Archaeological insights into the 16th–17th centuries human behaviour in the vecinity of Doamnei Church

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Abstract:

The archaeological excavation carried out in the courtyard of the Nifon Palace in 2023 led to the identification of two pits located within the perimeter of the Doamnei Church necropolis. Based on ceramic materials, these features were dated to the 16th–17th centuries. During the investigation, faunal remains were collected and analyzed from an archaeozoological perspective, providing valuable reference material for the medieval period.

Rezumat: Perspective arheologice asupra comportamentului uman din secolele XVI-XVII în vecinătatea Bisericii Doamnei

Cercetarea arheologică derulată în curtea Palatului Nifon în anul 2023 a condus la identificarea a două complexe de tip groapă, identificate în perimetrul necropolei bisericii Doamnei. Pe baza materialelor ceramice, aceste complexe au fost datate în secolele XVI-XVII. În cursul cercetării, au fost recoltate materiale faunistice care au fost studiate din punct de vedere arheozoologic, reprezentând un material de referință pentru epoca medievală.

Keywords: ceramics, archaeozoology, stove tiles, late medieval period.

Cuvinte-cheie: ceramică, arheozoologie, cahle, perioada medievală târzie.

General background

Part of the archaeological site known as Bucharest Historical Center, Nifon Palace is situated at 1 Doamnei Street. It is listed as a historical monument under the code B-II-m-B-18583. Doamnei Church, finished in 1683[1], appears on the earliest known map of Bucharest, discovered by Ion Ionașcu in the Moscow archives, dated around 1770.[2]

This map places the church near the city's western boundary, close to the Sărindar Monastery and separated from the residences of prominent boyars such as Mihai Cantacuzino, Pană Filipescu, and Paharnicul Nicolachi by the Mogoșoaia Bridge. At that time, the church stood alone, with no other structures depicted nearby. However, by the time of Franz Purcel's 1790 map, a number of smaller buildings had appeared around the church—lining what is now Doamnei Street and facing the city's main thoroughfare of the era, the Mogoșoaia Bridge.[3]

Doamnei Church is also documented on the F. Purcel map from 1789[4] and the R. Borroczyn map[5] from 1846. The church suffered extensive damage from earthquakes in 1802, 1827, 1829, and 1838. Major restoration efforts took place in 1868, during which the bell tower was demolished, and again in 1906. Following the 1906 repairs, the church's walls remained exposed until 2003, when it was finally coated with a layer of white plaster.

As for archaeological investigations in the area, notable excavations were conducted by Gh. Cantacuzino at 4 Academiei Street, leading to the discovery of 15 graves attributed to Doamnei Church[6].

Archaeological excavations conducted in the courtyard of the Nifon Palace covered an area of 181 square meters. The results of the excavations performed in this area have been partially published[7]. The research, carried out

1 Dacus Florescu 1997, Vol II, 88.
2 Radvan, Ciobanu 2019, 452.
3 Darie et al. 2022, 234.
4 Purcel 1789.
5 Borroczyn 1846, carou 39.
6 Panait 2009, 31.
7 Darie et al. 2022, 233-270.

between 2022 and 2023, uncovered parts of the foundation of a rectangular building dated to the 18th–19th centuries (Plate IV/ 1). The building, featuring a cellar on its southern side, can be clearly identified on both the 1846 Borroczyn Plan and the 1856 Jung Plan[8]. The main building is constructed of brick bound with lime mortar and is divided into three rooms (room 1, room 2, room 4) and what appears to be an entrance hall (room 3). Field observations indicate a dual functionality for the room: an initial use as a cellar, followed by a later adaptation into a cesspit. Excavating room no. 1, we recovered common pottery, such as earthenware pots, glazed jugs, washbasins, a significant number of glass vessels, clay pipes, a bone knife handle, and a cylindrical earthenware vessel decorated with a crowned, double-headed eagle holding a sword and scepter, bearing the mark of the 'HF' Holitscher Fabrick earthenware manufactory (Holics, Hungary), active between 1785 and 1813.[9]

Additionally, the excavations revealed graves associated with the cemetery of Doamnei Church. To date, 60 graves have been excavated, along with 11 reburials associated with specific graves and five reburials not linked to any particular grave (Plate IV/ 2). Some of the graves have been cut out, others only superimposed by the walls of the building, indicating that the construction of the building occurred after the cemetery was established.

From a spatial perspective, the majority of the graves are concentrated in the northern part of the excavated area, which is closest to the church. In contrast, the southern area of the cemetery has been heavily disturbed–both by the wall structures uncovered during the archaeological excavations and by the construction and infrastructure associated with the Nifon Palace. A detailed anthropological analysis of the skeletons identified in the graves and the associated funerary inventory will be provided in a future study.

The main aim of this article is to explore the behavior of the Bucharest medieval communities through the archaeological finds from two garbage pits found in the perimeter of the necropolis of Doamnei Church (Feature no. 1 and Feature no. 4). Based on the ceramic materials, the pits can be dated back to the 16th–17th centuries, possibly even before the foundation of the Doamnei Church (1683).

Methods of excavation

The excavation in the palace courtyard began with the mechanical removal of surface layers across the entire area until the first archaeological features were uncovered, after which work continued manually. Methodologically, standardized recording sheets were used for both features and stratigraphic units. Based on the recorded information, a detailed stratigraphic diagram was created.[10]

The progress of the excavation was documented through a series of orthophotoplans captured via aerial photography, supplemented by precise topographic measurements using a total station. The collected images were processed to produce georeferenced orthophotoplans in the Stereo70 national coordinate system, along with 3D models of the unearthed structures and features. All elevation measurements were referenced to a fixed benchmark point, aligned with the zero-point established for the palace rehabilitation project.

Results

Feature no. 1 (Plate I/1, 3, 5) represents a circular-shaped pit, located in the eastern part of the excavated surface, with a size of 1,89×2,38 meters, located approximately 10 m south from the church. It was partially disturbed by the construction of the Nifon Palace. Stratigraphically, the pit is earlier than the rectangular brick building (Z1 and Z7), as well as the M1, M2, M3, M4, M5, M16, M25, M22, RD.

The pit was filled with a homogeneous dark brown-blackish sediment, with charcoal and ash, alternating with mortar films and small brick fragments. The fill contained ceramic fragments, animal bones and shells. The pit also contained, at a depth of 2,87 meters, a dog skeleton, in a good state of preservation, measuring 0,44×0,41 meters. The dog skeleton was found in an anatomical position, except the skull, found in the vicinity of the skeleton (Plate I/2, 4). Two fragments of disc tiles were recovered alongside the ceramic fragments, dating the feature to the 16th-17th centuries.[11]

Feature no. 4 (Plate II-III) represents a circular-shaped pit, located in the proximity of Feature no. 1, with a size of 1,22×1,20 meters (-2,43/-3,21 m). Stratigraphically, the pit is earlier than graves M13, M50, M55, M57 (Plate II/1, 2). The pit was filled with a homogeneous dark grey sediment, with small brick and charcoal fragments found in the upper part of the fill (Plate II/4; Plate III/1, 2).

8 Jung 1856.
9 Darie et al. 2022, 237.
10 Darie et al. 2022, 270.
11 Darie et al. 2022, 238-239.

Rather, in the lower part of the fill, the density of the artefacts increased, with pottery, four fragments of disc tiles, animal bones, shells, with admixtures of charcoal.

The archaeozoological assemblage

In addition to insights into the behavior of medieval communities in 16th–17th century Bucharest, we also used the archaeozoological data.

During the 2023 rescue excavations at the Nifon Palace, a series of faunal remains were recovered from two archaeological features (Feature 1 and Feature 4), which were dated, based on the associated artifacts, to the 16th–17th centuries. In total, 274 remains were quantified, weighing approximately 6846.1 g (Table 1). The distribution across the features is slightly uneven: 144 remains (52.5%) came from Feature 1, while 130 fragments (47.5%) were recovered from Feature 4.

For the taxonomic identification of the faunal remains, especially mammal bones, the comparative anatomy reference collection of the Archaeozoology Laboratory within the "Vasile Pârvan" Institute of Archaeology, Romanian Academy, was used.

Additionally, in our scientific approach, we employed Schmid's methodological volume[12]. The distinction between sheep and goat was based on post-cranial skeletons, following the works of Zeder and Lepham.[13] To determine slaughter ages, we used various sources, most frequently Schmid's work for tooth eruption[14], and the studies by Ducos[15] and Grant[16] for cattle, Horard Herbin[17] for pigs, and Payne[18] for sheep and goats when examining dental wear.

To correlate dental/skeletal ages with biological ages, we used the study by Udrescu and collaborators. The distribution by anatomical elements, species, and archaeological features can be found in Appendix 1. Biometric data were obtained using an electronic caliper with an instrumental accuracy of 0.1 mm, according to the norms established by von den Driesch, and can be found in Appendix 2.

For fish remains, the reference collection of the Archaeozoology Laboratory at the National Museum of History of Romania was used. Dimensional reconstructions were based on data from Radu.[19] In the case of birds, the measurements proposed by von den Driesch[20] were applied.

The majority of the fauna is represented by mammals (91.2%), with the rest consisting of fish (8%) and birds (0.7%).

The list of mammal species is extremely limited and includes only domestic animals: cattle (*Bos taurus*), sheep (*Ovis aries*), goat (*Capra hircus*), pig (*Sus domesticus*), and dog (*Canis familiaris*) (Photos 7–20). In general, the bone remains that are typically covered with meat (scapula, humerus, radius, ulna, pelvic bone, femur, tibia) are heavily fragmented, in contrast to those from extremities that are low in meat content (metapodials and phalanges), which are less broken. Given the high degree of fragmentation in this material, it can be classified as household waste.

Description of the faunal material by archaeological feature

Feature 1 (Feature 1) contains 144 remains, of which 142 belong to mammals (98.6%) and only two to birds. The latter came from chicken (*Gallus domesticus*) and weigh 2.8 g (Photo 6): one ulna from an adult individual (GL = 66.5; Bp = 8.8; Dip = 13; SC = 3.7; Did = 8) and one femur with porous epiphyses from a juvenile.

Out of the mammal fragments, 123 were taxonomically identified (86.6%). The highest frequency was recorded for cattle bones (NR = 103), represented by at least four individuals: one juvenile/subadult (unfused proximal ulna) and three adults, all identified based on dental wear (one aged 4–6.5 years, one 6.5–9 years, and one over 9 years). Sheep/goats (NR = 10) are represented by a juvenile about 6–12 months old based on dentition. Pigs (NR = 9) are represented by a single juvenile/subadult approximately 12–14 months old, also identified based on dentition.

In the fill layer of the same feature, the remains of a dog were found in anatomical connection and recorded statistically as a single item (Appendix 1). The anatomical elements identified are shown in Figure 1. The absence

12 Schmid 1972.
13 Zeder and Lepham 2010.
14 Schmid 1972.
15 Ducos 1968.
16 Grant 1982.
17 Horard Herbin 1997.
18 Payne 1973.
19 Radu 2011.
20 von den Driesch 1976.

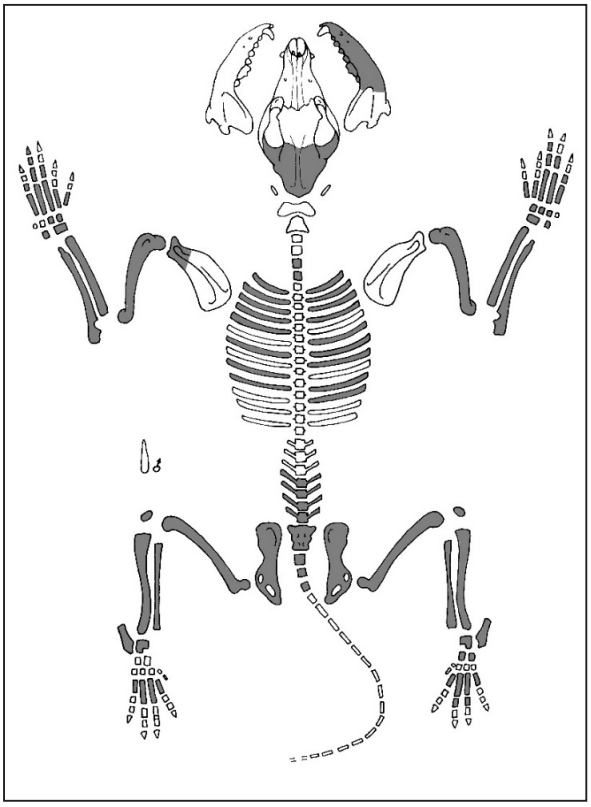

Figure 1. The dog anatomical elements discovered within Feature 1.

of the penile bone suggests the animal was female. Its skeletal age is estimated at around 6–8 months, based on the fact that the distal humerus, distal metapodials, and proximal phalanges were still in the process of epiphysis formation. The skeletal age corresponds to the dental age, indicating a juvenile animal. A healing rib fracture is visible (Photos 13, 14), while the right-side metacarpals II–IV (Photos 15, 16) show signs of an infectious process that affected the animal's paw. From our perspective, these pathologies did not cause the animal's death.

Feature 4 (Feature 4) is characterized by 130 fragments, of which 108 (83%) originate from mammals (Table 1). 22 remains have been identified as belonging to fish (Table 2), with a total weight of 22.3 g. The state of preservation of the bones is good and allows for specific identification. With the exception of a single bone from a catfish (*Silurus glanis*) that showed signs of butchery (Photo 5), no other marks were observed on the surface of the bones (burns, teeth marks, gnawing, cutting, etc.).

Pike (*Esox lucius*). Four remains were identified for this species. They come from at least three individuals, considering that three of the cleithrum bones are from the right side (Photo 1). The reconstructed sizes (Table 3) are nearly identical: a total length of 500 mm and an approximate weight of 900 g.

Bream (*Abramis brama*). A single individual was identified by a head bone (Photo 2), specifically, a cleithrum. This fish had a total length of 330 mm and a weight of approximately 400 g.

Table 1. Numerical and percentage distribution of faunal remains and their weight (g) discovered in the archaeological feature at Nifon Palace.

Specie – number of remains	Feature 1	Feature 4	Total NR	NR %
Bos taurus	103	54	157	71.04
Ovis aries		1	1	0.45
Capra hircus		3	3	1.36
Ovis aries / Capra hircus	10	23	33	14.93
Sus domesticus	9	10	19	8.60
Canis familiaris	**1**	7	8	3.62
Total determinated	123	98	221	100.00
Indeterminated big size	12	4	16	
Indeterminated middle size	7	6	13	
Total mammals	**142**	**108**	**250**	
Total birds	**2**		**2**	
Total fish		**22**	**22**	
TOTAL FAUNA	**144**	**130**	**274**	

Specie - weight	Feature 1	Feature 4	Total W	W %
Bos taurus	3311	1938	5249	78.75
Ovis aries		21	21	0.32
Capra hircus		265	265	3.98
Ovis aries / Capra hircus	41	117	158	2.37
Sus domesticus	169	112	281	4.22
Canis familiaris	**650**	41	691	10.37
Total determinated	4171	2494	6665	100.00
Indeterminated big size	84	25	109	
Indeterminated middle size	31	16	47	
Total mammals	**4286**	**2535**	**6821**	
Total birds	**2.8**		**2.8**	
Total fish		**22.3**	**22.3**	
TOTAL FAUNA	**4288.8**	**2557.3**	**6846.1**	

Table 2. Distribution of the number of fish remains in Feature 4.

Taxon	NR	W (g)
Esox lucius	4	1.5
Abramis brama	1	0.5
Cyprinus carpio	6	4.4
Silurus glanis	3	11.6
Sander lucioperca	3	2.8
Pisces ind.	5	1.5
Total Pisces	**22**	**22.3**

Carp (*Cyprinus carpio*). The identified bones also come from the head region (Photo 3), namely three cleithrum, one supracleithrum, one parasphenoid, and one opercular. Size reconstructions were based on two right-side cleithrum and one supracleithrum. Two individuals had a total length of 468 mm (1.49 kg), and one individual measured 615 mm (3.35 kg).

Catfish (*Silurus glanis*). Only three bones were attributed to this species (Photo 5): two posttemporals and one precaudal vertebra. These remains confirm the presence of at least two individuals measuring 1352 mm total length (18.4 kg) and 1638 mm (33.3 kg), respectively. For catfish, these are medium-to-large-sized specimens.

Table 3. Reconstructed sizes for the main fish species (Tl = in millimeters; w = weight in grams).

Specia	Element	M1	M3	Tl (mm)	W (g)
Abramis brama	cleithrum	6		330	400
Esox lucius	cleithrum		1.93	517	911
Esox lucius	cleithrum		2	529	983
Esox lucius	cleithrum		1.96	522	941
Cyprinus carpio	cleithrum	8.2		468	1495
Cyprinus carpio	cleithrum	8.2		468	1495
Cyprinus carpio	supra-cleithrum	50		615	3346
Silurus glanis	posttemporal	55		1352	18429
Silurus glanis	posttemporal	70		1638	33321
Sander lucioperca	dentary	7.6		561	1576
Total					**62897**

Pikeperch (*Sander lucioperca*). The remains likely belong to a single individual (Photo 4). The dentary is connected to the articular, and the reconstructed total length is around 500 mm and 1.5 kg. Data from the parasphenoid bone support these values.

Additionally, three ribs from the same individual were recovered, along with an axonost bone from the fin region and one anatomically unidentifiable fragment.

The identified remains belonging to freshwater fish species are common to the Danube River and its tributaries: pike, bream, carp, catfish and zander. The number of bones per species is limited to just a few remains (between 1 and 6 at most), likely reflecting a selection closely related to harvesting methods or possibly the specific nature of the archaeological Feature.

Except for the catfish (for which a vertebra was identified) and the unidentifiable remains (Pisces indet.) that come from the abdominal area (precaudal vertebrae, ribs) or the fins, the other species are represented by bones from the viscerocranium or the pectoral fin located at the skull level. Cleithral bones predominate (such as cleithrum, supracleithrum, or posttemporal) identified in pike, bream, carp, and catfish (Photos 1–3, 5). These represent approximately 58.8% of the total determined remains.

Butchering marks were observed only on the posttemporal of the catfish (Photo 5), indicating head removal, likely due to its relatively low meat content. It is possible that the same method was applied to bream, carp, or pike. The lack of vertebrae and the presence of only a few operculum-area remains suggest the consumption of fish portions with few bones, missing both the skull and spinal column.

One possibility is that these portions came from fish already preserved, likely through salting and drying. During preservation, the spinal column is removed, and during culinary preparation, the head bones may also be discarded. The analyzed remains are probably the result of daily meals involving the preparation of fresh or even already preserved fish.

In total, the analyzed bone remains come from at least 10 individuals with an estimated weight of around 62.9 kg.

The majority of the analyzed remains in this material are mammals, among which cattle have the highest share (NR=54). Based on dental wear, at least three individuals were identified: one subadult (approximately 2–4 years old) and two adults (one aged 6.5–9 years and the other 9–11 years).

Sheep and goats (caprines) are much more numerous (NR=27) compared to Feature 1, and both species were identified in the sample. The goat (NR=3) is represented by a subadult/adult male, while the sheep (NR=1) is attested by a juvenile around 3–4 months old (a distal humerus undergoing epiphyseal fusion). One taxonomically unidentifiable caprine individual (NR=23) was identified based on dentition, estimated to be around 1–2 years old.

The pig (NR=10) is represented by two juvenile/subadult individuals: one under 1 year old (a coxal with an unfused acetabulum) and another over 1 year old (a scapula with fused epiphysis). A dog is attested by a juvenile/subadult individual older than 12 months (a scapula with fusion at the glenoid cavity) (Photo 13).

Biometry

Medieval settlements from the 16th–17th centuries in southeastern Romania that have benefited from archaeozoological studies are extremely rare, and thus comparisons with other sites cannot be made. However, we present here some data that could serve as a foundation for future comparisons (Appendix 2).

The discovery of several complete bones allowed estimations of withers height in several domestic animal species. For cattle, based on three metatarsals (Photo 8), the height (Matolcsi index) was calculated for a female measuring 107.4 cm, and two castrated males with an average of 128.6 cm (range 122.7–134.5 cm). These values are slightly higher for the castrated males than those found at the Orașul de Floci site[21] (15th–16th centuries) and the Sf. Constantin inn[22] in Bucharest (17th–19th centuries). In terms of females, the values are relatively similar.

For pigs, based on two metacarpals (III and IV, Photo 12), an average height (Teichert index) of 81.6 cm was estimated (range 81.4–81.7 cm). This value is approximately 2 cm higher than that estimated for pigs from Orașul de Floci[23] (15th–16th centuries).

For dogs, the height was estimated using complete bones (some unfused) from a nearly complete juvenile individual discovered in Feature 1, showing average values of 53.1 cm (Koudelka index) and 53.9 cm (Harcourt index). It is noted that the animal was still growing and would likely have reached over 60 cm in height. Additionally, in Feature 4, a scapula (Photo 13) was identified, providing a height of 56.7 cm (Koudelka index) which belonged to a different individual than the one found in Feature 1. These metric values are consistent with known data for medieval Romania.[24]

Archaeozoological conclusions

Within the taxonomically identified mammalian faunal sample (NR=221, W=665, MNI=16) from the Nifon Palace, cattle are the most numerous species regardless of the used quantification method (NR=71%, W=78.7%, and MNI=43.7%), followed at a great distance by caprines and pigs (see Figure 2).

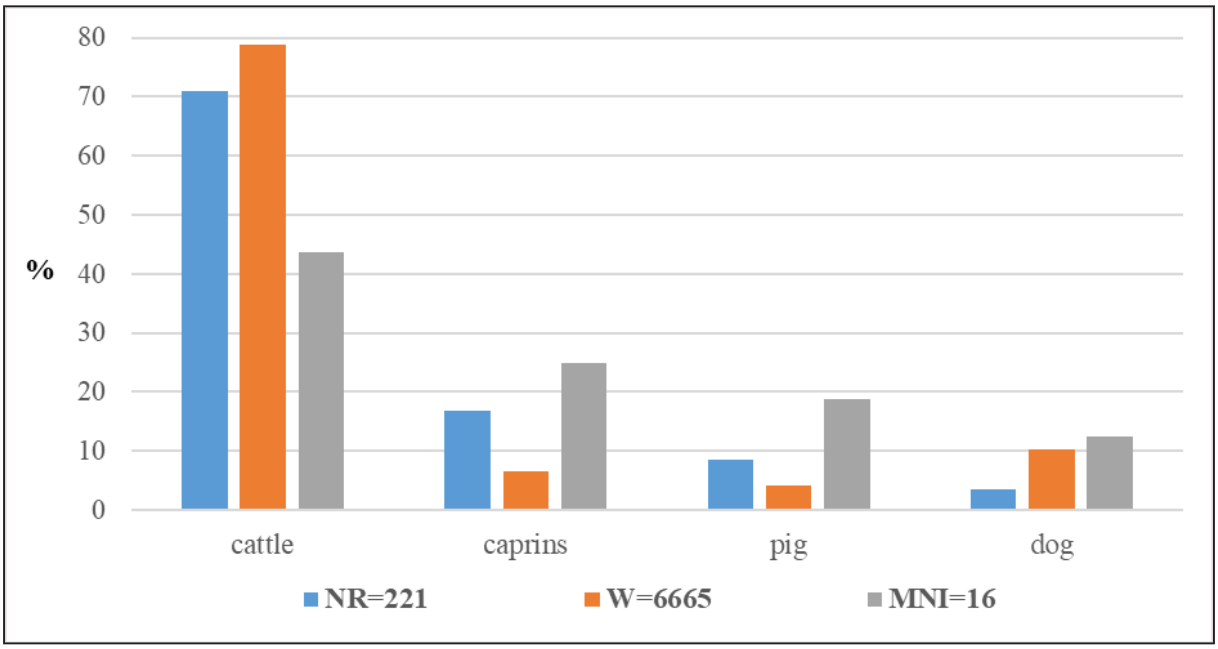

Figure 2. The percentage distribution of mammalian faunal fragments by number of remains (NR), weight (W), and minimum number of individuals (MNI).

[21] Bălășescu et al. 2009, 296.
[22] Bălășescu et al. 2002, 1452.
[23] Bălășescu et al. 2009, 296.
[24] Bejenaru 2006, 136.

The study of slaughter ages in cattle suggests these animals were mainly raised for secondary products (milk, draft power), as indicated by the prevalence of adult and elderly individuals. In contrast, caprines appear to have been exploited primarily for meat, as shown by the dominance of relatively young, juvenile/subadult individuals. Pigs were used exclusively for meat production, with slaughter occurring when animals reached an optimal weight for maximizing yield (around one year of age).

Comparisons with other sites in the Bucharest area that benefited from archaeozoological studies can only be made with the Sf. Constantin inn, which is dated significantly later (18th–19th centuries). At both sites, cattle remains are predominant, followed by those of caprines and pigs. Freshwater fish and domestic birds (such as chicken) are also present, confirming their dietary importance during the studied period.

It is hoped that future archaeozoological research will further complete the picture of the paleodiet of human communities that inhabited the territory of modern-day Bucharest during the Middle Ages.

The pottery assemblage

Methodology

For the processing of this ceramic materials, we have used a quantitative-qualitative analysis. In this respect, observations on the ceramic fragments have been introduced into an Excel Database, adapted for medieval pottery, that record information about the context, type of material, typology, morphology, fabric, decoration, dimensions and usage.

To reduce statistical errors, prior to the analysis, the pottery fragments were grouped to form vessels, hole profiles and glued together, when possible. Other fragments were grouped by similar characteristics such as fabric, firing and surface treatment. These *groups of similar fragments* do not necessarily equal a vessel and will not be used for the minimum number of individuals.

The database contains individual fragments with unique characteristics such as base fragments, rim, handles, hole profiles of vessels, vessels, body fragments and *groups of similar fragments.*

In terms of fabric, three categories were identified: fine, medium and coarse ware that can be glazed or unglazed, and have different treatments on the outer and inner surface.

Typology and morphology go from more general characteristics such as opened/closed shapes, to specific (e.g. conical, biconical, globular), all the way to particular functional types such as plate, bowl, mug, jar, jug etc.

For decoration we have followed the technique (e.g. plastic, painted, glazed), the decorated area of the vessels (exterior, interior, upper or lower part) and motif (linear, geometric, vegetal).

We also made observations on the usage patterns on bottoms or rims and preserved residues such as soot or charred remains from cooking.

All the fragments were measured in terms of dimensions and weighed with a digital caliper and scale. To observe the fragmentation fragments were measured against a predetermined surface template that goes from 2x2 cm (4 cm^2), 3x3 cm (9 cm^2) all the way to 16x16 cm (256 cm^2)

Results

General information

The batch contains 789 pottery fragments from the two pits (Feature no. 1 and Feature no. 4), which resulted into 226 database entries (Table 4).

Both the number of fragments and database entries show a well-balanced distribution in terms of percentages. More interestingly, some fragments from Feature no. 1 belonged to vessels from Feature no. 4, which make these two pits contemporaneous at least for a period. We will therefore treat the pottery from the two pits as a single batch.

Almost the entire batch (N=225 – 99,6%) is comprised of local ceramics made of clay, and only 1 (0,4%) fragment from a faience plate that may represent an import.

Table 4. Distribution of the pottery assemblage in features by the database entries and number of fragments.

	Feature 1	Feature 4	Feat 4 and Feat 1	Total
Database entries	116	108	2	226
	51,3%	47,8%	0,9%	100,0%
No. of Fragments	331	408	50	789
	42,0%	51,7%	6,3%	100,0%

Table 5. Distribution of the pottery assemblage in relation to body part.

Base/Bottom	Rim	Body	Group of similar fragments	Hole profile	Handle	Hole Pot	Total
69	44	65	30	5	12	1	226
30,5%	19,5%	28,8%	13,3%	2,2%	5,3%	0,4%	100,0%

To calculate the minimum number of individuals (MNI = individual vessels) we only used the number of bases, hole profiles and hole pots, witch ads up to 75 vessels (33,2%).

Fragmentation

Fragmentation is rather high to normal. The 789 pottery fragments weigh 14286 grams, which gives an average of 18, 1 grams per fragment. The measuring against the predetermined surface template shows that most fragments (77, 9%) fit into the patterns from 9 cm^2 to 64 cm^2 (3x3 up to 8x8 cm) (Figure 3)

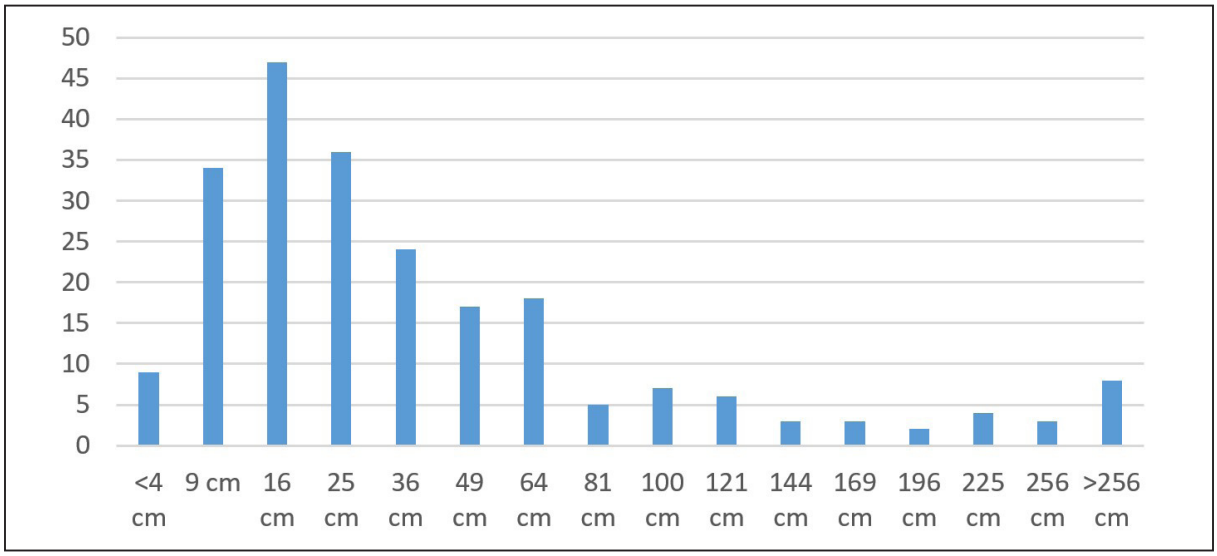

Figure 3. Distribution of fragments measured against the predetermined surface template.

This can be explained by the low thickness of the pottery, ranging from 0,3 to 1,5 cm, with an average of 0,6 cm and most fragments not thicker than 0,6 cm.

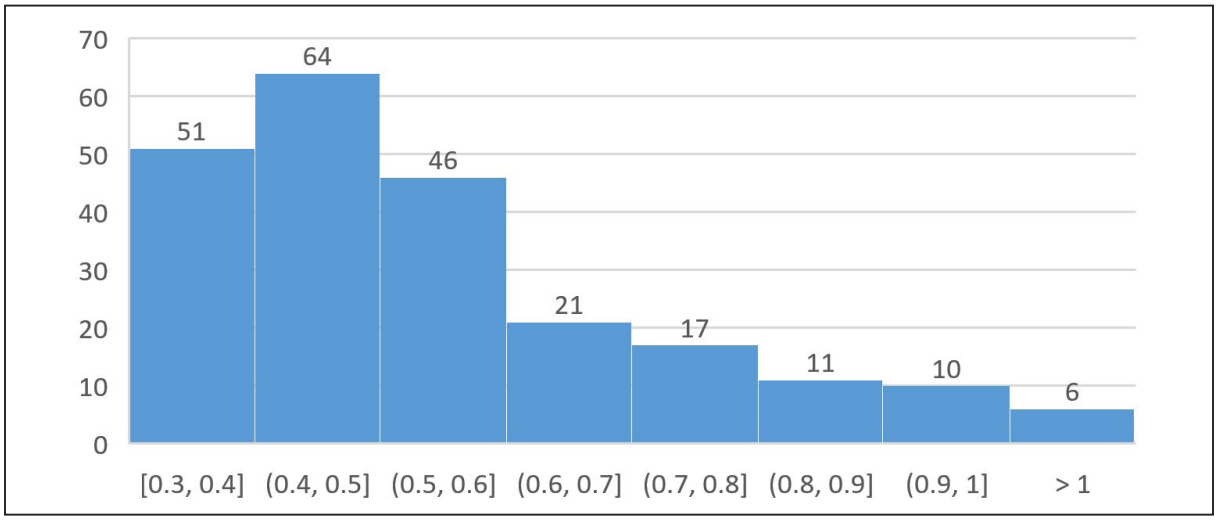

Figure 4. The measured thickness of pottery fragments.

Very few fragments show glaze treatment either on larger surfaces (N=9 – 4%) but more often with random spots (N=7 – 3,1%). Most pottery (92%) is therefore unglazed, with smoothed outside surfaces, and wheel-marks on the inside.

Fabric

In terms of fabric, the assemblage is dominated by fine-ware and medium-ware (Table 6), most of it untampered or tempered with fine sand and pebbles (Table 7), and for most pots, firing was done in an oxidizing environment (Table 8), most probably in kilns.

Table 6. Pottery ware categories.

Fine ware	Medium ware	Coarse ware	Total
150	67	9	226
66,4%	29,6%	4,0%	100,0%

Table 7. Tempering of the pottery.

ALL Wares	Fine Sand	Sand+pebbles	Pebbles	No temper	Total
	43	43	16	124	226
	19,0%	19,0%	7,1%	54,9%	100,0%

Table 8. Firing condition for the pottery in the assemblage.

Oxidizing	Half oxidizing	Reducing	Half reducing	Total
110	85	17	14	226
48,7%	37,6%	7,5%	6,2%	100,0%

Typology

Typology is rather limited (Table 9). Closed shape vessels make up most of the batch with 65,9% of the hole batch and 84,7% of the fragments for which it was possible to determine the shape (Plate V-VII). Most of these are jars and pot-jars larger than 3 liters (Plate V-VI). We notice the light presence of shallow vessels like plates and bowls that are normally used as tableware, most of them found in Feature no. 4 (Plate X).

Table 9. Typological distribution of the pottery assemblage.

	Opened shape				Complex shape	Closed shape						
Type	Plate	Bowl	Flower pot	Jar type stove-tile	Disc stove-tile	Mug	Jar	Jar-pot >3l	Jug	Indefi-nite	Total	Deter-mined
	3	7	3	9	5	33	78	23	15	50	226	176
	1,3%	3,1%	1,3%	4,0%	2,2%	14,6%	34,5%	10,2%	6,6%	22,1%	100,0%	
	1,7%	4,0%	1,7%	5,1%	2,8%	18,8%	44,3%	13,1%	8,5%			

Decoration

Decoration is only present on 56 fragments (24,8%). Out of these we notice a prevalence of incised, plastic and glazed decoration techniques (Table 10), that was applied mainly on the outer surfaces of the vessels (N=43 – 76,8%), on the upper part such as rim (N=27 – 48,2%) and around the shoulder (N=14 – 25%).

Table 10. Decoration techniques used on the pottery in the assemblage.

Plastic	Painted	Incized	Impresed	Grooved	Glazed	Combined	Undecorated	Total	Decorated
11	2	23	1	6	12	1	170	226	56
4,9%	0,9%	10,2%	0,4%	2,7%	5,3%	0,4%	75,2%	100,0%	
19,6%	3,6%	41,1%	1,8%	10,7%	21,4%	1,8%			

The decoration motifs are simple. Linear decoration prevails (N=37 – 66,1%). Most of the fragments are decorated with incised lines or grooves that go around the rim or just on top of the shoulder (Plate V-VI). This type of decoration, along with the decoration with randomly placed spots of enamel/glaze (N=7 – 12,5%) is present almost exclusively on biconical vessels like jars and mugs.

Glaze was also used to cover larger surfaces on the upper part of jugs and on their handles, usually of a light-green to dark-green color (Plate VII).

Interestingly, glaze covers the entire inner surfaces (Plate X/2, 4, 5) when applied on conical shaped vessels such as plates and bowls. These can be painted in uniform green color (Plate X/ 4) or with vegetal/geometric motifs using brown, light and dark green colors and then covered with a transparent glaze (Plate X/ 2).

Usage and functionality

Although it goes without saying that each of the discovered vessels was used for one purpose or another, for a longer or shorter period of time, only some of them retain obvious traces of use after such a long time. In our batch, most of the pottery fragments do not show any clear evidence of usage, but almost a third do (Table 11).

Table 11. The presence of residues on the surfaces of the vessels.

No residue	Inside	Outside	Inside-Outside	Total
161	10	27	28	226
71,2%	4,4%	11,9%	12,4%	100,0%

These traces (N=73) can take the form of worn surfaces on the bottom of vessels (N=8 – 11%) or small eroded rings on the rim (0 fragments in this batch), where a lid might have been used, the presence of soot (N=40 – 54,8%) on the outer surface of closed shape pots (Plate VI/ 3, 5, 7), especially on the lower part and on the rim, or the presence of thick organic residues and soot (Plate VI/ 4) on the inner surfaces (N=23 – 31,5%), or hardened lime and soot (N=2 – 2,7%) (Table 12; Plate XI/ 3, 4). If the first two types of usage marks show evidence of prolonged usage, the last two indicate towards usage in cooking/heating activities and even reuse of pots or fragments of pots for preparing other materials such as plaster (Plate XI/ 3, 4).

Table 12. The presence of traces of use on the surfaces of the vessels.

Worn bases	Soot	Residue and soot	Lime and soot	Total
8	40	23	2	73
11,0%	54,8%	31,5%	2,7%	100,0%

Dimensions

We were able to measure the diameter of 53 rim (Figure 5) and 81 bottom fragments and pots (Figure 6). The average rim diameter is 14 cm, ranging from 3 cm up to 22 cm, but as the chart below shows, most pots have a rim diameter from 11 to 17 cm.

The average bottom diameter is 10 cm, ranging from 6 cm up to 17 cm, with most pots having a diameter from 7 to 11 cm.

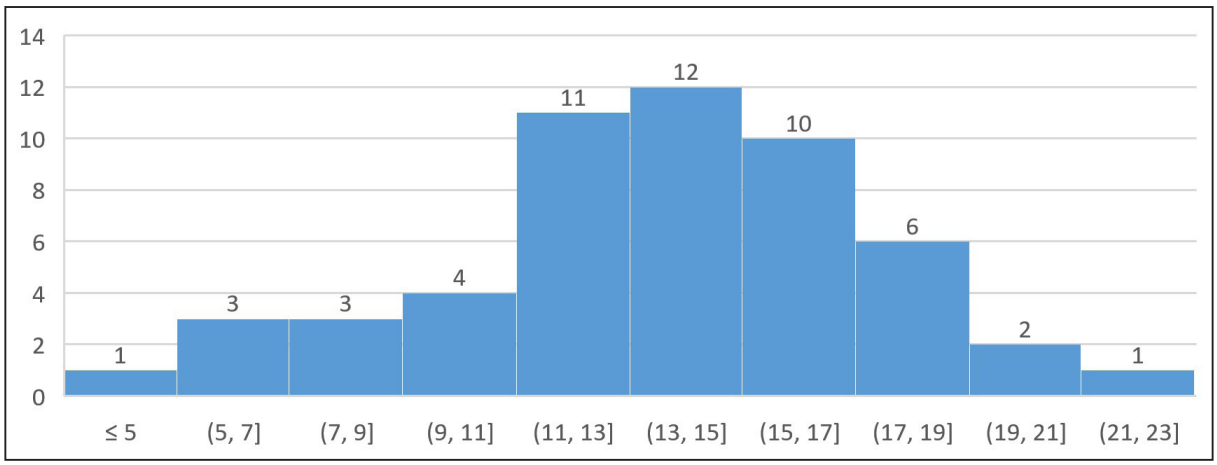

Figure 5. Measured rim diameter in stages on 2 cm.

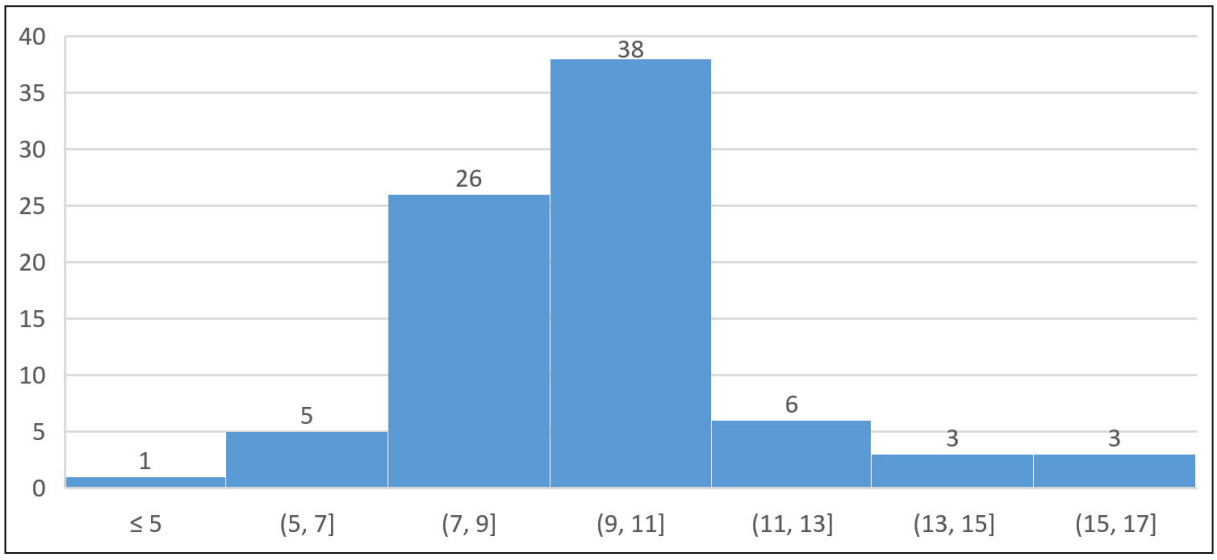

Figure 6. Measured bottom diameter in stages on 2 cm.

Angles at the bottom were also measured to observe differences between types of vessels.

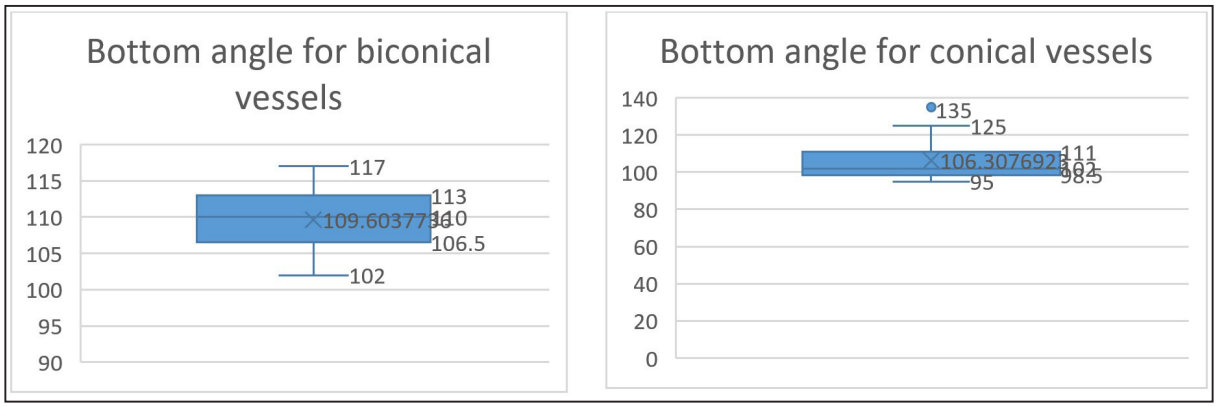

Figure 7. Box and whisker charts for angles measured for the bottom of conical and biconical vessels.

The box and whisker charts show differences between conical and biconical vessels (Figure 7). Thus, biconical vessels have a more obtuse angle than conical ones, at least on this batch of pottery. This situation is abnormal, but it points out to the lack of shallow vessels like plates and bowl from the batch.

A good result is that it sets a starting benchmark for bottom angles for small to medium closed-shape biconical vessels, in this case, jars.

Special finds

From this entire batch of pottery, very few stand out. A special case is represented by the 14 fragments of stove tiles. Nine of them are fragments of jar-type stove tiles and five are disc-type stove tiles.

These are mostly of fine and medium ware, fired in an oxidizing environment and smooth surfaces.

Jar-type stove tiles have truncated shape, larger on the rim than on the bottom and a special „S" shape of the thickened and straight-cut rim (Plate VIII). Rim diameters range from 15 to 19 cm.

Disc-type stove-tiles have a body/rim at an almost 90-degree angle in relation to the flat bottom, with concentric ridges, some of them notched (Plate IX). Diameters range from 14 to 17 cm.

Five of them have soot on their surfaces, meaning that they were used at some point, and then discarded.

These stove-tiles, especially the disc-type, are characteristic for the 16th-17th century period.

Conclusions on the pottery assemblage

It must be stated that this pottery assemblage is not very large, but all the pottery fragments from these two features (No. 1 and No. 4) have been picked up from the filling, and all of them have been processed. This quantitative-qualitative analysis has the advantage that is verifiable, and if applied to any other assemblage, one can do comparative analysis.

Although we have long tried to restore the pottery, no complete vessels resulted in the process. The fragmentation is high to medium, most fragment being smaller than 64 cm^2. We believe that the low thickness of the pottery (0,6 cm) had an impact on the fragmentation factor. Closed-shape vessels such as jars, jugs and mugs dominate the assemblage. There are very few shallow truncated vessels, like plates and bowl, and no storage vessels. We notice the presence of 14 fragments of stove-tiles that are a good chronological indicator. In terms of fabric, the assemblage is dominated by fine-ware and medium-ware, most of it untampered and fired in an oxidizing environment, which we can claim was standard for the period in question (16th–17th century). Most of the pottery is not decorated. The ones that are, have simple incised lines especially on the rim and upper part of the vessels. Almost 30% of the pottery shows traces of usage such as soot, charred organic residues, and lime crust, indicating that the pots were used for cooking and heating, and some reused for other technical purposes. Charred remains on some of the fragments indicate that the pots were washed prior to reusing.

Rim and bottom diameter measuring shows that most of the pottery in the assemblage is small to medium size.

The fact that fragments from Feature 1 match fragments from Feature 4, clearly indicates that the two pits were contemporary and filled during the same time (Plate XI/ 1, 2).

All of these conclusions indicate that the pottery found in these two pits is the result of several cleaning activities.

General conclusion

Stratigraphic observations in the field indicate that the waste pits are earlier than some of the burials associated with the cemetery of Doamnei Church. Both pits are located nearly 10 m south from the church.

In this context, we extended our focus to similar archaeological contexts from Bucharest and its surrounding areas, focusing on the ceramic materials and stove tiles.

From a typological perspective, the ceramic materials found in the two waste pits date to the 16th–17th centuries. The disc-shaped tiles represent artefacts utilized for dating archaeological contexts. The closest parallels for the disc-shaped tiles can be found at the archaeological sites of Snagov, the Constantin Vodă Inn and 30 Lipscani Street.[25]

In use from the 14th century until the first half of the 17th century—predominantly in urban areas—tile were decorative elements used on stoves in voivode residences, townhouses, rural dwellings, and monastic annexes.[26] The pit inventory consists of ceramic fragments, but also animal bones.

The archeozoological assemblage indicate the presence on domesticated mammals, predominantly cow, then sheep/goat and in a lesser amount pig, but also freshwater fish, like carp, bream, pike, pikeperch and catfish. Cows were used for secondary products and slaughtered at an old age, sheep, goats and pigs were slaughtered young (around 1 year) for tender meat and some of the fish was brought in salted or smoked.

Urban activity in the area surrounding the Doamnei Church increased notably between 17th–19th centuries, a development confirmed by the archaeological discoveries. Waste pits, which date to the time of the church's construction but predate parts of the cemetery, provide valuable information about the everyday artifacts used by medieval communities.

In the central area of Bucharest, the archaeological excavations have revealed pits used for discarding of household waste, dated based on archaeological materials to the 16th–17th centuries. Similar discoveries dating from the 16th–17th centuries come from excavations carried out at Curţile Văcărescu: Calea Victoriei no. 9 (2010)[27], where seven waste pits were documented, containing common unglazed ceramic forms such as jars, jugs, lids, while glazed ceramics are limited (plates, bowls, cups, jugs). Waste pits were also found on Șelari Street no. 4-10 (2013), belonging to 17th–19th centuries or Sf. Gheorghe Nou church courtyard, during which wall structures belonging to the Sf. Gheorghe Nou Inn were discovered, as well as the waste pits containing archaeological materials characteristic of the 16th–17th centuries.[28]

[25] Mănucu-Adameșteanu et al. 2013, Teodor et al. 2011-2012, Mănucu-Adameșteanu et al. 2012.
[26] Rădulescu 2016, 83.
[27] Mănucu-Adameșteanu et al. 2005, 304.
[28] Ionaşcu et al. 1959, 779.

Similar features (waste pits) from the second half of the 16th century are also known at Lipscani Street no. 30 (2011)[29] with ceramic fragments and tiles specific to the period or Constantin Vodă Inn.[30] A category specific to the 16th–17th centuries, represented in the excavations in the courtyard of the Nifon Palace, are disc and pot stove-tiles, which are also part of the discoveries from Snagov monastery (2012)[31], where archaeological materials from the 17th–19th centuries were collected (plates, bowls, jugs, pots with handles).

In the end, we can argue that these two pits were used for waste disposal during the construction of the church, most probably by the masons that built it.

[29] Mănucu-Adamești eanu et al. 2012, 187.
[30] Teodor et al. 2011-2012, 22.
[31] Mănucu-Adamești eanu et al. 2013, 149-154.

Photos. The photo scale is in centimeters.

Photo 1. Fish bones (Feature 4). Pike – *Esox lucius,* three right cleithrum bones.

Photo 2. Fish bones (Feature 4). Bream – *Abramis brama*, one left cleithrum bone.

Photo 3. Fish bones (Feature 4). Carp – *Cyprinus carpio*, two right and one left cleithrum bones.

Photo 4. Fish bones (Feature 4). Zander – *Sander lucioperca*, left articular and dentary bones.

Photo 5. Fish bones (Feature 4). Catfish – *Silurus glanis*, one precaudal vertebra and two right posttemporal bones (the rightmost one sectioned).

Photo 6. Bird bones (Feature 1). Chicken – *Gallus domesticus*, femur and ulna.

Photo 7. Cattle mandible (*Bos taurus*), Feature 1.

Photo 8. Cattle metatarsals (*Bos taurus*), features 1 and 4 (the middle one from Feature 4).

Photo 9. Goat neurocranium (*Capra hircus*), Feature 4.

Photo 10. Caprine mandible (*Ovis aries/Capra hircus*), Feature 4.

Photo 11. Pig scapula (*Sus domesticus*), Feature 4.

Photo 12. Pig metacarpals (*Sus domesticus*), Feature 4.

Photo 13. Dog scapula (*Canis familiaris*), Feature 4.

Photo 14. Dog mandible (*Canis familiaris*), Feature 1.

Photo 15. Dog ulna, radius, and humerus (*Canis familiaris*), Feature 1.

Photo 16. Dog tibia and femur (*Canis familiaris*), Feature 1.

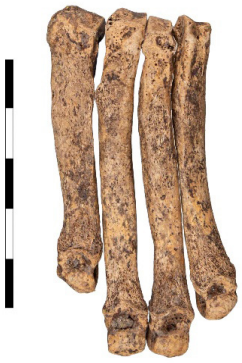

Photo 17. Dog metacarpals with pathology (*Canis familiaris*), Feature 1, dorsal view.

Photo 18. Dog metacarpals with pathology (*Canis familiaris*), Feature 1, lateral view.

Photo 19. Dog rib with pathology (*Canis familiaris*), Feature 1, lateral view.

Photo 20. Dog rib with pathology (*Canis familiaris*), Feature 1, medial view.

Appendix 1. Distribution of faunal remains by anatomical elements discovered at Nifon in Feature 1 and Feature 4.

	Feature 1				Feature 4					
ANATOMICAL ELEMENT	*Bos taurus*	ovicaprine	*Sus domesticus*	*Canis familiaris*	*Bos taurus*	*Ovis aries*	*Capra hircus*	ovicaprine	*Sus domesticus*	*Canis familiaris*
Neurocranium	20				12		1			
Viscerocranium	13	2			17					
Dentes sup.	3				1					
Mandibula	6		1		1			1		
Dentes inf.	3				1				1	
Atlas	1									
et Vert. cv.	1				1					
Vert. thor.	1		1		4			1		
Vert. lumb.	1							1		
Costae	32	7	2		8			13	1	6
Scapula	5				1			2	1	1
Humerus	3		1			1	1	1	1	
Radius	1							1		
Ulna	1									
Radio–Ulna	1						1			
Metacarpus	1		4							
Pelvis	2				1			1	2	
Femur								1		
Patella									1	
Tibia	3	1						1		
Metatarsus	3				1				2	
Metapodalia	1								1	
Phalanx 1	1				2					
Phalanx 2					2					
Phalanx 3					1					
sesamoid					1					
whole animal				1						
TOTAL NISP	**103**	**10**	**9**	**1**	**54**	**1**	**3**	**23**	**10**	**7**
TOTAL NMI	**4**	**1**	**1**	**1**	**3**	**1**	**1**	**1**	**1**	**1**

Appendix 2. All osteometric data were recorded according to the standardized guidelines established by von den Driesch[32] and are presented in millimeters (mm).

Bos taurus

METATARSUS	Cpl 1	Cpl 1	Cpl 4
GL	235.2	201.6	214.6
Bp	51.6	38.36	45.9
Dp	47.4	37.85	47.5
SD	29.6	22.3	26.4
DD	24.8	20.65	23.4
Bd	56.9	45.9	56.5
Dd	31.5	25.8	28.6
I2	21.94	19.03	21.39
I3	12.6	11.06	12.30
I4	24.19	22.77	26.33
sex	C	F	C
height at the withers (Matolcsi index)	1345.34	1074.53	1227.51
height at the withers (Fock index)	1281.84	1078.56	1169.57

MANDIBLE	Cpl 1	Cpl 4
8		76.3
10 L	36.4	32.5
10 B	14.9	14.5

Capra hircus

CRANIUM	Cpl 4
40	129
41	47.5
42	32.3
43	220
sex	M

Sus domesticus

SCAPULA	Cpl 4
SLC	21.2
GLP	33.1
LG	29.1
BG	22.1

METACARPUS III	Cpl 1
GL	78.9
LeP	74.3
Bp	19.9
B	15.7
Bd	17.2
height at the withers (Teichert index)	817.11

METACARPUS IV	Cpl 1
GL	80.1
LeP	76.8
Bp	17.2
Bp	13.8
Bd	15.9
height at the withers (Teichert index)	814.1

Canis familiaris

MANDIBLE	Cpl 1
7	80.3
8	75.7
9	71.7
10	39.2
11	37.3
12	33.3
13 L	22.6
13 l	8.8
14	21.4
26 (Dahr index)	175.5

SCAPULA	Cpl 4
HS	139.7
SLC	24.8
GLP	27.3
LG	25.94
BG	18.5
height at the withers (Koudelka index)	576.18

Cpl 1	Humerus	Radius	Ulna	Tibia
GL	161.7	166.5	191.5	182.5
height at the withers (Koudelka index	544.92	536.13	511305	532.9
height at the withers (Harcourt index	528.09	548.98	538.58	542.31

[32] von den Driesch 1976.

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Foto 2. Oase de pește (Complex 4). *Abramis brama*, os cleitrum stânga.

Foto 3. Oase de pește (Complex 4). *Cyprinus carpio*, două oase cleitrum dreapta și unul stânga.

Foto 4. Oase de pește (Complex 4). *Sander lucioperca*, articular și dentar stânga.

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Foto 19. Coastă de câine cu patologie (*Canis familiaris*), Complex 1, față laterală.

Foto 20. Coastă de câine cu patologie (*Canis familiaris*), Complex 1, față medială.

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1

2

3

4

5

Plate I. Feature no. 1. Stages of research (1-3, 5) and the dog skeleton found in the pit (4).

1

2

3

Plate II. Feature no. 4. Stages of research (1-4).


1


2


3


4

Plate III. Feature no. 4. Stages of research (1-4).

Plate IV. General plans of the archaeological excavations, successive orthophotoplans (1-2).

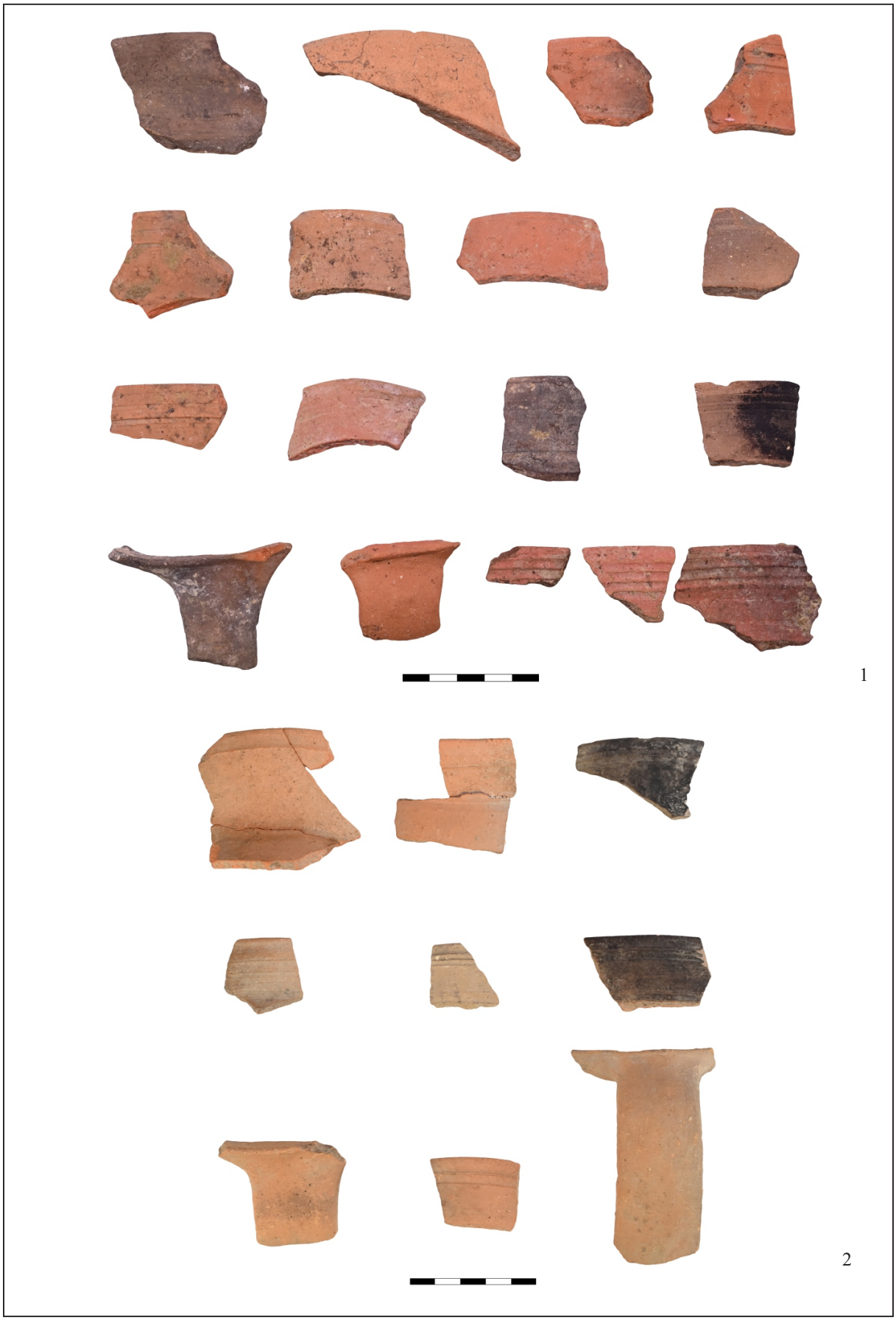

Plate V. Rims of biconical jars.Feature no. 1 (1), Feature no. 4 (2).

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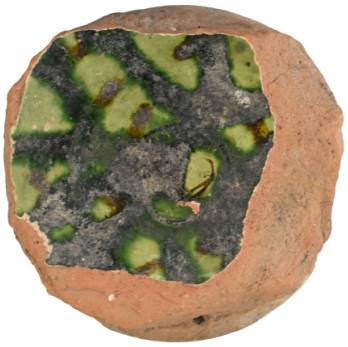
Plate VIII. Jar-type stove tiles: Feature no. 1 (1), Feature No. 4 (2-3).

Plate IX. Disc-type stove tiles: Feature no. 1 (1-2), Feature No. 4 (3-5).

1

3



2

4

5

6

Plate X. Truncated (conical) vessels in Feature 4: Bowl (1, 3), Plate (2, 4, 5, 6).

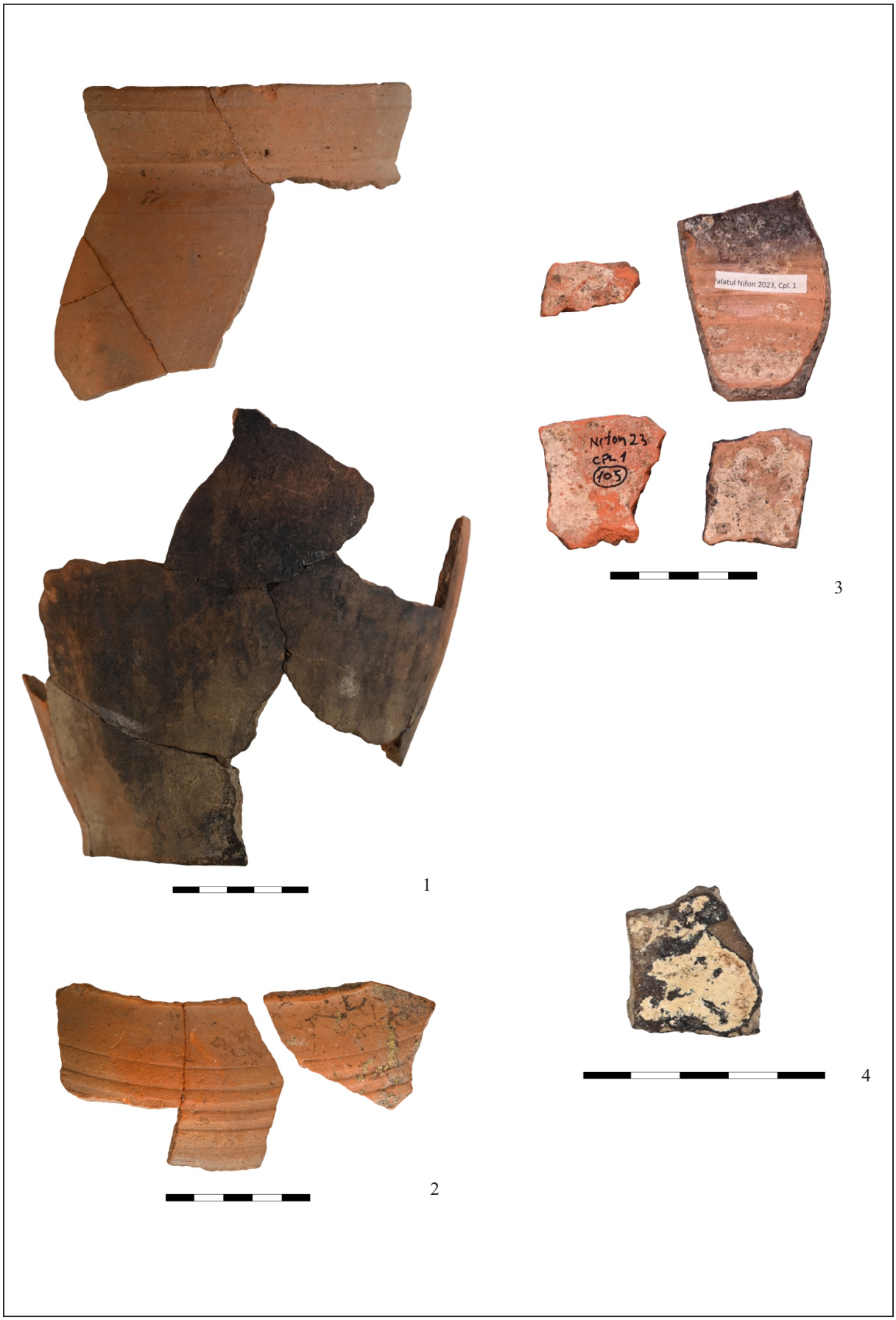


Plate XI. Bitruncated (biconical) vessels with fragments from both Feature 1 and 4. (1-2), Fragments with lime residue (3-4).