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# FRAGMENTS FROM THE ABBEY OF BIZERE

## THE LAVABO IN THE CLOISTER

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### Abstract

The present article focuses on the remains of a lavabo discovered in 2004 in the ruins of Bizere abbey. The author presents the archaeological context of the discovery and the remains of the water supply system, establishes the period when the fountain was in use (late twelfth century), and provides a hypothetical graphical reconstruction based on the traits of the stone fragments and through analogy with Western European fountains from cloisters and settlements or baptismal fonts dated to the twelfth and thirteenth centuries.

*Keywords:* Romanesque art, medieval fountain, Benedictine abbey

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### 1. Introduction

The abbey of Bizere was one of the numerous medieval monasteries active in the valley of the Lower Mureş (Western Romania) at various times, attested in several written sources but also by its archaeological remains ca. 15 km west of Arad on a former island. The documentary sources indicate that the abbey was dedicated to the Virgin and used by Benedictine friars. It was built ca. 1100. The first written source, dated to 1183, shows the abbey in full activity. The buildings were ruined after the mid-sixteenth century and drastically despoiled.

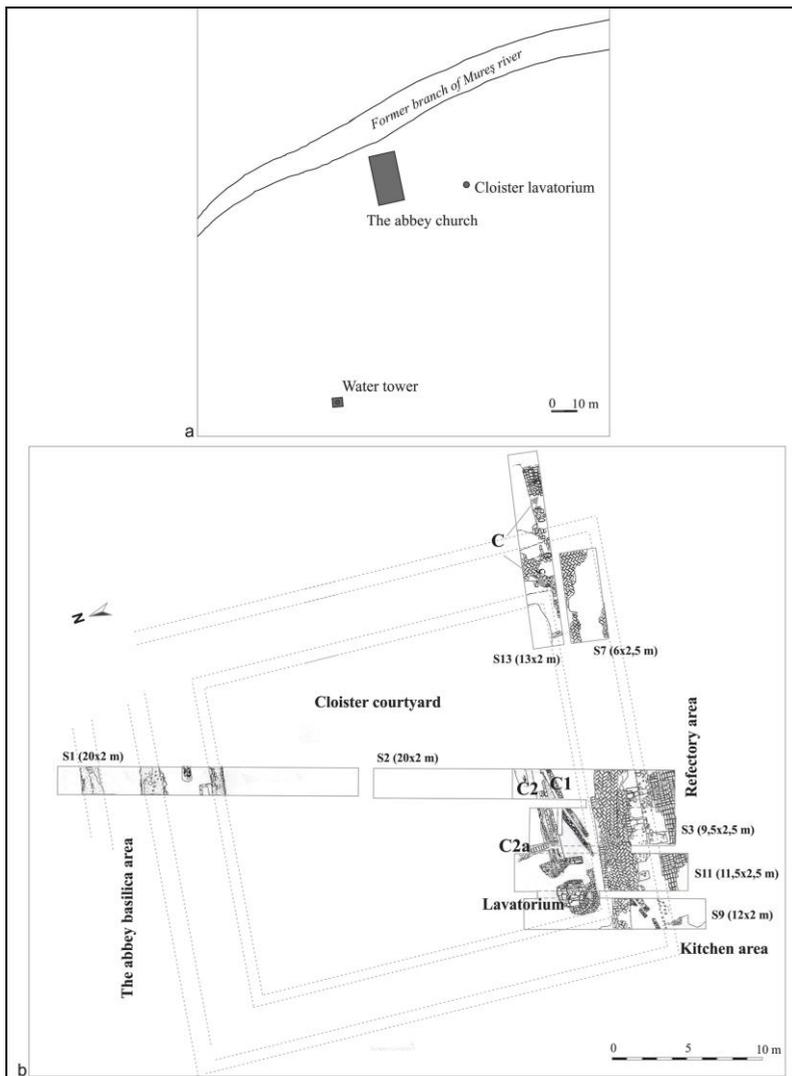
After first excavations in 1981, further digs at the abbey took place between 2001 and 2009. Many parts of the former building complex were identified, mainly in the eastern part of the island, near a dried-up branch of River Mureş. Among these buildings we may mention a rectangular construction (the abbot's palace?), a Romanesque main church (a three-nave basilica with two areas paved with floor mosaics) and a funerary chapel; a cloister including the refectory, but also other buildings on the eastern, southern, and western sides, connected to the cloister or built as independent constructions [1-3].

In 2004 the excavations revealed direct connections between the main basilica and the buildings to its south. (The 2004 research dig team included A.A. Rusu - site leader, G. Pascu Hurezan, F. Mărginean, I. Burnichioiu and students of the 'Babeş-Bolyai' and '1 Decembrie 1918' universities in Cluj-Napoca and Alba Iulia.) By performing two sections, S1 and S2, archaeologists

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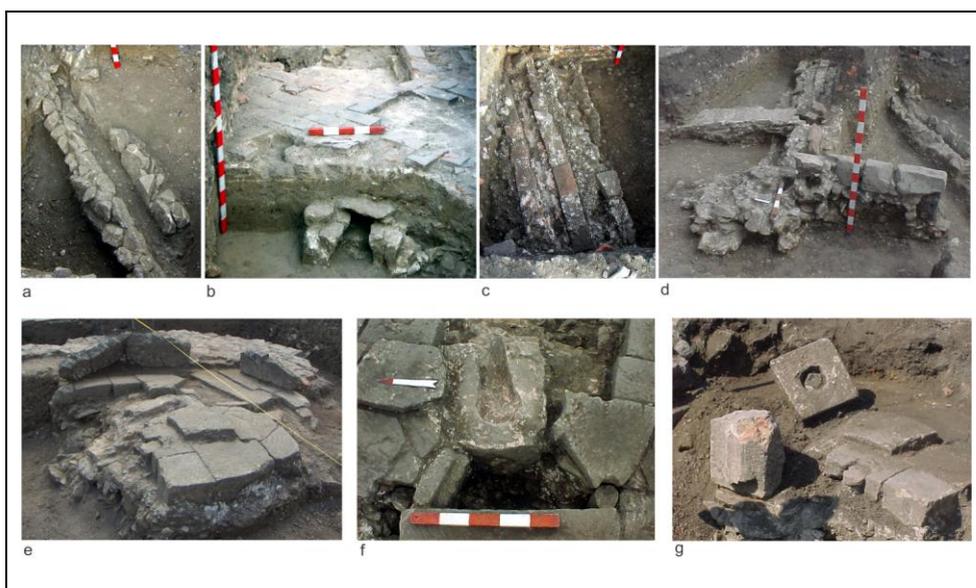
transected several parallel walls oriented east-west that continued inside the refectory (Figure 1b). It then became clear that the abbey had at some point followed the classical planimetry, with a refectory parallel to the main church. The two other large buildings, the church and friars' refectory (but probably also a chapter house to the east) were united by a rectangular cloister, with a portico with small columns, arches, and decorated capitals. A garden must have been located inside this rectangular perimeter, measuring ca. 23 x 21 m, discovered by archaeologists with sediments from successive flooding, but also with numerous isolated fragments of material culture. The remains of a lavabo and a water system were identified in the south-western corner [4].



**Figure 1.** (a) The location of abbey church, water tower, and lavabo of cloister on the island; (b) From church to the abbey refectory - general plan of archaeological sections mentioned in text.

## 2. The archaeology of the lavabo

A series of specific components were gradually unearthed in S2 and in the subsequent sections, i.e. S3, S9, and S11 (Figure 1b) (In that area, the absolute levels ranged between 118.15-118.91). Nevertheless, the traces of two water channels were first identified in S2; these two features, in close proximity to each other, were labelled C1 and C2. They were probably connected to a distribution node east of the margin of S2. The area is still to be investigated. Both channels were then identified in S3, under the level of the portico floor, at a depth of -0.95-1.45 m and -0.83-1.40 m respectively. The declivity of each channel, to the west, measured no more than a few degrees. The segments uncovered indicate that they were made differently. C1 had edges of irregular stones, joined with clay and without bricks; it was wider in the upper part and narrower at the base. No trace of pipe or tube has been noted inside, nor are there traces of any closing in the upper part (Figures 1b, 2a and 3). Already in S2 it turned south-west, towards the side of the portico, and in S11 it was located under the brick floors then led to the kitchen area west of the refectory. Through its design, C1 partially resembles another channel (C), identified at two points in S13/2004, which crossed the eastern side of the cloister under the pavements (Figures 1b and 2b). In the uncovered area C was led north-west, towards the yard.



**Figure 2.** Details from: (a) C1, (b) C, (c) C2 and (d) C2a; (e) *In situ* floor of lavabo and panels of travertine; (f) Detail of lavabo base with columns remains; (g) Isolated stones in the lavabo area.

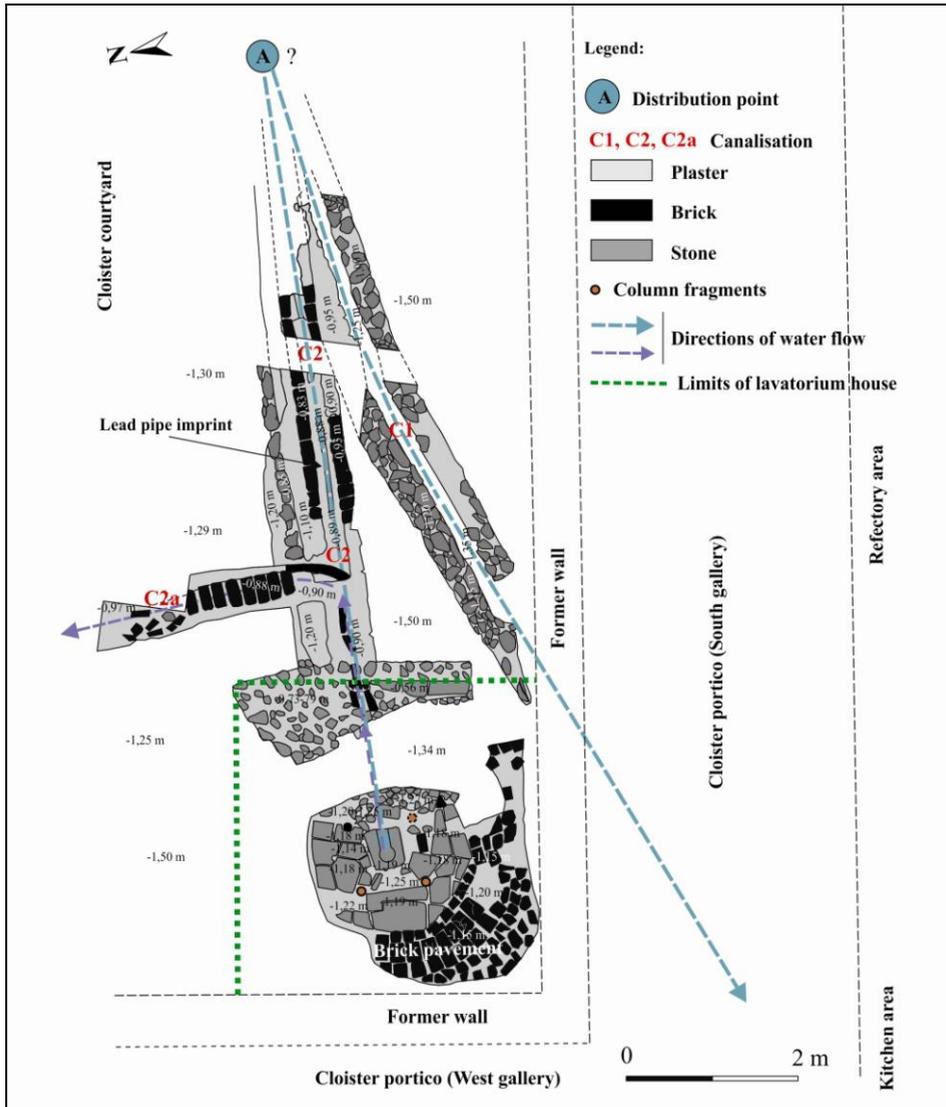


Figure 3. Ground plan with traces of the lavabo and canalisation.

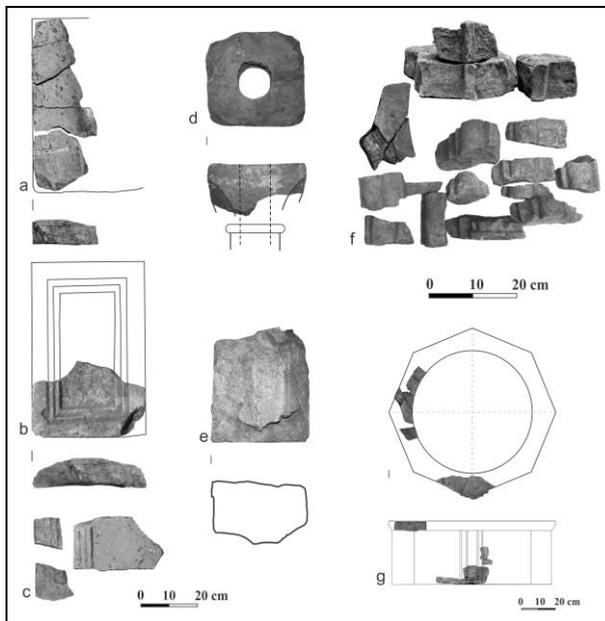
Unlike C1, C2 displayed a very neatly designed structure, with well-fired bricks, placed lengthwise and joined with mortar (Figures 2c and 3), all on a bed of broken stone mixed with mortar, measuring over one meter in width in some parts and down to -1.35-1.40 m in depth. The imprint of a conduit, measuring 5.5-7 cm in diameter, was found in the central part of the channel, in a good-quality binder of lime and crushed bricks. From the western limit of S3 and immediately in S11, archaeologists noted a secondary channel built on top of C2 (see C2a), that turned at an almost 90° angle to the cloister yard (Figures 1b, 2 d and 3). C2a was found covered with an undisturbed fragment of flat roof, consisting of eight bricks placed crosswise, but empty inside, without pipe or tube. The wall of the deviation towards the courtyard was also preserved, curved

on the outside, and neatly made of superposed bricks. The overlapping of C2 and the curvature clearly indicate that the design was meant to redirect water coming from the west.

C2 ended in S11, in the area of a small N-S alignment consisting of three sandstone blocks (at -0.56-0.60 m in depth), with the eastern sides shaped, placed on a 'platform' of rocks and quarried stone bound with mortar (Figures 2d and 3). The sandstone blocks look as though they may have been part of the outer face of a wall. A better-preserved segment of C2 was found in the continuation to the north; its hollow part was wider, 12-14 cm, it had a brick base and three other bricks placed on top of the opening as a roof, all well bound with mortar. Superposed in this manner, the bricks reached the level of the nearby stone blocks. West of this structure, after a pit through which everything was extracted down to the sterile layer, a perimeter with sandstone blocks was found (partially in S11 and in S9, also under the layers between them) on a platform similar to the above mentioned one. This time, the shaped sides of the sandstone blocks were placed upwards, their edges cut into irregular shapes that fit together (Figures 2e and 3). Some blocks settled differently (and were found at depths varying between -0.63 and -0.85 m), others were completely dislocated. By clearing the filling layers that covered the structures, archaeologists were able to estimate that ca. 50%-60% of the surface initially covered with sandstone blocks had been preserved. Also found between the larger sandstone blocks to the west were the lower part of two small columns, lacking a base, made of the same sand-stone, only 8 cm in diameter (Figures 2f and 3). The columns were placed horizontally, 78 cm apart, at the depths of -0.85 and -0.78 m respectively. Both were joined with mortar and the rocks located nearby were adapted to fit their rounded parts, thus indicating that they were found in their primary location. Further east, on the left, at the same distance, a brick stopper measuring 7 cm in diameter was placed in the hollow part of a sandstone block. The equal distance makes me believe that another small column had been in place there, and a fourth more to the south-east (Figure 3).

In the centre of the sandstone base, in the direction of channel C2, we found a fixed block (50 x 42 cm) with a 5-6 cm-deep cavity hollowed out on the surface; its end was rounded and it measured 18 cm in diameter (Figures 2f and 3). The rock also bore obvious traces of mortar, similar to that identified in C2. Beyond the sandstone base, to the south and west, archaeologists excavated a partially preserved floor, 5-8 cm higher, consisting of whole and fragmentary bricks, placed in a fan-shaped pattern in a mortar bed. Initially, the floor had been strictly aligned with the southern and western walls of the portico, but the latter were completely removed at some later time. Due to the limit provided by the brick pavement, we may estimate a sandstone surface of ca. 1.90 x 2 m with an irregular polygonal contour. Furthermore, besides the traces of a water supply system, the sandstone area clearly shows that this is the perimeter of a lavabo base.

Isolated stone elements were found in all the sections revealing the *in situ* traces of the channels and the lavabo base, but also in other trenches; these may also have belonged to these installations. Easier to recognize was a series of fragments once part of rectangular travertine panels, suited for a lower basin, discovered tilted right above the sandstone blocks on the base, in the southern (2) and western parts (1) (Figure 2e). Nevertheless, although certain components seemed placed in their initial position, the panels proved to have been found in secondary positions, placed lengthwise. Beneath them we found earth; they were not connected in any way, and the trace of a cramp iron in the material mass revealed that they had originally been fixed in another direction. The panels measured between 6 and 12 cm in thickness, were strongly fissured, and revealed no decoration. The margins of one block, though fragmentarily preserved, indicated the initial height of 60 cm (Figure 4a). Other isolated pieces proved that the panels might have been around 40 cm wide and that some of them bore simple decorations on the front side, consisting of three inscribed rectangles, carved at successive depths, sometimes carelessly rendered (Figure 4b-c).



**Figure 4.** (a-c) Fragments of travertine panels; (d) capital fragment; (e) block stone with unknown function; (f) fragments of the upper basin; (g) hypothetical reconstruction of upper basin.

Another possible element from the fountain's structure, a sandstone capital from the main leg, was also identified in the filling layer above the base (Figure 2g). Its sides measure 31 and 34 cm, but the exact height can only be estimated, as the item is broken in the lower part. A central hole, measuring 10-12 cm in diameter, was closed with a brick stopper similar to that found instead

of the small column, while the sides preserved faint traces of mortar with broken brick. The broken part nevertheless also displays traces of four stylized leaves, rendered as simple flattened areas on the corners. Near the presumed capital, but also in secondary position, lay another block (41 x 33 x 23 cm) of white-reddish limestone (Figures 2g and 4e), with a profiled, well-polished front and another side cut almost straight, though roughly. One can presume that this was also part of the fountain or of the masonry around it (maybe as a vertical support), but its fragmentary state does not allow for the identification of its precise initial function.



**Figure 5.** Various fragments of carved stones discovered in lavabo area.

The presence of the small columns and capital seems to indicate that there was also an upper basin, though no such element seems at first sight included among the numerous carved stones found in the various layers in the area investigated. Nevertheless, excluding the travertine fragments sharing common traits, that we believe formed part of the lower basin, and then the remains of the capitals and imposts connected to the portico and other building stones (Figure 5), we were left with numerous fragments carved from the same limestone, now grey (Figure 4f). These were rather diverse in their carving and in size, but a series of indicators suggests that they might have formed a single item: some fragments were part of a straight-cut base, others – with three mullions each flanked by listels – formed the walls, another series of fragments once shaped a circular concavity and an upper edge, circular on the inside and polygonal on the outside. Three fragments (two from the upper margin of a basin, another from the lower part) had the same type of fixing hole for cramp irons, even with traces of iron, that are also found on the travertine panel.

### **3. Chronological issues**

The remains of the *lavatorium* can be dated in a wider context, starting from the first building stage of the refectory that can be dated by monetary discoveries. Two denary were found in 2002, when excavation of the refectory began, under its oldest, brick floor (Figures 1b and 6). One of the coins was

issued by Stephen II King of Hungary (1116-1131), the other by Bela (1131-1141) [5]. During the second stage, the area of the refectory was restructured and made narrower (only two of the three naves were preserved), but it was given an upper floor. Space thus became available for the southern portico of the rectangular cloister, partially built on top of the water channels, of which C1 and the segment discovered in S13 might have been contemporary to the first stage of the refectory. The lavabo and C2 were built during the second stage, at the same time or right after the sides of the portico; this stage could have only started in the end of the twelfth century. It seems that the lavabo was partially destroyed some time before the abbey was abandoned and was then restored in a form that no longer included the upper basin with its central leg and small columns.

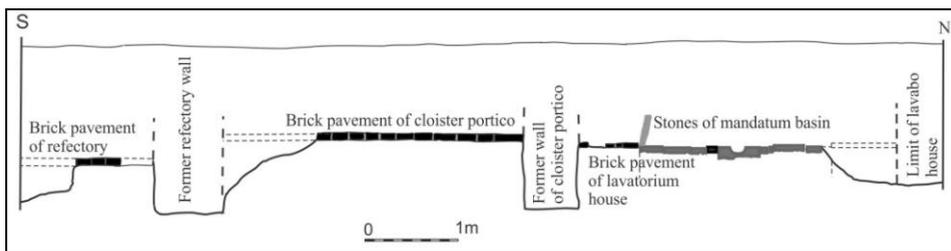


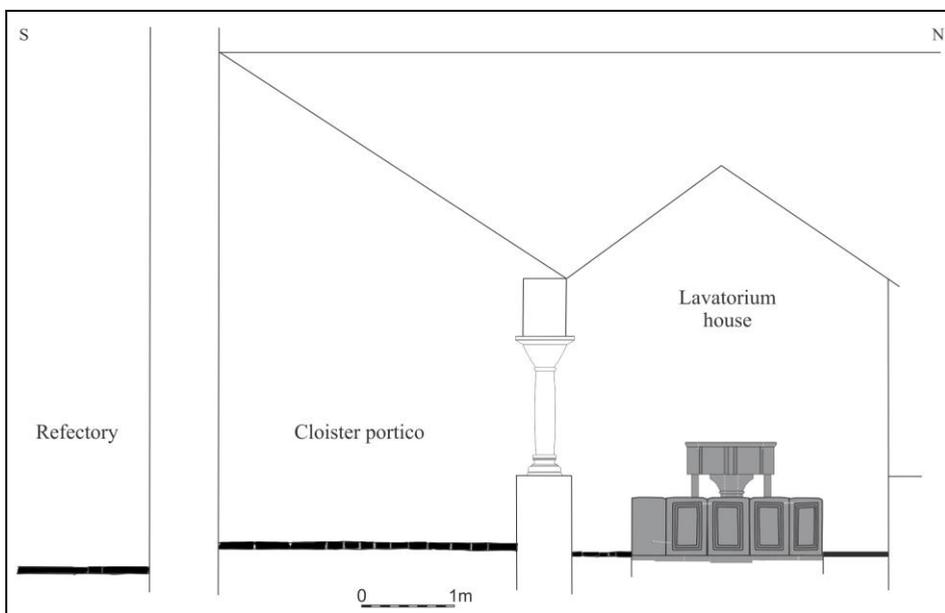
Figure 6. Transversal section from refectory to lavabo.

#### 4. Reconstructions

The different stone fragments recovered from the south-western corner of the cloister and especially the *in situ* base, with the forms they suggest, allowed for a hypothetical graphical reconstruction of the lavabo in Bizere (Figure 7), as do comparable Western European pieces, better preserved – both wells and baptismal fonts. Naturally, in the absence of some significant elements, this reconstruction can only be partial. It is nevertheless certain that the lavabo functioned with a lower polygonal basin (*mandatum*), made of travertine panels. Only some of these panels – probably those in more visible positions facing the courtyard – seem to have been decorated, with rather simple geometric motifs. The panels, of variable width (of ca. 40 cm), do not allow for a reconstruction of the exact number of sides in the polygon, though they seem to have numbered between 8 and 12. Traces left on their surface and to their thickness suggest that the panels were connected by cramp irons (possibly after lead was poured into the openings) but maybe also with mortar, in order to hold water more efficiently. The basin was ca. 60 cm high, while its maximum width was 1.90-2 m on the outside.

The small columns, the central element with concavity, the possible capital from the central leg and the pipe system that brought water under pressure all suggest that there was at least one upper basin, as do comparisons to other medieval wells. All the more so since partial assembly of the limestone items mentioned above yields a polygonal basin with around 8 sides, whose

height we can only guess at (Figure 4g); nevertheless, given its function it could not have been much higher. Rather the upper diameter of the concavity could be estimated to 70-72 cm; similarly, the maximum outer width at the base was ca. 94 cm. These general dimensions, and the presence of fixing remains, indicate that the item was not made of a single stone but of several parts. The decoration was also rather simple, with three moulds on the corners (the widest middle measuring 4.5-5.5 cm) separated by listels, but the walls remained straight.



**Figure 7.** Hypothetical graphical reconstruction of the lavabo in Bizere.

Among the fragmentary items recovered, none indicated how water circulated from this basin to the lower one. The stone basin, made up of separate pieces, would have been hard to render waterproof; we do not know whether small pipes pierced the basin's walls, ending in some type of spout (made of metal or clay), or whether the stone basin contained a metal bowl and water poured from it, or if there was some siphon or other component (ex. *pigna*, *pinnaculum turriculae*) surmounting the upper part of the lavabo. Similarly, we cannot establish the exact height of the upper basin, the detail on the central leg from the capital downward (if it had an annulet or not), whether this was a pillar or a column, whether it had its own base or whether there were small capitals atop small independent columns (a very plausible solution). The worked sandstone blocks, the travertine panels, and the limestone fragments indicate show that the material of the lavabo was rather heterogeneous, but this fits the variety of building materials brought to the island and used during the twelfth and early thirteenth centuries.

The brick pavement around the lavabo and the row of carved stones towards the courtyard are strong arguments for the hypothesis that the lavabo in Bizere was also protected by an aedicule, as are the Western European models: Monreale (twelfth century), Thoronet (~ 1175), Poblet (ca. 1200), Royaumont, Maubuisson, Sayn (thirteenth century) etc. This aedicule's rectangular base was of stone, ca. 3.70 x 3.60 m. As to its height, we can only mention the frequent finds of thin nails at the perimeter that suggest a light roof, probably pyramidal. The cloister's portico was built nearby at much the same time, of which we can now state with certainty that it had small columns, capitals, and vertical supports sculpted with zoomorphic and vegetal motifs; we may thus also hypothesise that the courtyard part of the *lavatorium* had a similar structure (maybe even with Late Romanesque decorations), but still protected the fountain against freezing.

I was unable to find a direct model for the reconstructed *lavatorium* of Bizere in any of the Western European sites with buildings of similar functions. Nevertheless, through one or another of its components, it resembles the polygonal adduction fountain from the 'laymen's cemetery' in the ground plan in the *Canterbury Psalter* [C. 1150: M.R. James, *The Canterbury Psalter*, London, 1935, fols. 284v–285r], the baptismal font that ended up in the monastery of Ilfeld [<http://www.harzregion.de/naturpark/milan.html>] and the lavabo at Thoronet, but also structures supported by small columns and a central leg, such as one of the wells in Saint Michel of Cuxa [6] or that in Sayn [7]. Closer at hand, we may mention the lavabo from the Benedictine abbey of Pécsvárad, now graphically reconstructed [8, 9]. From Banat or Transylvania we may mention two wells in Cenad [10] or the remains of the *lavatorium* from the Benedictine abbey in Cluj-Mănăştur [11].

Excavated evidence allows us to recreate a situation whereby water was brought through C2, probably elevated through a vertical lead pipe, as in many western European examples [12, 13] hidden inside a column or a pillar, and then under pressure reached the upper part of the lavabo; the overflow descended to the lower basin. This type of freestanding splash fountain was common during the Middle Ages [14]. As there is no indication that overflow water was redirected towards the kitchen, I believe that excess water was channelled through C2a towards the cloister courtyard/garden. This might also explain why C2 was only wider near the lavabo. It seems natural that the two channels, C1 and C2, could have been supplied by the channel identified in S13 (possibly through a wooden tube) pointing to the cloister courtyard, where a distribution node must have been located; its source must have been the branch of River Mureş to the east. The distance between the water source and the cloister lavabo can be estimated at 36 m. The friars must have had a hydraulic system (possibly a watermill with wheels) at the river, which was also capable of filtering water to ensure the water supply; naturally, they must have also had technical knowledge on how to maintain such a system in the local climate conditions. For technical reasons, but also based on religious considerations related to water purity [15], the friars also had another water source, building a water tower [16] in the inner part of the island (Figure 1a), more than 100 m from the south-western corner of

the cloister. Nevertheless, the two sources were part of an ample system that used water (including rain water) for various needs (related to hygiene, food preparation, and ritual) in the different sectors of the complex (church, kitchen, garden, latrines, workshops, mill etc.). As everywhere [17], the monks of Bizere washed their faces and hands in the water of the lavabo in cloister (in the morning, after returning from manual work and before and after meals), supplied the kitchen, washed their clothes, and weekly celebrated the Washing of the Feet (*Mandatum*).

Such water systems had already become typical of monastic communities (beginning with the Benedictines) [18]. By building and using such system, the friars were following the recommendation in chapter 66 of Saint Benedict's Rule: "If it can be done, the monastery should be so situated that all the necessaries, such as water, the mill, the garden, are enclosed, and the various arts may be plied inside of the monastery, so that there may be no need for the monks to go about outside, because it is not good for their souls" [19].

The *lavatorium*, neighbouring channels and water tower are only part of the system of water management in Bizere, which further research may identify more precisely and on a wider scale.

## **Acknowledgement**

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