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# Down the drain: reconstructing social practice from the content of two sewers in a Late Antique bathhouse in Jerash, Jordan

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**Abstract:** This contribution examines social practices in the Central Bathhouse in Jerash in Late Antiquity based on the ceramic assemblage, vessel glass, faunal remains, and small finds retrieved from two sections of the bathhouse's sewer. We argue that although the bathhouse underwent significant architectural alterations from its construction in the 4th c. CE to its abandonment in the late 7th, the activities taking place inside the building remained largely the same. Our study shows that even towards the end of the bathhouse's lifespan, bodily grooming remained integral to the bathing experience, while food and drink were consumed on the premises even though the bathing facilities had been reduced to a bare minimum. The faunal remains indicate the type of food consumed, while the small finds illustrate a lively environment where gaming and gambling took place in a social space frequented by men, women, and children.

**Keywords:** Jerash, bathhouse, latrine, social practice, food habits

Over a century of archaeological exploration in Jerash (ancient Gerasa) in northwest Jordan has uncovered an impressive urban landscape comprising monuments of mainly Roman and Late Antique dates. Among these architectural remains are six public bathhouses built between the 2nd and the 6th c. CE (Fig. 1). Their abundant remains suggest that bathing was central to urban life, but archaeological work on these buildings has so far focused on their architectural layout, with little attention paid to zooarchaeological and artifactual assemblages. Elsewhere in the Roman world, the study of finds has proved an important tool for deepening our understanding of the social role of baths, paving the way for moving beyond traditional architectural categorization and instead focusing on the activities that shaped the bathers' experiences.<sup>1</sup> However, such work is largely missing from bathhouse studies in the Eastern Mediterranean.<sup>2</sup>

In this contribution, we examine bathing practices in the Central Bathhouse in Jerash. The excavation of the bathhouse's drainage system yielded a rich assemblage of artifacts, some of which were washed in from the building, while others were deliberately deposited as a convenient method of rubbish disposal. The study of the ceramic and glass assemblages, faunal remains, and small finds offers a window through which to reconstruct some aspects of daily life as it unfolded within the bathhouse towards the end of its use

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<sup>1</sup> E.g., Hoss and Whitmore 2016; Whitmore 2013.

<sup>2</sup> Exceptions (e.g., Badawi 2014; Caggia 2014; Henderson 2007) consider selected finds from bathhouse sewers. Complete assemblages remain to be published.

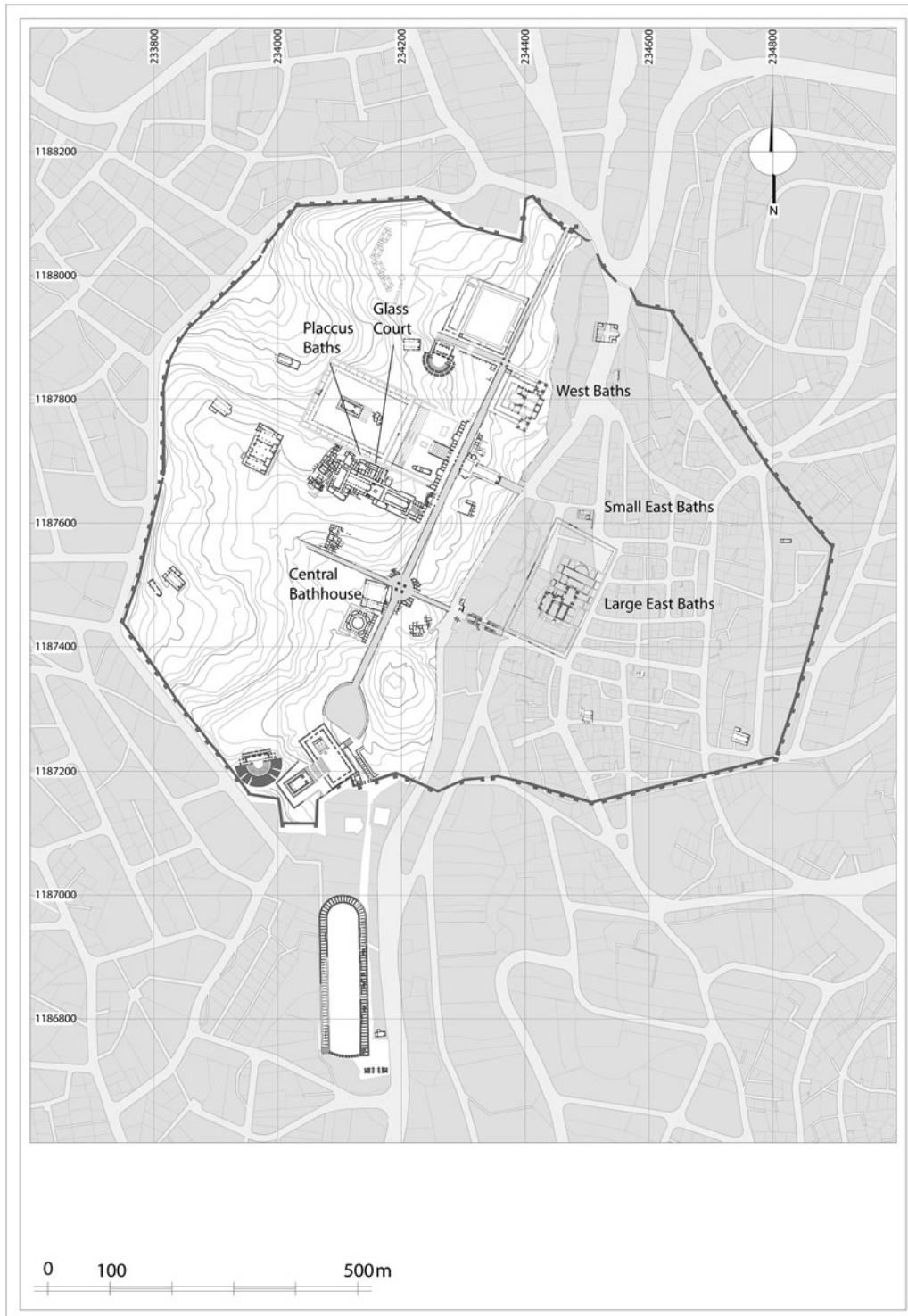


Fig. 1. Jerash archaeological site, showing location of the town's bathhouses. (Modified from map by Thomas Lepaon.)

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life in the 7th c. CE. We argue that although the bathhouse underwent major architectural alterations during its lifespan, the activities that took place within the building remained largely unchanged. Our study shows that bodily grooming remained integral to the bathing experience, while food and drink were consumed on the premises even when the bathing facilities were reduced to a bare minimum. The faunal remains indicate the types of food consumed, while the small finds illustrate a lively environment of gaming and perhaps also gambling in a social space frequented by men, women, and children (although not necessarily at the same time).

### Bathing in Roman and Late Antique Jerash

The six public bathhouses identified in Jerash vary considerably in date, size, and organization, as we summarize in this section.<sup>3</sup> The West Baths are located along the northern stretch of Jerash's axial street. The building spans some 4,500 m<sup>2</sup> and was constructed in the mid- to late 2nd c. CE.<sup>4</sup> This complex has not been excavated, and besides some still-standing remains, the layout is obscured by the collapsed superstructure.<sup>5</sup>

The Large East Baths were built in the 3rd c.,<sup>6</sup> but due to excessive reuse of this complex's architectural remains, its layout and history are only partially understood. Located on the eastern side of the river valley, the bathhouse was a natural source of building stone as modern Jerash expanded in the 19th and early 20th c. The complex measures some 22,000 m<sup>2</sup>. The bathing suite consists of ca. 30 rooms, with several auxiliary rooms lining its outer courtyard.<sup>7</sup> The layouts of both the West and the East Baths suggest complex bathing practices, perhaps including outdoor physical activity in a palaestra.<sup>8</sup>

The remains of what appears to have been a large-sized bathing complex has been identified in the so-called Glass Court.<sup>9</sup> The single room, which covers ca. 105 m<sup>2</sup>, suggests a bathhouse as the remains of chimneys in all the walls and a praefurnium in the north end are evidence that the room was once heated.

The Small East Bathhouse was probably built in the 4th c., with the excavated section covering 370 m<sup>2</sup> and comprising eight rooms.<sup>10</sup> It is situated directly north of the Large East Baths.<sup>11</sup> The relationship between the two complexes remains unclear, but considering the proposed dates of construction, it is possible that they were in use contemporaneously.

The Baths of Bishop Placcus took up some 800 m<sup>2</sup> and were, according to a mosaic inscription, constructed by the bishop in 454–55 and restored in 584.<sup>12</sup> This small bathhouse was likely built to replace the now-defunct bathhouse in the Glass Court. The

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<sup>3</sup> Lepaon 2012.

<sup>4</sup> Kraeling 1938, 54; Lepaon 2012, 130–33.

<sup>5</sup> Fisher 1938a, 23–24, pl. XXVII; updated in Lepaon 2009.

<sup>6</sup> Lepaon 2012, 197–99; Nielsen 1990, 112.

<sup>7</sup> Lepaon et al. 2018.

<sup>8</sup> Lepaon et al. 2018, 133.

<sup>9</sup> Poor preservation and subsequent reuse mean that the structure remains undated: Crowfoot 1938, 217; Lepaon 2012, 216–27, especially 225.

<sup>10</sup> Lepaon 2012, 294.

<sup>11</sup> Lepaon 2012, 278–312.

<sup>12</sup> Fisher 1938b, 265. For inscriptions of 454–55: Welles 1938, 475–76 (inscriptions 296 and 297).

building was divided into two parts of almost equal size, one half containing a bathing suite (four rooms) and the other half comprising a service area, which included a cistern, storage rooms, and a praefurnium.

### The Central Bathhouse

The Central Bathhouse (the sixth bathhouse and the focus of this study) is located in the center of the commercial district, in the southwest corner of the intersection of Jerash's axial street and the south transverse street. The excavation of the bathhouse was initiated in 1998 by the Department of Antiquities, continuing from 2002 to 2010 under the Danish-Jordanian Islamic Jerash Project. Numismatic and ceramic finds date the construction of the bathhouse to the late 3rd or early 4th c. and suggest that it was dismantled in the early 8th c. during the reorganization of the area for the construction of a congregational mosque.<sup>13</sup>

The bathhouse comprises several integrated architectural components.<sup>14</sup> The bathing suite is flanked to the north by shops, two changing rooms (apodyteria), and a latrine, and to the south by a service area (Fig. 2). One entrance provided access to the baths from the south transverse street, while another led from an alley that ran perpendicular to the south transverse street to the west of the bathhouse. The second entrance opened onto a hall with two doorways: one leading south to a changing room and one leading east to the latrines. This spatial arrangement would have secured independent opening hours and perhaps also allowed visitors to use the latrines without paying a fee to enter the bathhouse.<sup>15</sup>

The bathing suite is laid out with the unheated section (frigidarium) to the north and the heated sections (tepidarium and caldarium) to the south. The frigidarium consists of a single room with two semi-circular basins. The heated section contains four rooms, with a single furnace placed in the south end and chimneys in the north end to direct the hot air through a complex hypocaust system.

During its lifespan, the Central Bathhouse underwent several architectural modifications. The most significant was the gradual reduction in the size of the heated area, which was accompanied by the abandonment of communal bathing for the privacy of smaller individual bathtubs, of which three were preserved in the heated section. The function of the heated section gradually changed, and the hypocaust rooms became superfluous. Towards the end of the building's history, only a single heated room remained in use. Finally, the hypocaust in the last remaining heated room was filled in, re-floored, and used for other purposes.<sup>16</sup>

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<sup>13</sup> A coin of Elagabalus (r. 218–22 CE) in the bathhouse's foundation along with a 3rd-c. ceramics assemblage provides the terminus post quem for the building's construction (Blanke et al. 2007, 182). Umayyad-period pre-reform coins (ca. 660–80 CE) were retrieved from the last phases of use, and both pre- and post-reform coins were found in the infill of the hypocaust and the levelling done in preparation for the construction of the mosque (Blanke et al. 2007, 190–96). See also Walmsley 2018.

<sup>14</sup> Blanke 2015.

<sup>15</sup> Blanke 2016, 49–53.

<sup>16</sup> Though these other purposes are unclear (Blanke 2015, 97–98).

## Down the drain

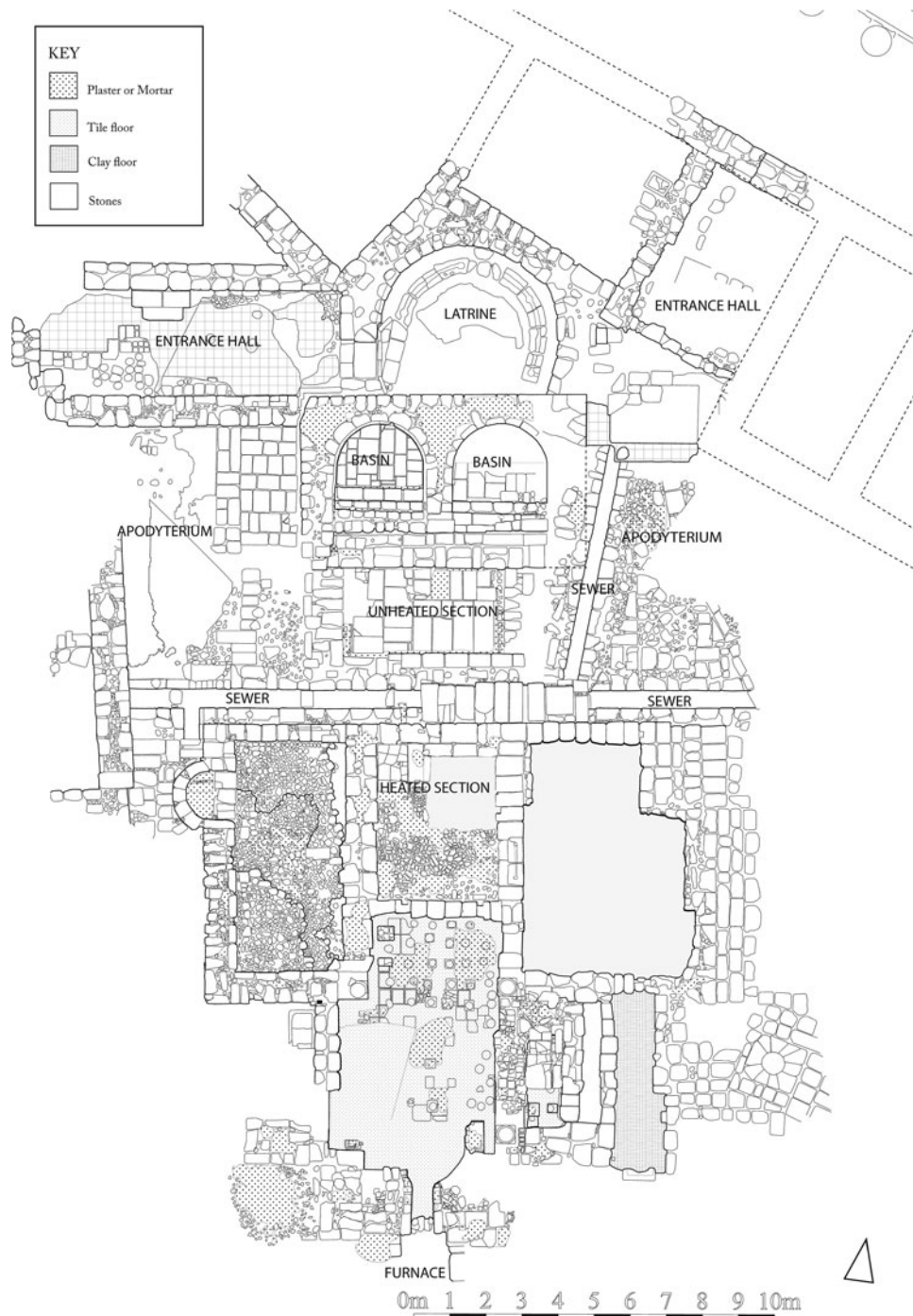


Fig. 2. Plan of the Central Bathhouses highlighting location of latrine and bathhouse sewers. (Plan by Louise Blanke.)

Situated to the north of the bathing suite, the latrine remained in use throughout the life of the bathhouse. It consists of a semi-circular room, with a sewer that runs along the entire length of the curved north wall (Fig. 3). No remains of seating were found, but a ledge in the wall above the sewer indicates where the seating would have been. A shallow channel



Fig. 3. Overview of latrine in Central Bathhouse looking west. (© Islamic Jarash Project.)

runs in front of the seating, from the southwest corner of the room, and disappears into the sewer in the southeast corner. This channel would have provided a constant clean water supply. Although it has not been possible to estimate the number of people who could have used the bathhouse during a single day, calculations published elsewhere suggest that the multi-seater latrine could have been frequented by more than 600 users during a 12-hour window.<sup>17</sup>

The assemblage of finds discussed here was largely deposited towards the end of the bathhouse's use and dates to the late 6th and 7th c., with a few residual specimens dating to the 4th or 5th c. The finds derive from the latrine sewer and from a sewer located within the bathhouse proper.<sup>18</sup> The latter branch of the sewer ran north from the heated section and then east along the frigidarium and carried material washed in from basins in the heated and unheated rooms. The sewers comprise a closed drainage system, meaning that artifactual material could not have been introduced from outside the bathhouse. Similarly, the later fill layers, which are associated with the dismantling of the bathhouse and the construction of the mosque, differ significantly in composition from the deposits associated with the use of the bathhouse and the latrine.<sup>19</sup> One hundred percent of the sewer deposits were sieved, which gives us close to a full recovery rate for all deposited finds.<sup>20</sup>

<sup>17</sup> Blanke 2016, 56; Blanke 2020, 179–83.

<sup>18</sup> The contexts discussed here are MO/12-94 (content of latrine sewer) and MO/1-183 (content of bathhouse sewer).

<sup>19</sup> Especially the latrine deposit (MO/12-94) differed significantly from overlying fill layers. The soil was dark brown and grainy with vast quantities of finds, while the overlying fill layers (loci 93, 92, 91, and 90) were lighter in color and much less densely packed with finds.

<sup>20</sup> Other studies of the latrine context concern aDNA of worm eggs (Søe et al. 2018) and archaeobotany (awaiting publication by K. French).



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### Pottery from the bathhouse and latrine sewers

The abundant pottery sherds found in the drains belong to a remarkably uniform group restricted to a small number of object types. The assemblage is largely devoid of items that were used in domestic settings, such as cooking pots or storage vessels (well represented elsewhere at Jerash), and instead consists primarily of objects that can be linked to communal social activity: eating, drinking, and bathing. A total of ca. 35 kg of ceramics were retrieved from the latrine, producing a minimum count of 113 individual ceramic vessels. This material consists mostly of pottery of local manufacture, with few imports. Most of the assemblage comprises local wheel-thrown terracotta, a fine red oxidized ceramic that was produced in large quantities in Jerash workshops and is known from excavations elsewhere in the city.<sup>21</sup> This production is broadly related to Eastern Mediterranean red-slipped pottery in the 6th and 7th c. but, as in other inland areas of Jordan, reflects more localized material culture traditions and networks of supply and distribution.<sup>22</sup> At Jerash, this production is attested from the 3rd to the 7th c.; in the 8th c., a shift towards paler, more thickly walled shapes is observed.<sup>23</sup>

The terracotta vessels identified from the latrine (MO/12-94) have been assigned to seven categories: small flasks (20), bowls (19), small jars (25), cups (21), large basins (8) lamps (7), and a lantern (1).<sup>24</sup> Many of the bowls, flasks, and cups bear white or red painted decoration, and they sometimes have fine incised lines beneath the rim. The relatively large quantity of small bowls and cups reveals that the consumption of food and drink was common in the bathhouse. The distinctive tulip-shaped and omphalos-based cups (Fig. 4.1–6) are known from 6th- and 7th-c. contexts elsewhere in Jerash, as well as from Jerusalem and Pella.<sup>25</sup> Their incurving rims discouraged spillage, and upon breaking they were less dangerous than glass vessels. It is tempting to suggest that they were used as wine cups. Small jars and jugs occur in considerable numbers and could have been used for serving drinks (Fig. 4.13–16).<sup>26</sup> Small bowls in the latrine assemblage, sometimes decorated with painting, slipping, or incisions, indicate that bathers also consumed food here (Fig. 4.7–12).<sup>27</sup>

Small oil or perfume containers, which one would expect to see well represented in a bathhouse, feature prominently in the corpus. One imported group is highly fired in a dense gray fabric, fine-walled with a burnished exterior surface. Referred to elsewhere

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<sup>21</sup> Walmsley et al. 2008; Ball et al. 1986, 359–67; Clark et al. 1986, 247–51; Brizzi et al. 2010; Kehrberg 1989; Kehrberg 2009; Pierobon 1983–1984a; Uscatescu 1996.

<sup>22</sup> E.g. Gerber's (2012) study of Byzantine pottery from Hesban in northern Jordan.

<sup>23</sup> Walmsley et al. 2008, 133–34.

<sup>24</sup> Comprising 101 of 113 minimum number of individuals (MNI). Other forms include nine lids, two cooking pots, and a platter.

<sup>25</sup> This shape starts in Late Antiquity and recurs with painted decoration during the Umayyad period (Parapetti et al. 1986, fig. 10.1; Clark et al. 1986, fig. 21.1). Parallels at Jerash are: Macellum: Uscatescu 1996, Group XIII, 11C, fig. 68, 329–35 (6th–early 7th c.); Hippodrome: Kehrberg 2009, fig. 8 (6th c.); Southwest neighborhood: Pappalardo 2019, fig. 10.4.

<sup>26</sup> Parallels for jar 13: Macellum: Uscatescu 1996, Group XXXIV, 541, fig. 86 (6th c.).

<sup>27</sup> Parallels for bowls 9–11: Northwest quarter: Lichtenberger et al. 2013, 36:94 (5th–6th c.); Sanctuary of Artemis: Parapetti et al. 1986, fig. 10.4 (6th–7th c.); Macellum: Uscatescu 1996, Group XVII form 3d, Group XVI form 7 (6th–early 7th c.); Hippodrome: Kehrberg 2009, 507, fig. 9 (6th c.). Bowl 12: Uscatescu 1996, fig. 32 (6th–7th c.), Group XIX (6th c.).

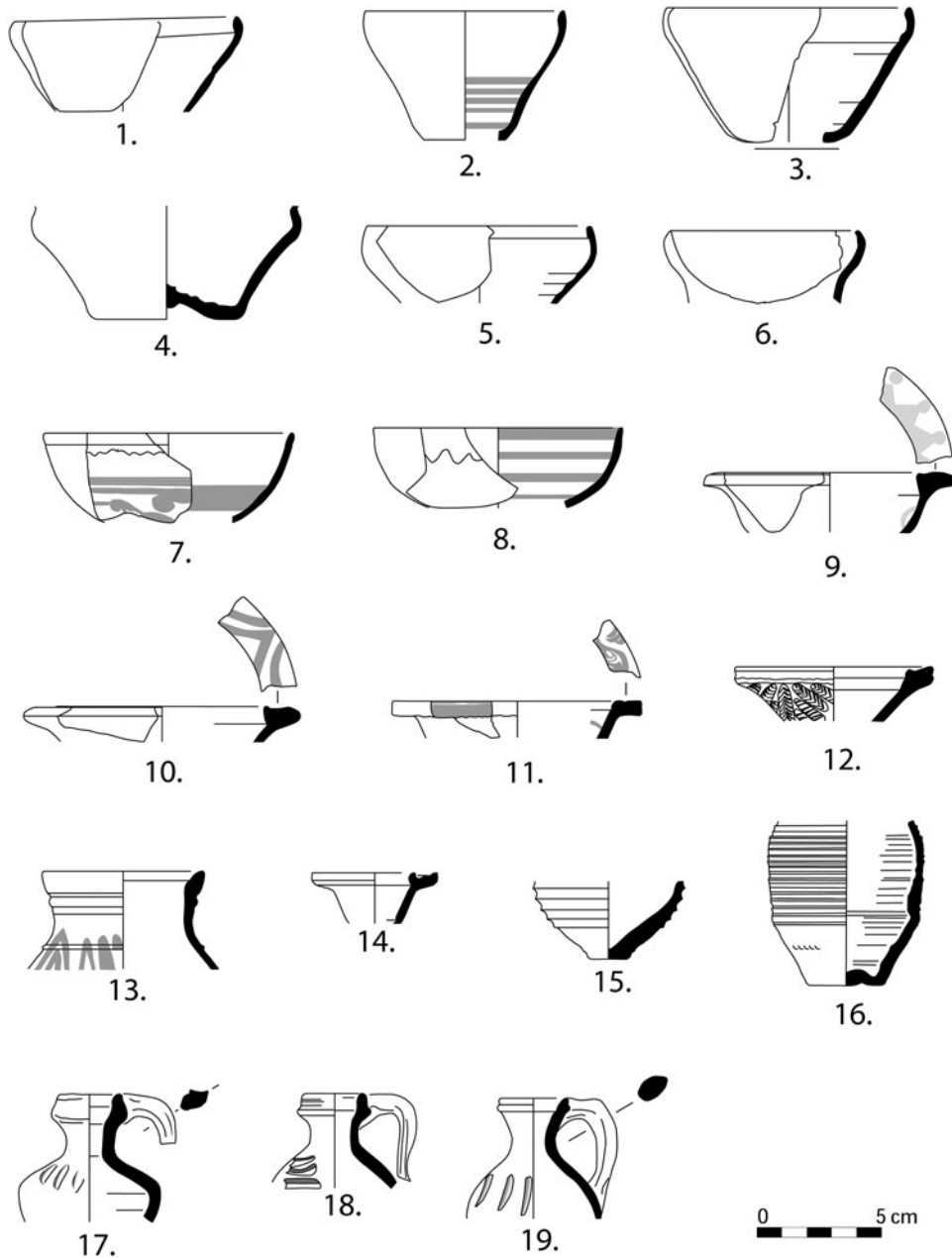


Fig. 4. Sixth–seventh-c. CE pale red to buff Terracotta Ware from the Central Bathhouse. Cups: 1–6; small bowls: 7–12; small flasks: 13–16; “nicked ware” oil flasks: 17–18; oil flask in burnished yellowish buff: 19. (© Islamic Jarash Project.)

as “nicked ware,” this ware was most likely produced in central Palestine (Fig. 4.17–18).<sup>28</sup> The shape of these containers belongs to a long-standing Eastern Mediterranean tradition dating from at least the Roman period. An almost identical flask with decorative chiseling, made in the typical pale red clays of the Jerash workshops, closely imitates the imported

<sup>28</sup> Magness 1993, 239–40; Smith et al. 1992, 177–78, pl. 113.6.

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wares (Figs. 4.19; 5).<sup>29</sup> The presence of lamps and lanterns (Fig. 6.2–3) suggests that artificial lighting was used, either because the building had too few windows to light up the rooms during the day, or because the bathhouse was visited after dark.<sup>30</sup> Roman authors such as Martial described the afternoon (the eighth hour) as the best time to visit the baths.<sup>31</sup> At this time, the business of the day would have been concluded and a light lunch consumed before people resorted to the bathhouse for a leisurely afternoon in the company of friends. Other literary evidence refers to bathers attending the bathhouses after dark, and lamp fragments are common finds in baths.<sup>32</sup>

The pottery repertoire from the bathhouse latrine consists primarily of fine wares for eating light foodstuffs and for liquid refreshments.<sup>33</sup> The notable presence of lighting devices and perfume or oil flasks similarly reflects the activities taking place in the building. A few large basins in a locally produced reduced gray ware may indicate that some food preparation activities or storage of other liquids took place within or nearby to the Central Bathhouse (Fig. 6.4).<sup>34</sup> The production of hand-made reduction-fired pottery is well attested in Late Antique and Umayyad Jerash.<sup>35</sup>

A small number of wine amphorae (Fig. 6.1) were found in the main bathhouse drains. Although these vessels are earlier in date, their presence suggests that storage of wine or other liquids may also have occurred within the bathing complex. The example illustrated in Figure 6 was likely imported from Cilicia or Cyprus and dates to the late 4th or early 5th c.<sup>36</sup>

### Vessel glass

The latrine and the bathhouse sewer both contained substantial quantities of vessel glass.<sup>37</sup> These glass vessels pertained to activities taking place in the baths, including care of the body, lighting, and drinking. The latrine sewer (MO/12-94) produced a minimum number of individuals (MNI) of 196. Among these, the most commonly represented vessels were small, closed forms; that is, unguentaria or small bottles with elongated cylindrical necks, featuring either inward-folded, flattened rims or simple, straight rims (MNI 117, Fig. 7.1–6, 12–13) and sometimes handles (Fig. 7.11). These vessels are difficult to date, especially when in a fragmentary condition, and can only be assigned a broad Late Antique chronology.<sup>38</sup> Several of these specimens were decorated with wound trails

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<sup>29</sup> Uscatescu 1996, group XXIV, fig. 78, 438–39; Parapetti et al. 1986, fig. 9.8 (suggested chronology 6th–early 7th c.).

<sup>30</sup> On lighting: Wilson 2018, 68–74. For lamp parallels for fig. 6.2: Scholl 1986, group 2; Kehrberg 2011, 135–36, fig. 4.54–73 (6th–7th c.). For lamp parallels for fig. 6.3: Uscatescu 1996, group XXIII (late 7th c.).

<sup>31</sup> Mart. *Epigrams* 10.48 (transl. Shackleton Bailey 1993, 369).

<sup>32</sup> Yegül 2010, 11–12; Wilson 2018, 68–74.

<sup>33</sup> Fine wares in a latrine in Late Antique Libya: Michel 2014, 372.

<sup>34</sup> Parallels: Northwest quarter: Lichtenberger et al. 2013, 38: 101, 102 (Late Byzantine), fig. XII.5.3, 4; Macellum: Uscatescu 1996, Group XXXVI form 2c (6th c.), form 4b (6th–early 7th c.); Artemis Sanctuary: Parapetti et al. 1986, 180–83, fig. 9.12 (Late Byzantine).

<sup>35</sup> Pierobon 1983–1984b; Schaefer and Falkner 1986.

<sup>36</sup> Late Roman 1A: Pieri 2005, 70–80, fig. 26.1.

<sup>37</sup> This is a preliminary study; a systematic analysis of the glass is planned.

<sup>38</sup> On the variety of these forms elsewhere: Winter 2019, 38–49, 184.



Fig. 5. *Jerash-made (left) and imported (right) oil flasks from the Central Bathhouse.* (© Islamic Jarash Project.)

(MNI 16, Fig. 7.4), which is typical of the 5th–8th c.<sup>39</sup> A small pitcher with an applied handle and trailed decoration can be dated to the 4th or 5th c. (Fig. 7.7).<sup>40</sup> These vessels are best interpreted as being used for care of the body; that is, for the application of oils during bathing, or balms or cosmetics afterwards. Many of the other vessels probably served to provide lighting. Among these are five lamp bowls (Fig. 7.15–17), belonging to a type of stemmed lamp that was supported by a *polykandelon* (candelabra) and typically dated to the 4th–7th c.<sup>41</sup> Additionally, one fragment of a folded rim from a bowl lamp preserves a handle attachment (Fig. 7.8), indicating that it comes from a hanging lamp, again of Late Antique date.<sup>42</sup> The substantial number of goblets (Fig. 7.18–21) in this assemblage also merits mention (MNI 56).<sup>43</sup> The morphological similarity between these vessels and modern glasses for the consumption of wine causes considerable confusion in existing scholarship, where they are sometimes called “wine glasses.”<sup>44</sup> However, work elsewhere has suggested that these vessels could also be used as lamps.<sup>45</sup>

<sup>39</sup> Winter 2019, 64, 67, fig. 3.3/1.DDTB

<sup>40</sup> E.g. Whitehouse 2001, 181, no. 722, 183, no. 726.

<sup>41</sup> At Jerash: Jackson-Tal 2021, 40, 41–42, nos. 80–84.

<sup>42</sup> Isings 1957, 134, form 134.

<sup>43</sup> Isings 1957, 139–40, form 111.

<sup>44</sup> At Jerash: e.g., Jackson-Tal 2021, 20, 40–41, nos. 71–79.

<sup>45</sup> Yelda Olcay 2001, 86–87.

Down the drain

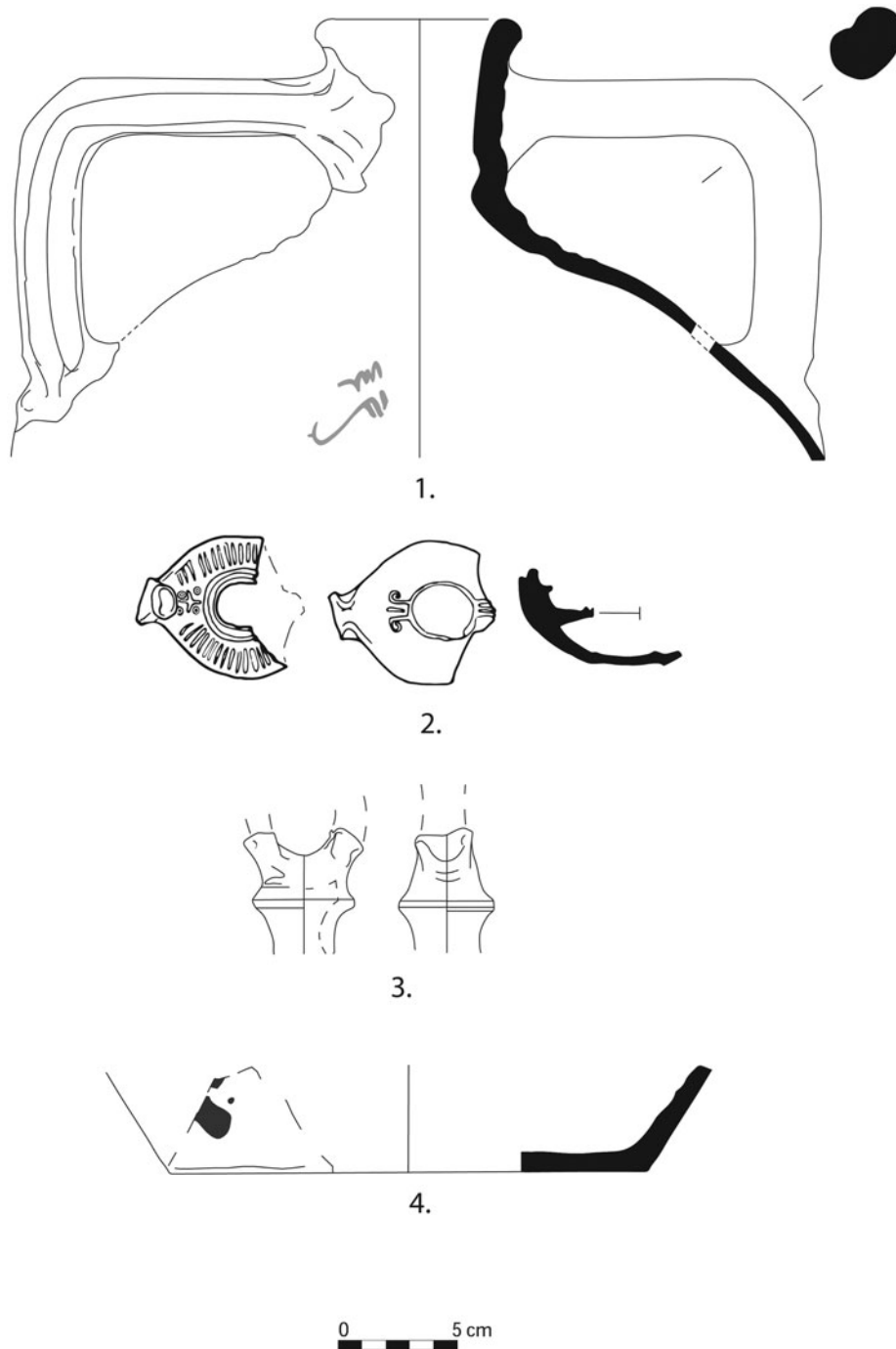


Fig. 6. Imported amphora, late 4th–5th c.: 1; pale red-to-buff terracotta slipper lamp and lantern fragment: 2–3; reduction fired slow-wheel turned dark gray bowl: 4. (© Islamic Jarash Project.)

We should therefore keep an open mind as to whether they should be interpreted as providing lighting in the gloom of the bathhouse or as being used for drinking. We are on firmer ground with a modest number of truncated conical beakers, which were used for

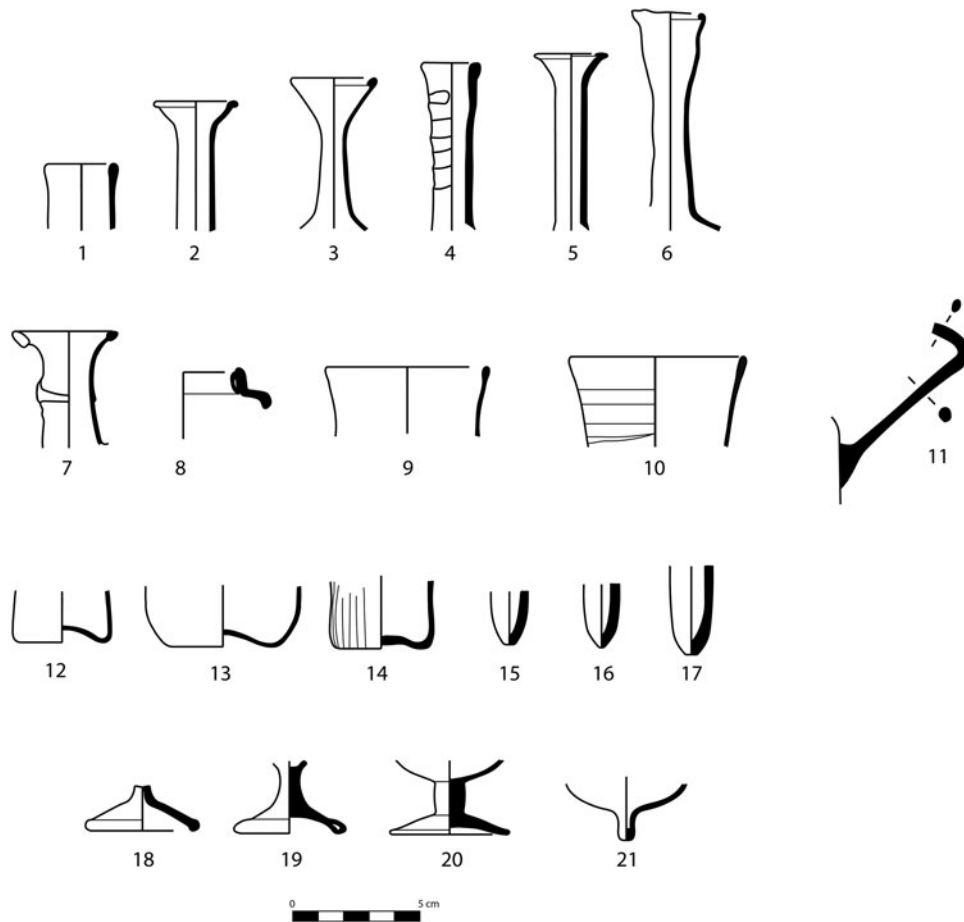


Fig. 7. Vessel glass from the latrine sewer. Small closed forms: 1–7; bowl lamp: 8; truncated conical beakers: 9–10; Small closed form handle: 11; Small closed forms bases: 12–13; ribbed flask: 14; stemmed lamps: 15–17; goblets: 18–21. (© Islamic Jarash Project.)

drinking and made from the Late Roman through to the Early Islamic period (MNI 2, Fig. 7.9–10).<sup>46</sup>

The glass from the latrine sewer largely comprises free-blown forms without decoration. However, at least 15 closed-form vessels featured fine, mostly monochrome (that is, in the same color as the core) horizontal trails, typical of the 5th–8th c.<sup>47</sup> Additionally, 21 body sherds, probably all from closed forms, featured fine and/or thick cobalt blue trails applied to a colorless core (Fig. 8). Three fragments of a mold-blown ribbed flask (Fig. 7.14) can be attributed to Late Antiquity; a similar find has recently been uncovered in an early 6th-c. context at Jerusalem, though it is known that ribbed bottles were still made throughout the Umayyad period.<sup>48</sup> These wares indicate that glass of varying qualities and levels of intricacy was being used in the Central Bathhouse during Late Antiquity.

<sup>46</sup> E.g. Jackson-Tal 2021, 16–17, nos. 36–37.

<sup>47</sup> Winter 2019, 64, 67, fig. 3.3/1.DDTB

<sup>48</sup> 6th-c. find: Winter 2019, 111, 118, fig. 5.1.4.34. Umayyad: Winter 2019, 65.

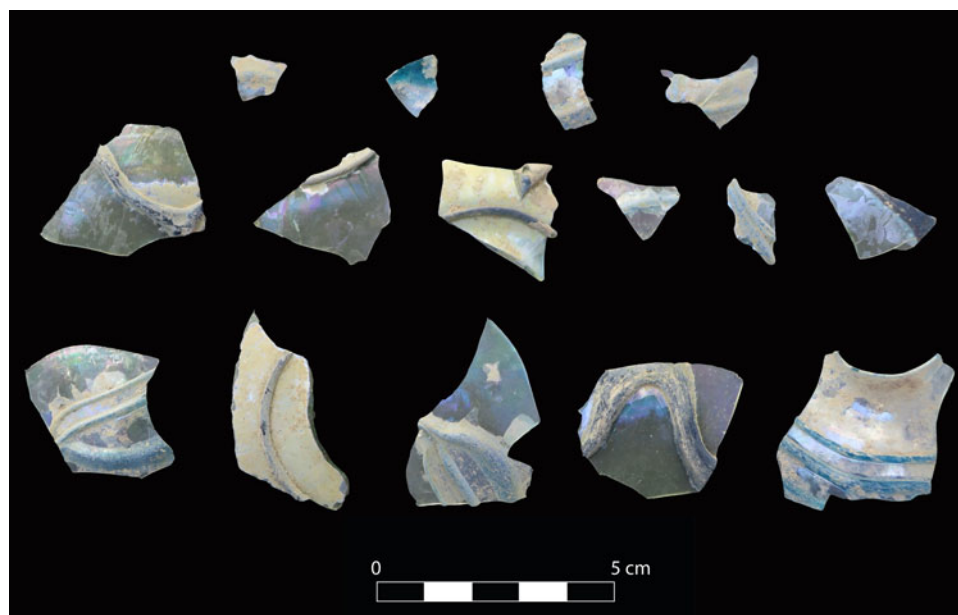


Fig. 8. *Vessel glass with dark blue trails from the latrine sewer.* (© Islamic Jarash Project.)

The bathhouse sewer (MO/12-183) produced a similar, but smaller, assemblage (MNI 89). Here, too, small, closed forms (42) predominated, but there were also considerable numbers of lamps (4) and goblets (21), as well as several open forms, whether beakers or lamps (13 simple rims, 4 tubular rims), and one possible larger closed form (with trailed decoration). As in the latrine sewer, fine monochrome trails (on 10 of the closed-form vessel rims), thick cobalt blue trails (1 wall sherd), and mold-blown ribbed flask fragments (2) were present. Preliminary stylistic dating of the vessels from both contexts therefore suggests that they are Late Antique in date, and their chronology is in keeping with the 6th- to 7th-c. date provided by the other finds, but some may be earlier (4th or 5th c.).

### The faunal remains

The bones from the sewer in the bathhouse and from the adjoining latrine provide direct evidence for food consumption taking place inside the bathhouse. In total, 1,206 bone fragments were recovered, of which 706 (Number of Identified Specimens, henceforth NISP) could be identified to a specific species, to nearest genus, or to a more general group such as large ungulate. The sample size from the latrine (NISP 178) was small, whereas the bathhouse sewer contained a larger collection of faunal remains (NISP 612). Due to the small sample size, the two assemblages will largely be presented together in the comparative analysis below. Both collections include remains from sheep and goat, pig, cattle, fish, and various birds, such as domestic fowl, along with a few remains of rat (Table 1). It is worth noting that despite the difference in sample size, the two assemblages contained similar selections of species, though the bathhouse sewer included comparatively more fish and bird remains. Both assemblages are characterized by so-called classic food-related species (e.g., sheep, goat, and domestic hen) and by a complete absence of other animals (e.g., cats and dogs).

Table 1.  
Distribution of species from the two bathhouse sewer system contexts along with four other contexts at Jerash.

	<i>Latrine</i> (NISP*)	<i>Sewer</i> (NISP)	<i>Infill</i> (NISP)	<i>E Shops</i> (NISP)	<i>W Shops</i> (NISP)	<i>Sondage</i> (NISP)
Cattle, <i>Bos taurus</i>	5	2	5	2		13
Horse/donkey, <i>Equus</i> sp.	1		3	1	1	2
Large ungulate	4	1	3	4	6	3
Pig, <i>Sus</i> sp.	9	37	70	9	29	149
Sheep, <i>Ovis aries</i>	5	23	21	14	14	20
Goat, <i>Capra hircus</i>	3	4	6	3	5	11
Goat/sheep, <i>Capra hircus</i> / <i>Ovis aries</i>	22	68	65	98	94	128
Gazelle, <i>Gazella</i> sp.						1
Medium ungulate	35	89	90	106	126	121
Dog, <i>Canis domesticus</i>			2			9
Cat, <i>Felis catus</i>					1	1
Carnivore					1	
Rat, <i>Rattus</i> sp.	2	3	4	2		
Lesser mole rat, <i>Spalax leucodon</i>		4			29	
Rodent				18	7	
Tortoise, <i>Testudo</i> sp.					1	
Domesticated hen, <i>Gallus g. domesticus</i>	3	31	21	2		14
Chukar partridge, <i>Alectoris chukar</i>		1				
Rock pigeon, <i>Columba livia</i>	2	2				
Griffon vulture, <i>Gyps fulvus</i>						1
Bird	1	7	8	35	26	23
Parrot fish, <i>Scaridae</i>		1				
Sea basses, <i>Serranidae</i>		1				
Fish	1	10	4	10	2	2
Unidentified	85	331	416	331	275	581
Large	24	5	8	4	11	26
Medium	59	317	386	307	257	543
Small	2	6	17	20	7	9
Total	263	943	1,129	966	892	1,657

\*Number of Identified Specimens

Four other assemblages from the Islamic Jerash Project have been analyzed and will be used for comparative purposes. These include, firstly, the early 8th-c. infill of the bathhouse, which dates to the time of the construction of the mosque; secondly and thirdly, the content of a series of late 8th-/9th-c. shops located on the eastern and western side of the axial street, immediately east of the mosque; and finally, material from a sondage dug into a late 8th-/9th-c. rubbish deposit located to the west of the mosque.

Figure 9 illustrates the distribution of species in the five contexts, grouping some of the less common species according to likely function: commensal species (mice, rats, tortoises) and non-food species (dogs and cats). Overall, the distribution between areas is comparable, with sheep and goat making up the largest group in all assemblages. The shops contain a slightly higher number of sheep and goat and correspondingly fewer bones from pigs compared to the infill and the sondage, with the sewer falling in between the two groups. The lack of any non-food species in the sewer assemblages suggests that they strictly represent food-related refuse. The few commensal



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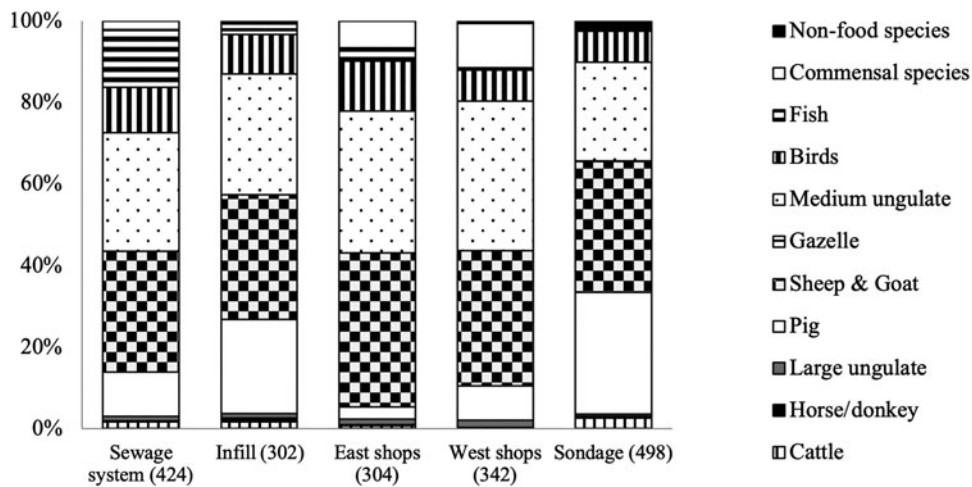


Fig. 9. Distribution of species from five contexts at Jerash, with the sewage system grouped as one (NISP). (© Pernille Bangsgaard and Islamic Jarash Project.)

species are represented here by rats, which likely found their home in and around the sewer itself. Rat and rodent bones are consistently found in all assemblages and suggest that the city had a substantial population of rats and other rodents living among its human inhabitants.

For the purpose of analysis, sheep/goat and pig remains were subdivided into feet, head, legs, body cavity, shoulder blade, and pelvic bones. The pig remains were grouped together in a single shop- and a single sewer-group due to an otherwise very small sample size. Figure 10 suggests a substantial variation in the representation of different cuts of meat between the two species and some variation between the four contexts, particularly for pig. Some of this variation is likely caused by differences in the number of identifiable bones for each species, in fragmentation patterns, and in other taphonomic factors that potentially affect the two species differently, rather than relating to actual differences in food preferences. The pig skull is of much more robust construction than a sheep or goat skull. For this reason, the former often survive better than the latter and in larger fragments, making them more identifiable. But it is worth noting that every part of both species was present in all contexts and thus both species and all cuts appear to have been eaten within the bathhouse.

The results corroborate ethnographic and archaeological evidence on butchering sheep and goat in present-day Jordan, Syria, and North Africa.<sup>49</sup> Almost the entire skeleton is processed for consumption; it is cut into chunks of meat on the bone with limited or no emphasis on specific cuts. Only the head and lowest part of the legs are sold separately at a lower price. The remaining meat is sold with minor differentiation in price, and each portion is divided between different cuts, so buyers receive an equal share of meat to bone. This type of butchery is well suited for dishes where the ingredients simmer in liquid, thus taking advantage of the exposed marrow. Such dishes are also present in

<sup>49</sup> Burke 2000 and personal observations by the authors.

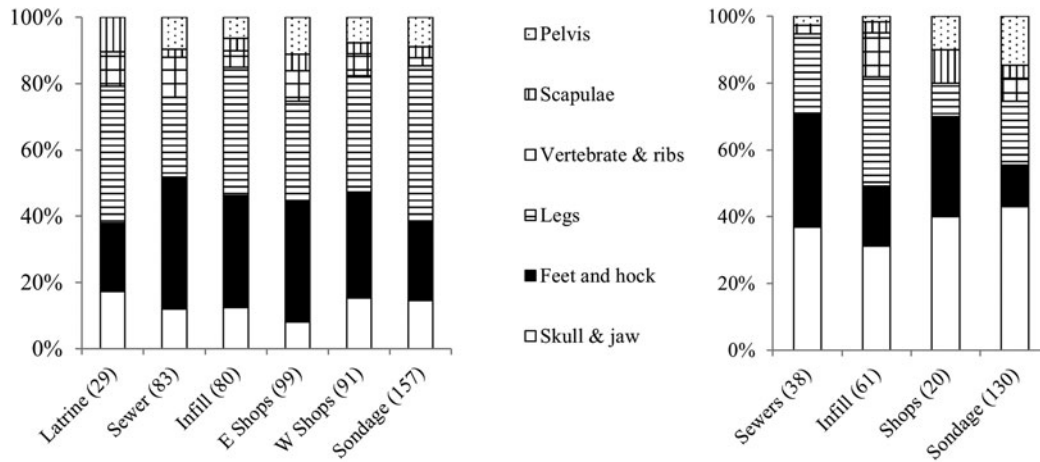


Fig. 10. Body part distribution of sheep/goat and pig remains, according to context (NISP). (© Pernille Bangsgaard and Islamic Jarash Project.)<sup>50</sup>

early Islamic cookbooks.<sup>51</sup> Five recipes containing kid or lamb trotters cooked in water are, for example, included in Ibn Sayyār al-Warrāq’s 10th-c. cookbook, along with numerous other types of stews.<sup>52</sup> Although these cookbooks postdate the bathhouse assemblage by at least two centuries, it is likely that some recipes represent long-standing local food traditions.

Other sources mention roasted and fried foods as popular types of cooked meat available from markets and food stalls.<sup>53</sup> Such dishes do not always result in bones with signs of exposure to fire, but it is worth noting the almost complete absence of burnt bones (only 0.5%) in the sewer assemblage, which is substantially lower than in the other contexts, where 3.0–8.3% of the bones were burnt. This likely indicates that stews and similar types of cooked foods were served at the bathhouse, and the high fragmentation of all long bones further supports this interpretation.

### Small finds

The majority of the small finds are items of personal adornment, but a large quantity of coins and two gaming pieces were also retrieved from the sewers. The personal adornments mainly consist of jewelry, including beads (92), bracelets (4), pendants (7), earrings (2), rings (12), hairpins (5), and a single copper alloy fibula. These personal items vary greatly in material and quality. The beads, for example, are made of materials including glass (42), carnelian (10), amethyst (3), bone (8), shell (1), wood (1), glazed

<sup>50</sup> Categories as follows: Skull and jaw (cranium, hyale, mandible), Feet and hock (phalanges, metapodium, carpal/tarsal bones), Legs (humerus, radius, ulna, femur, tibia, fibula) Vertebrate and ribs (vertebrae, costae, sternum). Loose teeth were excluded from the calculation of skull and jaw, as they were probably part of the mandible and maxilla fragments already included and would artificially inflate the number of skull and jaw fragments.

<sup>51</sup> Arberry 2001a; Nasrallah 2007.

<sup>52</sup> Nasrallah 2007, 222–25, 303–4.

<sup>53</sup> Arberry 2001b.

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ceramic (25), and iron (2). The pendants were made from rock crystal (2), glass (1), copper alloy (2), a reused coin (1), and gold (1). A matching pair of gold earrings was also found in the sewer, perhaps lost together in a bag.

The variety of small finds indicate that it was common to wear jewelry and other types of personal adornment during visits to the bathhouse. Most of these finds (102 items) were retrieved from the sewer inside the bathhouse, whereas only nine beads, a hairpin, and one copper alloy ring were found in the latrine. The distribution of coins follows the same pattern, with 42 copper coins found in the latrine and 168 in the main sewer of the bathhouse. Other small finds of interest include the two bone gaming counters retrieved from the bathhouse sewer.

### Discussion

Our analysis provides new evidence for the activities that took place inside the Central Bathhouse towards the end of its lifespan, while also informing us about bathing practices in Late Antique Jerash more broadly. The architectural development of the bathhouse follows general trends, which saw a transition from communal bathing in large basins towards the more economical practice of washing in smaller or even individual bathtubs. This trend has been documented throughout the Eastern Mediterranean and in other bathhouses in Jerash.<sup>54</sup> Religious reasons could lie behind this shift in bathing behavior, but recent studies argue for financial, environmental, or even political incentives.<sup>55</sup>

The negative approach to mixed-gender bathing and bodily indulgence expressed by some Christian authors is an oft-cited reason for the physical transformation of the bathhouse and the gradual abandonment of larger establishments. Christian asceticism and the ideal of *alousia* (the state of being unwashed) has been cited by Fikret Yegül as an important part of contemporary religious practice, which to some extent permeated aspects of the daily life of ordinary citizens who lived outside ecclesiastical establishments.<sup>56</sup> While public baths remained popular in Late Antique cities, bathing as an activity that indulged the pleasures of the flesh went against Christian notions of asceticism and spirituality. However, as Sadi Maréchal reminds us, there is “abundant literary evidence that Christians, both laymen and clergy, went on a regular basis to the public baths.”<sup>57</sup> The changes in bathing culture should, therefore, be located more widely within the contexts of urban and societal development, for example, the gradual disappearance of the town councils (*curiae*), which coincided with the growing power of the bishops and a consequent shift in the focus of civic patronage.<sup>58</sup> The curial system of the first centuries of Roman rule inspired competition in building projects, between and within cities, among rival curial families.<sup>59</sup> By the mid-6th c., the bishops were ascendant and Christian elites gradually diverted streams of patronage away from civic institutions towards monasteries, charitable institutions, and churches.<sup>60</sup>

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<sup>54</sup> Recent overview: Maréchal 2020a, 183–222. Jerash: Lepaon 2012.

<sup>55</sup> Pickett 2021.

<sup>56</sup> Yegül 1992, 318.

<sup>57</sup> Maréchal 2020b, 169; Zytka 2019, 89–96. See also Bady and Foschia 2014; Yegül 2010, 201.

<sup>58</sup> Jacobs 2014; Whittow 1990.

<sup>59</sup> Whittow 1990, 6.

<sup>60</sup> Whittow 1990, 18. However, see Maréchal 2020b, 171–72 for examples of Christian donors funding bathhouses.

The scholarly turn towards environmental history has also influenced recent discussions of changing bathing culture.<sup>61</sup> This includes studies of deforestation driven by fuel-hungry urban establishments, such as large bathhouses, and a more economical approach to water usage.<sup>62</sup> Additionally, Jordan Pickett identifies *thermae* as loci for social contention and unrest and argues for a political incentive for the gradual discontinuation of larger bathhouses that should be considered alongside the religious, economic, and environmental factors listed above.<sup>63</sup>

Jerash in the 3rd c. boasted at least two grand public bathhouses (the Large East and West Baths), as well as smaller establishments that were incorporated into the urban fabric. Late Antiquity saw the larger communal baths gradually fall into disuse.<sup>64</sup> They were replaced by smaller baths, probably run as commercial enterprises, in which bathing in smaller (single or multi-user) bathtubs was predominant. The finds from the sewers of the Central Bathhouse (informing us about bathing practices in the 6th and 7th c.), however, are strikingly similar in type and quantity (relative to the bathhouse's size) to finds from Imperial Roman-period bathing establishments elsewhere in the Roman world.<sup>65</sup> These assemblages show that a visit to the bathhouse could be lengthy and was by no means restricted to hygienic purposes.

The large quantity of cups, plates, and faunal remains demonstrates that eating and drinking in the bathhouse continued to be common practice well into the 6th and 7th c. It is likely (although speculative) that some of the shops in the complex were, in fact, food vendors, whether trading exclusively from the shops by the bathhouse entrance or supplying the bathers from within the bathhouse itself. The consumption of food is well documented in bathhouses of earlier date through finds of cups, plates, and animal bones, though the published evidence for this largely comes from the Western Empire.<sup>66</sup> A room in the Suburban Baths at Herculaneum features a list of food, with prices, that could be purchased by the bathers, while an inscription in a bathhouse in Magnesia on the Meander mentions a restaurant that catered to the bathhouse and includes a menu.<sup>67</sup>

Similarly, the presence of perfume and oil flasks reveals the continued practice of bodily grooming. The presence of jewelry for personal adornment shows that some bathers were conscious of their physical appearance while bathing. The types and sizes of this jewelry suggest that women and perhaps also children frequented the bathhouse: some personal adornments could be worn by men, women, and children alike (e.g., beads and bracelets), while other items were most likely exclusively used by women (e.g., hairpins and

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<sup>61</sup> Pickett 2021, 380–82.

<sup>62</sup> Janssen et al 2017; Pickett 2017.

<sup>63</sup> Pickett 2021.

<sup>64</sup> It is unclear when the three large bathhouses were abandoned, but the construction of smaller baths in Late Antiquity (as discussed above) may suggest a gradual shift away from larger establishments.

<sup>65</sup> E.g., Whitmore 2013; Whitmore 2018.

<sup>66</sup> Whitmore 2018, 64–65; Yegül 2010, 19. More locally, at Hammat Gader: Henderson 2007, especially 17–18.

<sup>67</sup> Deschamps and Cousin 1888; Yegül 2010, 19–20.

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earrings).<sup>68</sup> Bathhouses were commonly used by both men and women, albeit in Late Antiquity, the opening hours were most likely segregated to prevent mixed-sex bathing.<sup>69</sup>

The two counters suggest that gaming took place in the baths. Gaming is widely attested at other bathhouses; for example, sewer contexts from Caerleon have produced a substantial assemblage of counters,<sup>70</sup> and gaming boards were also carved onto reused statue bases set up in bathhouses, as in the Hadrianic Baths at Aphrodisias,<sup>71</sup> or carved into pavements, like at the Antonine Baths at Carthage.<sup>72</sup> This in turn begs the question of whether the large quantity of coins from the sewers means that gambling took place there too. Coins, however, could also have been carried (and dropped) by patrons who kept their valuables close to pay for food or wine or to discourage theft in the changing room.

When comparing the distribution of finds between the two sewers, a few observations can be made. The quantity of ceramics and glass remains is much higher in the latrine than in the main sewer, but this does not necessarily mean that food and drink were consumed by patrons while relieving themselves. On the contrary, we suggest that this part of the sewer was deliberately used by the bathhouse attendants to discard rubbish, possibly as a matter of convenience, saving a walk to the nearest rubbish dump. The relatively small number of coins and jewelry found in the latrine compared to the bathhouse sewer would suggest accidental losses by bathers in the bathing suite, while the bathhouse attendants may have collected valuable objects before discarding refuse into the latrine sewer. The date-range of material retrieved from the two sewers suggests that they were cleaned periodically, and it was only towards the end of the buildings' usage that material was left to accumulate. The few specimens of earlier date (glass and ceramic vessels of the 4th or 5th c.) may be residual from earlier and less effective cleaning episodes. Alternatively, the usage of the latrine sewer for rubbish disposal may not have been a common practice before the 6th c. Finally, the presence of ceramic and glass lamps suggests that the bathhouse did not receive adequate daylight or that it was used after dark. The practice of night-time bathing is known from several Imperial Roman-period bathhouses and also from Late Antiquity.<sup>73</sup>

## Conclusion

This contribution has focused on the Central Bathhouse in Jerash and has offered some suggestions as to how ancient social practice can be studied through archaeological finds. Our study stands out from the myriad of Eastern Mediterranean bathhouse studies that privilege architectural layout and to a lesser extent ceramics and coins. Instead, combining

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<sup>68</sup> Women's ornaments at Jerash: Shiyab and Abuhelaleh 2021. Engendered artifacts, albeit in Early Imperial contexts from the northwest provinces: Allison 2006.

<sup>69</sup> Yegül 2010, 27–39.

<sup>70</sup> Zienkiewicz, 1986, 155–56, 202–7. Lost counters in latrines elsewhere: Penn and Courts 2022, 248.

<sup>71</sup> Roueché 2004, nos. 68–69.

<sup>72</sup> De Voogt 2019, 91.

<sup>73</sup> Wilson (2018, 72–74) compiled textual sources that refer to night-time bathing. In November to January, the sun sets at ca. 5.30 in Jordan, meaning early evening (9th- or 10th-hour) bathing would have required artificial lighting.

architectural development and small finds with the study of ceramic, glass, and faunal remains has allowed us to glimpse the lives of the people who once frequented Jerash's bathhouses.

Our study shows that although the Central Bathhouse underwent significant architectural alterations, bathing habits continued well into the 6th or 7th c. in much the same way as in the Early Empire. The bathhouse layout was still facilitating bathing in both cold and heated rooms, although on a reduced scale, and a visit to the baths continued to be a communal, social occasion, which could include eating, drinking, and playing games. Moreover, the Central Bathhouse was a place where one went to see and to be seen, to judge by the evidence for jewelry and the many small vessels which may have been used for perfumes.

Our study emphasizes the importance of practicing archaeological methodologies in which all remains are treated as having equal significance. Only then can we begin to reconstruct the experiences of the people for whom a visit to the baths was considered integral to their daily life.

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