

Péter Vámos

TYPES OF POTTERY KILNS IN *AQUINCUM*¹

After the Roman occupation (in the 1st century AD) the shapes of kilns followed the late La-Tène traditions: they were oval or round in plan with tongue-shaped pedestals that supported the grid and divided the combustion chamber in half. These types come to light mostly in the areas where native inhabitants once lived (**fig. 1,17². 18³.19⁴.20⁵**), but can also be found in the territory of the Military Town (**fig. 1,12⁶; 2**). After all, the size of these kilns became noticeably bigger in this period (their diameter mostly exceeded 1,60 m which was the maximum size of the earlier examples)⁷ which may be connected to the increased production needed by the military auxiliary units. This theory is also supported by observations according to which “Roman-style” ceramics were already fired along with the local forms in these kilns⁸. Beside the enlarged size, construction innovations can also be observed: the grid and the pedestal were sometimes made from prefabricated elements (**fig. 2,3**)⁹.

The use of this type of kiln can be observed until the middle of the 2nd century AD. The latest example was unearthed in the pottery workshop in the territory of the Gas Works (**fig. 1,4; 6,i**)¹⁰; this – compared with the other kiln-types – was a rarely used type here.

At the same time with the above-mentioned kilns a smaller circular kiln-type with unsupported grids was also used (**fig. 1,4¹¹.12¹².16¹³**).

Supposedly the kiln with the grid supported by three corbelled arches¹⁴ from the urban settlement in Víziváros (**fig. 1,16; 4**) can be dated to this time. This kiln was in use at the same time as two circular kilns without pedestal (**fig. 5**).

The destroyed remains of two rectangular kilns – which can be identified as pottery kilns because of their size – were also unearthed close to here (**fig. 1,15**)¹⁵. The dating and the types of the combustion chambers of this kiln cannot be determined.

The ceramic production boomed when the legions were translocated here and because of the beginning of urbanization at the end of the 1st century. The major military and civil workshops were founded at the time. Unfortunately, with regard to this period we have only incomplete information about the plan of the excavated kilns in the case of many workshops. In the literature there is no publication about the structures of the ‘Pottery Workshop of Kiscell’ (**fig. 1,10**). There are just allusions to the two kilns excavated here (NAGY 1937, 268; NAGY 1942, 628; PÓCZY 1956, 78–90). From a picture, which can be found in the photo

archive of the museum I suppose that the kilns were circular. Not too far from this at 60–70 Zápor Street was excavated a circular kiln (**fig. 1,9**). It has imperfect documentation and it is unpublished (excavation of Tibor Nagy in 1969). The character of the kilns of Selmeci Street (**fig. 1,11**) which overlay a kiln belonging to an earlier potter’s workshop of the Military town is also uncertain. There in the early literature appeared “two small burning kilns”, too, without further details¹⁶. Moreover the pottery found here, according to the latest researches, cannot be identified as the output of

¹ In this paper the name “*Aquincum*” means a more extensive area, not the traditional Civil Town – Legionary-Camp – Military Town delimitation. Therefore I include the kilns of the native settlement around the former oppidum on the Gellérthegey and the settlement of Víziváros.

² There are no detailed descriptions in the site monograph about the six pottery kilns found here, only short allusions and three kiln photographs (preserved in bad condition): É. BÓNIS, Die späteltische Siedlung Gellérthegey-Tabán in Budapest. Arch. Hungarica 47 (Budapest 1969) 26; 100; 125; 132; 212 Taf. 3,10. The author of the monograph speaks about all of the kilns as circular with tongue-shaped pedestal in a later summary: A pannoniai római kori fazekaskemencék (Die pannonischen, römischen Töpferöfen). In: J. Gömöri (ed.), Iparrégészeti kutatások Magyarországon (Industrial Archaeology. Kilns and furnaces) (Veszprém 1981) 11.

³ PETŐ 1976, 86–89 Fig. 2-6; id. 1979 Abb. 2–3.

⁴ Ibid. 281–283 Abb. 8/a.

⁵ BESZÉDES/HORVÁTH 2008, 152–154 Fig. 8-10.

⁶ VÁMOS 2002, 9 Fig. 1,5–6.

⁷ SZ. SZÖLLŐSI, Edényégető kemencék a La-Tène-korban. Kézirat - Egyetemi szakdolgozat [Pottery Kilns in the La-Tène period. Manuscript, Diploma Work]. ELTE Régészettudományi Intézet (Budapest 2008) 62. I am grateful to Szilvia Szöllősi for making her diploma work available to me.

⁸ PETŐ 1976, 94; VÁMOS 2002, 13–19; BESZÉDES/HORVÁTH 2008, 153.

⁹ VÁMOS 2002, 9 Fig. 5; BESZÉDES/HORVÁTH 2008, 152 Fig. 10.

¹⁰ KUZSINSZKY 1932 Fig. 43.

¹¹ PÓCZY 1956, 103 Abb. 7.

¹² VÁMOS 2002, 9 Fig. 4.

¹³ BENDA-HABLE 2006, 133 Fig. 16.

¹⁴ Unfortunately Roman walls that were declared a historic monument during the excavation were built over this kiln. That is why the excavation of the kiln and the documenting of its exact construction were only partially finished: see BENDA/HABLE 2006, 133 Fig. 9,14. The sketch reproduced in **fig. 4** was made on the basis of the photos of the kiln.

¹⁵ Apart from two short reports they are unpublished: see M. NÉMETH, Budapest II. Horvát u. 12–14. RégFüz Ser I/44, 1992, 30 Nr. 47/9; K. KÉRDŐ, Budapest II. Horvát u. 12–. RégFüz Ser I/48, 1997, 31 Nr. 44/1.

¹⁶ E. JÓNÁS, Két római denárlelet Aquincumból. Budapest Régiségei 12, 1937, 278–279; NAGY 1942, 629; PÓCZY 1956, 90.

the workshop¹⁷. There is also uncertainty concerning the circular (and also barely documented) kiln which was cut across by the wall of the Late Roman Legionary Camp (**fig. 1,7**). So from that kiln we can determine only that it comes from earlier than the 4th century¹⁸. Nor do we have detailed information about the “two small circular kilns” by the earliest workshop of the Civil Town (‘Military Depot’ **fig. 1,2**)¹⁹.

The military pottery was also founded in the territory of the Military Town at the end of the 1st century (**fig. 1,10**)²⁰.

A circular kiln with a rectangular central pedestal²¹ and another larger rectangular type with tongue-shaped pedestal, which was suitable to large-size industrial production²², are known from here (apart from the undefined kilns).

The largest number of kilns and the most varied types used in the 2nd century, are mainly known from the biggest pottery workshop of the civil town (the pottery workshop at the Gas Works, **fig. 1,4**).

Here the pottery production could have started at the end of Hadrian’s reign or in the first years of Antoninus Pius²³ and finished at the end of the 2nd or the beginning of the 3rd century²⁴.

Many types among the 34 pottery kilns²⁵ unearthed here can be noticed:

circular kilns

- without pedestal²⁶
- with tongue shaped pedestal (**fig. 6,i**)
- with radial pilasters and one central pedestal (**fig. 6,j**)
- with central corridor (**fig. 6,g**)
- with central corridor with cross walls and cross flues (**fig. 6,h**)
- with (true) arches which supported the grids (**fig. 7**)

rectangular kilns

- with tongue shaped pedestal (**fig. 6,f**)
- with central corridors with cross walls and cross flues (**fig. 6,a–e**)

The big workshops stopped operating probably at the end of the 2nd century (for example the military workshop in the Military Town²⁷) or worked with smaller capacity, e.g. in the area of the Gas Works. Here the circular kilns with radial pilasters, which had already been introduced earlier, were surely still in use at the beginning of the 3rd century²⁸. Many new, smaller workshops dated to this period can be observed here.

Smaller rectangular kilns in the ‘Papföld’ workshop²⁹ (**fig. 1,1**) and circular kilns with a rectangular central pedestal in the ‘Schütz’ workshop³⁰ (**fig. 1,5**) dated to the first decades of the 3rd century were excavated³¹.

A workshop of small capacity with a circular kiln with unsupported grid (supposedly specialized to make mainly oil lamps and terracottas: **fig. 8**) operated in the area of the Civil Town (**fig. 1,3**)³².

A workshop with two circular kilns with a circular central pedestal (**fig. 9,a–b; 10,11**) and a circular kiln with two rectangular central pedestals (**fig. 9,c; 12**) may have operated in the north-western part of the Military Town (**fig. 1,6**) at the same time, at the end of the 2nd and the beginning of the 3rd century. Two of these are supposed to be double-walled constructions (**fig. 9,a,c; 11,12**)³³.

South of these, not too far from the former workshop complex in the area of Kiscelli Street – Bécsi Road (**fig. 1,8**), a circular kiln (supposedly with an unsupported grid) belonging to a smaller workshop that produced simple coarse ware was unearthed³⁴.

Two other smaller workshops may have also operated in the area south of the Military Town in the 3rd century. Unfortunately we know little about the kiln excavated at 38–42 Bécsi Road (**fig. 1,13**): we could observe only that it was circular³⁵. In the other case (**fig. 1,14**) we know also the type of construction of the combustion chamber of the circular kiln: the grid was supported by two rectangular pillars (**fig. 13**)³⁶.

To date we don’t know about kilns that can be securely dated to the Late Roman period.

¹⁷ P. HÁRSHEGYI/P. VÁMOS, Új eredmények egy régi anyag kapcsán. Módszertani és csapattörténeti megjegyzések az aquincumi Selmeci utcai fazekasműhely leletanyagának vizsgálata során (New results from old material. Methodological and military historical observations based on the study of the pottery finds of Selmeci utca in Aquincum). In: Sz. Bíró (ed.), *Fiatal Római Koros Kutatók I. Konferenciakötete* (Győr 2007) 157–159.

¹⁸ M. NÉMETH, Nr. 80: Budapest, III, Laktanya utca 14–34. Budapest Régiségei 24, 1976, 416.

¹⁹ NAGY 1937, 265; ID. 1942, 269; PÓCZY 1956, 95.

²⁰ Ibid. 78.

²¹ PARRAGI 1971 Fig 9/6.

²² Ibid. 63 Fig. 11–12.

²³ PÓCZY 1956, 108–109.

²⁴ ZSIDI 1984, 372.

²⁵ KUZSINSZKY 1932, 25–64; PÓCZY 1956, 103; ZSIDI 1984.

²⁶ PÓCZY 1956, 103 Abb. 7.

²⁷ PARRAGI 1971, 78.

²⁸ ZSIDI 1984, 372.

²⁹ NAGY 1945, 188. – There is neither detailed description nor information about the ground plan.

³⁰ É. BÓNIS, Töpferei an der Südmauer der Aquincumer Zivilstadt neben dem „Schütz-Gasthof“. Budapest Régiségei 30, 1993, 229–231 Abb. 1–2.

³¹ PÓCZY 1956, 117; 125.

³² NAGY 1945, 157; PÓCZY 1956, 117–120; O. LÁNG, Az aquincumi macellum: ásatási anyagfeldolgozás és építészeti analógiák (az 1965-ös ásatás anyaga). Kézirat - Egyetemi szakdolgozat [The Macellum in Aquincum: Analysis of Archaeological Finds and Architectural Analogies. Manuscript – Diploma Work]. ELTE Régészettudományi Intézet (Budapest 2001) 113. I am grateful to Orsolya Láng for making her diploma work available to me. See also K. Sz. Póczy, Anwendung neuerer Ausgrabungsergebnisse bei der Ruinenkonservierung in der Bürgerstadt Aquincum. Acta Technica Acad. Scien. Hungaricae 67, 1970, 186 Bild 8.

³³ A. KIRCHHOF, Új feltárási eredmények a katonaváros északnyugati régiójából I. (New excavation results from the north-western region of the Military Town I). Aquincumi Füzetek 13, 2007, 42–44 Fig. 2–4.

³⁴ Unpublished – in the short excavation report the pottery kiln was mentioned as a “circular pottery kiln with bench”: J. TOPÁL, Budapest III. Bécsi út 203. RégFüz Ser I/39, 1986, 38 Nr. 68/2.

³⁵ The excavation is unpublished. Only a circular kiln measuring circa 1.5 m in diameter is marked on the summarized plan of the documentation (excavation of Erzsébet Mártíry in 1993).

³⁶ A. FACSÁDY/Z. KÁRPÁTI, Budapest II. ker., Ürömi utca 4–6. (Hrsz.: 14952). Aquincumi Füzetek 11, 2005, 213; M. SZILÁGYI, Az Ürömi utca 4–6. szám alatt feltárt fazekasműhely anyaga és kronológiája. Kézirat - Egyetemi szakdolgozat [The Ceramics and Chronology of the Pottery Workshop Recovered at 4–6 Ürömi Street. Manuscript – Diploma Work]. József Attila University (Szeged 2005) 2–4. – I am grateful to Magdolna Szilágyi for making her diploma work available to me.

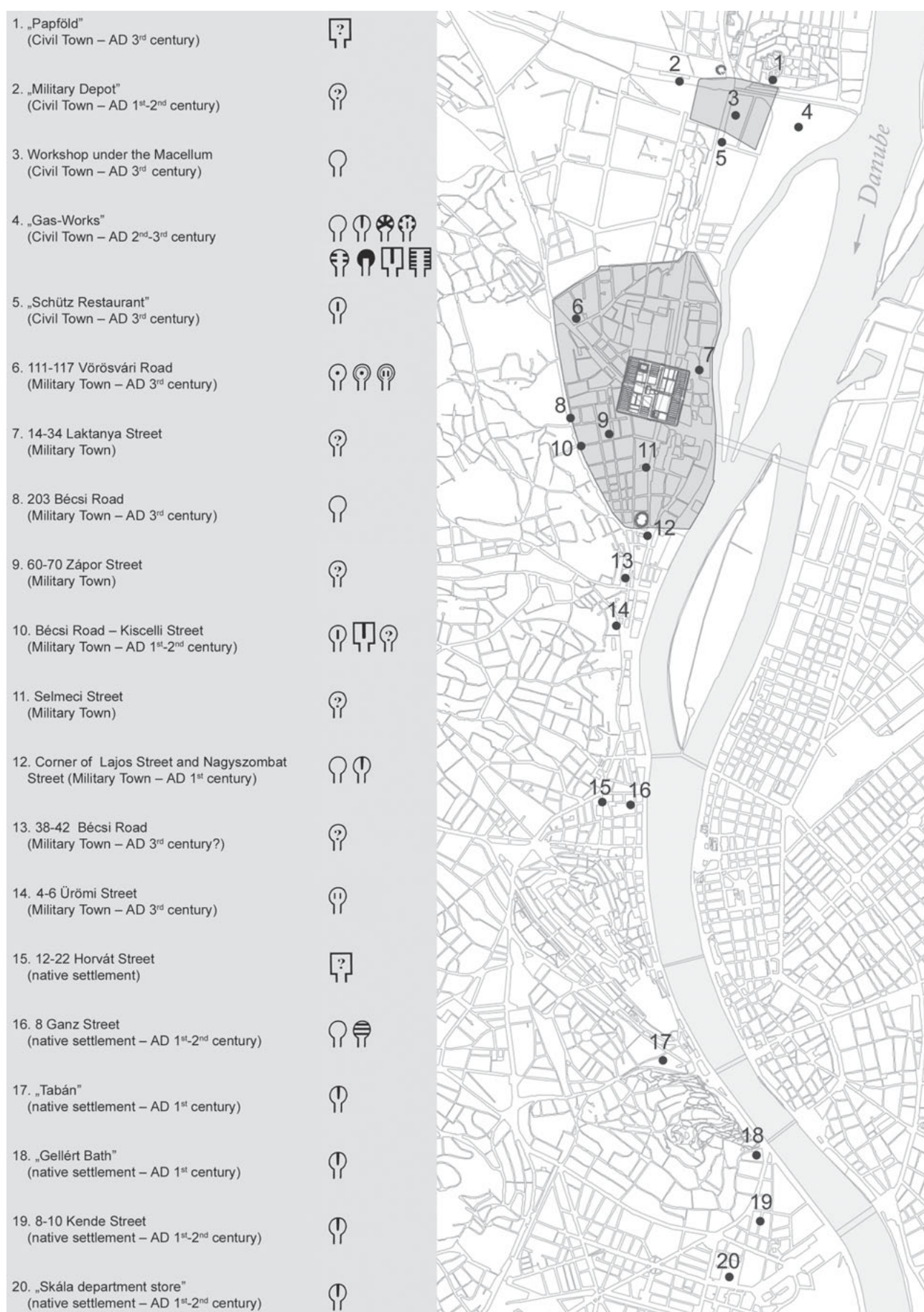


Fig. 1. The sites of excavated pottery kilns and their types in *Aquincum*.

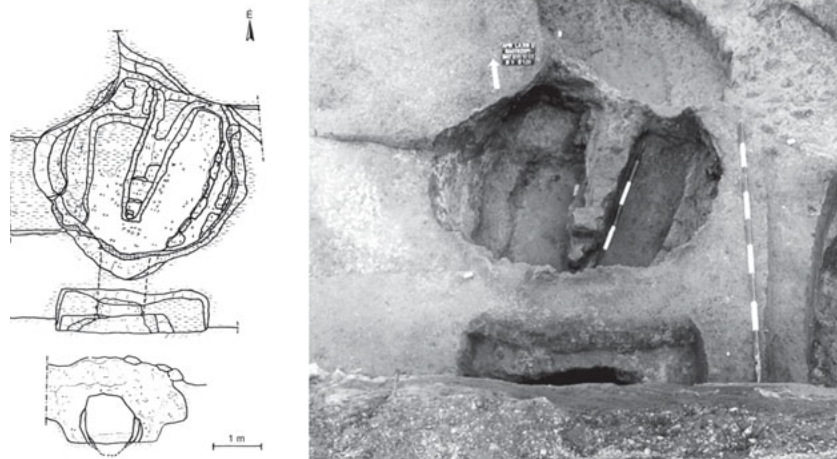


Fig. 2. Kiln with tongue-shaped pedestal made from prefabricated elements at site 12.

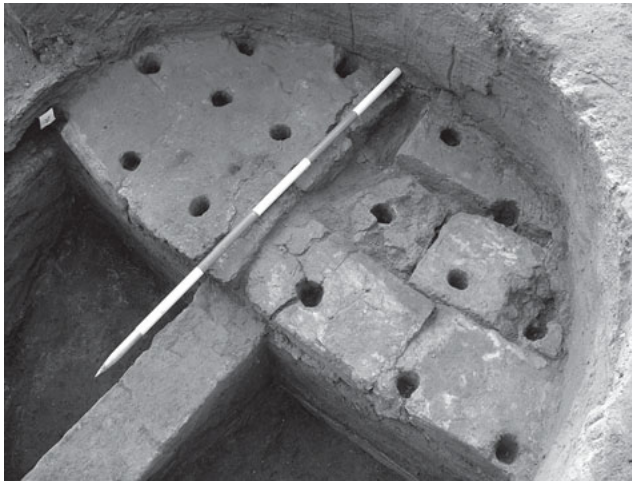


Fig. 3. Detail of a grid built from prefabricated elements at site 20 (Skála department store).



Fig. 5. Section of a circular kiln with unsupported grid at site 16.

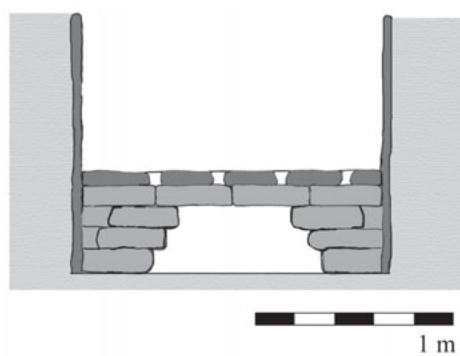


Fig. 4. Detail of a combustion chamber with corbelled arches at site 16 (Ganz Street) and its theoretical reconstruction.

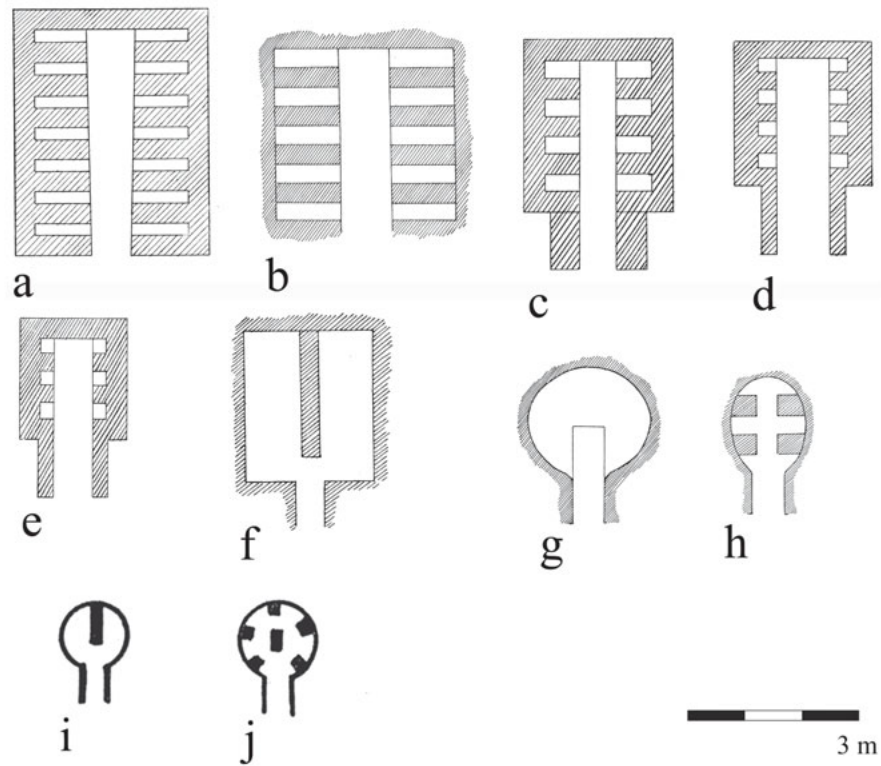


Fig. 6. Ground-plans of the kilns from the 'Gas Works' (site 4).

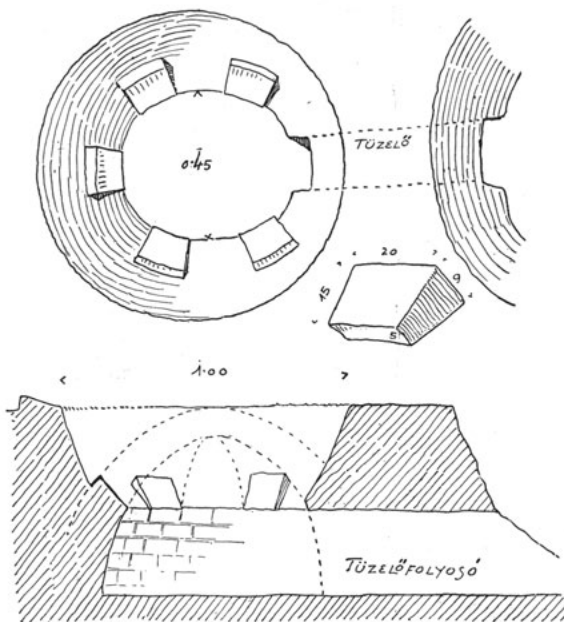


Fig. 7. Sketch of the combustion chamber with arches in the 'Gas Works'.

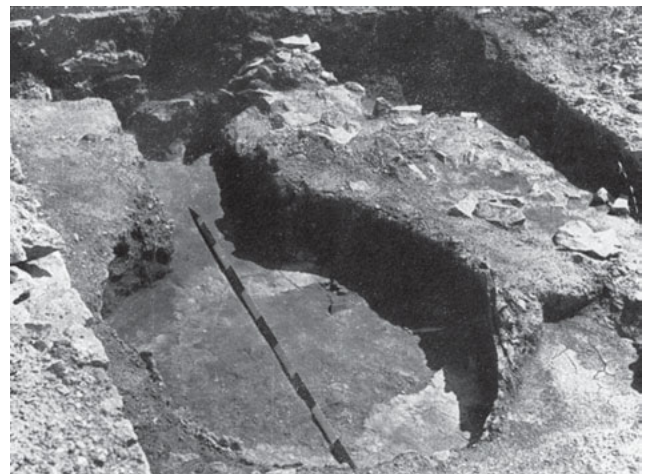


Fig. 8. Remains of the combustion chamber of a circular kiln in the workshop under the Macellum (site 3).

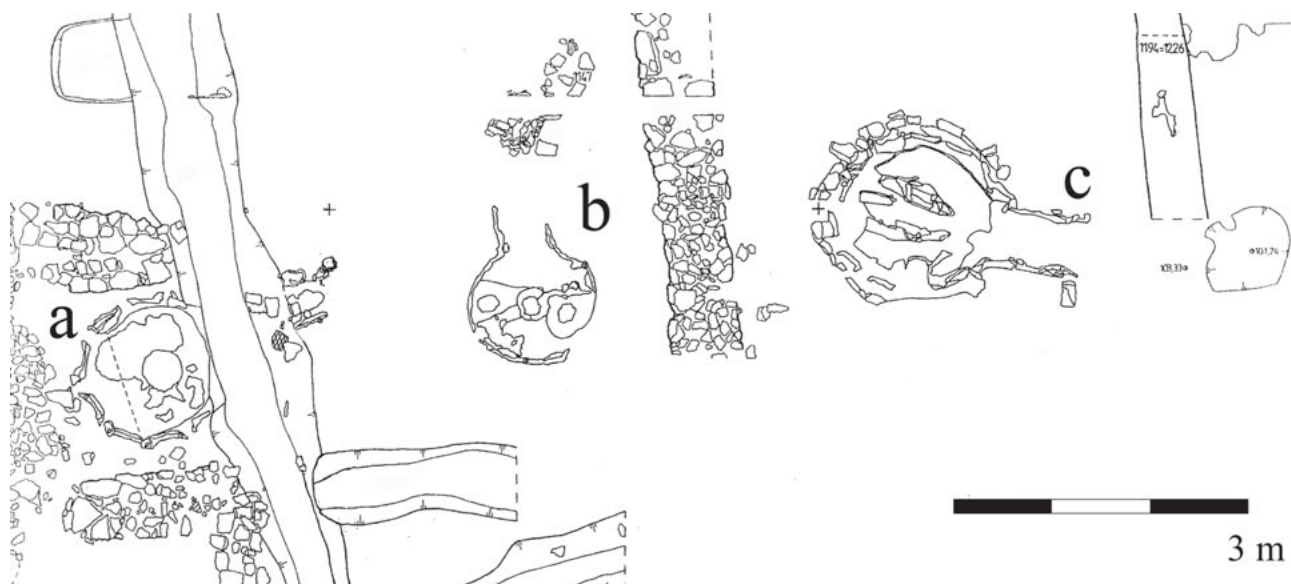


Fig. 9. Ground-plans of the kilns at site 6 (Vörösvári Street).



Fig. 10. Remains of a circular kiln with circular central pedestal at site 6.



Fig. 11. Remains of a double-walled (?) circular kiln with the impression of a central pedestal at site 6.



Fig. 12. Remain of a double-walled (?) circular kiln with two rectangular central pedestals at site 6.

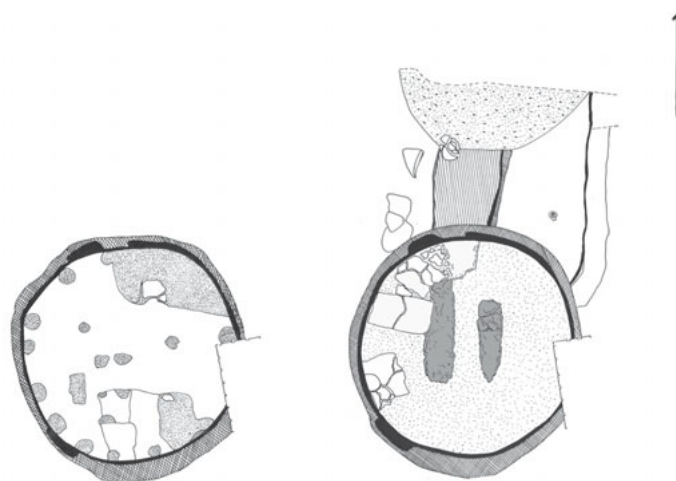


Fig. 13. Circular kiln with two rectangular pillars at site 14 (Ürömi Street): plan of floor of firing chamber (right) and of combustion chamber (left).

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