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“BIRDS OF A FEATHER”: PEACOCK – SHAPED OIL LAMP FROM THE AQUINCUM CIVIL TOWN¹

In memoriam Klára Póczy

INTRODUCTION

A bronze zoomorphic object in form of a bird (see below) with blue and red glass paste inlays was discovered in the eastern wing of Building no. I. in the north – eastern zone of the Aquincum Civil Town in 1972. The excavator, Klára Póczy considered it as an oil lamp and as it was found on the pavement of a relatively late room, she dated both the room and the find to the 4th century AD in her excavation diary. Nevertheless, the object had long been hiding in the stores and remained unpublished. Now, citing parallels to both its function and form, an attempt will be made to identify the object and place it within the sociohistorical context of the settlement.

THE FIND LOCATION

The eastern wing of Building no. I – that was most probably functioning as a separate dwelling house (strip building) – was excavated several times in the last decades of the 20th century.² (Fig. 1.) The first systematical one was carried out by Klára Póczy in connection to the conservation of the walls in 1972,³ during which she managed to excavate most of the rooms. Based on her excavation documentation and observations, 6 main phases (out of the 8 phases determined in the north – eastern zone of the town) could be indentified from the beginning/middle of the 2nd century to the end of the 3rd century AD.⁴ The building's fifth phase (Phase 7 in the north – eastern zone) was mainly characterized by *opus spicatum* walls. This phase saw the construction of large rooms in the south and the reconstruction of

rooms with floor heating grouped on both sides of a central corridor and a possible staircase (to the upper storey?). To the north, rooms dedicated to bronze smithing could also be connected to this period.⁵ A large, slightly trapezoidal room (or separate building?) with *opus spicatum* walls were constructed on walls from pervious phases. This room was probably further separated into two smaller rooms, even though this remains uncertain, as its northern end was only partially excavated. The good quality, whitish cast pavement (terrazzo?) of the late room/building had a rather thick base (60 cm). (Figs. 2.–3.) According to the excavation diary, the bronze zoomorphic object in question was found on the pavement.⁶ Even though, K. Póczy dated this phase – hence also the find – to the 4th century,⁷ recent revaluation of the datable finds (terra sigillata, amphorae and coins) coming either from this or the neighbouring strip buildings date this period to the first half/middle of the 3rd century AD.⁸

Even though, the zoomorphic find has never been published,⁹ the building was hereafter named the „House of the Peacock”¹⁰ and its later phase was either referred to as a „Late Roman bronze smithing workshop”,¹¹ or – namely the trapezoidal room – was conditionally related to sacral use by Klára Póczy.¹² Later, the trapezoidal construction was even identified as an Early Christian podium – temple by the same researcher, based on the presence of the zoomorphic object and its relatively late stratigraphical position.¹³

⁵ According to Póczy's diary, a moulding for an animal figure, small bronze statuettes, an iron spoon for metal casting and a casting vessel were found and traces of fire could also be observed. Unfortunately, the finds can not be found at present.

⁶ Unfortunately, no *in situ* photo or drawing survives of the find.

⁷ see fn. 3.

⁸ LÁNG 2012.; LÁNG 2013. 239.

⁹ Only mentioned in her diary and in a preliminary report, see fn 3.

¹⁰ ZSIDI 2002. fn. 323. Also in excavation documentations.

¹¹ PÓCZY–ZSIDI 2003. 204.

¹² In Klára Póczy's manuscript: „Sanctuary ?”

¹³ PÓCZY 2004. 109. On the other hand, Dóra Gáspár locates Christian communities in the area of the *forum* and the so-called *basilica* (Building no. I): GÁSPÁR 2008. 88.

¹ We would like to thank Dr. Stefania Hoss for her useful advices and for correcting the text!

² For the latest summary of researches in Building no. I.: LÁNG 2014. 99-100.

³ BHM AA : 19-73: 9 pages of diary, 28 photos, 1 plan, 11 section drawings and 19 pages of hand written notes, sketches and drawings. Preliminary reports: PÓCZY–HAJNÓCZI 1973. 34-35; PÓCZY 1976. 423.

⁴ LÁNG 2014. 100-101.



Fig. 1. Plan of the Aquincum Civil Town with the eastern wing of Building no. I (K. Kolozsvári).

1. kép. Az aquincumi polgárváros alaprajza az ún. I. épület keleti szárnyával (Rajz: Kolozsvári K.)



Fig 2. Plan of the "trapezoidal room" in Phase 7 (O. Láng – K. Kolozsvári).

2. kép. Az ún. „trapezodiális terem” alaprajza a 7. építési periódusban (Rajz: Láng O. – Kolozsvári K.)



Fig. 3. Photo of the "trapezoidal room" with its terrazzo pavement (photo from the documentation of K. Póczy).

3. kép. Az ún. „trapezodiális terem”, terrazzo padlóval (Fotó Póczy K. ásatási dokumentációjából)

THE FIND

The zoomorphic, intact hollow casting bronze object depicts a bird standing on two feet, with head turning slightly to the left. Its crest is divided into three parts with circles each decorated with red enamel. Only one survives of the enamelled decoration on both side. Eyes were formed by two, concentric circles again with red enamels of which only the left one survives. The crop of the bird was cut in oval form surrounded by circular blue enamel decorations (15, all intact, but cracked). A horizontal, lens-like hole is cut at then top of the craw, its edges slightly deformed. Wings were indicated with one rib on both sides and the tail feathers are indicated by a rig and a hollow tube-like feature behind with 5 tiny holes in a triangle (partially clogged). The feet were only schematically formed by two incisions. The bird stands on a circular pedestal casted together with the figurine, its edges were originally folded. Based on the hollow shaping of the back of the pedestal, it is highly probable, that the bird was originally fastened to an other object. The bird is 7,2 cm high, 3,5 cm wide, and weights 50,61 g. (Figs. 4.–5.)

According to similar, analogous pieces (see below), its crest and form of the body, the object most probably depicts a peacock. Based on the tube-like tail and the pouched spout in its craw it could have functioned as an oil lamp. Considering the dating of the piece we can only rely on other finds related to the same construction phase



Fig. 4. Photos of the peacock-shaped lamp (photo by P. Komjáthy).
4. kép. A páva alakú bronz mécset (Fotók: Komjáthy P.)

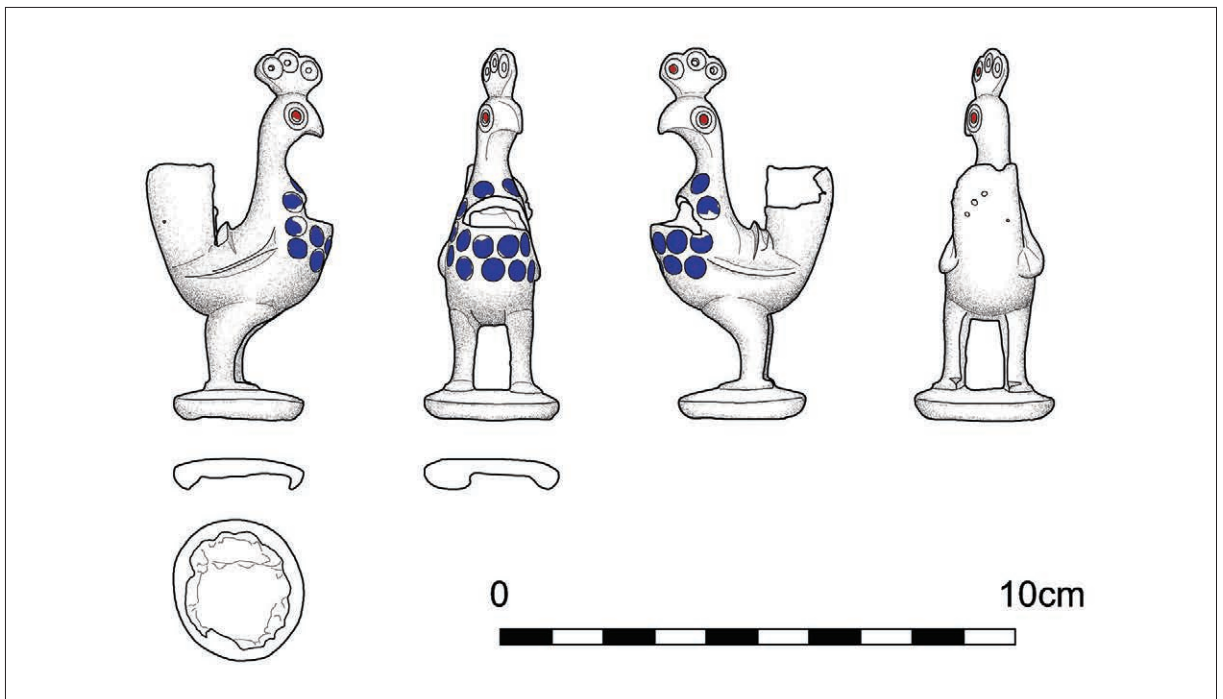


Fig 5. Drawings of the peacock-shaped lamp (drawing by T. Lajtos).
5. kép. A páva alakú bronz mécset (Rajzok: Lajtos T.)

Bird shaped lamps and ornamental/votive objects in the Roman Empire				
Small (6-8 cm)		Large (12-13cm)		
Oil lamp	Candle holder	Oil lamp	Oil lamp/votive object	
Peacock		Peacock	Other birds (dove, duck, goose, ibis)	Cock
Budapest (2 pcs) (Aquincum, HU)	Eining (Abusina, DE)	Mainz (DE)	Silifke (TR)	Buchten (NL)
Esztergom (Solva, HU)	Avenches (Aventicum, CH)	Orbe (CH)	Lyon (FR)	Ezinge (NL)
Komárom - Szőny (Brigetio, HU)	Augst (Augusta Raurica, CH)	British Museum (3pcs - Egypt)	Dumbarton Oaks (Beirut?, LB)	London (GB)
Ptuj (Poetovio, HR)	Windisch (Vindonissa, CH)		Szombathely (Savaria, HU)	Cirencester (GB)
Augst (Augusta Raurica, CH)	Le Landeron (CH)			Cople (GB)
Morat (CH)	Meaux (FR)			Drayton Bassett (GB)
Hannover (DE)	Nijmegen (Noviomagus, NL)			Slyne-with-Hest (GB)
Volubilis (MA)	Grand (FR)			Cologne (D)
Banasa (MA)	Mont-Chypres (FR)			Tongeren (B)
	Trier (Augusta Trevorum, DE)			
	Alton (GB)			
	Rome (ITA)			
	Richborough (GB)			

Fig. 6. Table of peacock and other bird-shaped lamps, candle holders and/or ornamental objects in the Roman Empire (O. Láng).
6. kép. A páva és egyéb madár alakú világítóeszközök és/vagy dísz tárgyak az ókorban (Láng O.)

(Phase 7)¹⁴ and finds (terra sigillata and coarse ware¹⁵) coming from below the terrazzo pavement, on which the figurine was found. Based on the above mentioned finds, the lamp can be dated to the first half -middle of the 3rd c. AD.

PEACOCK – SHAPED LIGHTING INSTRUMENTS IN THE ROMAN EMPIRE

Several peacock (and other bird) - shaped bronze lighting instruments are known from the Roman period, most of them are detailed and were decorated with incisions and/or enamel inlays.¹⁶ (Fig. 6.) According to researches, these were used for lighting, either with wax candles or as oil lamps¹⁷. C. Agustoni classifies them into three groups, based on their form and method of lighting (oil lamps or candle holders, lighting the front or at the back):

1. larger, squat - bodied pieces, functioning as oil lamps with one hole for the oil on the back and one for the wick at the end of the tail zone (see below in chapter „Further analogous objects”).
2. Smaller (usually between 7–8 cm tall) standing peacocks on pedestals with a hole in the craw¹⁸ and a pipe-like feature in the tail-zone.
3. Smaller, standing peacocks with only the pipe - like feature for candelers in the tail zone.

OIL-LAMPS

Considering those that have two holes (one on the chest of the bird and another in the tail) they are mainly found in the neighbouring areas and can be considered as oil lamps.¹⁹

Geographically (and also typologically), the closest analogy is also from *Aquincum*, that was found sometime before 1915, however its precise find location is unfortunately unknown (civil town, canabae, fortress or a villa?).²⁰ Based on the photos and the inventory description that survive, the lamp was made of bronze and most likely depicts a

¹⁴ LÁNG 2013. 239.

¹⁵ Terra sigillata vessels, inv. nos.: 98.12. 202 (Central Gaulish manufacture, form Drg. 37, bottom fragment), 98.12.203 (Rheinzabern manufacture, form Drag. 31. bottom, with name stamp AVENTIN(VSF)?), and 98.12.204 (Rheinzabern manufacture, most probably form Drag. 53, rim and handle of a kantharos with detail of barbotine decoration); cooking pots, inv. nos.: 98.42.306-307; bowls, beaker, inv. nos.: 98.12.205.214. I'm grateful to Péter Vámos for the identification of the terra sigillata vessels.

¹⁶ The latest summary on them: HOSS et alii 2015. 159-171.

¹⁷ For the function and use of such bird - shaped bronze objects: KAUFMANN-HEINIMANN 1994. 142.; GARBSCH 1999. 92., 94-95.

¹⁸ Agustoni considers it to be the place for the wick, this can be proven via experimental research, see below.

¹⁹ AGUSTONI 2005. 15.

²⁰ Inv.no. 264. The piece was stolen in 1973.



Fig. 7. The other peacock-shaped lamp from Aquincum, stolen in 1973 (BHM Aquincum Museum, Collection of Photos).

7. kép. Az 1973-ban elloptott, további, páva alakú mécses Aquincumból (Fotó: BTM Aquincum Múzeum, Fotótár)

peacock.²¹ The find is sadly lost. The piece was relatively complete, standing on a double conical pedestal. The bird had a hole on the tail and the pipe-like tail seemed also intact, placed behind a rib on the body. The eyes were made of two concentric circles, the crest is missing. Further details (beak, claws) are indicated by incised lines. The relatively simply designed bird shows no signs of enamel decoration. According to the inventory book, the find was 8 cm high, and 3.5 cm wide, thus almost identical in size to the other Aquincum piece. (Fig. 7.)

An other close analogy seems to be a nearly identical zoomorphic bronze find from *Solva* (Pannonia Inferior) with a hollow body and holes on the body and tail of the bird, identified as a cockerel by Éva Bónis and Ibolya Sellye.²² The bird bears enamel decorations on its tail and in the eyes, just like the Aquincum piece, even though the *Solva* „cockerel” is more fragmentary. Its size fits well

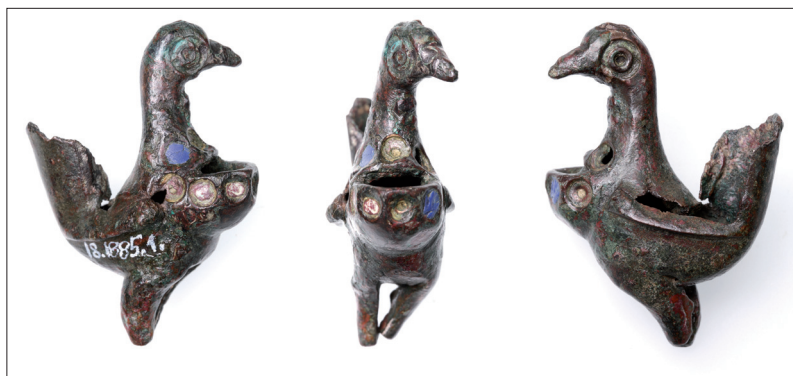


Fig. 8. Peacock-shaped bronze lamp from *Solva* (Roman Collection of the Hungarian National Museum, photo courtesy of the Hungarian National Museum).

8. kép. Páva alakú bronzmécses *Solvából* (Fotók: A Magyar Nemzeti Múzeum Római Gyűjteménye, a Magyar Nemzeti Múzeum jóvoltából)



◀ Fig. 9. Peacock-shaped bronze lamp from *Poetovio* (photo by Boris Farič, Regional Museum Ptuj-Ormož).

9. kép. Páva alakú bronzmécses *Poetoviából* (Fotó: Boris Farič, Regional Museum Ptuj-Ormož)

with the one from Aquincum: the „cockerel” from *Solva* is 44 mm high and 37 mm wide. According to the authors, the tiny object was used as a candle - holder²³ and was originally attached to a pedestal. Unfortunately, there is no dating evidence for this piece. (Fig. 8.)

A further analogous bronze object - unfortunately with no dating - also an oil lamp could be mentioned from *Brigetio* (Pannonia Inferior), possibly depicting a cock.²⁴ The stylized object has three holes: in its tail, in the back, while the nozzle of the lamp is attached separately to the body. The bird stands on a profiled pedestal, it was probably also fixed to some other object. A similar oil lamp - though with no inlay - was found in *Poetovio* (Pannonia Superior). The fragmentary bronze object (tail, crest are missing) nearly identical in size (5.8 cm high) and stands on a pedestal. It was identified as an oil lamp in form of a peacock with a hole in its tail. It resembles more to the missing Aquincum piece (see above) and was dated to the 4th - 5th c. AD.²⁵ (Fig. 9.)

²¹ Even though the inventory book mentions it as a „cock”, based on its features (crest, crop) and its similarity to the other finds, it rather depicts a peacock.

²² Kept in the Hungarian National Museum, inv. no.: MNM 18.1885.1. BÓNIS-SELLYE 1988. 42., 81., fig. 38.

²³ Though it is also an oil lamp, see below.

²⁴ HAMPEL 1901. front page.

²⁵ VOMER GOJKOVIĆ-ŽIŽEK 2008. 77., 129., Cat. no. 129. I would like to thank M. Vomer Gojkovic for her help in providing a photo of

Further heads of such an oil lamp (originally decorated in enamel) are known from *Augusta Raurica*²⁶ and from a villa at *Morat*²⁷ (both in Raetia). The latter is very similar to the Aquincum piece in form and size, though it has no enamel decoration. According to its proposed reconstruction, the circular tail could have had a mirror-like function in reflecting the light and was placed between the neck and the pipe-like back of the lamp. The intact lamp stands on a biconic pedestal. A further example comes from *Hannover* (Germania Magna). The fragmentary piece is richly decorated with enamel and even the circular part indicating the tail that reflected light survived.²⁸

Two further oil lamps of this type are known from Mauretania Tingitana: the one from *Banasa* is nearly intact and resembles very like the Aquincum piece, though slightly more stylized and dated as „ probably late”²⁹. The piece from *Volubilis* is fragmentary, but more detailed with concentric circles filled with enamel. The latter is dated to the 5th – 6th c. AD.³⁰

CANDLE HOLDERS

Turning to group 3, a fragmentary peacock-shaped³¹ lighting instrument with inlaid eyes, also very similar to the Aquincum find was found in *Abusina* (Raetia), dated after the middle of the 2nd c. AD.³² According to J. Garbsch, the missing back of the object could have ended in a holder with feathers.

Several bronze peacock-shaped candle holders are known from the provinces of both Germania Superior and Inferior. One of the most intact pieces comes from *Aventicum*. The 8,3 cm high find is a lot more stylized than the Aquincum piece (head, crest, legs) and lacks the enamel inlays. Its tailfeathers also survive (though with some modern addition) and is incised with concentric circles. The structure of the small bronze bird is rather different from the Aquincum find: the tailfeather of the *Aventicum* piece was originally applied separately to the body, while the cylinder for the candle was then applied to the top of the tail-

the piece.

²⁶ KAUFMANN–HEINIMANN 1994. 143., fn. 12.

²⁷ AGUSTONI 2005. 15., fig. 2. and 11.

²⁸ AGUSTONI 2005. 15., fig. 5.

²⁹ BOUBLE–PICCOT 1975. 281–282. Cat. no. 478., Pl. 211.; AGUSTONI 2005. fig. 3.

³⁰ AGUSTONI 2005. fig. 4.

³¹ Small, bronze candle holders also appear in form of other birds, like cockerels: TOYNBEE 1964. 128., Pl. XXXVa.

³² He identifies it as an oil lamp: JÜTTING 1995. 176–177.; GARBSCH 1999. 91–97.

feather. According to its publisher, the find comes from a building and dates between the middle of the 2nd – middle of the 3rd c. AD.³³. Other peacock – shaped candle holders are known from *Le Landeron*,³⁴ *Vindonissa*, *Augusta Raurica* (the latter originally possibly decorated with enamel inlay),³⁵ *Meaux* and *Nijmegen*.³⁶ A further candle holder can be mentioned from *Augusta Treverorum* (Gallia Belgica). The nearly complete item has a pipe – like candle holder at the top of the circular tail, the peacock originally stood on a small pedestal.³⁷ There are also two pieces from *Grand* and *Mont – Chypres*³⁸ (Gallia).

In Britannia, a very similar piece to the Aquincum peacock is said to be found in *Alton* (Hampshire). The find is dated to the 1st – 2nd c. AD and decorated with white circular enamel inlays on the chest. The bird that has a trefoil comb is more stylized, though its wings are clearly visible. The fragmentary piece is similar in size too (67 mm).³⁹ A further find, that could be related to a similar, peacock – shaped, bronze object comes from *Richborough*, where a bronze fragment in form of a peacock’s feather survived.⁴⁰

In Italy, three fragmentary peacock-shaped candle holders are kept in the Musei Capitolini in Rome.⁴¹

FURTHER ANALOGOUS OBJECTS

There is an other group of similar, though much larger bronze objects, depicting cockerels with a large hole on the back and decorated with elaborate and rich enamel inlays. Most of them had hollow bodies, which were slotted over by the separately made back. Even though, they look different from the Aquincum piece and are most probably had different functions too (purely ornamental or votive objects) they are still worth to list here:⁴² a significant number of these were

³³ KAUFMANN–HEINIMANN 1994. 142., nr. 248, Taf. 90.

³⁴ KAUFMANN–HEINIMANN 1994. 142.

³⁵ KAUFMANN–HEINIMANN 1994. 143., nr. 249, Taf. 90.

³⁶ KAUFMANN–HEINIMANN 1994. 142.

³⁷ AGUSTONI 2005. fig. 9.

³⁸ KAUFMANN–HEINIMANN 1994. 142.

³⁹ In a private collection: <http://www.the-saleroom.com/en-gb/auction-catalogues/timeline-auctions-limited/catalogue-id-srtime10041/lot-a7153bd1-5cf2-4d09-adc4-a533011122be> (07.11.2015.)

⁴⁰ CUNLIFFE 1968. 96., nr. 137., Taf. 38. (he also suggests it could either be a shell)

⁴¹ Only listed by KAUFMANN–HEINIMANN 1994. 143., fn. 4. Unpublished pieces.

⁴² For the summary of these finds, see fn. 16.



Fig. 10. Cockerel-shaped bronze ornamental/votiv object with email decoration from Corinium (after SYMONDS 2013. 32).

10. kép. Páva alakú, bronz votív tárgy (mécses?), email díszítéssel Coriniumból (SYMONDS 2013. 32 nyomán)

found in Britain (Cirencester,⁴³ London,⁴⁴ Slynne – with – Hest,⁴⁵ Drayton Bassett,⁴⁶ Copley⁴⁷) while further pieces were discovered in the German Rhein region (Köln⁴⁸, Bonn⁴⁹), the Netherlands (Buchten⁵⁰, Ezinge⁵¹) and northern Belgium (Tongeren). (Figs. 10-11.)

Some others are known from other areas of the Empire: Porolissum, Iberia, Athen⁵². According to S. Hoss and her colleagues, these could have been personal objects, most probably manufactured in Britain and brought to the Continent either by soldiers or merchants.⁵³

There are several other bird – shaped lamps or candle holders in the form of a cockerel, peacock, dove or water bird, though mainly from later contexts. They are classified by Agustoni as group 1. (see above). Without claiming completeness, we would like to present a few of them: a cock-shaped, detailed oil lamp of unknown provenance (kept in Lyon) with a hole for the wick in the

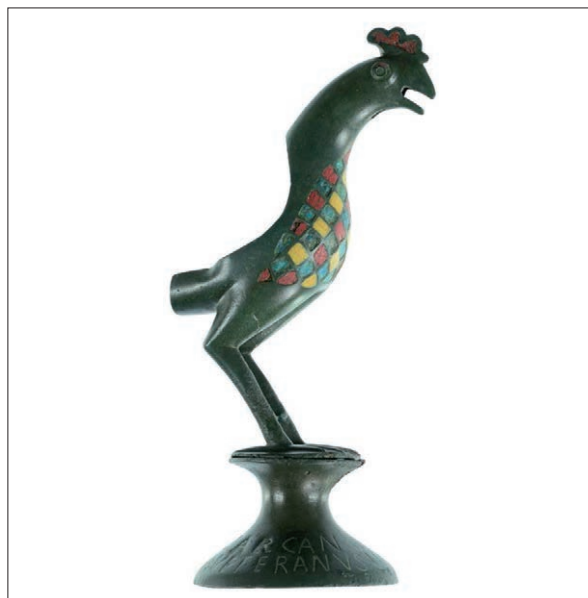


Fig. 11. Cockerel-shaped bronze votiv ornamental/object with email decoration and inscribed base from Buchten (photo courtesy Restaura, the Netherlands)

11. kép. Páva alakú, bronz votív tárgy (mécses?), email díszítéssel és karcolt, feliratos bázissal Buchtenből (Fotó: Restaura, Hollandia jóvoltából)

craw, hanged by chain, dated to the late antique period.⁵⁴ An elaborated, intact piece depicting a peacock from Mainz (also with two holes) and a nearly complete lamp of the same type from Orbe can also be mentioned.⁵⁵

Even though not significantly larger than the Aquincum piece, a bronze lamp found in Savaria and depicting an ibis with incised wings and eyes can also be listed here.⁵⁶ Its technical design is very similar to the Aquincum piece: it has a hole in the craw (filler) while another hole for the wick was formed at the tail. Its date is uncertain. A significantly larger, dove-shaped bronze oil-lamp was found in Silifke (Anatolia). The figurative lamp has its filling hole on the back of the bird, while the nozzle is placed in the tail. The lamp is dated between AD 300 and 500.⁵⁷ A further example can be cited from the Byzantine period (AD 5th – 6th c.): a bronze lamp with similar structure as that of the Silifke piece,⁵⁸ depicting a rooster

⁴³ With further reading: SYMONDS 2013. 32-33.; MCSLOY-WATTS 2013. 1.

⁴⁴ HOSS et alii 2015. 166.

⁴⁵ Fragmentary. PAS nr. LANCUM-361F75, <https://finds.org.uk/database/search/results/q/SOM+745EA2> (14.11.2015)

⁴⁶ Fragments of head and neck: PAS nr. WMID-D965B4. See previous fn.

⁴⁷ Fragmentary: PAS nr. SOM-745EA2, see fn. 35 and WORRELL-PEARCE 2011. 419-421.

⁴⁸ MENZEL 1986. 59-60.

⁴⁹ Datable to the end of the 2nd c. at earliest by MENZEL 1986. 60.

⁵⁰ HOSS et alii 2015. 159-164.

⁵¹ HOSS et alii 2015. 165.

⁵² MENZEL 1986. 60.

⁵³ HOSS et alii 2015. 170-171.

⁵⁴ BOUCHER 1979. 158., cat.no. 263.

⁵⁵ AGUSTONI 2005. fig. 6-7.

⁵⁶ SOSZTARICS et alii 2013. 115., Cat no. 8.56.

⁵⁷ LMP - 4014: Online Encyclopedia of Archaeological Small Finds <http://artefacts.mom.fr/en/result.php?id=LMP-4014&find=silifke&pagenum=1&affmode=vign25.05.2015>.

⁵⁸ Namely, with filling hole is placed in the back of the bird and the nozzle is in the tail.

with incised feathers, exhibited in the *Dumbarton Oaks Museum* (bought from Beirut). Unfortunately, its precise find circumstances are unknown.⁵⁹ There are a few peacock – shaped⁶⁰ lamps as well as lamps in the shape of other birds (crow, goose, duck).⁶¹ They are coming from Egypt (all kept in the *British Museum*) and datable to the late Roman period (6th – 7th c. AD.) A rather exceptional piece is known from *Zeugma*: the oil lamp is in form of an ityphallic, bearded male figurine, dated to middle of the 3rd c. AD.⁶²

FUNCTION, DATING AND DISTRIBUTION AREA

As seen above, based on the form of the find, its size and the analogies (number of holes on the body), the Aquincum piece is most likely a lighting, as an oil lamp. Similar forms and sizes with only one hole could have been used as candle holders: both the candle holders and the oil lamps look very similar, even though email decoration is more frequent and richer on oil lamps.⁶³ Attention has also been drawn to the dangers of the use of these type of objects (problem of stability, thus danger of fire) – particularly of the candle holders.⁶⁴

If we want to look at the relation between the function and find circumstances of the peacock – shaped lamps and candle holders, the informations is unfortunately very scarce: only the Aquincum Civil Town piece and the one from Morat were documented to have been found inside buildings (on the terrazzo pavement of a strip building and a *villa rustica*), and can thus safely be considered as having been used for lighting, while the find spot of most of the others are unknown. No further finds were discovered together with the Aquincum piece (or they were not reported) to shed some light on the function. Unfortunately, traces of burning or melting have not been noted on any of these type of finds, nevertheless, the missing email decorations on the crow of the Aquincum piece might be a result of the heat. Based on the bottom of the pedestal of the lamps and candles, most of them were probably attached to some other objects: remains of

iron suggest a rod or even turned wooden leg or other part of the furniture.⁶⁵

In case of the the larger, richly decorated bronze figurines (both peacocks and cockerels), a sacral use is also possible.⁶⁶ The bird depictions (peacock, cockerel) could have a religious meaning by themselves, as the peacock was the favourite and attribute of the goddess Iuno symbolizing beauty and immortality and also playing significant part in mythology, while the cockerel was associated with Mercury, interpreted as messenger of the god.⁶⁷

The relatively higher number of oil lamps compared to that of the candle holders might be explained by the oil lamps higher brightness and decorativeness.

However, they also occur in North Africa, Asia Minor and even in Germania Magna too.⁶⁸ (Fig. 12.) Even though, no workshop for such objects has been discovered yet, Britannia is a likely candidate for the production of the objects, based not only on the concentration of finds (mainly the larger lamps, but also the small ones) but also on the numerous, high - quality email decorated jugs, vessels, cups etc. that indicate the presence of specialist workshops for the decorating of metal objects with email. Such workshops could have also operated in the Rhein region (or the lamps were only imported here).⁶⁹

The export of these lamps and candle holders to other provinces (namely Pannonia Inferior) could be related to the moving of the army and people travelling with them, such as family members, merchants and craftsmen. The relative rarity of the peacock – shaped oil lamps might be explained by their being personal objects brought along in the baggage of the people listed above, while regular trade in these lamps is less likely.⁷⁰ The accidental presence of two such very similar lamps from Aquincum does not necessarily contradict this, as Aquincum was a large city with a lot of connections to Britannia.

If we look at the dating of the small, peacock – shaped oil lamps (and candle holders) in the Roman Empire, different dates are proposed mainly based (where possible), on their archaeological

⁵⁹ Inv. no: BZ. 1964.4. <http://museum.doaks.org/Obj27342?sid=17759&x=347553&port=2607> (25.05.2015) and HANDBOOK 1967. 33., no. 117.

⁶⁰ BAILEY 1975. 20-21., cat.no. Q3605-3607.

⁶¹ BAILEY 1975. 20-21., cat. no. Q3600 MLA, Q3601, Q3602 WAA, Q3603 MLA, Q3604 MLA.

⁶² DIEUDONNÉ-GLAD et alii 2013. 166., 380., fig. 941.

⁶³ On the function of these bronze figurines: KAUFMANN-HEINIMANN 1994. 142-143.; AGUSTONI 2005. 15.; GARBSCH 1999. 94.

⁶⁴ GARBSCH 1999. 92.

⁶⁵ See prev. fn.

⁶⁶ The Cirencester piece was found in a child's grave, possibly designed to guide the soul of the deceased to the afterlife, while the one from Buchten bears an inscription referring to goddess Arcanua: SYMONDS 2013. 33.; HOSS et alii 2015. 164.

⁶⁷ SYMONDS 2013. 33.

⁶⁸ The large, email decorated pieces did not even spread beyond the Alps. See fig. 12.

⁶⁹ On the location of the possibly workshops: Hoss et alii 2015. 171.

⁷⁰ Similar opinion of S. Hoss: see pervious fn.



Fig. 12. Geographical distribution of bird-shaped oil lamps (both small and big ones) and candle holders (map by K. Kolozsvári).
12. kép. A páva (és egyéb madár) alakú mécsesek (kis és nagy méretűek) és gyertyatartók földrajzi megoszlása (Rajz: Kolozsvári K.)

contexts. The range of dates is thus great: between the 1st/ early 2nd c.AD,⁷¹ or the mid-2nd c.AD at the earliest (Eining, Morat)⁷² as well as „late” date (Banasa)⁷³ and even 4th – 5th c.AD (Poetovio).⁷⁴ The larger, email decorated votive objects have an even wider range of dates: from the first half of the 2nd c.AD (Cirencester)⁷⁵ until well into the Early Byzantine period (see the Dumbarton Oaks piece).⁷⁶

HOW THE OIL LAMP FUNCTIONED: PRODUCTION TECHNOLOGY AND PRACTICAL ISSUES

The peacock is an object cast of a copper alloy, that is bronze or brass. It was made using the ancient ‘lost wax’ casting technology, using a beeswax model.⁷⁷ Since the wax model always melts

and gets lost during the casting process, we can only suppose how it was made through the examination of the traces of the finished object or through logical deductions. The photo taken from our bird’s interior (Fig. 13.) shows the traces typical of objects cast with a lost form, namely the remains of the wax model.

Although ancient sources do not give a detailed description of the technique, the Medieval treatise of Teophilus provides accurate information about the process.⁷⁸ We have to note that most phases of the process must have been similar in Antiquity, as they can only be done in a single manner, hence they have been unchanged for thousands of years.

We also do not have detailed information from ancient sources on the different Roman casting technologies, consequently it seems to be reasonable to look for the Medieval sources mentioned above and parallel evidence from ethnographic research as well. In his study, D. Lambert de-

⁷¹ KAUFMANN-HEINIMANN 1994. 143.

⁷² GARBSCH 1999. 92.; AGUSTONI 2005. 15.

⁷³ BOUBE-PICOT 1975. 282.

⁷⁴ VOMER GOJKOVIĆ-ŽIŽEK 2008. 124.

⁷⁵ SYMONDS 2013. 33.

⁷⁶ LAFLI-BUORA 2014. 441-442.

⁷⁷ FINEGOLD-SEITZ 1983. 237-243.

⁷⁸ THEOPHILUS LXI and LXXXIV

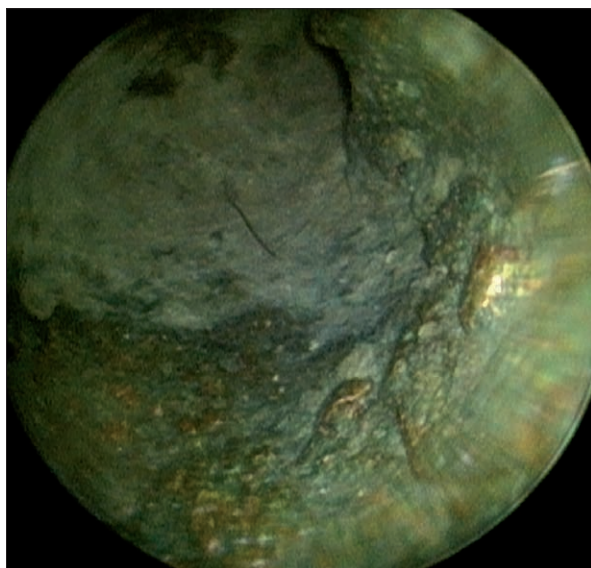


Fig. 13. Interior of the peacock lamp, with typical traces of lost wax casting (photo courtesy of B.G. Mende).

13. kép. A páva alakú mécset belseje, a viaszveszejtéses eljárás tipikus nyomaival (Fotó: Mende B.G.)

scribes a casting process used recently in Burkina Faso.⁷⁹ Based on his studies, it is obvious that the traditional casting process can only be carried out in a certain manner, thus one can state there are no major differences between the modern and ancient technologies here.

EXPERIMENTAL RECONSTRUCTION AND PRACTICAL CONSIDERATIONS

Making a duplicate in the same manner as the original was made centuries ago provided a lot of information for us and also was a perfect way to prove our theories on the original Roman technology. In addition, our experience was integrated into our technological analysis of the lamp.

The tools we have used for the wax modelling were a range of spatulae, needles and applicators. Metal tools could be heated for melting the wax parts together and smoothing the surfaces. Cold metal and wooden tools are suitable for carving.

Using molten fluid beeswax, a wax sheet of about 1 mm thick was cast. As it was too rigid, it then was rolled out with a heavy cylindrical rod and thus obtained a fabric-like structure, which allowed some careful bending and stretching.

The peacock can be easily modelled of several parts built of wax sheets. (Fig. 14.) These parts are the head and the neck, the body, the legs, the



Fig 14. Forming the peacock's hollow belly (photo by D. Erőss).

14. kép. A páva üreges hasának kialakítása (Fotó: Erőss D.)



Fig 15. Parts of the peacock lamp (photo by D. Erőss).

15. kép. A páva alakú mécset részei (Fotó: Erőss D.)

crest, the tail and the base. First of all, the body was formed from a cylinder. It was then pulled on a finger and it was smoothed using warm metal tools to create the hollow belly of the peacock. (Fig. 15.) The belly would be the fuel container of the lamp. (Fig. 16.) The tail was made of a slightly conical hollow cylinder that was opened towards the back of the bird.

⁷⁹ LAMBERT 2002. 252-263.



Fig. 16. Forming the body parts from wax sheets (photo by D. Erőss).

16. kép. A test kialakítása viaszlapokból (Photo: Erőss D.)



Fig. 17. The body parts are joined and fused together (photo by D. Erőss).

17. kép. A test részeinek összeállítása és - olvasztása (Fotó: Erőss D.)



Fig. 18. The finished wax model (photo by D. Erőss).

18. kép. A kész viaszmodell (Fotó: Erőss D.)

The neck and the head were made of a rolled up piece of wax, bent at the top for the head, and pinched by the thumb and the index finger for shaping the beak and the flat area of the eyes. Then the legs were formed from two narrow cones that widen on the top for the thighs. The feet and claws were also used to fasten the peacock onto a base. To make them, two balls of wax were warmed almost to melting temperature and then

were inserted between the bottom of the legs of the peacock and the base. In this manner, the two wax balls were flattened and the two parts were fused together with them at the same time. The claws were outlined by making two simple incisions on the feet.

The crest was cut out of a plate of wax and attached onto the head. The parts of the object were fused together by melting the wax in the joints locally with hot metal tools. (Fig. 17.) The peacock was roughly finished after these steps and only needed to be touched up a little to get it done. The wings were formed by adding a thin, elongated piece of wax to both sides of the body. The head was turned slightly to the left, which provides a more natural look and also gives more stability. Because the Roman peacock lamp had a bulge around its tail, we have added a piece of wax to the joint between the tail and the body. The reason for this bulge was presumably to strengthen the joint. The circular hollows for the eyes, the crest and the belly of the peacock were carved into the wax model before casting. Because of their small size, the five tiny holes on the tail must have been drilled into the finished cast. (Fig. 18.)

Based on our experiment we can state that after some practice, the peacock could be made fairly quickly with a couple of simple tweaks. Therefore it does not seem to be very likely that the making of duplicates would have relied on making a mould. Such moulds are not always easy to produce, they are not suitable for hollow objects and their use is not cost and time efficient unless one decides to make a large number



Fig. 19. Traces of organic fibres inside the lamp (photo courtesy of B.G. Mende).

19. kép. Organikus rostok a mécses belsejében (Fotó: Mende B.G.)



Fig. 20. The finished reconstruction with the fuel and wick (photo by D. Erőss).

20. kép. A kész rekonstrukció töltőanyaggal és kanóccal (Fotó: Erőss D.)



Fig. 21. The reconstructed peacock lamp (photo by D. Erőss).

21. kép. A rekonstruált páva alakú mécses (Fotó: Erőss D.)



Fig. 22. Lamp placed on a pedestal (photo by D. Erőss).

22. kép. A mécses állványon (Fotó: Erőss D.)

of casts.⁸⁰ Modelling another examples by hand could have been far more fast and efficient. This would explain why the peacock-shaped oil lamps found in Aquincum look quite alike, but are not exactly identical.

USING THE LAMP

In order to use an oil lamp, one needs a proper wick and fuel to burn. The purpose of the wick is to deliver oil to the flame. Wicks are made of fibrous material, usually cotton, and they are twisted, braided or even knitted. The stiffer the construction of the wick is, the slower and more consistently it burns. Different wick sizes draw different amount of fuel to the flame, affecting the light and the amount of oil burnt.

We have found some fibrous remains in the peacock's belly that are likely to have belonged to the original wick. (Fig. 19.) These fibres are subject to further analysis. The endoscopic picture from the inside of the bird also reveals the raw, unworked interior surface of the cast, which also proves the use of the 'lost wax' method of casting. Although the opening on the peacock's belly would be also suitable for inserting the wick there, the flame would reach the head and damage it, as we have experienced it to burn very unevenly. Therefore, it is evident that the wick was in the tail's opening where the flame can burn undisturbed.

For the reconstructed peacock lamp we have used olive oil as fuel and a wick made of organic fibres which originated from a 19th century kerosene lamp. (Fig. 20.) An amount of approx. 2 cm³ of oil was enough for 20 minutes of continuous lighting. The luminous intensity (and the oil consumption) of such simple lamps depends on the wick's diameter. The wick we have utilized was more thick (approx. 3 mm²) than the ones used for candles, consequently it provided a surprisingly intensive light. (Fig. 21.) After the wick was lit, the lamp's body became warm within a short time, but cooled down after use, which caused some

thermal expansion. This could have been the reason for the small cracks of the glass inlays but it could not have caused their destruction.

As the wick was placed into the tail, this was the part most prone to overheating. The heat was also conducted by the metal to the other parts of the lamp and the small peacock could have become too hot to be held by hand. The solder remains under the rim of the base demonstrate that it was soldered on a pedestal (Fig. 22.), which may have conducted the heat away from the lamp and provided a handle.

SUMMARY

A zoomorphic bronze object was discovered in one of the strip buildings in the north - eastern part of the Aquincum Civil Town in 1972. According to the other finds and stratigraphic observations, the find could be associated with the latest phase of the building and dated to the first half of the 3rd c. AD. Based on the known analogies and the shape of the figurine, it is an oil lamp in form of a peacock, decorated with email inlays. The find has several analogies, both in form of smaller or larger oil lamps, candle holders or large ornamental objects in the Roman Empire, the closest analogy being from Aquincum itself. While the find location of most of the comparable finds are unknown, some were documented from settlements (namely from houses, e.g. *Aquincum, Morat*) and a few could have had sacral context (*Buchten, Cirencester*). These decorated lamps can be associated with workshops in either Britain or the Rhein region and could have been exported as personal belongings of soldiers or their relatives to other regions like Aquincum.

An experimental reconstruction of the lamp gave us the opportunity to make some important observations. It seems to be likely that these lamps, made by lost wax casting, were individually modelled.

⁸⁰ FINEGOLD-SEITZ 1983. 243-244.

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„MADARAT TOLLÁRÓL”: PÁVA ALAKÚ OLAJMÉCSSES AQUINCUM POLGÁRVÁROSÁBÓL

Az aquincumi polgárváros észak-keleti negyedének egyik hosszúházának padlójáról bronzból készült, zoomorf tárgy került elő 1972-ben. A tárgy kialakítása és analógiái alapján pávát mintázó mécses lehetett, email berakásokkal díszítve. A kísérő leletanyag és a stratigráfiai megfigyelések alapján az épület utolsó periódusához kapcsolható mécses, a Kr. u. 3.század első felére keltezhető. A tárgynak számos analógiáját találjuk – akár mécses, akár gyertyatartó formában - a birodalom más provinciáiban, sőt Aquincumból is ismert még egy (azóta sajnos elveszett) hasonló darab. Az ábrázolt állatalak általában páva, vagy kakas, de ismertek más madáralakok, sőt emberi ábrázolások is. A különböző méretekben készült világítóeszközök az antikvitás végig népszerűek maradtak. Lelőhelyük

sokszor sajnos ismeretlen, de két esetben biztosan lakóépületből kerültek elő (*Aquincum, Morat*) és van szakrális kontextusú is (*Buchten, Cirencester*). A római kori, páva alakú, email – berakással díszített mécsesek esetében a kutatás britanniai, vagy rajna vidéki műhelyet feltételez, ahonnan a hadsereg (illetve hozzátartozók, iparosok, kereskedők) révén juthatott el a birodalom távolabbi városaiba is, elsősorban személyes tárgyként. Relatív ritka előfordulásuk miatt nagykereskedelmi forgalomba feltehetően nem kerültek.

A készítésechnikai vizsgálatokhoz kapcsolódóan mőtárgymásolat is készült. Ennek kapcsán számos megfigyelést tettünk és valószínűnek tűnik, hogy ezeket a viaszvesztéses eljárással készült mécseseket egyedileg mintázták meg.