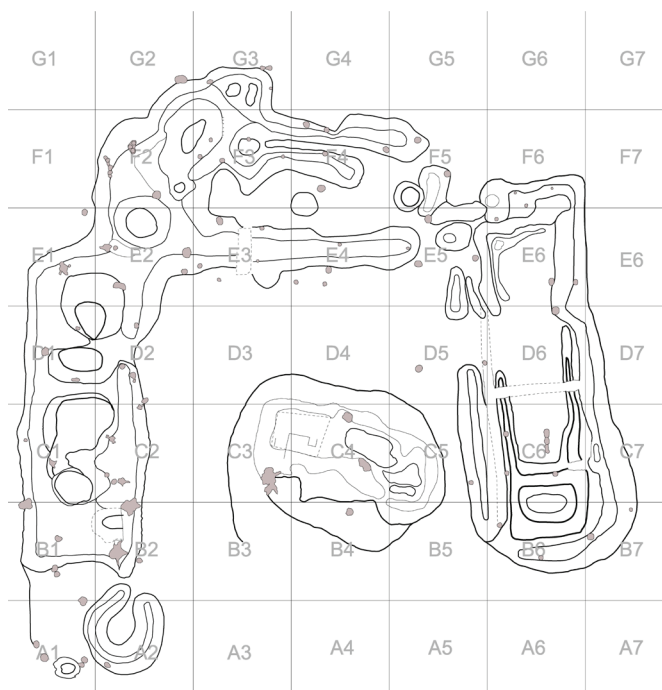


Fig. 4: Survey of the microrelief phenomena. The three wings and the church in the middle, marking the surface traces of the walls covered by earth and the earlier test trenches and disturbances (Dóra Mérai, Beatrix Szabó and László Ferenczy, 2011)

<sup>18</sup> SziMe3D project, <http://szime3dar.com/projekt/kozepkori-templom-es-uegyarto-muhely/>



*Fig. 5: Northeastern corner of the church during the excavation. The remains of the pillar protruding from the northern wall and the one in the middle built from ashlar (2011)*



*Fig. 6: Excavated remains of the church (2011)*

apse was almost as wide as the nave. The entrance of the church was located on the southern side. The approximately 80 cm high remains of a rectangular pillar running perpendicular to the principal axis of the church were discovered in the middle of the western third of the nave. Two more pillars were attached to the southern and northern walls respectively, both along the same axis. Only the northern half of the central pillar has been preserved; its southern part and the pillar on the southern wall have survived only in their foundations. The eastern side of the central pillar was formed with a round-arched niche. These suggest that the church was built with some sort of a western gallery, but there is no information to reconstruct its upper structure.

The wall surfaces were created from ashlar both inside and outside, and a line of ashlar stones run as a scarcement all around the exterior of the building. The space between the ashlar walling on the two surfaces was filled with rubble stones held together with slacked lime made there, in the wall structure, of ground, burnt limestone. The stability of the nearly 1 meter wide wall was improved through a peculiar building method, as can be observed on the northern facade: some stones were put at a right angle to the axis of the wall so as to produce “cells” of about 1x1 m size (*Fig. 9*). The inner side of the ashlar stones was not carved,



*Fig. 7: Survey of the church with a laser scanner. The building as seen from the southern side during the excavation (SZIME 3D AR project)*

but all the other surfaces were probably formed prior to the construction, as no correction was needed at the joints (irregular interstices can be detected almost exclusively running in a vertical direction).

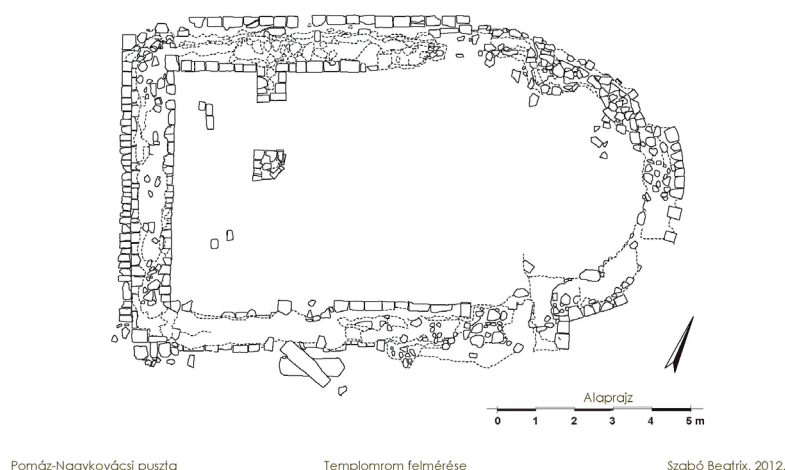
The ashlar was carved of andesitic tuff, which can be found in several areas of the Visegrád Mountains. The space between them was filled with various stones of volcanic origin. The source of these latter rubble stones was probably the nearby stream.<sup>19</sup> Based on the material of the wall we can assume that the wall surface was plastered, because this highly porous stone type is capable of absorbing a significant amount of water.

This can result in the rapid decay of the walls unless they are covered with a protective layer.

The wall structure of the church is clearly distinct from that of the surrounding building complex. The latter was built of stone materials that differed in part and with a less regular walling. The foundation technique of the church was rather unusual. The foundation trench was dug to the level of the appearance of the subsoil, but only under the inner, cast core of the wall, and it was filled with the same rubble stones and slacked lime. The ashlar stones constituting the outer cladding of the wall were laid directly onto the clay ground surface, on a thin layer of mortar. Though the ground surface was uneven, it seems that they did not do any levelling prior to the construction. As the ashlar stones were laid on the ground, the stone rows followed the natural slope of the surface towards the south. The problem was solved at the third row of stones: they increased the size of the ashlar from the central axis towards the south, and then switched to two smaller stones, thus doubling the row. The same method must have been repeated in the following rows, and thus the 30-40 cm difference was gradually eliminated, resulting in a horizontal top of the wall (*Fig. 10*). The wall structure displays characteristics of a masonry technique, such as the alternating rows of smaller and larger stones, that in general was employed in more sophisticated buildings.<sup>20</sup> Still, as it appears, these techniques did not necessarily result in a high quality piece of architecture, even if individually cut ashlar stones were used, and even if this was combined with complex and advanced masonry methods.

### ASHLAR CHURCHES IN THE ÁRPÁD PERIOD

Rural churches were built from a variety of materials in the Árpád Period: wood, wood and clay, brick, and stone were all employed. Churches constructed from ashlar stone constitute a distinct group in the Carpathian Basin that numbers 59 buildings based on our survey (*Fig. 11*). Many of these were discovered during excavations, and in a number of cases only a few stones attest the former ashlar wall structure. As far as the dating of the known ashlar churches is concerned, this building technique seems to be more characteristic of the first half and the middle of the Árpád Period. Most of the churches have been dated to the 12<sup>th</sup> century, and the construction of these churches seems to be rare after the Mongol Invasion, at least in a rural environment.



*Fig. 8: Ground plan of the excavated church using traditional surveying techniques (survey by Beatrix Szabó)*

<sup>19</sup> Török, Ákos – Szabó, Beatrix – Laszlovszky, József: Stone Masonry Material of a Medieval Monastic Glass Production Centre, Pomáz (Hungary). In: *Engineering Geology for Society and Territory*, Volume 8, ed. G. Lollino et al. (Heidelberg–New York–London: Springer International Publishing, 2015), 471–475. The stream is called as Salabasina Ravine today.

<sup>20</sup> Déry, Attila: *Történeti szerkezetek* (Historical Building Structures) (Budapest: Terc, 2002).

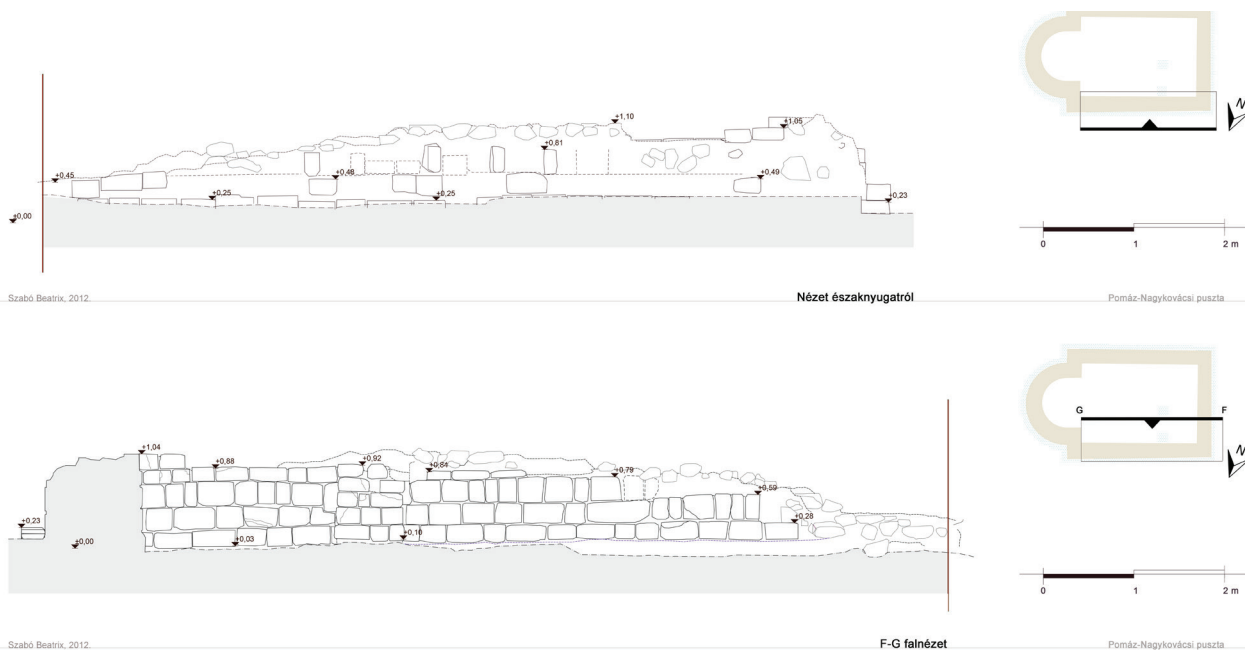


Fig. 9: The northern wall of the church that displays characteristic elements of the ashlar walling (survey by Beatrix Szabó)



The wall structure of the church at Pomáz is quite uncommon among village churches. At the same time, a number of similar examples are located in the area around Buda, on both royal and monastic domains (such as in Cinkota, Csút, or Kána). This building method, however, appears in rural churches situated further towards the borders of the country as well (e.g. in Bodrogolaszi, Nagyborzsöny or Tarnaszentmária). Regarding the spread of this masonry technique, further theories can be raised. As it has been noticed, these churches are more often found in the former royal domains. Another explanation is connected to the presence of a monastic complex not far from some of these churches. According to this hypothesis, the building technique of the nearby monastery was imitated at these parish churches.<sup>21</sup> As far as the church at Pomáz is concerned, either explanation could be accepted, because it is not known whether the church was built in the period when the village belonged to the royal estate or after the king had already donated it to the abbey of Pilis.

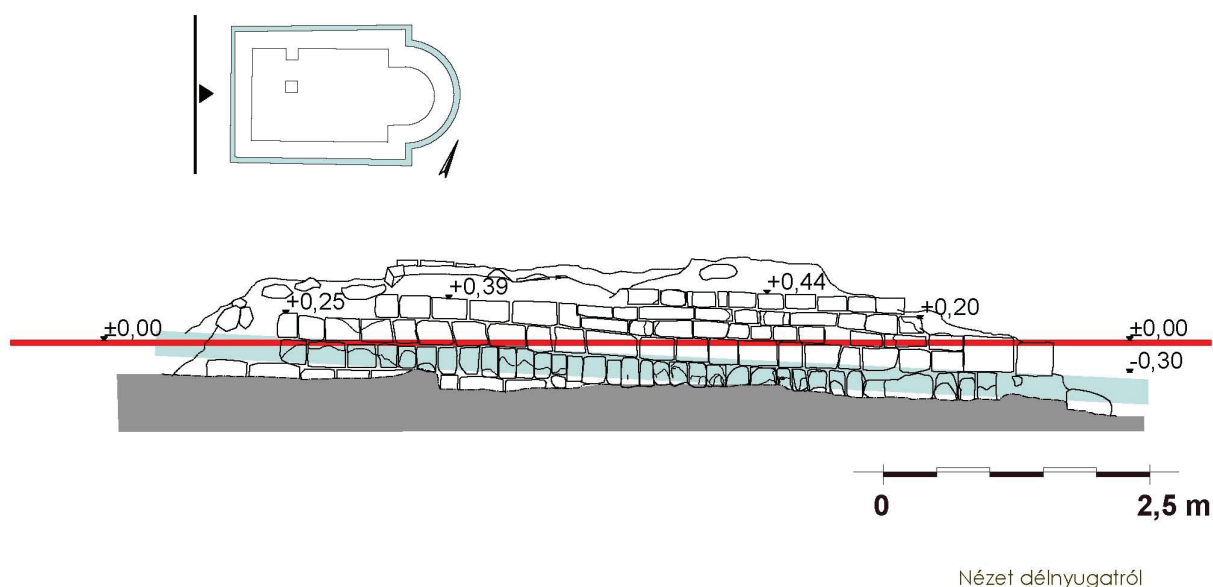
It is reasonable to suppose that the builders of ashlar churches did not always cut the stones themselves, but utilized some ready-made raw materials if they were able to find them at an accessible distance. This most often meant the remains of ancient Roman ashlar buildings (Fig. 12). In the case of the church at Pomáz, re-carved fragments of Roman altarpieces and gravestones were found nearby, and the geological analysis of the building materials identified Roman travertine blocks in the walls of the surrounding

<sup>21</sup> See Laszlovszky, József: *Ciszterci vagy pálos? A Pomáz-Nagykovácsi-Pusztán található középkori épületmaradványok azonosítása (Cistercian or Pauline? Identification of the medieval Architectural Remains Located at Pilis-Nagykovácsi-pusztán)*. In: *A ciszterci rend Magyarországon és Közép-Európában (The Cistercian Order in Hungary and Central Europe)*, ed. Guitman, Barnabás (Piliscsaba: Pázmány Péter Katolikus Egyetem Bölcsészettudományi Kar, 2009), 204–205.

building complex.<sup>22</sup> Although no Roman settlement has been identified by the archaeological survey in the immediate vicinity, stone was surely quarried in Roman times from the nearby geological formation called Holdvilág Ravine, and recent excavations have even uncovered some unfinished carved objects there. Roman remains, such as grave stones, altarpieces and various artefacts have been identified at nearly 20 sites in the area of Pomáz.<sup>23</sup> Other possible sources for the material could be a Roman villa and settlement that were located where the town is situated today or the surviving gravestones from a nearby Roman cemetery. Further geological analysis of the stones could possibly clarify in the future whether the building material of the church may have originated from these Roman sites. A similar hypothesis can also be raised concerning the Transdanubian ashlar churches where remains of Roman ashlar buildings have been detected nearby. When reconstructing the possible sources of the construction materials it is also necessary to examine the medieval and Roman period road network in the area.<sup>24</sup>

### THE USE OF THE CHURCH BUILDING AT POMÁZ-NAGYKOVÁCSI FROM ITS CONSTRUCTION TO THE MODERN PERIOD

The church nearby Pomáz seems to have been built in the 12<sup>th</sup> century, probably in its second half, based on the architectural analogies and a bronze figure of Christ from a processional Crucifix found nearby. We unearthed a number of Árpád Period graves in the test trenches opened along the northern and southern side of the church, and some burials were also found near the wings around it. This proves that the inhabitants of the village of Kovácsi were interred in the churchyard. The profession of the former inhabitants on this land



Pomáz-Nagykovácsi puszta

Templomrom felmérése

Szabó Beatrix, 2012.

Fig. 10: The western wall of the church displaying the ashlar rows following the sloping ground level and the method of eliminating the divergence (survey by Beatrix Szabó)

<sup>22</sup> Török, Ákos – Szabó, Beatrix – Laszlovszky, József: Stone Masonry Material of a Medieval Monastic Glass Production Centre, Pomáz (Hungary). In: *Engineering Geology for Society and Territory*, Volume 8, ed. G. Lollino et al. (Heidelberg–New York–London: Springer International Publishing, 2015), 82.

<sup>23</sup> Dinnyés, István et. al.: *Pest megye régészeti topográfiája. A budai és szentendrei járás* (Archaeological Topography of Pest County. The Buda an Szentendre Township), vol. 1. Magyarország régészeti topográfiája 7 (Archaeological Topography of Hungary 7). (Budapest: Akadémiai Kiadó, 1986), 180–209.

<sup>24</sup> Pető, Zsuzsa Eszter: Római vagy középkori? Történelmi utak a Pilisben / Roman or Medieval? Historical Roads in the Pilis Mountains). *Hungarian Archaeology* 2014 Autumn [http://www.hungarianarchaeology.hu/wp-content/uploads/2014/11/eng\\_peto\\_140.pdf](http://www.hungarianarchaeology.hu/wp-content/uploads/2014/11/eng_peto_140.pdf)



that was a royal estate is evidenced by the name of the settlement: Kovácsi refers to blacksmiths, that is, craftsmen working with metal. This is also supported by the results of the excavations carried out on the opposite side of the road by Tamás Repiszky, who found traces of iron processing (blacksmith work).<sup>25</sup> Blocks of pig iron discovered in the hillside also suggest that they were melting iron on the site.

Settlement remains identified in the vicinity of the church suggest a date from the Árpád Period, and there are no traces that would suggest the late medieval habitation of the village. The finds from the few graves excavated in the churchyard cemetery reveal a similar profile: no signs of late medieval burials have been identified up to this point. Consequently, it seems that after the estate and the village was taken over by the Cistercian monastery of Pilis, the settlement was abandoned. This could have been caused by the Mongol Invasion in 1242, although we cannot rule out either that it may have been the Cistercian owners who moved the population to another settlement.

The church building no longer served as the parish church of the village in the Late Middle Ages. The Cistercian monastery established a grange – a manorial complex – around it, and the small ashlar church was probably turned into the chapel for this. The three surrounding wings were erected during the 14<sup>th</sup> and 15<sup>th</sup> centuries, during a number of construction phases. Cistercian granges, where lay brothers or the service people of the monastic estates were specialized either in agriculture (e.g. viticulture) or in some kind of industrial activity, generally had a chapel in their building complex.<sup>26</sup> In this case, it seems that the former village church was turned into the chapel for the grange without any particular alterations.

Cistercians did not only change the appearance of the site by erecting new buildings, but they considerably transformed the surrounding natural environment as well. They established a water management system consisting of three fishponds, dams, and channels, and created terraces for agricultural cultivation.<sup>27</sup> A metal detector survey carried out on the hillside proved that there was a road leading up to the architectural complex from the direction of the Pilis Abbey, which did not follow the path of the modern road. The few graves discovered inside the church raise interesting questions too, as these probably date from the period of Cistercian ownership. Further research is required to determine the identity of the individuals who were buried in the chapel of the monastic grange.

A second change in the way the church was used can be connected to the industrial activity pursued at the grange. The excavations have revealed that a new craft was introduced here, glass production, probably

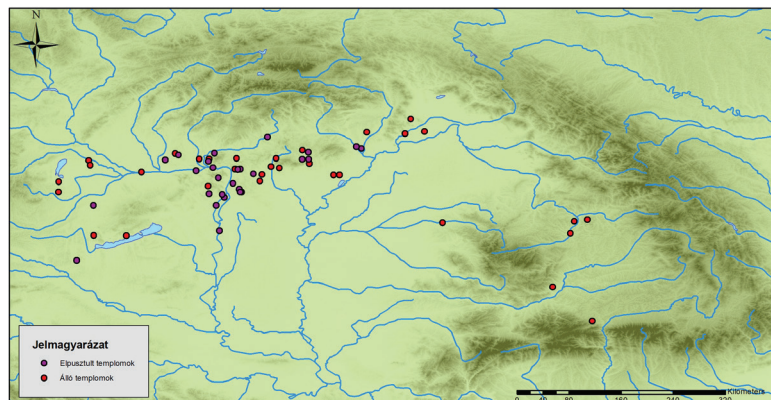


Fig. 11: Village churches built from ashlar (collection by Mária Vargha)

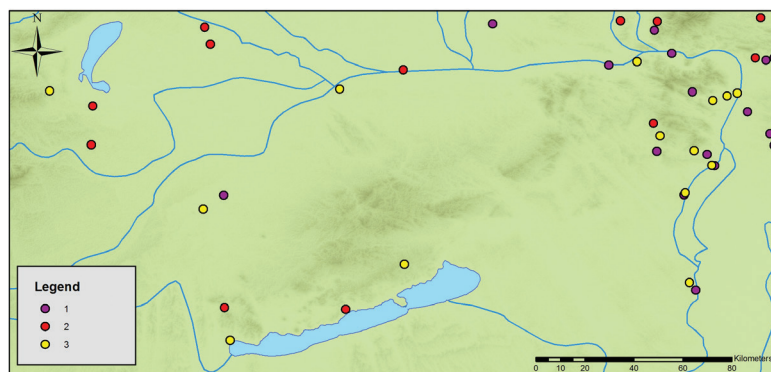


Fig. 12: Ashlar churches and nearby Roman period sites with structures of similar building material in Transdanubia (collection by Mária Vargha)

<sup>25</sup> Repiszky, Tamás: Pomáz, Kovácsi (MRT 13/1.k. 23/26. lh.). In: *Régészeti kutatások Magyarországon 2001* (Archaeological Research in Hungary 2001) (Budapest: Kulturális Örökségvédelmi Hivatal – Magyar Nemzeti Múzeum, 2003), 205.

<sup>26</sup> On the monastic granges, see Platt, Colin: *Monastic Granges in Medieval England: A Reassessment* (London: Macmillan, 1969). On churches and chapels in monastic granges, see Bond, James: *Monastic Landscapes* (Stroud: Tempus, 2004), 101–123, 227–229, 234–237.

<sup>27</sup> Our team surveys and analyses these landscape archaeological features as well with a variety of methods.

already by the 14<sup>th</sup> century. This is evidenced by the enormous amount (more than 15 kg) of glass sherds, including fragments of unfinished and spoiled products, fragments of the large melting pots glazed with melted glass, and the remains of the furnaces (bricks made of specific fireproof clay and that display characteristic shapes). The foundation of a kiln was unearthed in the courtyard enclosed by the buildings, attached to the facade of the western wing. The excavation of the church produced an unexpected result: this building also seems to have been utilized for the purpose of glass production in the Late Middle Ages, probably even before 1526. The stone pavement was removed, the floor level was lowered, and a furnace was established in the nave. Melting pot fragments found here and a consistent layer of glass sherds including those of glass bubbles produced when blowing glass all suggest that craftsmen were working right here, inside the church.<sup>28</sup> We cannot offer any answer at the moment to the question of how it was possible to turn a former church located in a monastic grange into a workshop, nor can we determine when exactly this happened. It seems that they disturbed a grave located on the axis of the building, in front of the apse. A presumably valuable object was removed in such a way that the least possible damage was caused to the coffin and the corpse.

This did not mark the end of the history of the church. In the 16<sup>th</sup> century, when the monastic communities left the region to escape from the Ottoman conquest, the Cistercians gave up their grange as well, which slowly started to deteriorate. The building that was beginning to collapse was, however, re-utilized in the later decades of 16<sup>th</sup> or in the 17<sup>th</sup> century. This was the period of the wars between the Ottomans and the Habsburgs, when this area was on the frontier of the two empires. Large posts were installed in the corners and the axis of the nave, which must have supported some kind of a temporary but durable roof above the remaining walls. A deep pit was dug in the choir approximately this time, the fill of which yielded unfinished bullets. The mould of another type of bullet was also found nearby. The architectural complex was not fortified, but it was utilized somehow related to the military activities, though no traces of any long-term settlement could be detected. After the temporary cover of the church collapsed, the walls started to deteriorate. Someone was buried, however, even that time in the area under the former western gallery. The fill of this grave already contained ashlar stones from the collapsing walls.

The abandoned buildings were used only as a stone quarry after the expulsion of the Ottomans, when the area was re-populated. The southern side of the church that was easier to approach was almost completely demolished. The doorstep and a jamb of the entrance, however, probably proved to be too heavy to transport, as these were found at almost their original location. The destruction was unfortunately continued in the 20<sup>th</sup> century. Stone was taken from here at the end of the 1920s and beginning of the 1930s when the road between Pomáz and Pilisszentkereszt was built, even in the years immediately preceding the first excavations.

These processes are not revealed by the medieval and early modern documents, as none of these mentions the church. Many parts of the building were destroyed over the centuries, but it is now standing under a protective roof thanks to the present owner of the area. Excavations begun in 2011 are expected to explain how the use of this Árpád Period church changed; which were the most important phases in its history, and how it was destroyed.

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<sup>28</sup> Glass finds are processed and analysed by Edit Megyeri. On the unfinished products, see Megyeri, Edit: Üvegek a Visegrád Rév utca 5. szám alatt feltárt üvegműhelyből és Pomáz-Nagykovácsi lelőhelyről (Glass Finds from the Glass Production Workshop Unearthed at 5 Rév Street in Visegrád and from Pomáz-Nagykovácsi). In: *A múltnak kútja. Fiatal középkoros régészek V. konferenciájának tanulmánykötete* (The Fountain of the Past. Study Volume of the Fifth Annual Conference of Young Medieval Archaeologists), ed. Rác, Tibor Ákos. Ferenczy Múzeum kiadványai (Publications of the Ferenczy Museum), Series A: Monographs 3 (Szentendre: Ferenczy Múzeum, 2014), 83.

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